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CHIS 2007 Methodology Report Series

Report 2

Data Collection Methods

CALIFORNIA HEALTH INTERVIEW SURVEY

CHIS 2007 METHODOLOGY SERIES

REPORT 2

DATA COLLECTION METHODS

JANUARY 2009

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www.chis.ucla.edu

This report describes how data were collected for CHIS 2007. It was a telephone survey using random digit dialing (RDD) samples of landline and cellular telephone numbers, as well as list samples to augment the yield for certain racial and ethnic groups and an area sample to assess nonresponse bias. All data were collected using a computer-assisted telephone interviewing (CATI) system. Activities included under “data collection” for purposes of this report include Westat involvement in developing and programming the survey instruments, recruiting and training interviewers to administer the survey in five languages, planning and implementing a strategy for release of the sample in the CATI automated scheduler, contacting respondents and conducting interviews, and implementing quality assurance procedures.

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PREFACE

Data Collection Methods is the second in a series of methodological reports describing the 2007 California Health Interview Survey (CHIS 2007). The other reports are listed below. A similar set of reports is available for CHIS 2001, CHIS 2003, and CHIS 2005.

CHIS is a collaborative project of the University of California, Los Angeles (UCLA) Center for Health Policy Research, the California Department of Public Health, the Department of Health Care Services, and the Public Health Institute. Westat was responsible for data collection and the preparation of five methodological reports from the 2007 survey. The survey examines public health and health care access issues in California. The telephone survey is the largest state health survey ever undertaken in the United States. The plan is to monitor these issues and examine changes over time by conducting surveys in the future.

Methodological Reports

The first five methodological reports for CHIS 2007 are as follows:

- Report 1: Sample Design;
- Report 2: Data Collection Methods;
- Report 3: Data Processing Procedures;
- Report 4: Response Rates; and
- Report 5: Weighting and Variance Estimation.

The reports are interrelated and contain many references to each other. For ease of presentation, the references are simply labeled by the report numbers given above.

This report describes how data were collected for CHIS 2007. It was a telephone survey using random digit dialing (RDD) samples of landline and cellular telephone numbers, as well as list samples to augment the yield for certain racial and ethnic groups and an area sample to assess

nonresponse bias. All data were collected using a computer-assisted telephone interviewing (CATI) system. The purposes of this report are:

- To serve as a reference for researchers using CHIS 2007 data;
- To document data collection procedures so that future iterations of CHIS, or other similar surveys, can replicate those procedures if desired;
- To describe lessons learned from the data collection experience and make recommendations for improving future surveys; and
- To evaluate the level of effort required for the various kinds of data collection undertaken.

Activities included under “data collection” for purposes of this report include Westat involvement in developing and programming the survey instruments, recruiting and training interviewers to administer the survey in five languages, planning and implementing a strategy for release of the sample in the CATI automated scheduler, contacting respondents and conducting interviews, and implementing quality assurance procedures. Special analyses using administrative data from the CATI system inform the purposes above at the RDD stratum and individual supplemental sample levels.

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1. CHIS 2007 DESIGN AND METHODOLOGY SUMMARY

1.1 Overview

The California Health Interview Survey (CHIS) is a population-based telephone survey of California's population conducted every other year since 2001. CHIS is the largest health survey conducted in any state and one of the largest health surveys in the nation. CHIS is based at the UCLA Center for Health Policy Research (CHPR) and is conducted in collaboration with the California Department of Public Health, the Department of Health Care Services, and the Public Health Institute. CHIS collects extensive information for all age groups on health status, health conditions, health-related behaviors, health insurance coverage, access to health care services, and other health and health related issues.

The sample is designed to meet and optimize two objectives:

- provide estimates for large- and medium-sized counties in the state, and for groups of the smallest counties (based on population size), and
- provide statewide estimates for California's overall population, its major racial and ethnic groups, as well as several ethnic subgroups.

The CHIS sample is representative of California's non-institutionalized population living in households.

This series of reports describes the methods used in collecting data for CHIS 2007, the fourth CHIS data collection cycle, which was conducted between June 2007 and early March 2008. The previous CHIS cycles (2001, 2003, and 2005) are described in similar series, available at <http://www.chis.ucla.edu/methodology.html>.

CHIS data and results are used extensively by federal and State agencies, local public health agencies and organizations, advocacy and community organizations, other local agencies, hospitals, community clinics, health plans, foundations, and researchers. The data are widely used for analyses and publications to assess public health and health care needs, to develop and advocate policies to meet those needs, and to plan and budget health care coverage and services.

1.2 Sample Design Objectives

To achieve the sample design objectives stated above, CHIS employed a multi-stage sample design. For the first time, the random-digit-dial (RDD) sample included telephone numbers assigned to both landline and cellular service. For the landline RDD sample, the state was divided into 44 geographic sampling strata, including 41 single-county strata and three multi-county strata comprised of the 17 remaining counties. Within each geographic stratum, residential telephone numbers were selected, and within each household, one adult (age 18 and over) respondent was randomly selected. In those households with adolescents (ages 12-17) and/or children (under age 12), one adolescent and one child were randomly selected; the adolescent was interviewed directly, and the adult most knowledgeable about the child's health completed the child interview.

Table 1-1 shows the 44 sampling strata for CHIS 2007, which include 41 independent county strata. A sufficient number of adult interviews were allocated to each stratum to support the first sample design objective—to provide health estimates for adults at the local level. The geographic stratification of the state was the same as that used in CHIS 2005. In the first two CHIS cycles there were 41 total sampling strata, including 33 individual counties. The CHIS 2007 samples in Los Angeles and San Diego Counties were enhanced with additional funding by implementing further stratification within county.

The main landline RDD CHIS sample size is sufficient to accomplish the second objective. To increase the precision of estimates for Koreans and Vietnamese, areas with relatively high concentrations of these groups were sampled at higher rates. These geographically targeted oversamples were supplemented by telephone numbers associated with group-specific surnames drawn from listed telephone directories to further increase the sample size for Koreans and Vietnamese.

To help compensate for the increasing number of households without landline telephone service, a separate RDD sample was drawn of telephone numbers assigned to cellular service. In CHIS 2007, the goal was to complete 800 interviews statewide with adults in cell-only households. Because data are not available for numbers assigned to cellular service to support the same level of geographic stratification as the landline sample, the cell RDD sample was stratified by area code. Sampled cellular numbers were screened to identify whether they belonged to cell-only households. Cellular numbers from households with landline telephone numbers were considered out of scope. If the sampled number was shared by two or more adult members of a cell-only household, one household member was selected for

the adult interview. Otherwise, the adult owner of the sampled number was selected. No interviews with adolescents or about children were conducted from the CHIS 2007 cell RDD sample.

Table 1-1. California county and county group strata used in the CHIS 2007 sample design

1. Los Angeles	16. Sonoma	31. Napa
2. San Diego	17. Stanislaus	32. Kings
3. Orange	18. Santa Barbara	33. Madera
4. Santa Clara	19. Solano	34. Monterey
5. San Bernardino	20. Tulare	35. Humboldt
6. Riverside	21. Santa Cruz	36. Nevada
7. Alameda	22. Marin	37. Mendocino
8. Sacramento	23. San Luis Obispo	38. Sutter
9. Contra Costa	24. Placer	39. Yuba
10. Fresno	25. Merced	40. Lake
11. San Francisco	26. Butte	41. San Benito
12. Ventura	27. Shasta	42. Colusa, Glen, Tehama
13. San Mateo	28. Yolo	43. Plumas, Sierra, Siskiyou, Lassen, Modoc, Trinity, Del Norte
14. Kern	29. El Dorado	44. Mariposa, Mono, Tuolumne, Alpine, Amador, Calaveras, Inyo
15. San Joaquin	30. Imperial	

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey.

In an attempt to assess nonresponse bias, CHIS 2007 also included an area probability sample in Los Angeles County, with a target of 800 completed adult interviews. A clustered sample was selected from US Postal Service address lists, stratified by Los Angeles County Service Planning Area (SPA). Within each SPA, a number of smaller geographic areas (*segments* composed of blocks or groups of blocks) were selected, and within each segment specific addresses were selected. Sampled addresses for which a telephone number could be matched were initially treated the same as landline RDD cases, except that adolescent and child interviews were not attempted. Matched addresses where a screening interview could not be completed by telephone and all unmatched addresses were then assigned to recruiters who visited the sampled addresses in person to attempt to obtain cooperation.

1.3 Data Collection

To capture the rich diversity of the California population, interviews were conducted in five languages: English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese, and Korean. These

languages were chosen based on analysis of 2000 Census data to identify the languages that would cover the largest number of Californians in the CHIS sample that either did not speak English or did not speak English well enough to otherwise participate.

Westat, a private firm that specializes in statistical research and large-scale sample surveys, conducted the CHIS 2007 data collection under contract with the UCLA Center for Health Policy Research. For the landline RDD sample, Westat staff interviewed one randomly selected adult in each sampled household, and sampled one adolescent and one child if present in the household and the sampled adult was the parent or legal guardian. Up to three interviews could have been completed in each household. In households with children where the sampled adult was not the screener respondent, children and adolescents could be sampled as part of the screening interview, and the extended child (and adolescent) interviews could be completed before the adult interview. This “child-first” procedure was new for CHIS 2005 and substantially increased the yield of child interviews. While numerous subsequent attempts were made to complete the adult interview, there were completed child and/or adolescent interviews in households for which an adult interview was not completed. For the cell RDD and area samples, only one randomly selected adult in each household was interviewed. Table 1-2 shows the number of completed adult, child, and adolescent interviews in CHIS 2007 by the type of sample (landline RDD, surname list, cell RDD, and area sample).

Table 1-2. Number of completed CHIS 2007 interviews by type of sample and instrument

Type of sample	Adult	Child	Adolescent
Total all samples	51,048	9,913	3,638
Landline RDD	48,791	9,818	3,622
Surname list	451	95	16
Cell RDD	825	N/A	N/A
Area (Los Angeles County)	981	N/A	N/A

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey.

Interviews in all languages were administered using Westat’s computer-assisted telephone interviewing (CATI) system. The average adult interview took about 35 minutes to complete. The average child and adolescent interviews took about 17.5 minutes and 20 minutes, respectively. For “child-first” interviews, additional household information asked as part of the child interview averaged about 9 minutes. Interviews in non-English languages generally took longer to complete. More than 8 percent of the adult interviews were completed in a language other than English, as were almost 16 percent of all child (parent proxy) interviews and 7 percent of all adolescent interviews.

Table 1-3 shows the major topic areas for each of the three survey instruments (adult, child, and adolescent).

1.4 Response Rates

The overall response rate for CHIS 2007 is a composite of the screener completion rate (i.e., success in introducing the survey to a household and randomly selecting an adult to be interviewed) and the extended interview completion rate (i.e., success in getting one or more selected persons to complete the extended interview). To maximize the response rate, especially at the screener stage, an advance letter in five languages was mailed to all sampled telephone numbers for which an address could be obtained from reverse directory services. An advance letter was mailed for approximately 67 percent of the sampled telephone numbers. As in CHIS 2005, a \$2 bill was included with the advance letter to promote cooperation.

The CHIS 2007 screener completion rate for the landline sample was 35.5 percent, and was higher for households that were sent the advance letter. For the cell phone sample, the screener completion rate was 30.5 percent in cell-only households. For the area sample, the screener response rate was 32.0 percent, compared with 31.5 percent for the landline sample in Los Angeles County. The extended interview completion rate for the landline sample varied across the adult (52.8 percent), child (73.7 percent) and adolescent (44.1 percent) interviews. The adolescent rate includes getting permission from a parent or guardian. The adult interview completion rate for the cell sample was 52.0 percent, and for the area sample 69.0 percent. Multiplying the screener and extended rates gives an overall response rate for each type of interview. The percentage of households completing one or more of the extended interviews (adult, child, and/or adolescent) is a useful summary of the overall performance of the landline sample. For CHIS 2007, the landline sample household response rate was 21.1 percent (the product of the screener response rate and the completion rate at the household level of 57.9 percent). All of the household and person level response rates vary by sampling stratum. For more information about the CHIS 2007 response rates, please see *CHIS 2007 Methodology Series: Report 4 – Response Rates*.

Table 1-3. CHIS 2007 survey topic areas by instrument

Health status	Adult	Teen	Child
General health status, height and weight	✓	✓	✓
Days missed from school due to health problems		✓	
Health conditions	Adult	Teen	Child
Asthma	✓	✓	✓
Diabetes	✓	✓	
Gestational diabetes	✓		
Heart disease, high blood pressure	✓		
Infertility	✓		
Falls (elderly)	✓		
Attention deficit disorder (ADD/ADHD), developmental disorders			✓
Parental concerns with child development			✓
Mental health	Adult	Teen	Child
Mental health status	✓	✓	✓
Perceived need, use of mental health services	✓	✓	✓
Emotional functioning	✓	✓	✓
Health behaviors	Adult	Teen	Child
Dietary intake	✓	✓	✓
Physical activity and exercise	✓	✓	✓
Sedentary time		✓	
Parental influence over diet and exercise			✓
Parental exposure to messages about obesity, smoking			✓
Developmental screening tests			✓
Colon cancer screening	✓		
Flu Shot	✓	✓	✓
Alcohol and tobacco use	✓	✓	
Drug use		✓	
Sexual behavior, STD testing	✓	✓	
Birth control practices		✓	
Women's health	Adult	Teen	Child
Pap test screening, mammography screening, hormone replacement therapy	✓		
Emergency contraception	✓	✓	
HPV – knowledge and awareness; vaccine use and attitudes	✓	✓	
Pregnancy status	✓	✓	

Table 1-3. CHIS 2007 survey topic areas by instrument (continued)

Dental health	Adult	Teen	Child
Last dental visit		✓	✓
Not getting needed care		✓	✓
Days missed from school due to dental problems		✓	✓
Dental insurance coverage	✓	✓	✓
Food insecurity/hunger	Adult	Teen	Child
Availability of food in household over past 12 months	✓		
Access to and use of health care	Adult	Teen	Child
Usual source of care, visits to medical doctor	✓	✓	✓
Emergency room visits	✓	✓	✓
Delays in getting care (prescriptions, tests, treatment)	✓	✓	✓
Communication problems with doctor	✓		✓
Ability to understand medical instructions	✓		
Health insurance	Adult	Teen	Child
Current insurance coverage, spouse's coverage, who pays for coverage	✓	✓	✓
Health plan enrollment, characteristics of plan	✓	✓	✓
Whether employer offers coverage, respondent/spouse eligibility	✓		
Coverage over past 12 months	✓	✓	✓
Reasons for lack of insurance	✓	✓	✓
Public program eligibility	Adult	Teen	Child
Household poverty level	✓		
Program participation (TANF, CalWorks, Public Housing, Food Stamps, SSI, SSDI, WIC)	✓	✓	✓
Assets, alimony/child support/social security/pension	✓		
Eligible for Medi-Cal and healthy families	✓	✓	✓
Reason for Medi-Cal nonparticipation among potential eligibles	✓	✓	✓
Neighborhood	Adult	Teen	Child
Neighborhood safety, use of parks	✓	✓	✓
Mode of local transportation	✓		
Interpersonal Violence	Adult	Teen	Child
Experiencing violence from intimate partner, details of most recent experience	✓	✓	
Experiencing violence from acquaintance	✓	✓	

Table 1-3. CHIS 2007 survey topic areas by instrument (continued)

Parental involvement/adult supervision	Adult	Teen	Child
Adult presence after school		✓	
Child's activities with family			✓
Child care and school attendance	Adult	Teen	Child
Current child care arrangements			✓
Paid child care	✓		
Preschool/school attendance, name of school		✓	✓
Employment	Adult	Teen	Child
Employment status, spouse's employment status	✓		
Work in last week	✓		
Hours worked at all jobs	✓		
Income	Adult	Teen	Child
Respondent's and spouse's earnings last month before taxes	✓		
Household income (annual before taxes)	✓		
Number of persons supported by household income	✓		
Respondent characteristics	Adult	Teen	Child
Age, gender, height, weight, education	✓	✓	✓
Race and ethnicity	✓	✓	✓
Marital status	✓		
Sexual orientation	✓	✓	
Citizenship, immigration status, country of birth, length of time in U.S., languages spoken at home, English language proficiency	✓	✓	✓

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey.

The CHIS response rate is comparable to response rates of other scientific telephone surveys in California, such as the 2007 California Behavioral Risk Factor Surveillance System (BRFSS) Survey. Using calculations that are as comparable as possible to those of CHIS 2007, the combined screener and adult response rate for the 2007 BRFSS is 18.7 percent, exactly the same as that for the CHIS 2007 landline sample. California as a whole and the state's urban areas in particular are among the most difficult parts of the nation in which to conduct telephone interviews. Survey response rates tend to be lower in California than nationally, and over the past decade response rates have been declining both nationally and in California. Information about CHIS data quality and nonresponse bias is available at <http://www.chis.ucla.edu/dataquality.html>.

Adults who completed at least approximately 80 percent of the questionnaire (i.e., through Section K (on employment, income, poverty status, and food security), after all follow-up attempts were exhausted to complete the full questionnaire, were counted as “complete.” At least some items in the employment and income series or public program eligibility and food insecurity series are missing from those cases that did not complete the entire interview.

Proxy interviews were allowed for frail and ill persons over the age of 65 who were unable to complete the extended adult interview in order to avoid biases for health estimates of elderly persons that might otherwise result. Eligible selected persons were recontacted and offered a proxy option. For 168 elderly adults, a proxy interview was completed by either a spouse/partner or adult child. A reduced questionnaire, with questions identified as appropriate for a proxy respondent, was administered. (Note: questions not administered in proxy interviews are given a value of “-2” in the data files.)

1.5 Weighting the Sample

To produce population estimates from the CHIS data, weights are applied to the sample data to compensate for the probability of selection and a variety of other factors, some directly resulting from the design and administration of the survey. The sample is weighted to represent the non-institutionalized population for each sampling stratum and statewide. The weighting procedures used for CHIS 2007 accomplish the following objectives:

- Compensate for differential probabilities of selection for households and persons;
- Reduce biases occurring because nonrespondents may have different characteristics than respondents;
- Adjust, to the extent possible, for undercoverage in the sampling frames and in the conduct of the survey; and
- Reduce the variance of the estimates by using auxiliary information.

As part of the weighting process, a household weight was created for all households that completed the screener interview. This household weight is the product of the “base weight” (the inverse of the probability of selection of the telephone number) and a variety of adjustment factors. The household weight is used to compute a person-level weight, which includes adjustments for the within-household sampling of persons and nonresponse. The final step is to adjust the person-level weight using

a raking method so that the CHIS estimates are consistent with population control totals. Raking is an iterative procedure that forces the CHIS weights to sum to known population control totals from an independent data source (see below). The procedure requires iteration to make sure all the control totals, or raking dimensions, are simultaneously satisfied within a specified tolerance.

Population control totals of the number of persons by age, race, and sex at the stratum level for CHIS 2007 were created primarily from the California Department of Finance's 2007 Population Estimates and 2007 Population Projections. The raking procedure used 11 raking dimensions, which are combinations of demographic variables (age, sex, race, and ethnicity), geographic variables (county, Service Planning Area in Los Angeles County, and Health Region in San Diego County), household composition (presence of children and adolescents in the household), and socio-economic variables (home ownership and education). The socio-economic variables are included to reduce biases associated with excluding households without landline telephones from the sample frame. One limitation of using Department of Finance data is that it includes about 2.4 percent of the population of California who live in "group quarters" (i.e., persons living with nine or more unrelated persons). These persons were excluded from the CHIS target population and as a result, the number of persons living in group quarters was estimated and removed from the Department of Finance control totals prior to raking.

1.6 Imputation Methods

Missing values in the CHIS data files were replaced through imputation for nearly every variable. This was a massive task designed to enhance the analytic utility of the files. Westat imputed missing values for a handful of variables used in the weighting process and UCLA-CHPR staff imputed values for nearly all other variables.

Two different imputation procedures were used by Westat to fill in missing responses for items essential for weighting the data. The first imputation technique was a completely random selection from the observed distribution of respondents. This method was used only for a few variables when the percentage of the items missing was very small. The second technique was hot deck imputation without replacement. The hot deck approach is probably the most commonly used method for assigning values for missing responses. With a hot deck, a value reported by a respondent for a particular item is assigned or donated to a "similar" person who did not respond to that item. The characteristics defining "similar" vary for different variables. To carry out hot deck imputation, the respondents to a survey item form a pool of

donors, while the nonrespondents are a group of recipients. A recipient is matched to the subset pool of donors based on household and individual characteristics. A value for the recipient is then randomly imputed from one of the donors in the pool. Once a donor is used, it is removed from the pool of donors for that variable. Hot deck imputation was used to impute the same items in CHIS 2003, CHIS 2005 and CHIS 2007 (i.e., race, ethnicity, home ownership, and education).

UCLA-CHPR imputed missing values for nearly every variable in the data files other than those handled by Westat and some sensitive variables in which nonresponse had its own meaning. Overall, item nonresponse rates in CHIS 2007 were low, with most variables missing valid responses for less than 2% of the sample. However, there were a few exceptions where item nonresponse rate was greater than 20%, such as household income.

The imputation process conducted by UCLA-CHPR started with data editing, sometimes referred to as logical or relational imputation: for any missing value, a valid replacement value was sought based on known values of other variables of the same respondent or other sample(s) from the same household. For the remaining missing values, hierarchical sequential hot-deck imputation with donor replacement was used. This method replaces a missing value for one respondent using a valid response from another respondent with similar characteristics as defined by a set of control variables. The control variables were ranked in order from the most to the least important. This procedure allowed control variables to be dropped if certain conditions (such as the minimum number of donors) were not met. The control variables were dropped sequentially, starting from the variable ranked least important. Once a responding case was used as a donor, it was dropped from the donor pool preventing using one donor multiple times.

Control variables used in forming donor pools for hot-decking always included the following: gender, age group, race/ethnicity, poverty level (based on household income), educational attainment, and region. Other control variables were also used depending on the nature of the imputed variable. Among the control variables, gender, age, race/ethnicity and regions were imputed by Westat. UCLA-CHPR then imputed household income and educational attainment in order to impute other variables. Household income, for example, was imputed using the hot-deck method within ranges from a set of auxiliary variables such as income range and/or poverty level.

The imputation order of the other variables followed the questionnaire. After all imputation was done, logic checks and edits were performed once again to ensure consistency between the imputed and nonimputed values on a case-by-case basis.

1.7 Methodology Report Series

A series of five methodology reports is available with more detail about the methods used in CHIS 2007:

- Report 1 – Sample Design;
- Report 2 – Data Collection Methods;
- Report 3 – Data Processing Procedures;
- Report 4 – Response Rates; and
- Report 5 – Weighting and Variance Estimation.

For further information on CHIS data and the methods used in the survey, visit the California Health Interview Survey Web site at <http://www.chis.ucla.edu> or contact CHIS at CHIS@ucla.edu.

2. SCREENING INTERVIEW AND CATI INSTRUMENT STRUCTURE

CHIS 2007 interviews could include, for a given household, up to three substantive questionnaire sections: the adult, child, and adolescent extended questionnaires. In addition to the substantive survey content, the CATI instruments performed sampling and administrative functions, including identifying eligible individuals and selecting sample members from among them, identifying appropriate respondents for the various questionnaires, and sequencing the activities within a household. All of these functions were programmed into the CATI instrument and are described in this chapter.

As described in Chapter 1, there were four distinct samples: landline RDD, surname list, cellular RDD, and area. The administrative functions varied somewhat across samples, but the content of the adult extended questionnaire was virtually identical for the four samples. Child and adolescent interviews were conducted in the landline RDD and surname list samples, but not in the cellular RDD or area samples.

2.1 Initial Screening Interview for Landline RDD and Surname List Samples

The CHIS 2007 sample was composed of telephone numbers selected as described in *CHIS 2007 Methodology Series: Report 1 – Sample Design*. On first contact with a sampled landline RDD telephone number, interviewers needed to:

- Identify a household member 18 years of age or older to act as informant (i.e., screener respondent);
- Determine whether the telephone number was associated with a residence; and
- Ask how many persons 18 or older lived in the household and select one for the extended interview.

These basic elements were scripted into the initial screening interview for the landline RDD sample. As in CHIS 2003 and 2005, the initial screener usually did not include an enumeration of adults in the household. Rather, the sample selection algorithm described by Rizzo et al. (2004) was based on the number of adults reported as follows:

- If one adult, that adult was selected;

- If two adults, either the screener respondent or the other adult was randomly selected, with probability equal to 0.5; or
- If three or more adults, the screener respondent was randomly selected with probability equal to one over the number of adults, or else the other adult with the most recent birthday was selected.

If the screener respondent did not know the birthdays of other adults, the interviewer then enumerated the other adults, and one was randomly selected.

In CHIS cycles before 2005, the screening interview did not include an enumeration of adolescents and children. For CHIS 2005 and 2007, once an adult was sampled, the landline RDD screening interview could include enumeration and sampling of children and adolescents under the following circumstances:

- The sampled adult was the spouse of the screener respondent;
- The household included one or more aged children 11 or under; and
- The sampled adult was the parent of one or more of the children 11 or under.

This change was implemented to increase the number of completed child interviews. If these conditions were not met, children and adolescents were enumerated as part of the adult extended interview as in the earlier CHIS cycles. The “child-first” protocol is described further in the next section.

The following elements were included in the initial landline RDD screener to assist in developing survey weights:

- The number of children under 12 years of age living in the household;
- The number of adolescents between 12 and 17 years of age living in the household; and
- The number and use (home, business) of telephone numbers ringing into the household.

For telephone numbers in the surname list samples, the initial screening interview was very similar to that for the landline RDD sample. It included an additional question to determine whether a household included one or more individuals of the target ethnic groups:

Do any of these adults who live in your household consider themselves to be Korean or Vietnamese or of Korean or Vietnamese descent?

If the answer to this question was “No,” the sampled number was considered to be ineligible, and the screening interview was terminated.

2.2 Screening Interview for the Cellular RDD Sample

The goals of the screening interview for the cellular RDD sample were similar to those of the landline RDD screener: to determine whether the telephone was associated with a household and to identify an eligible adult respondent. Two important differences from the landline RDD design were (1) that only adults in households without a landline telephone were eligible for the extended interview and (2) that most cell phones are linked with a single individual rather than a household.

Once it was determined that the person answering the telephone was an adult, he or she was asked,

Is this cell phone your only phone or do you also have a regular telephone at home?

If the answer to this question was “Yes,” the sampled number was considered to be ineligible. For eligible numbers, the person answering the phone was automatically selected as the adult respondent unless (1) it was not his or her phone or (2) the phone was shared with other adults in the household. If the phone was shared, an adult respondent was selected in the same way as for the landline RDD.

Besides the screening items, the cell sample screener also asked whether the respondent took all or most, some, or few or none of his or her calls on a cell phone. This same question was included in the adult interview for the landline RDD sample to assess coverage and response patterns for the two samples.

2.3 Area Sample Screening Interview

The area sample was different from the other CHIS 2007 samples in that it was a sample of addresses rather than telephone numbers, and it was restricted to Los Angeles County. Once the sample was selected, the addresses were sent to a vendor to obtain telephone numbers wherever possible. Matched telephone numbers were loaded into the CATI scheduler and treated essentially the same way as landline RDD sampled numbers. Screeners completed on outbound calls were identical to those for the landline RDD sample, except that there was no “child first” procedure, since child interviews were not to be conducted for the area sample.

Unmatched sampled addresses and matched addresses for which a screening interview was not completed by an outbound call were given to field recruiters, who traveled to the sampled addresses to gain cooperation. Once they identified a potential screener respondent, they called the telephone center either on the respondent’s phone or on a cell phone issued by Westat. A telephone interviewer then completed the screening interview, which included all of the same elements as that for the landline RDD (except the child first procedure). In addition, the area sample screener completed on inbound calls asked about telephones in the household, both landline and cell, for the purposes of assessing coverage and response patterns.

2.4 Overall Structure of CHIS 2007 Interviews

Given the number of different instruments and the rules for who could respond to each, one household in the landline RDD or surname list samples could potentially have several individuals acting as respondents, including:

- The screener respondent;
- A sampled adult;
- An adult who could give permission for the adolescent interview, who except in rare instances was the sampled adult or the screener respondent;
- A sampled adolescent; and
- A “most knowledgeable adult” (MKA) for the child extended interview.

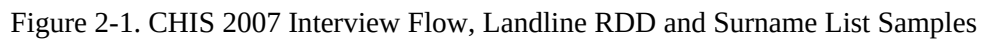
In practice, one adult usually filled multiple roles in households with adolescents and/or children. However, the possibilities of multiple respondents required rules for the order of instruments and of the various administrative activities (e.g., selecting sample persons, identifying and contacting respondents), and CATI tools for navigating through the administrative and questionnaire screens. The default sequence of questionnaire and navigation sections is presented in Figure 2-1. A basic principle of the interview flow is that once the sampled adult is on the telephone, the interviewer should attempt to complete as many different parts of the interview as possible with that person. Once that has happened, the system goes to the HHSELECT screen. If there are remaining parts of the interview, the interviewer selects another individual (e.g., the MKA for the Child Questionnaire), and so on.

As described in Section 2.1, CHIS 2007 allowed sampling of children and adolescents as part of the screening interview under prescribed circumstances. If the screener respondent who was the sampled adult's spouse was determined to be the MKA, the child interview could be completed immediately or at another time before the adult questionnaire. These cases are referred to as "child-first" cases. The adolescent interview could also be completed before the adult interview in child-first cases.

For cases other than those meeting the child-first criteria, the screening interview resumed in the middle of Section G of the Adult Extended Questionnaire, with the following items:

- Identification of adult respondent's spouse if living in the household;
- Enumeration of adolescents and children in the household; and
- Determining for which adolescents and children the adult respondent and/or spouse is the parent or legal guardian.

This information was used by the CATI program to select one adolescent and one child among those for whom the sampled adult was the parent or legal guardian. Adolescents or children who did not have a parent or legal guardian in the household were not eligible for selection. Although child and adolescent extended questionnaires were not completed for the cell and area samples, children and adolescents were also enumerated in these adult interviews, and an eligible child and/or adolescent sampled for the relevant health insurance sections.



Because sampling children and adolescents was part of the adult interview except for child-first cases, the adult interview had to be completed first. Other basic principles of the CATI system flow, once the adult interview is completed, included:

- Attempting to complete as many components as possible with the current respondent before asking for someone else; and
- Attempting the child interview before asking permission for the adolescent interview.

After a landline RDD or surname list sample adult interview was completed for non-child-first cases, if an adolescent and/or child was selected the sampled adult was asked:

- To identify the MKA in the household to serve as respondent for the Child Extended Questionnaire; and

To give permission for the selected adolescent to be interviewed.

Once all possible components were attempted with the current respondent, the CATI program displayed a master navigation screen called HHSELECT. A sample HHSELECT screen is presented as Exhibit 2-1. HHSELECT displayed all interviews scheduled for a household, the name of the respondent, and whether the interview had been completed. The interviewer selected one of the outstanding interviews from HHSELECT, and was routed to the appropriate introductory screens for that interview. HHSELECT reappeared after each component was completed, or attempted but not completed. It also appeared when an interviewer first entered a case started by another interviewer.

Exhibit 2-1. CHIS 2007 HHSELECT CATI screen

0.0020 HHSELECT

900009990201 - (301) 215-1500 - 08:26

[ASK FOR PEOPLE WITH RESULT THAT IS NOT FINAL. ENTER NUMBER FOR CHOSEN PERSON. ENTER 0 TO LEAVE THIS CASE.]

()

#	RESPONDENT	TYPE	SUBJECT	AT THIS PHONE	RSLT	APPOINTMENT DATE/TIME
1	MARY/30/F	ADLT		Y	CA	
2-SR	ALFRED/32/M	CHLD	WILL/8/M	Y		

3. EXTENDED INTERVIEWS

CHIS 2007 included three separate extended interviews: adult, child, and adolescent. This chapter describes Westat's involvement in the development of these questionnaires, the content of each, pretesting of the questionnaires, translation of the questionnaires from English into four other languages, changes in the questionnaires during data collection, and how proxy interviews were conducted.

3.1 Questionnaire Development Process

The CHIS questionnaire design was driven by the research needs of UCLA, sponsoring agencies, and a variety of governmental, academic, and other partners, as well as by concerns about respondent burden, response rates, and costs. The target was an adult questionnaire that would not normally exceed 30 minutes in administration time, and child and adolescent questionnaires that would not exceed 15 and 20 minutes, respectively.

In late 2006, UCLA began collaboration with Westat staff for drafts of the adult, adolescent, and child questionnaires. These drafts were developed by UCLA and its partners to cover a wide variety of health-related research topics. Westat reviewed the drafts and provided comments on the selection of question items, wording and sequence, and on the estimated length of the draft instruments. There were several iterations of draft instruments before complete instruments of reasonable length were ready for pretesting.

The surveys included many items from previous CHIS cycles as well as new items. Some of the items carried over were re-worded or re-ordered. The questionnaires posted on the CHIS website (<http://www.chis.ucla.edu/questionnaires.html>) include both: (1) a *question* name describing the questionnaire type (adult, adolescent, child) and year, the section within the questionnaire, and a (largely sequential) number within the section; and (2) a *variable* name (largely based on previous CHIS cycles). To reduce the programming required and to facilitate pooling data across survey years, existing variable names were retained in the CATI program; new variables based on new questions were assigned the next available number in their section. Variable names for items in previous cycles not included in the 2007 survey were not re-used. The question name incorporates a separate, sequential numbering system to facilitate manual use of the questionnaire documentation.

3.2 Questionnaire Content

The adult extended questionnaire is divided into 15 sections:

- A. **Demographics** – Age, gender, race, ethnicity, marital status.
- B. **Health Conditions** – General health, asthma, diabetes, high blood pressure, heart disease, flu shot, colon cancer screening, falls among the elderly.
- C. **Health Behaviors** – Moderate and vigorous physical activity, dietary intake, tobacco and alcohol use.
- D. **General Health, Disability, and Sexual Health** – Height and weight, vision and hearing, limitation of activity and impairments, sexual orientation, sexual activity, sexually transmitted infections testing, infertility (men).
- E. **Women’s Health** – Fertility history, infertility, breast and cervical cancer screening, HPV awareness and attitudes towards vaccine, HPV vaccine receipt, emergency contraception, hormone replacement therapy.
- F. **Mental Health** – Mental health status, effects of mental health problems, use and sources of treatment, reasons for not seeking treatment
- G. **Demographics, Part II** – Self and parent’s country of birth, languages spoken at home, English proficiency, immigration status, household composition, use of child care, education, employment status of self and spouse.
- H. **Health Care and Health Insurance** – Usual source of care, current coverage by public or private plans, source of coverage, spouse’s coverage, managed care plan characteristics, duration of coverage, whether any uncovered period in past year, medical debt, dental insurance.
- I. **Adolescent and Child Health Insurance** – For sampled adolescent and child, current coverage by public or private plans, source of coverage, managed care plan characteristics, duration of coverage, whether any uncovered period in past year, awareness of and attitudes towards HPV vaccine for age-eligible daughter, HPV vaccine receipt for age-eligible daughter.
- J. **Health Care Utilization and Access and Violence** – Doctor visits in past year, communication with doctor, mental health treatment, delays in getting care, health literacy, interpersonal violence from intimate partner or acquaintance.
- K. **Employment, Income, Poverty Status, Food Security** – Employment status, earnings for self and spouse, household annual income, availability of food in household and hunger.

- L. **Public Program Participation** – Participation in public social programs, alimony and child support, Social Security, pensions, reasons for non-enrollment in Medi-Cal.
- M. **Housing, Parks, Transportation** – Type of housing and tenure, feeling safe in neighborhood, use of parks in neighborhood, use of car and getting to medical visits and grocery store.
- N. **Final Demographics** – County of residence, address, use of cell phone, willingness to participate in follow-up study.

The child extended questionnaire comprises eight sections:

- A. **Demographics and Health Status** – Age, height, and weight, school attendance, activity limitations, asthma, developmental disorders.
- B. **Dental Health** – Most recent visit to a dentist, usual source of dental care, dental insurance, unmet needs, loss of school time.
- C. **Diet, Physical Activity and Park Use** – Types of food eaten, getting to school, name of school, use of parks.
- D. **Access to and Use of Health Care Services** – Usual source of care, most recent physician visit, communication with doctor, emergency room visits, delays in care, flu shot.
- E. **Public Program Participation** – Participation in TANF, CalWorks, Food Stamps, and WIC, parental influence, exposure to public service announcements on childhood obesity and smoking.
- F. **Parental Involvement, Concerns, Mental Health** – Parental involvement with child, developmental and behavioral concerns of parent, school, and doctor, mental health and development.
- G. **Child Care** – Types of child care used, difficulty finding care
- H. **Demographics, Part II** – Race and ethnicity, citizenship/immigration status of child and parents, respondent's English proficiency, and level of education of respondent and primary caretaker of child.

For child-first cases, some completed child interviews do not have completed adult interviews in the same household. The following topics from the adult questionnaire were administered to the MKA as part of the child questionnaire for child-first cases so that these children would have essential household-level and insurance information for analysis and weighting:

- Adult respondent's (AR's) education, employment status, and age;

- Health insurance coverage for AR, spouse, the sampled child, and the sampled adolescent (if there is one);
- Household income;
- Own/rent home, smoking allowed in home; and
- Address information.

Finally, the adolescent extended questionnaire comprises twelve sections, presented in the order they appear in the interview:

- A. **Demographics** – Age, gender, school attendance.
- B. **Health Status and Health Conditions** – Self-reported health status, height and weight, asthma, allergies, flu shot, diabetes.
- C. **Diet, Nutrition, and Food Environment** – Dietary intake, sources of meals.
- D. **Physical Activity and Sedentary Time** – Exercise, transportation to school, sports team participation, physical education in school, sedentary time on weekdays and weekends, park or playground availability.
- E. **Tobacco, Alcohol, and Drug Use** – Smoking habits, drinking, use of recreational drugs.
- F. **Emotional Functioning** – Mental health over past 30 days.
- G. **Sexual Behaviors** – Sexual activity, contraceptive use, emergency contraception, pregnancy, HPV and HPV vaccine awareness, HPV vaccine receipt.
- L. **Interpersonal Violence** – Fights, intimate partner violence
- I. **Health Care Utilization and Access** – Usual source of care, most recent doctor visit, recall of provider advice, emotional or psychological counseling.
- M. **Dental Health** – Most recent dental visit, usual source of dental care, unmet needs, loss of school time because of dental problems.
- J. **Adult Supervision** – Marital status of parents, adult presence after school.
- K. **Demographics, Part II** – Race and ethnicity, country of birth, citizenship and immigration status, languages spoken at home, and follow-up information.

3.3 Translation of Questionnaires

Translation of the CHIS 2007 questionnaires began with a thorough review of the 2005 instruments to identify items that would be administered again in 2007. This review was performed by Westat staff who compared printed versions of the two instruments side by side. In addition, electronic comparisons were made using text files of the 2005 and the 2007 “screen libraries” generated by the CATI system. To expedite the translation process and to begin conducting non-English interviews as quickly as possible, it was decided that unchanged items would not require a new translation and that they would be administered as they were in CHIS 2005.

The electronic comparison of the two survey versions was literally a character-by-character comparison so that any difference, no matter how trivial or insignificant (e.g., an extra space or line) would be identified as a change or as a new item for CHIS 2007. The results of the electronic comparison showed the need to fully translate or to update the existing translation for about 500 screens in the CATI system. This electronic comparison of the instruments was made using the April 27, 2005, and June 22, 2007, English versions of the CHIS instrument. A few changes were made to the English instrument after June 22 and the non-English versions were subsequently updated.

3.3.1 Letter Translations

UCLA translated and provided to Westat the initial versions of the advance letter and the initial (screener level) and extended interview refusal conversion letters in all non-English languages (Spanish, Korean, Vietnamese, and Chinese). Much of the text from the CHIS 2007 advance and refusal conversion letters was left intact from those used for CHIS 2003 and CHIS 2005. Staff from Westat’s translation unit and contracted translators reviewed the documents and returned them to UCLA including some suggested changes. UCLA updated the advance letters based on the Westat review and sent finalized text to Westat. The multilanguage advance letter was printed in the same layout as in CHIS 2005—an 11x17 folded document with English on the front, Spanish on the back, and with Chinese, Korean, and Vietnamese printed from left-to-right on the inside two pages. The refusal letters were printed in four formats; one that combined English and Spanish (front and back of the document), and three others that combined English with the Asian languages.

3.3.2 Spanish Questionnaire Translation

The survey items identified as new or needing revision based on the electronic comparison were translated by Westat's translation unit and contracted translators in late June 2007. A formatted text file of the English CATI screens for these items was used for translation work. There were 490 new or updated items in CHIS 2007 that required Spanish translation. In addition, the entire library of more than 1,100 CATI screens was reviewed and checked for consistency in wording across screens.

Following a Westat internal evaluation of the initial translation, UCLA reviewed the translation and in that process found a number of survey items requiring further attention. On July 24, 2007, UCLA's language experts and Westat held a conference call to review, discuss, and finalize the translation. Further changes were made to the instrument to coincide with updates to the English survey and as a result of comments collected from Westat's bilingual interviewing staff.

3.3.3 Asian-language Questionnaire Translations

The translation approach used for the Spanish-language interview was adopted for the Asian language interviews in that only the new or revised survey items were translated. The same list of 490 new or revised items identified as needing Spanish translation was used for the Asian language translations. We introduced an additional step in the Asian-language translation process for CHIS 2007. In this extra step, Westat's in-house expert wrote suggested revisions or modifications on a hard-copy version of each translated section. These documents were then forwarded to our contracted translation firm and they determined whether to accept or reject the suggested modifications. This additional round of review was implemented to improve consistency and accuracy before sending it to UCLA for final review and approval.

Existing electronic documents from CHIS 2005 and CHIS 2003 were used to construct the initial CHIS 2007 Asian-language screen library for the unchanged items. The screen names and survey item numbers from the CATI system were used as the primary "key" when referring to specific items and in identifying items that had been or needed to be translated (e.g., item number "AD56").

Chinese Questionnaire Translation. The new and revised items were translated into Chinese by Westat and contracted translators in mid-August 2007. Translated sections of the survey were

forwarded to UCLA as they became available. UCLA's review showed a number of items needing further review. Westat translators and UCLA staff conducted a conference call on September 10, 2007, to discuss and finalize these items.

Korean Questionnaire Translation. The first set of text files of the new and updated English CATI screens were sent to Westat contracted translators in mid-July 2007, and the final translated section was returned to Westat by late-August. Westat's in-house Korean expert reviewed each translated section and suggested modifications or revisions as needed. Westat's internal review of the translated sections was completed in late August. UCLA's review showed a number of items needing further review. Westat translators and UCLA staff conducted a conference call on September 25, 2007, to discuss and finalize these items.

Vietnamese Questionnaire Translation. Using the same translation and review process used for the other Asian languages, the updated and revised items were translated into Vietnamese during August 2007. Westat's internal review of the initial translation was completed by mid-September. We conducted a conference call with UCLA staff and their language experts on September 27, 2007.

Westat also provided translated versions of the "Frequently Asked Questions" pages used to help interviewers answer respondents' questions about the survey and respond to objections that respondents may have had.

3.4 Pretest and Pilot Test

Westat conducted a small paper-and-pencil pretest of portions of the CHIS 2007 adult, child, and adolescent interviews December 13-14, 2006. The purpose of this test was to estimate the time to administer proposed new items and to assess the interview flow and wording of these items. Respondents were recruited by a market research firm at the direction of UCLA. Westat interviewers in the Citrus Heights, California, Telephone Research Center (TRC) conducted 9 adult interviews, 9 adolescent interviews, and 9 child interviews. All pretest interviews were conducted by experienced interviewers and monitored by Westat, UCLA, and/or Public Health Institute (PHI) staff. Results from the pretest informed subsequent decisions about dropping or revising questions.

The formal pilot test was held in the Citrus Heights TRC, from June 5 through June 9, 2007. Twelve experienced interviewers were trained and conducted interviews; 6 had interviewed for CHIS 2005, and the remaining 6 had experience on another large RDD survey. The pilot test was intended as a full dress rehearsal of the main study, except that only an English-language instrument was used, and no attempt was made to convert refusals or follow up with language problem cases. The pilot test sample used an RDD approach, using telephone exchanges expected to have a high yield of adolescents and children. Table 3-1 presents the results of the pilot test, and compares cooperation rates from the 2003 and 2005 pilot tests. Note that the 2007 screener cooperation rate (31.4 percent) was substantially lower than that in 2005 (39.3 percent). The cooperation rates for the child and adolescent interviews were somewhat lower than in 2005, and gaining permission for the adolescent interview somewhat higher, although these are based on relatively small sample sizes.

Table 3-1. Number of completed interviews and refusals and cooperation rates in the CHIS 2007 pilot test, and CHIS 2005 and 2003 pilot cooperation rates

Instrument	Completed Interviews	Refusals	Cooperation Rate		
			2007	2005	2003
Screener	221	482	31.4%	39.3%	43.0%
Adult interview	89	36	71.2%	69.5%	78.9%
Child interview	49	5	90.7%	95.1%	96.2%
Adolescent permission	31	7	81.6%	69.4%	Not available
Adolescent interview	18	4	81.8%	92.3%	77.8%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

The adult extended interview averaged just over 37 minutes to administer, considerably longer than the target of 30 minutes. The child interview averaged 17 minutes, and the adolescent interview about 18 minutes. The screening interview averaged 2.4 minutes, and getting permission to interview adolescents also 2.4 minutes. These times were all close to or under the targets. Tables 3-2a through 3-2c present the interview length by section for the adult, child, and adolescent questionnaires, respectively.

Staff from UCLA, the California Department of Public Health and Department of Health Care Services, the PHI, and Westat observed the pilot test. Results of the observations and debriefing helped inform decisions about cutting and modifying questions between the pilot test and the main study.

Table 3-2a. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2007 pilot adult extended interview, by section

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	89	36.84	7.95	23.92	58.13	35.55
A	89	2.51	0.86	1.35	5.92	2.37
B	89	2.01	1.22	0.45	6.68	1.8
C	89	4.69	1.15	2.52	8.73	4.43
D	89	2.37	0.69	1.37	4.85	2.18
E	55	3.53	1.15	1.92	8.78	3.25
F	89	3.44	1.7	1.42	8.23	2.7
G (before screener)	89	0.79	0.56	0.3	2.75	0.53
G (screener)	83	1.41	0.77	0.08	3.7	1.32
G (after screener)	89	1.54	0.76	0.45	5.42	1.35
H (adult respondent)	89	2.25	1.08	0.97	7.95	1.93
H (spouse)	64	0.62	0.39	0.22	1.78	0.42
H (plan details)	89	2.09	1.21	0.58	7.82	1.73
I (child)	46	0.74	0.77	0.3	3.37	0.38
I (adolescent)	52	1.39	0.98	0.38	6	1.08
J	89	3.38	1.45	0.93	9.92	2.88
K	89	2.54	1.39	0.48	8.93	2.15
L	29	1.79	0.64	0.85	3.45	1.77
M	89	1.34	0.31	0.85	2.98	1.3
N	89	2.16	0.56	1.07	3.88	2.1
O	89	36.84	7.95	23.92	58.13	35.55

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Table 3-2b. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2007 pilot child extended interview, by section

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	49	17.37	5.25	6.97	32.35	16.37
A	49	3.85	2.9	0.68	19.62	3.18
B	46	1.09	0.37	0.07	2.03	1.03
C	49	3.28	1.7	0.32	8.27	3.15
D	49	1.73	0.59	0.87	4.25	1.6
E	49	0.59	0.24	0.17	1.57	0.55
F	49	4.24	1.75	0.9	9.4	3.93
G	49	1.32	0.74	0.23	3.7	1.12

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Table 3-2c. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2007 pilot adolescent extended interview, by section

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	17	18.5	3.7	13.5	25.1	17.8
A	17	2.4	0.7	1.7	4.3	2.1
B	17	1.7	1.1	0.9	4.7	1.1
D	17	1.8	0.4	1.2	2.7	1.7
E	17	3.4	1.3	1.9	7.4	3.3
F	17	0.8	0.5	0.3	2.2	0.6
G	17	1.3	0.3	0.8	1.8	1.3
H1	17	1.2	0.9	0.2	2.8	1.5
L	17	1.0	0.4	0.7	2.1	0.9
I	17	2.0	0.5	1.4	3.5	1.9
M	17	1.2	0.3	0.8	1.9	1.2
J	17	0.6	0.1	0.3	0.9	0.5
K	17	1.3	0.5	0.8	3.0	1.1

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

3.5 Changes in the Questionnaire during Data Collection

As Westat, UCLA, and PHI staff monitored interviews during the data collection period, as interviewer debriefing sessions were conducted, and as Westat data preparation staff reviewed marginal comments entered by interviewers, several issues with question items arose, some of which suggested that a change in the question wording or answer categories would be beneficial. Some of these issues led to actual changes in the CATI instrument during the field period. Appendix A presents all of the changes to the CATI instruments after data collection started.

4. INTERVIEWER RECRUITING AND TRAINING

4.1 Organization of the Telephone Research Centers

Westat conducted CHIS 2007 at all five of its Telephone Research Centers (TRCs), in Rockville and Frederick, Maryland; Citrus Heights and Merced, California; and Sarasota, Florida; in addition to utilizing data collectors working from their homes nationwide. Additional support for foreign language interviews was provided by a subcontractor located in San Francisco. Overall direction of telephone survey operations was from the TRC central office at the Rockville headquarters.

Westat's Telephone Research Center has successfully applied new technologies to expand the multi-site call centers to include data collectors working throughout the US. Westat's computing systems and telephony capabilities enable the networked combination of geographically diverse data collector locations to operate as a single and secure "virtual" TRC managed from the home office location at Rockville. All interviewing and supervisory stations at all locations are interconnected on a high-speed data communications network that provides a single integrated database and a single call scheduling and reporting capability. Integrated voice and data monitoring is available for supervisors at all locations and at a central facility at the Rockville home office. Each center, including the home based data collectors, has an administrative director and a group of supervisors who schedule and supervise the center's interviewing staff.

The Citrus Heights TRC was the pilot test and pretest site. The Operations Manager was in the Rockville office. All centers conducted RDD interviewing in English, as well as interviewing of the county supplemental samples and the screening of the Korean and Vietnamese surname samples. Spanish bilingual interviewers were present at all sites. The Asian bilingual extended interviews were conducted in the Rockville office, by home-based data collectors, and by the subcontractor in San Francisco. Frail, elderly proxy interviews were conducted in the Frederick and Sarasota centers.

4.2 Pretest and Pilot Test Recruiting and Training

Westat selected experienced interviewers from the Citrus Heights TRC for the pretest and the pilot. For the pretest, interviewers were trained informally on paper and pencil versions of the CHIS

2007 draft questionnaire. Training was conducted by members of the CHIS team. Since the pretest respondents were recruited by a California market research firm, there was no need to train the pretest interviewers on contacting and callback procedures.

The pilot test was also conducted out of the Citrus Heights TRC. Westat utilized 12 experienced interviewers, several of whom had interviewed for CHIS 2005. The training program was developed and implemented by the TRC Operations Manager, and anticipated the training for the main study. CATI was used for administration of the pilot interviews.

4.3 Recruiting and Training for English-Language Telephone Interviewing

The field period for CHIS 2007 began in mid-June of 2007, ran for 9 months and ended the first week of March 2008. Westat's data collection plan was to recruit and train a large number of interviewers at the beginning of the field period so that peak production would be reached within the first two weeks of the study. Training sessions were planned for late September and October to incorporate bilingual Asian interviewers and supplement the English interviewing staff. Bilingual Spanish-speaking interviewers were to be trained along with English-only interviewers to conduct interviews in English for a few weeks. Once familiar with the survey, they would be trained in and use the Spanish-language instrument. Asian bilingual interviewers were to be added in the fall.

4.3.1 Recruiting Telephone Interviewers

The CHIS 2007 interviewing force was a combination of Westat-experienced and newly-hired data collectors. In all locations some experienced interviewers were available at the beginning of the field period. After all training sessions had been held, 742 interviewers of the 1,114 invited to training successfully completed all sessions. Of those who completed training, 368 had previous interviewing experience at Westat and 372 were new hires.

Generally, Westat recruits new interviewers by placing advertisements in local newspapers and posting notices on job-oriented websites. Applicants use an online application process. This is followed by calling an interactive voice response (IVR) system which instructs them to leave a voice sample based on a provided script. Selected applicants are then screened via a live phone interview.

Successful applicants are invited to complete an online general interviewer training (GIT) using Westat's telephony system, training on CATI system use, and project-specific training.. Applicants must complete this general training, training in Westat's CATI system, and project-specific training before they actually become Westat employees.

4.3.2 Overview of Training Plan

Development of the training started with an outline of key concepts to be covered. The agenda and the development of materials followed from this starting point. The appearance of all materials was standardized and presentations were scripted so that all trainers could follow the format and deliver a consistent training program across groups.

Training sessions were also organized according to standardized Westat procedures. Training teams were organized with staff who had distinct responsibilities (e.g., a lead trainer who delivered the WebEx training script, a group leader who evaluated trainees and provided administrative information and a coordinator for role plays.). The TRC Operations Manager led development of the training materials, served as one of the lead trainers, and trained the other lead trainers directly.

Initial training was provided to all interviewers in general interviewing techniques and the use of the computer system. These are self-guided web-based trainings with short quizzes at the end of each session to assess basic knowledge of the lessons. The interviewers were then directed to a project-specific training that focused on the CHIS 2007 screener and extended interviews.

The initial five hours of the project-specific training involved data collectors completing a web-based distance learning session. This training started with the viewing of a four minute video presentation given by Dr. E. Richard Brown of UCLA providing some background of the study, how the data is used, and a welcome letting data collectors know about their integral role in the study's success. The self-tutorial materials also involved the completion of an adult, child and adolescent interview using a program which simulates the administration of an actual interview, complete with respondent answers to ensure all trainees follow the identical path. Incorporated into this interview are both auditory and written trainer's notes explaining important aspects of the interview. Other materials to be reviewed in this self-paced training include the CHIS 2007 advance letter, an overview of the study, questions and answers to common respondent concerns, website information from <http://www.californiahealthsurvey.org>, refusal

avoidance lines, function key use, key concepts/definitions, an auditory pronunciation guide and a summary quiz.. Data collectors working in a physical telephone research center were able to complete this distance training using a TRC computer, if desired.

After successful completion of the distance learning and summary quiz, data collectors attended a three hour WebEx session. Data collectors logged onto an assigned session to be connected by telephone in a conference while viewing a shared screen of the trainer's on each person's monitor. WebEx sessions were confined to no more than about twenty-five trainees. This session began by addressing any questions emanating from the distance learning. Next were a series of screener interactives detailing how to identify respondents in a variety of situations. Contact procedures followed along with a discussion of how to gain cooperation with refusal avoidance suggestions presented and shared.

In order for all trainees to receive the training in the same manner, all data collectors were trained using the self-tutorial and WebEx training regardless of their location for conducting interviews. Trainings began June 8, 2007 Additional trainings were conducted as needed throughout the data collection period.

After all interviewers started production, they received supplemental training on specific questionnaire issues that arose after training. They also received more training in gaining respondent cooperation. These trainings occurred through WebEx sessions and at the TRCs. Monitoring of interviewers continued throughout data collection as a method of quality control.

Interviewers who demonstrated relevant skills were selected to also receive training in how to handle special cases. These included interviews with proxy respondents for selected adults age 65 and older who were unable to complete an interview due to physical or mental condition. Proxy interviewers used a training account to review the specially programmed proxy interview involving changing pronouns to fit the proxy circumstance. Through the training program proxy data collectors could also note the elimination of particular questions which would not have been easily answerable by a proxy.

4.3.3 Development of Training Materials

Prior to training, key members of the study area staff, the TRC operations manager, and senior TRC staff developed training materials. Guided by an outline of all the concepts relevant to the

study, a complete set of training materials that complemented one another was produced. These materials included the following items.

- Training Program Agenda. The agenda identified the format of the sessions (self-tutorial materials, WebEx items and dyad role plays.), the topics to be covered, and the length of time the session was scheduled to take (see Exhibit 4-1). This document was used during training by the lead trainer and others assisting in training to see what materials were used by the lead trainer as well as the interviewer during each session.
- Interviewer Help Text. In order to provide easy access to additional information about interview questions, Westat included in the CATI program online help text accessed for a related question by pressing the F1 key. Additional information related to a question was also often displayed in brackets on the screen itself. Having the specifications for each question available in these formats precluded the need for a formal hardcopy manual.
- Lead Trainer's Manual. This manual contained all material presented by the lead trainer in a WebEx session. It included screener interactive scripts, contact procedures and refusal avoidance suggestions. .
- Website Materials. These self-tutorial, web based materials were provided to interviewers 4-7 days prior to their scheduled WebEx training. It included the simulated adult, child and adolescent interviews, the reference materials, the CHIS 2007 advance letter, background information on the study, questions and answers to common respondent concerns, website information from <http://www.californiahealthsurvey.org>, refusal avoidance lines taken from support materials and a summary quiz.
- Dyad Role-Play Scripts. Role plays were produced that focused on contact procedures and provided practice on the administration of the extended interview.
- Reference Materials. The training web site provided the following documents for data collector reference.
- Dr. Brown's introductory video
- Key Concepts Sheet
- The CHIS 2007 advance letter
- Background information on the study
- An Audio-Visual Pronunciation Guide
- 800#/Web site Reference Card
- Coding of Recordings/Messages Guide

- Protocol for Referring Distressed Adolescent Respondents
- News article about the impact of CHIS 2005
- Additional Website information
- A gaining cooperation presentation
- Refusal Avoidance statements from experienced interviewers
- Problem Sheet instructions
- Tips for successful interviewing

Exhibit 4-1. Agenda for English-Language Telephone Interviewer Training, CHIS 2007

Session	Length	Topic	Trainee Materials
Self-Tutorial Study	5 hours	Project Specific self-study	PC and posted reference materials.
WebEx Session	3 hours		
1	5 minutes	Introduction	
2	2 hrs	Screener Interactives/Contact Procedures	Personal Computer, Reference materials
3	40 minutes	Gaining Cooperation	Personal computer, Q & A's, Refusal Avoidance Sheet
		Review Problem Sheet	
4	5 minutes		Problem Sheet
5	10 minutes		Role Play Discussion

4.3.4 Training Teams

The WebEx training team for each group consisted of a lead trainer and a group leader. The roles and responsibilities of the team members follow.

Lead Trainer. Lead trainers were responsible for the overall presentation and the pace of training. All lead trainers for CHIS 2007 had several years of training experience and were well-versed in

training techniques and group control. It was the role of the lead trainers to concentrate on delivery of the material, while trainee evaluation was the responsibility of the group leader.

Group Leader. The group leader was responsible for taking attendance, troubleshooting, and providing administrative information. Most importantly, the group leader was responsible for coordinating an evaluation of each trainee. The role of group leader was filled by shift supervisors with many years of experience working with interviewers.

Role Play Coordinator. The coordinator was responsible for pairing the trainee dyads and ensuring that each pair was monitored during their role play administration in order to assess readiness for live production.

4.3.5 Stages of Interviewer Training

Interviewers were trained in five stages. The first two stages are standard for all CATI interviewers, and the last three stages are specific to the project. The stages are General Interviewing Techniques (GIT), Teltrain (CATI training), Web-based self-tutorial, project-specific WebEx session and role play administration.

4.3.5.1 General Interviewing Techniques

Every new interviewer participated in a 4-hour web-based GIT session; this training was supported by Westat and was not charged to the project. In GIT training, interviewers were introduced to Westat and to survey research, shown samples of types of survey questions and recording conventions, and taught basic ways to obtain accurate data through listening and probing. They learned confidentiality procedures and methods for gaining respondent cooperation. The format was interspersed with exercises leading into the next lesson. Electronic transfer of exercise completion allowed the home office to review both accuracy in demonstrating knowledge and readiness for the next training stage.

4.3.5.2 CATI Training with Teltrain

Before specific project training, each trainee participated in an interactive, computer-assisted tutorial training program that was supervised, but self-administered, and took each participant through the procedures for conducting interviews using CATI. The session instructed interviewers on the use of the computers, all Westat CATI recording functions, and special CATI commands. The script included practice with logging on to the computer and using the keyboard (particularly the keys that control the flow of the CATI interview).

Included in the Teltrain session was a tutorial lesson on the coding of contact procedures. Contact results covered included ring no answers, non-working numbers, fax machine tones, answering machines, and busy signals. Through headphones, trainees experienced exact replications of common contact situations and learned the proper coding techniques through presentation and practice. A follow-up test was administered to evaluate mastery of the contacts. After scoring 100 percent on this test, an interviewer was eligible for the specific project training.

4.3.5.3 CHIS Project Training – Web-based Self-tutorial Distance Learning

After interviewers were trained in GIT and the use of the CATI system, they participated in three training sessions devoted to the specific procedures and the administration of the CHIS CATI questionnaire.

At the end of the GIT session, interviewers were emailed instructions on accessing the project specific materials which included self-guided practice interviews of the CHIS 2007 screener, adult interview, child interview, adolescent permission interview and adolescent interview. The training utilized a program simulating the computer assisted telephone interviewing conducted in CHIS 2007 production. Respondent answers to interview questions appeared on each screen. Interviewers were required to enter the answers provided in order to progress through the instrument, simulating an actual interview. Auditory and written training notes supplemented the interview administration. The successful completion of a summary quiz was required to be transmitted electronically prior to the WebEx session.

4.3.5.4 CHIS Project Training – WebEx Session

Because of the multiple skills interviewers need, training focused on the techniques designed to cultivate these skills. This involved the active participation of all trainees by simulating the actual conditions of the interview. This approach required trainees to use the same procedures and data collection instruments they used to conduct the survey. This approach is summarized below.

Interactive Lectures. Interactive lectures were used to familiarize interviewers with the questionnaire. They were conducted as mock interviews in which the trainer acted as the respondent and the interviewers asked the questions using the computer to read the question text. In addition, the trainer took time to explain or define concepts pertinent to the CHIS interviews, or to ask the interviewer to read a definition or procedure from available Help Text.

The scripts used for interactive training were prepared using the Cheshire Automated Training Scripts (CATS) system. CATS is a series of macros created in MS Word for Windows for TRC staff to develop scripted training materials. With this program, CHIS training staff created training scripts. Standards of style have been developed so that each training script looks uniform regardless of the author, and all training groups hear the same information, regardless of which trainer presented the material.

Dyad Role Plays. In dyad role plays, one trainee took the role of interviewer using the computer while the other acted as the respondent, both using a prepared script that was produced using the CATS system. Interviewers reversed roles after the end of each role play. Each interviewer participated in several dyads. Group leaders and other training team members monitored the role plays.

Reinforcing Exercises. In addition, written exercises were given to the interviewers during training to reinforce what was learned during the interactive interviewing sessions. These exercises dealt with proper probing techniques, the entering of additional comments to clarify a response, and gaining respondent cooperation.

For the extended interview, trainers instructed interviews on how to access on line additional information for questions by pressing the F1 key to display Help Text. These question-by-question (QxQ) specifications for some questions were reviewed as part of the interactives. These QxQs were used to provide interviewers with more in depth information on questions such as those on health care coverage, employment and earnings, family income and program participation.

Practice Answering Commonly-Asked Questions. Commonly-asked questions and answers were discussed and reviewed throughout training as part of the interactive presentations. This document was posted on the web and printed out by trainees to use during the training. The questions dealt with both general interviewing issues and CHIS project-specific issues. Translation of this document was done in Spanish, Chinese, Korean and Vietnamese for use with non-English language speaking respondents.

4.3.6 Schedule and Number of Interviewers Trained

Table 4-1 shows the timing of project-specific interviewer training sessions for CHIS 2007. The first WebEx trainings beginning June 10th, 2007, were held simultaneously in order to train more data collectors in a smaller group setting allowing for greater individual attention. Additional trainings were held primarily in the summer and extending into the fall.

4.3.7 Refusal Avoidance and Conversion

Within two weeks of the CHIS training, Westat scheduled abbreviated small group conference call training sessions. The objective was to improve interview skills in answering respondent questions and objections with immediate and informative responses. This was also done as part of the live WebEx training but once interviewers had some production experience, the application of these skills became that much more salient. Role playing with typical scenarios was practiced. Ideas were shared regarding what was deemed to be successful more often. The purpose of this training included an attempt to improve the screener cooperation rate. A subset of these interviewers who were particularly adept with gaining cooperation were subsequently trained and assigned to work as converters for screener and extended level refusals.

During the regular project training, all interviewers received instruction in refusal avoidance methods. Further strategies were reviewed in special refusal avoidance meetings. Included in the effort to improve respondent cooperation were special individual coaching sessions by supervisors assigned to small groups of interviewers. In these meetings, the emphasis was on the review of good interviewing

Table 4-1. CHIS 2007 interviewer training dates, sites, and number of interviewers trained

Training Dates	Site	Interviewers Invited to Training	Interviewers Completing Training
2007	All WebEx		
6/10		32	25
6/10		27	22
6/13		27	24
6/17		17	17
6/17		23	23
6/17		23	21
6/17		21	21
6/23		18	18
6/24		17	14
6/26		25	22
6/27		27	27
6/30		29	23
7/2		28	22
7/14		33	19
7/22		26	25
7/22		37	23
8/11		28	18
8/12		28	21
8/19		33	12
8/19		34	17
8/22		32	17
8/22		34	18
8/22		41	19
8/25		39	20
8/25		40	16
8/25		30	15
8/27		42	21
8/28		43	21
8/28		45	18
9/5		39	22
9/9		13	12
9/9		7	7
9/9		19	18
10/3		9	7
10/25		6	6
10/28		9	8
10/29		12	10
11/13		18	14
12/4		52	32
12/15		32	18
1/12		2	2
2/8		17	17
Total Interviewers completing		1114	742

techniques by direct observation. In addition, supervisors selected experienced interviewers with average or above average cooperation rates in either the screener, the extended interview, or both for refusal conversion activities.

Refusal conversion focuses on attempts to persuade respondents who have previously refused to participate or to complete an interview. Interviewers received special training in re-contacting and encouraging participation by those respondents who had originally declined. The refusal conversion training sessions lasted between one to two hours and covered specific conversion strategies. They explored common reasons for refusals, reasons specific to CHIS 2007, and the importance of addressing respondent concerns with appropriate responses. During the refusal hold period, a conversion letter was sent to all households for which there was an address on file. This prefaced the refusal conversion call.

4.3.8 Interviewer Performance

Interviewer performance was evaluated through examination of cooperation rate reports and monitoring of live interviewing for the skills needed for effective interviewing. Ten percent of interviewing time was monitored throughout the data collection period. Supervisors monitored interviewers for a minimum of ten minutes at a time. The monitoring was followed by a one-on-one coaching session to review techniques that were or were not working in an effort to either reinforce exemplified skills or provide feedback for improving interviewing style. Interviewers were monitored by TRC supervisors and training staff to determine if the following skills were demonstrated: use of a conversational style; reading fluency; ability to answer respondent questions quickly, accurately, and completely; ability to gain respondent cooperation; reading screens verbatim; and using neutral probes. Interviewers whose performance fell below acceptable levels attended additional coaching sessions with an emphasis on gaining respondent cooperation and answering respondent questions.

The following techniques were used to identify and reinforce behaviors effective in gaining respondent cooperation.

- The Operations Manager sent a weekly priority list to shift coordinators. It included lists of interviewers by name who were targeted for heavy monitoring because of recent change in status such as cooperation rates lower than average; evaluation for specialized tasks and refusal conversion. The issues that were to be focused on during monitoring were also provided, such as the interviewer's ability to answer respondent questions/concerns quickly and accurately, and read all screens (in particular the

screening introduction) at the appropriate pace and tempo for the respondent; read screens verbatim; and probe neutrally and appropriately. For refusal interviewers, the emphasis was on the ability to engage respondents and use appropriate techniques.

- Supervisors provided feedback to interviewers on an individual basis after monitoring sheets had been completed. This included feedback on positive aspects of the interview and suggestions for improving performance.
- Shift coordinators sent reports regarding interviewer performance to the operations manager. Reports identified strengths and weaknesses as reported in monitoring sheets. They also provided input on interviewers recommended for special tasks.
- Shift coordinator reports were used in combination with cooperation rates to identify interviewers for refusal conversion and other specialized tasks.

4.4 Training for Spanish-language Interviewing

All Spanish bilingual interviewers were trained according to the protocol described in Section 4.3.5, in sessions that included both English-only and bilingual interviewers. Spanish interviewing was conducted at all TRCs and also by bilingual Spanish speakers working from home. After completing the English-language CHIS-specific training, Spanish bilingual interviewers initially worked in English. Once the Spanish-language instrument was ready, bilingual interviewers were given practice using it before proceeding to live interviewing in Spanish. The training was monitored by Spanish-speaking supervisors in each site. Since the English and Spanish instruments were so similar, there were few substantive or operational issues to work through during training.

Once the interviewers began interviewing at the TRCs in Spanish, they were monitored closely by Spanish-speaking supervisors. The first priority in CATI for Spanish bilingual interviewers were cases from the work class identified as speaking Spanish. Bilingual Spanish interviewers worked primarily in the Spanish work class for the rest of the field period but also made the initial follow-up calls to households that English speaking interviewers categorized as OTHER LANGUAGE (not Spanish, Chinese, Korean, Vietnamese or other Asian language). The expectation was that some of these would turn out to be Spanish speaking households not identified by a non-bilingual interviewer. If the household was not Spanish speaking and the Spanish interviewer was unable to ascertain the language being spoken, these cases were next called by interviewers fluent in both Mandarin and Cantonese to determine if the household spoke an Asian language eligible for a foreign language interview.

4.5 Training for Asian-language Interviewing

Bilingual and multilingual staff was utilized to assist the CHIS interviews in Vietnamese, Mandarin, Cantonese and Korean. The training for Asian-language interviewers was conducted in multiple stages. Interviewers were first trained to administer English interviews. All trainees were hired on the premise that some of their interviewing time would be spent conducting English interviews. Asian-language-speaking households were identified in limited quantities, so in order to make their interviewing time efficient, interviewers had to demonstrate an ability to conduct English interviews. Additionally, it was not uncommon to conduct the adult interview in an Asian language followed by an adolescent interview where the preferred language was English.

Chinese and Korean characters and Vietnamese accented text were displayed on CATI in the Asian languages. Interviewer instructions and help text remained in English. Asian interviewers attended the following training sessions:

- GIT;
- Teltrain;
- CHIS Web-based Self-tutorial in English;
- CHIS WebEx training in English;
- CHIS training in specific Asian languages;
- Dyad role plays – both in the Asian languages and one in English; and
- Live interviewing.

GIT, Teltrain, and CHIS Training in English. Following the standard training protocol established for CHIS, the Asian-language interviewers completed GIT, Teltrain, and parts of the English language CHIS project training. Each of these training steps was conducted in English, but open exclusively to the interviewers hired to conduct interviews in Vietnamese, Mandarin, Cantonese and Korean. Because the Asian-language interviewers had English as a second language, trainers spent additional time defining terms, explaining concepts, and providing instruction on telephone interviewing and the CHIS instruments.

Vietnamese, Mandarin, Cantonese, and Korean Training Assistance. Vietnamese, Mandarin, Cantonese and Korean speaking staff were drawn from various areas of the Westat organization to assist in the creation of training materials. Data collectors were provided with translated copies of the advance letter and the Commonly Asked Questions and Answers. Vietnamese, Cantonese, Mandarin and Korean dyads were developed similar to the English dyads but with the Asian text shown for the respondent to follow on the screenshots. Asian supervisors either served as respondents for Asian speaking data collectors or monitored the Asian dyads to assess readiness for data collection. The contracted San Francisco TRC utilized the same training materials.

Dyad Role Plays. Once the instrument had been thoroughly reviewed, the trainees were given the opportunity to practice using role plays. The trainee acting the part of the interviewer would use the CATI instrument to administer the CHIS questionnaire in Vietnamese, Mandarin, Cantonese or Korean. The trainee acting the part of the respondent would use the scripted role play book or a role play document posted on the training website to respond to the interviewer's questions. The role plays presented the screenshots to a respondent in the various Asian languages. An adolescent role play interview to be conducted in English was included in the set in an attempt to simulate a common real life scenario and provided additional English practice.

At any point in the interviewing process, interviewers had the capability to change the displayed text on a screen from English to an Asian language or vice versa. Additionally, interviewers could move a case to any of the other language work classes using a control key sequence if it was appropriate to have an interview done by a bilingual interviewer speaking another language. Practice on this capability was included in the language specific trainings.

Live Interviewing. After training and practice, the interviewers began interviewing in Vietnamese, Mandarin, Cantonese and Korean. Having a CATI instrument with Mandarin, Cantonese, Korean, and Vietnamese translations including diacritical marks, provided a streamlined and greatly simplified interviewing process. Since all cases were contained in the CATI scheduler, case control was easily managed with cases designated for a specific language only being delivered to interviewers trained in interviewing in that Asian language.

Bilingual Monitoring. Asian speaking Westat supervisors were used to measure interviewing quality, and to provide feedback to individual interviewers. Specific monitoring forms and guidelines describing what to look and listen for were utilized. After an interviewer had completed a

monitoring session, the TRC supervisor would provide a review of the monitoring sheets completed. . The monitoring information would further be used to follow-up with the interviewer who had been monitored and review strengths and weaknesses exhibited. Supervisors fluent in Vietnamese, Korean, Mandarin and Cantonese working at the Citrus Heights and Rockville TRCs in addition to bilingual supervisors working from home monitored Asian language data collectors.

4.6 Training for Surname List Sample Interviewing

Screening of Korean and Vietnamese surname sample cases was at first done primarily by the English-speaking interviewers working the landline RDD sample, who had the capability of moving cases into a specific language group if necessary. This approach allowed the Asian interviewers to concentrate more fully on cases already identified as specific to their language. Refusal cases from the surname sample were called for an initial conversion attempt by Vietnamese or Korean speaking interviewers who had the capability to move the cases to another language if needed.

When the yield of interviews with Korean and Vietnamese adults proved lower than expected from both the landline RDD and surname samples, an additional surname sample was screened using a separate CATI program that employed predictive dialing. For this additional sample, only a very brief screening interview was conducted, in English, on the first contact, to determine whether the household included anyone of Korean or Vietnamese ancestry. Cases screening in and language problems were moved to the regular CHIS CATI scheduler in the appropriate work class for follow-up. This special screening was conducted by a separate staff of experienced interviewers who underwent an abbreviated version of the CHIS training, concentrating on contacting procedures and gaining cooperation.

4.7 Training for Proxy Interviewing

For cases where a sampled adult was 65 or older and unable to be interviewed for physical or mental health reasons, the interviewer attempted to identify an appropriate proxy respondent. The proxy had to be an adult member of the household who knew about the sampled adult's health and health care. The CATI questionnaire was modified as described in Chapter 2 to accommodate proxy interviews.

A group of selected interviewers were trained to conduct the proxy interviews. Training comprised discussion of how to contact households identified as candidates for proxy interviews, determining whether a proxy would be appropriate, and identifying a respondent, review of the changes to the questionnaire for proxy interviews, and several practice interviews in CATI. Cases identified as eligible for proxy interviews were grouped in a separate work class and delivered by the CATI system only to interviewers trained for proxy interviewing.

4.8 Training for Cellular RDD Sample Interviewing

A subset of the data collectors were designated to call the cell phone sample. The screener differed for these interviews but the adult interview remained the same with the exception of children and adolescents not being selected for separate interviews. The cell phone training involved the presentation of guidelines to be followed including the collection of name/address for incentive mailing. Commonly asked questions and answers specific to calling cell phone were also included.

The cell phone sample was separated from the main study by the log on procedures to distinguish the differences in interviewing approach. Data collectors were kept clear on the type of cases being called at all times.

4.9 Recruiting and Training for Area Sample In-person Data Collection

Westat recruited two field supervisors and a total of 25 recruiters in the Los Angeles area for the in-person work on the area sample. All staff had prior experience with Westat, and about half were bilingual in English and Spanish. A field manager in Westat's Rockville office oversaw recruiting, training, and field data collection.

Training for field staff was held in Los Angeles September 27-30, with the first day for field supervisors only. The agenda for the 3 days of recruiter training is shown as Exhibit 4-2.

Exhibit 4-2. Agenda for Area Sample Recruiter Training, CHIS 2007

DAY 1		Topic	
8:30-9:15	1	Welcome and Introduction of Field Staff and Project Staff Overview of Study and Interviewer's Role and Responsibilities	Introduction of project staff and Field Staff. Overview of Training Schedule and Rules.
9:15-10:10	2	Assignment Materials	Understanding the Household folders, the Household Information Sheets, and completing the Interviewer observation form.
10:10-10:15	3	Confidentiality	Importance of confidentiality.
10:15-10:30	BREAK		
10:30-11:15	4	Data Collection Procedures	Procedures for connecting the respondent and TRC. Plus, practice in "diagnosing" HHFs.
11:15-12:15	5	Cell phone training	Cell phone distribution and instructions and equipment form.
12:15-1:15	LUNCH		
1:15-3:00	6	Practice Calling the TRC (Demonstration and Dyads)	Calling the TRC. "Respondents" will answer Screener and Extended Interview questions.
3:00-3:15	BREAK		
3:15-3:30	7	Non-interview Report Form	Instructions on completing the NIRF and its importance.
3:30-4:00	8	Gaining Respondent Cooperation - Discussion	Overview of advance material. Review of Reasons for Refusal and how to avoid them.
4:00-5:15	9	Gaining Respondent Cooperation - Practice	Practices for gaining cooperation. Answering Questions. Knowing the study!
5:15-5:30	10	Review and Questions and Answers	Brief review of today's activities.

Exhibit 4-2. Agenda for Area Sample Recruiter Training, CHIS 2007 (continued)

DAY 2		Topic	
8:30-8:45	11	Review Previous Days Work	Review and Questions and Answers
8:45-9:00	12	Practice Sending Entering Field Text Message to TRC	Becoming comfortable sending text messages to TRC.
9:00-9:45	13	Household Folder Definition and Practice	Definitions of Address Dispositions, DU Structure Type, Interim and Final Dispositions, Multiple Units in a Single Address
9:45-10:00	14	Other Household Problems	Language Problems, Not Available During Field Period, Neighborhoods
10:00-10:15	BREAK		
10:15-12:00	15	Practice Calling the TRC (Dyads)	Calling the TRC. Respondents will answer Screener and Extended Interview questions.
12:00-1:00	LUNCH		
1:00-2:30	16	Interactives	Practice from Start to finish with Households
2:30-3:15	17	Practice Calling the TRC (Dyads)	Calling the TRC. Respondents will answer Screener and make an appointment to do Extended Interview later.
3:15-3:30	BREAK		
3:30-4:00	17 cont	Practice Calling the TRC Continued	Continue after break.
4:00-4:15	18	Sending Text Message to TRC	Practice sending Exiting Field text messages.
4:15-5:15	19	Completing T&Es and TERs	Complete actual T&E and TER for this week.
5:15-5:30	20	Review and Questions and Answers	Brief review of today's activities.
DAY 3		Topic	
8:30-10:00	21	Review Previous Days Work, Supervisor Meeting on Reporting	Answer any questions. People having problems sending text messages. Need to talk with your supervisor to discuss cases and set up report call times.
10:00-10:15	BREAK		
10:15-11:30	21 cont	Supervisor Meeting on Reporting Continued	
11:30-12:15	22	Final Send Off	Resolve any last minute issues or problems.

4.10 Training for Area Sample Telephone Interviewing

The area sample was worked in two different ways by telephone interviewers. Sampled addresses that were matched to telephone numbers were loaded into the CATI scheduler and worked in the same way as landline RDD cases (except that no child or adolescent interviews were attempted). No additional training was required for this “outbound” work. Unmatched addresses and matched addresses for which a screener was not completed by the outbound calling were sent to the field for in-person contact by recruiters. The recruiters called in to the TRC when they identified a screener respondent, and a telephone interviewer completed the screener and adult interview in this inbound procedure.

Interviewers working in the Merced, Sarasota and Citrus Heights centers trained at the same time as the field recruiters trained in Los Angeles. This allowed for both the field recruiters and inbound data collectors to practice the sending and receiving of these calls. Inbound interviewers were provided with the script and guidelines to follow to receive these calls in the training environment. All data collectors experienced receiving multiple inbound calls in anticipation of the data collection for area sample interviews. Since the area sample was expected to include many Spanish speaking households, the training included receiving both English and Spanish inbound calls.

5. SCHEDULING AND RELEASE OF WORK

This chapter describes activities related to initiating data collection, including preparation and release of sampled telephone numbers, how the sample was organized in the CATI system, mailing advance letters, and handling inbound calls to Westat's CHIS 1-800 number. Before releasing sampled telephone numbers for interviewing, Westat arranged for purging out-of-scope telephone numbers for the landline RDD and surname samples. The chapter also describes similar activities for preparing the area sample.

Data collection for the landline RDD sample began June 20, 2007, and ended March 3, 2008. The other samples were fielded within that window: telephone calls to area sample cases with matched numbers began the week of September 17, 2007, and field follow-up began the week of October 8, 2007; work on the cellular RDD sample began November 9, 2007; and the surname list samples were fielded during the week of November 12, 2007.

5.1 Sample Preparation

5.1.1 Landline Random-Digit-Dial Sample

The landline RDD sample for CHIS 2007 was selected and released to CATI in much the same way as in CHIS 2005. As in 2005 the target sample size increased during the field period as additional funding became available, and there were fairly good estimates of the yield by stratum from the previous surveys. *CHIS 2007 Methodology Series: Report 1 – Sample Design* describes the selection process in detail; it is summarized here to demonstrate how the sample was fielded.

A total of 806,403 telephone numbers was selected for the landline RDD sample. Table 5-1 shows the number and proportion of sampled telephone numbers excluded because they were identified as nonworking or business numbers by RDD stratum, and for the surname supplemental sample. See *CHIS 2007 Methodology Series: Report 1 – Sample Design* for more details on these procedures. Overall, just under 9 percent of sampled numbers were purged as businesses, about one point less than in 2005. The proportion of landline RDD numbers purged as business ranged from a low of 5.2 percent in Yuba County to a high of 10.2 percent in Santa Barbara and Shasta Counties. Another 39 percent of RDD

numbers were identified as nonworking by automated dialing and detection of a tritone sound, an increase of about 3 points over 2005. The low was 28.5 percent in San Joaquin County and the high 52.2 percent in the North Balance stratum.

Table 5-1 also shows the proportion of nonpurged numbers (those eligible to be called by Westat interviewers) for which addresses were obtained in reverse directory matches. Overall, about 62 percent of numbers yielded addresses in the matches performed with multiple vendors, down from 66 percent in 2005. Lake County had the highest address rate at 73.6 percent, and San Francisco the lowest at 52.2 percent.

An advance letter signed by the CHIS Principal Investigator was sent for all sampled landline RDD and surname telephone numbers for which an address was available from reverse directory services. The advance letter (Appendix 1) used for the RDD samples was printed in on CHIS letterhead in English, Spanish, Chinese, Korean, and Vietnamese. For the Korean and Vietnamese supplemental samples, the letter was printed in English and the appropriate language. A different letter, also signed by the CHIS Principal Investigator, was sent after initial refusals for the screening interview (for cases designated as “conversion”), adult interview, or permission to interview a selected adolescent, if an address had been obtained for the sampled number. Versions of this letter were printed in English and one other language, which was Spanish for all cases except those in the surname supplemental samples or which had been identified as speaking one of the CHIS Asian languages.

5.1.2 Surname Supplemental Samples

Supplemental samples were fielded for CHIS 2007 to increase the yield of adult Korean and Vietnamese interview. The samples were based on surname lists and published telephone numbers. The numbers were selected from five different lists, according to whether the surname was likely Korean only, Vietnamese only, Korean or Vietnamese, Korean or some other nationality, and Vietnamese or some other nationality. The last two lists had not been used in previous CHIS cycles. The first set of surname sample numbers, minus 15 percent that were purged as nonworking or business, was fielded in mid-November 2007; just over 80 percent had addresses and all were designated as “conversion.” A second sample, from the first three of the five lists, was fielded in February 2008. This sample had just over 16 percent of numbers purged, and 90 percent of the remaining had matched addresses.

Table 5-1. Number and percentage of telephone numbers removed from sample before calling by reason, and number and proportion of numbers available to be called for which addresses were obtained

Stratum	Description	Sampled	Removed— Business		Removed— Nonworking		Sample Available to Call			
			Number	Percentage	Number	Percentage	Total	Address	No address	% w/ Addr.
1	Los Angeles	221,963	20,651	9.3%	85,143	38.4%	116,169	71,862	44,307	61.9%
2	San Diego	83,195	7,229	8.7%	31,725	38.1%	44,241	26,248	17,993	59.3%
3	Orange	58,891	5,781	9.8%	24,309	41.3%	28,801	16,961	11,840	58.9%
4	Santa Clara	34,193	2,803	8.2%	15,143	44.3%	16,247	9,640	6,607	59.3%
5	San Bernardino	23,798	2,077	8.7%	7,844	33.0%	13,877	8,511	5,366	61.3%
6	Riverside	24,397	2,165	8.9%	7,617	31.2%	14,615	8,932	5,683	61.1%
7	Alameda	28,200	2,204	7.8%	12,532	44.4%	13,464	8,293	5,171	61.6%
8	Sacramento	20,899	1,767	8.5%	8,130	38.9%	11,002	6,569	4,433	59.7%
9	Contra Costa	16,197	1,171	7.2%	7,002	43.2%	8,024	5,255	2,769	65.5%
10	Fresno	12,900	995	7.7%	5,386	41.8%	6,519	4,115	2,404	63.1%
11	San Francisco	27,498	2,260	8.2%	13,487	49.0%	11,751	6,720	5,031	57.2%
12	Ventura	11,099	1,046	9.4%	4,080	36.8%	5,973	3,664	2,309	61.3%
13	San Mateo	15,300	1,148	7.5%	7,192	47.0%	6,960	4,364	2,596	62.7%
14	Kern	9,299	704	7.6%	3,494	37.6%	5,101	3,442	1,659	67.5%
15	San Joaquin	8,398	714	8.5%	2,391	28.5%	5,293	3,410	1,883	64.4%
16	Sonoma	7,299	645	8.8%	2,535	34.7%	4,119	2,806	1,313	68.1%
17	Stanislaus	6,800	604	8.9%	2,309	34.0%	3,887	2,674	1,213	68.8%
18	Santa Barbara	9,999	1,018	10.2%	4,384	43.8%	4,597	2,866	1,731	62.3%
19	Solano	7,799	633	8.1%	2,698	34.6%	4,468	3,018	1,450	67.5%
20	Tulare	8,799	637	7.2%	4,094	46.5%	4,068	2,721	1,347	66.9%
21	Santa Cruz	8,000	616	7.7%	3,199	40.0%	4,185	2,577	1,608	61.6%
22	Marin	9,500	817	8.6%	4,249	44.7%	4,434	2,882	1,552	65.0%
23	San Luis Obispo	7,298	700	9.6%	2,524	34.6%	4,074	2,524	1,550	62.0%
24	Placer	7,700	728	9.5%	2,565	33.3%	4,407	2,577	1,830	58.5%
25	Merced	6,899	576	8.3%	2,241	32.5%	4,082	2,756	1,326	67.5%
26	Butte	5,397	524	9.7%	1,640	30.4%	3,233	2,238	995	69.2%
27	Shasta	5,300	541	10.2%	1,717	32.4%	3,042	1,992	1,050	65.5%
28	Yolo	6,399	546	8.5%	2,289	35.8%	3,564	2,398	1,166	67.3%
29	El Dorado	7,100	526	7.4%	2,446	34.5%	4,128	2,685	1,443	65.0%
30	Imperial	8,400	787	9.4%	2,695	32.1%	4,918	3,357	1,561	68.3%

Table 5-1. Number and percentage of telephone numbers removed from sample before calling by reason, and number and proportion of numbers called for which addresses were obtained (continued)

Stratum	Description	Sampled	Removed— Business		Removed— Nonworking		Sample Available to Call			
			Number	Percentage	Number	Percentage	Total	Address	No address	% w/ Addr.
31	Napa	8,699	879	10.1%	3,125	35.9%	4,695	2,993	1,702	63.7%
32	Kings	6,598	550	8.3%	2,082	31.6%	3,966	2,719	1,247	68.6%
33	Madera	6,897	539	7.8%	2,652	38.5%	3,706	2,275	1,431	61.4%
34	Monterey	11,199	946	8.4%	5,061	45.2%	5,192	3,253	1,939	62.7%
35	Humboldt	5,899	483	8.2%	2,533	42.9%	2,883	2,010	873	69.7%
36	Nevada	6,000	561	9.4%	1,720	28.7%	3,719	2,295	1,424	61.7%
37	Mendocino	6,500	577	8.9%	2,462	37.9%	3,461	2,376	1,085	68.7%
38	Sutter	6,600	598	9.1%	2,389	36.2%	3,613	2,515	1,098	69.6%
39	Yuba	6,599	343	5.2%	2,764	41.9%	3,492	2,304	1,188	66.0%
40	Lake	6,598	444	6.7%	2,531	38.4%	3,623	2,668	955	73.6%
41	San Benito	8,399	642	7.6%	3,294	39.2%	4,463	2,880	1,583	64.5%
42	Tehama, Glen, Colusa	4,699	361	7.7%	1,638	34.9%	2,700	1,857	843	68.8%
43	North Balance	6,400	373	5.8%	3,342	52.2%	2,685	1,677	1,008	62.5%
44	Sierra Balance	6,400	417	6.5%	2,625	41.0%	3,358	2,015	1,343	60.0%
	Total RDD	806,403	70,326	8.7%	315,278	39.1%	420,799	261,894	158,905	62.2%
	Surname Sample 1	3,300	52	1.6%	443	13.4%	2,805	2,276	529	81.1%
	Surname Sample 2	22,680	73	0.3%	3,609	15.9%	18,998	17,162	1,836	90.3%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey.

5.1.3 Cellular Random-Digit-Dial Sample

Because of the increasing proportion of households without landline telephone service, CHIS 2007 included a sample of telephone numbers assigned to cellular service. This sample was screened to identify numbers belonging to cell-only households; adult interviews were attempted within cell-only households. The sample was selected from banks of numbers allocated to cellular service, and also included numbers from the landline sample that were identified as belonging to cell phones. The cellular RDD sample included 42,490 numbers from cellular banks and 1,215 identified from the landline RDD. No addresses were available for this sample.

5.1.4 Area Sample

CHIS 2007 also included a sample of addresses in Los Angeles County, in order to assess nonresponse bias. A total of 4,259 addresses were sampled, for 1,684 of which a directory service was able to provide telephone numbers. These matched cases were worked in CATI essentially the same way as landline RDD cases. Non-matched cases and matched cases for which a screener was not completed by telephone, except for hostile refusals, were subsequently worked in person.

Area sample matched cases were first sent the same advance letter as the landline RDD sample. Unmatched cases received a different letter, which indicated that a recruiter would be stopping by. Matched cases that were sent to the field received a slightly different letter, acknowledging that telephone interviewers had been unable to complete the survey and indicating that a recruiter would be stopping by.

5.2 Sample Management

All of the landline RDD cases were classified by whether they were designated for refusal conversion at the screener stage or not and whether an address was obtained from directory services. Cases designated for conversion were fielded before those that were not. Cases with addresses were divided into “release groups,” or random subsets of the overall samples. They were fielded in such a way that the pre-notification letters would be received within a few days of the initial telephone contact attempt. Both cases with and without addresses were given the same priority within the CATI scheduler.

Within the CATI system, active and completed cases were allocated into work classes, which are divisions of the sample that are to be worked by interviewers with special training or skills. Westat's CATI scheduler treats each work class as an independent sample. Work classes were given priority order for delivery of work to qualified interviewers. For example, a refusal converter would always be delivered a refusal work class case if one was available before being given a case from the default work class. The CHIS 2007 work classes were defined as follows:

- **Default**—All RDD cases on initial release, and continuing RDD and county supplemental sample cases that had not been moved to another work class; available to all interviewers;
- **Refusal**—Any RDD sample case that encountered a refusal at any point in the interview process, whether at the screener or any extended interview level; available only to interviewers selected to work and trained as refusal converters. There were five different refusal work classes: screener initial refusal, extended refusal (other than adolescent and adolescent permission), adolescent refusal, adolescent permission refusal, and second refusals of any type;
- **Hearing/Speech**—Any RDD or county supplemental sample case in which a respondent was determined to have difficulty communicating because of hearing or speech impairment;
- **Language (Spanish)**—Any case determined or suspected to require a Spanish bilingual interviewer to re-contact; available only to the appropriate bilingual interviewers;
- **Language (Mandarin, Cantonese, Vietnamese, and Korean)**—All RDD cases determined or suspected to require a Mandarin, Cantonese, Vietnamese, or Korean bilingual interviewer to re-contact; available only to the appropriate bilingual interviewers;
- **Language (Other)**—Any RDD or county supplemental sample case determined or suspected to require contact in a language other than Spanish, Mandarin, Cantonese, Korean, or Vietnamese; available to bilingual interviewers for verification of language spoken by the respondent;
- **Surname Supplemental Sample (Vietnamese and Korean)**—The first supplemental sample was loaded in the default work class for screening by all interviewers, and assigned to the Vietnamese or Korean work class if appropriate after contact; the second supplemental sample was worked by a completely separate set of interviewers using a different CATI system – cases determined to be eligible in English were then moved to the main default work class, and language problems to the appropriate language work class; and

- **Proxy Interviews**—For sampled adults 65 or older who could not complete the interview because of poor health or physical limitations, selected interviewers attempted to complete an interview with a proxy respondent in the household.

The initial CHIS 2007 landline RDD sample fielded (released to CATI) included 250,108 numbers, covering all strata, with a county-specific supplement for San Diego¹. Additional numbers were released during the field period, including a county-specific supplement in Los Angeles and a general supplement that affected every stratum. Additional numbers were also released stratum by stratum when it became clear that the original sample and supplements would not be sufficient to reach the targeted number of completed adult interviews. Altogether, the landline RDD sample released to CATI comprised a total of 420,799 numbers. Originally, sixty percent of telephone numbers from the initial release and most other sample releases were designated as “conversion” cases; that is, if a respondent refused to complete the screening interview, another interviewer would call back to attempt to complete it unless the refusal was abusive or particularly hostile. The remaining 40 percent were designated as “no conversion” and were not to be called back after the initial screener refusal.

Toward the end of the field period, Westat data collection and statistical staff monitored the yield (number of completed interviews) by stratum. As the number of completed interviews neared the targets, several actions were possible. Some cases in each stratum were held in reserve; in some strata that appeared to be falling short of the targets, additional sample was released for calling. Another strategy to increase the yield, used for the first time in CHIS 2007, was to change the designation of “non-conversion” to “conversion” for some cases. This strategy meant that re-designated cases with a screener result code of “R1” were re-fielded. The monitoring process was repeated several times, re-calibrating the fielded sample as more information on progress to date became available. A few strata required purchase of additional sample because of unexpectedly low residency and/or response rates, or because the target number of completed interviews was increased. See *CHIS 2007 Methodology Series: Report 1 – Sample Design* for a discussion of meeting the target numbers of completed adult and child interviews by stratum.

A total of 2,805 numbers was fielded initially from the Korean and Vietnamese lists. The yield from these list samples, as well as the number of Korean and Vietnamese individuals interviewed from the landline RDD sample, proved to be lower than anticipated. Late in the data collection period, a second set of numbers from the Korean only, Vietnamese only, and Korean or Vietnamese lists was fielded. The total sample selected was 22,860 numbers. Only 10,978 of these numbers were actually fielded, as nonworking and business numbers were purged and the yield proved better than anticipated.

¹ This total excludes numbers purged from the sample as nonworking or businesses.

Because this sample was fielded late in the data collection period, it was handled differently from all other samples. Details of the procedures and outcomes are presented in Section 6.1.1.

Yield from the cellular RDD and area samples was also monitored throughout the field period. In both cases, the initial sample release proved sufficient to meet the targets for completed adult interviews. There was no subsampling of cellular RDD and area sample cases for conversion.

5.3 Inbound Toll-Free Calls

Westat maintained a toll-free number for respondents to call with questions about the survey. The toll-free line was staffed weekdays from 9 a.m. to midnight Eastern Time, Saturdays from 10 a.m. – 6 p.m. Eastern Time, and Sundays from 2 p.m. – 10 p.m. Eastern Time. In the event an operator was not available to answer the call or for calls made outside of the above time frames, the caller was directed to a voicemail message specific to CHIS.

Respondents had access to the toll-free number from a variety of sources. The toll-free number was included on all advance letters with an invitation for respondents with questions to call. The number was also placed on all refusal conversion letters sent to respondents who had earlier refused to participate. Interviewers provided the number throughout the data collection period to respondents who requested additional information.

Between the start of data collection in June 2007 and the end in March 2008, 2,980 calls were made to the toll-free number, almost twice as many as in 2005. Some of these were calling to refuse participation or to report that the sampled adult was too ill to participate. The vast majority were simply to verify the legitimacy of the study or ask general questions with no further action required.

UCLA also maintained a separate toll-free number during the field period, which was available on the CHIS web site. Westat interviewers provided the UCLA number to respondents who specifically wanted to talk with someone at UCLA, and in other cases to help persuade the person to do the interview. There was continual back-and-forth contact between UCLA and Westat in response to these calls. Westat followed up on any calls complaining about an interviewer's behavior by identifying the interviewer and reviewing the case with her or him.

6. DATA COLLECTION RESULTS

This chapter describes the results of the CHIS 2007 data collection, first presenting detailed tables of outcomes at each interview level, and then discussing procedures to increase response once various interim outcomes were encountered. The chapter discusses separate strategies for answering machines, “ring no answers,” callbacks, language problems, and refusals.

6.1 Detailed Results by Outcome

Interviewers assign a result code to each attempt to reach a sampled telephone number, or address for the area sample. The telephone result codes are divided into interim (numeric) and final (alpha) codes. During data collection, each case is tracked according to its most recent result code. Cases with interim codes are typically managed automatically by the scheduler according to preset parameters, such as how to work through “time slices” (see Section 6.3) and how long to wait before re-contacting an initial refusal. Problem cases (result codes beginning with “8”) require manual intervention before they are re-fielded.

Cases assigned certain final result codes are often re-fielded, but these actions require specific decisions and return of cases to the active scheduler. For example, cases with no contact after seven calls were given a final status of “NA”; if the only contact over seven calls was an answering machine, the code “NM” was assigned. Groups of NA and NM cases were periodically re-fielded for an additional set of seven calls each². Once a case resulted in some human contact, it was no longer eligible for a final NA or NM code.

Initial refusals (interim codes beginning with “2”) were moved to the refusal work class and generally not called again for 2 weeks. An exception for screener refusals was that telephone numbers designated as “no conversion” were considered final – “R1” – after the initial refusal. Initial refusals that were considered hostile or abusive received a final result code of “RB.” If a case received a second refusal, it was also coded as RB. Some RBs were re-fielded for a third attempt. If a third refusal was encountered, the case was coded “R3.”

² Most NA/NM cases refielded after 7 calls were sent to a vendor for predictive dialing attempted contact (see Section 6.3).

At the end of the field period, all remaining interim cases were assigned final result codes according to their call history. Many cases for which some contact had been made received codes beginning with “M” (maximum calls), with the actual designation depending on what else had happened during their call history.

Tables 6-1 through 6-3, 6-5, 6-6, and 6-8 present the complete final result code dispositions, by sample, for the screener, adult, child, and adolescent interviews, respectively. The following sections discuss these results by instrument.

6.1.1 Screening Interview

RDD Samples. As shown in Table 6-1, more than 60 percent of the sampled landline RDD telephone numbers were determined to be out of scope, either because they were nonresidential or nonworking. Almost 80 percent of the out-of-scope cases were identified before the sample was fielded (NB and NT results, see Table 5-1) and the remainder through interviewer calls (NR, NW, and OD results). In contrast, just under 30 percent of the cellular RDD sample numbers were identified as out-of-scope, and all of these were identified through interviewer calls, since the service used for the landline sample is not available for numbers assigned to cellular telephones. More than a thousand landline numbers were loaded into CATI but never called because they were not needed for the stratum targets. Because each sampled telephone number was randomly assigned a sequence number within stratum and the cases were fielded in sequential order, for practical purposes the cases not called may be considered not to have been a part of the sample.

Eligibility criteria for the landline RDD sample were quite limited; only 142 cases were determined to be ineligible during the screener. For the cellular RDD sample, sampled numbers were ineligible if the household also had a landline or if the number belonged to someone under 18 years of age. The eligibility rate for the cellular sample (completed screeners with cell-only households divided by that number plus ineligibles) was 26.6 percent.

The completion rate, or sample yield, is simply the ratio of completed screeners for eligible households to the total sample. Since the denominator includes out-of-scope and ineligible cases, the completion rate is considerably lower than the response rate (see *CHIS 2007 Methodology Series: Report*

4 — *Response Rates*), but is useful because it shows what sample size is needed to achieve a particular number of completed cases. The completion rate (top right-hand corner of each sample's columns) was 10.5 percent for the landline RDD sample, compared with 15 percent in 2005. The completion rate for the cellular RDD sample was 3.5 percent, or exactly one-third of the landline sample rate.

The cooperation rate, shown at the bottom of Table 6-1a, was about 7 points lower for the cellular sample than for the landline sample. Several differences in survey procedures help explain this difference. There was no prenotification letter for the cellular sample, and hence no prepaid incentive, although there was a promised incentive. There was also no second refusal conversion attempted for the cellular sample screener, while there was for much of the landline screener sample. The noncontact rate was substantially higher for the cellular sample than for the landline sample, once the out-of-scope numbers are removed from the denominator (data not shown in the table).

Surname Samples. As described in Chapter 5, the surname list samples were fielded in two waves, with somewhat different procedures for each wave. Tables 6-2a, 6-2b, and 6-2c describe the performance of the surname samples at the screener level.

Table 6-2a includes the first surname list sample, which was drawn from 5 different lists and was handled in much the same way as in CHIS 2005, with non-bilingual interviewers making the initial calls, and continuing on with the adult and other extended interviews if possible in eligible households. Telephone numbers determined to be non-working or businesses by the vendor are excluded from Table 6-2a and the subsequent tables for the second surname sample.

The yield from the first surname sample (the proportion of completed screeners that were eligible) for the Korean only, Vietnamese only, and Korean/Vietnamese lists was about twice that from the "Korean and other" and "Vietnamese and other" lists, driven by higher eligibility rates. The cooperation rate for the two Korean lists was about 50 percent higher than for the two Vietnamese and Korean/Vietnamese lists. The overall yield was lower than in CHIS 2005, despite the fact that the overall eligibility rate was higher, in large part because the cooperation rate was dramatically lower than in 2005. The Vietnamese list also had a lower cooperation rate than the Korean list in 2005, although the difference was not as large as in 2007.

Table 6-1a. Detailed results of CHIS 2007 data collection, screening interview, landline and cellular RDD samples

	LANDLINE RDD		CELLULAR RDD	
	Percentage		Percentage	
	Number	Within category of Total	Number	Within category of Total
CS – COMPLETED SCREENER (C)	84,841	10.5%	1,531	3.5%
NEVER CALLED	1,023	0.1%	0	0.0%
<i>Ineligible(I)</i>				
IF – INELIGIBLE SCREENER; >9 UNRELATED ADULTS	5	3.5%	6	0.1%
IO – INELIGIBLE OUT OF STATE	35	24.6%	79	1.9%
IP -- INELIGIBLE CELLULAR	0		4,139	97.9%
IS -- INELIGIBLE SCREENER; NO ELIGIBLE ADULTS	18	12.7%	0	0.0%
IZ -- INELIGIBLE SCREENER; NO ADULTS IN HH	84	59.2%	2	0.0%
<i>Total Ineligible</i>	142	0.0%	4,226	9.7%
<i>Out of Scope</i>				
NB – NON-RESIDENTIAL, BUSINESS PURGE	70,326	14.4%	0	0.0%
NR – NON-RESIDENTIAL PHONE NUMBER	30,136	6.2%	464	3.6%
NT – NON-WORKING, TRITONE MATCH	315,278	64.5%	0	0.0%
NW – NON-WORKING PHONE NUMBER	72,846	14.9%	12,305	96.4%
OD – DUPLICATE TELEPHONE NUMBER	9	0.0%	1	0.0%
<i>Total Out of Scope</i>	488,595	60.6%	12,770	29.2%
<i>Noncontact</i>				
NA – NO CONTACT MADE AFTER TIME SLICES FILLED	62,814	65.6%	1,501	12.4%
NM – NO CONTACT – REACHED ANSWERING MACHINE	32,944	34.4%	10,590	87.6%
<i>Total Noncontact</i>	95,758	11.9%	12,091	27.7%
<i>Refusal (R)</i>				
R1: NO SCREENER REFUSAL CONVERSION	28,744	24.7%	0	0.0%
R3 – FINAL REFUSAL – RECEIVED 3 OR MORE 2S	16,156	13.9%	3	0.0%
RB – FINAL REFUSAL	30,174	25.9%	3,716	34.7%
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	11,960	10.3%	7,000	65.3%
RX – RE-RELEASED RB REACHED MAX CALL LIMIT	29,470	25.3%	0	0.0%
<i>Total Refusal</i>	116,504	14.4%	10,719	24.5%
<i>Other Nonresponse</i>				
LH – HEARING AND SPEECH PROBLEM	406	2.1%	2	0.1%
LM – LANGUAGE PROBLEM REACHED MAX CALLS	8,143	41.7%	564	23.8%
LP – FINAL LANGUAGE PROBLEM	2,663	13.6%	641	27.1%
MC – MAXIMUM CALLS	7,988	40.9%	1,154	48.7%
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	7	0.0%	0	0.0%
MR -- MAXIMUM CALLS, REFUSAL IN HH	8	0.0%	0	0.0%
NO – OTHER NON-RESPONSE	325	1.7%	7	0.3%
<i>Total Other Nonresponse</i>	19,540	2.4%	2,368	5.4%
TOTAL	806,403	100.0%	43,705	100.0%
ELIGIBILITY RATE (C / (C+I))		99.8%		26.6%
COOPERATION RATE ((C+I) / (C+I+R))		42.2%		34.9%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Table 6-2a. Detailed results of CHIS 2007 data collection, screening interview, first set of surname samples

	KOREAN ONLY		KOREAN + OTHER		VIETNAMESE ONLY		VIETNAMESE + OTHER		KOREAN + VIETNAMESE		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
COMPLETED SCREENER												
ELIGIBLE	22	9.2%	4	5.0%	208	10.7%	17	5.0%	23	11.5%	274	9.8%
INELIGIBLE	25	10.4%	14	17.5%	118	6.1%	36	10.6%	4	2.0%	197	7.0%
OUT OF SCOPE	33	13.8%	12	15.0%	177	9.1%	29	8.5%	24	12.0%	275	9.8%
NONCONTACT	36	15.0%	2	2.5%	248	12.8%	50	14.7%	26	13.0%	362	12.9%
REFUSAL	104	43.3%	36	45.0%	988	50.8%	179	52.6%	95	47.5%	1,402	50.0%
OTHER NONRESPONSE	20	8.3%	12	15.0%	206	10.6%	29	8.5%	28	14.0%	295	10.5%
TOTAL	240	100.0%	80	100.0%	1,945	100.0%	340	100.0%	200	100.0%	2,805	100.0%
ELIGIBILITY RATE (C / (C+I))		46.8%		22.2%		63.8%		32.1%		85.2%		58.2%
COOPERATION RATE ((C+I) / (C+I+R))		31.1%		33.3%		24.8%		22.8%		22.1%		25.1%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Table 6-2b. Detailed results of pre-screening interview, second set of surname samples

	KOREAN ONLY		VIETNAMESE ONLY		KOREAN + VIETNAMESE		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
COMPLETED SCREENER								
ELIGIBLE	290	10.4%	941	14.8%	270	14.7%	1,501	13.7%
INELIGIBLE	382	13.7%	558	8.8%	133	7.2%	1,073	9.8%
OUT OF SCOPE	158	5.7%	301	4.7%	111	6.0%	570	5.2%
NONCONTACT	940	33.8%	2,027	31.9%	637	34.6%	3,604	32.8%
REFUSAL	565	20.3%	1,616	25.4%	399	21.7%	2,580	23.5%
OTHER NONRESPONSE	446	16.0%	915	14.4%	289	15.7%	1,650	15.0%
TOTAL	2,781	100.0%	6,358	100.0%	1,839	100.0%	10,978	100.0%
ELIGIBILITY RATE (C / (C+I))		43.2%		62.8%		67.0%		58.3%
COOPERATION RATE ((C+I) / (C+I+R))		54.3%		48.1%		50.2%		49.9%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Table 6-2c. Detailed results of follow-up screening interview, second set of surname samples

	KOREAN ONLY		VIETNAMESE ONLY		KOREAN + VIETNAMESE		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
COMPLETED SCREENER								
ELIGIBLE	185	33.3%	290	20.2%	125	27.7%	600	5.5%
INELIGIBLE	7	1.3%	43	3.0%	8	1.8%	58	0.5%
OUT OF SCOPE	37	6.7%	40	2.8%	28	6.2%	105	1.0%
NONCONTACT	30	5.4%	173	12.1%	24	5.3%	227	2.1%
REFUSAL	166	29.9%	492	34.3%	154	34.1%	812	7.4%
OTHER NONRESPONSE	131	23.6%	395	27.6%	113	25.0%	639	5.8%
TOTAL	556	100.0%	1,433	100.0%	452	100.0%	2,441	22.2%
ELIGIBILITY RATE (C / (C+I))		96.4%		87.1%		94.0%		91.2%
COOPERATION RATE ((C+I) / (C+I+R))		53.6%		40.4%		46.3%		44.8%
COMBINED COOPERATION RATE		29.1%		19.4%		23.3%		22.4%
NET YIELD		6.7%		4.6%		6.8%		5.5%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

The low yield from the first surname sample, combined with a lower than expected yield of Korean and Vietnamese respondents in the landline RDD sample, prompted selection of a second surname sample late in the field period, using only the three more productive lists. This sample was screened first (“pre-screened”) using a separate CATI system with predictive dialing. The screener asked only whether the number was associated with a household and whether any adult in the household was of Korean or Vietnamese ancestry. The calling protocol allowed up to four attempts, and there was no refusal conversion.

Table 6-2b presents the results from the pre-screening effort. The eligibility rate overall was virtually identical to that for the first sample, and the rates for the individual lists were comparable, except for the Korean/Vietnamese list, which was about 18 points lower for the second sample. The yield and cooperation rate were higher than for the first sample, but there was another step before eligible cases had reached the same stage as those screened in the first sample. Completed eligible cases and language problems were transferred to the main CATI system for follow-up, essentially the same screener protocol as was used for the first sample.

The results of the follow-up are presented in Table 6-2c. More than 90 percent of those completing the screener reported being eligible again. The yield for language problems identified in the pre-screener was about 50 percent higher than that for the completed eligible pre-screeners, and the cooperation rate was twice as high for the language problems (numbers not shown in table). The combined yield (multiplying the prescreener yield times the follow-up yield) overall was about half that from the first surname sample. The second sample did not include the less productive lists, but also received much less effort than the first sample: only 4 calls in the pre-screener and no refusal conversion, and only completed eligibles and language problems sent on for follow-up. The combined cooperation rate was just 3 points lower than the first sample. Devised to solve quickly the shortfall in the yield of interviews with Koreans and Vietnamese, this approach may warrant further attention in future CHIS cycles.

Area Sample. Screener results for the area sample are presented in Table 6-3. Overall, screeners were completed for just under a third of the sampled addresses, with the completion rate about 10 points higher for the addresses matched to a telephone number. Matched cases were worked both on the telephone and in person. Relatively few of the sampled addresses were determined to be ineligible (e.g., vacant, business). Overall, residence status was not determined for about 6 percent of the sample; these included addresses that could not be located and cases not worked in the field. The overall

cooperation rate for the area sample was over 60 percent, with the rate for matched cases 14 points higher than for unmatched. Other nonresponse (e.g., no contact, language problems) was about twice as large as refusal.

The result profile for the area sample is quite different from that for the landline RDD sample in Los Angeles County, as shown in Table 6-3. The eligible/in-scope rate is much lower for the sample of telephone numbers than for the sample of addresses, and the rate of undetermined residency status is much higher for the telephone number sample. Much more of the nonresponse is from refusals than for other reasons in the RDD sample, the opposite of the pattern for the area sample. There are two primary reasons for this difference: (1) residence status can be determined in the field without contact with a household member and (2) the RDD sample generally had more contact attempts than the area sample.

Unweighted response rates are included in Table 6-3 for both samples, using the same formula: completed screeners divided by completed screeners, plus refusals, plus other nonresponse, plus residency not determined times the eligible/in-scope rate. Weighted response rates may be found in *CHIS 2007 Methodology Series: Report 4—Response Rates*. Besides using weights, the response rates in Report 4 may have other small differences from those shown here.

Table 6-3. Results of CHIS 2007 area sample screening interview and Los Angeles County stratum of landline RDD sample, cases designated for conversion only

	Area Sample						LA RDD Conversion ¹	
	Non-match		Match		Total		N	%
	N	%	N	%	N	%		
Completed screener	710	27.6%	622	37.0%	1,332	31.3%	19,397	18.5%
Ineligible/Out of Scope	99	3.8%	26	1.5%	125	2.9%	28,035	26.8%
Residency not determined	68	2.6%	174	10.4%	242	5.7%	23,037	22.0%
Refusal	548	21.3%	263	15.7%	811	19.1%	27,865	26.6%
Other nonresponse	1,150	44.7%	594	35.4%	1,744	41.0%	6,309	6.0%
<i>Total</i>	2,575		1,679		4,254		104,643	
Eligibility rate		96.1%		98.3%		96.9%		65.6%
Cooperation rate		56.4%		70.3%		62.2%		41.0%
Unweighted response rate		28.7%		37.7%		32.3%		28.2%

¹Excludes purged sampled numbers (NB/NT)

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

Landline RDD Over Time. Table 6-4a presents a comparison of CHIS 2007 RDD (landline) screener data collection results with those of previous cycles. The proportion of out-of-scope cases has continued to increase over time, in part because of changes in the sample design. The proportion of out-of-scope cases identified by the sample vendor (NB/NT) as compared with the proportion identified by interviewers (NR/NW) has grown larger over time as the vendor has improved its procedures for identifying business and nonworking numbers. The proportion of noncontact and other nonresponse cases has remained fairly stable, as has the proportion of refusals since 2003³. The largest change has come in the proportion of completed screeners, which is a function of all of the other rates.

Table 6-4a. Comparison of (landline) RDD screener outcomes CHIS 2001 - CHIS 2007

	CHIS 2007		CHIS 2005		CHIS 2003		CHIS 2001	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Completed Screeners	84,841	10.5%	69,648	14.9%	66,243	21.0%	82,009	27.8%
Ineligible	142	0.0%	49	0.0%	741	0.2%	2	0.0%
Out of Scope	488,595	60.7%	269,428	57.6%	161,982	51.4%	140,675	47.6%
NB/NT	385,604	47.9%	210,456	45.0%	112,200	35.6%	71,759	24.3%
NR/NW	102,982	12.8%	58,972	12.6%	49,765	15.8%	68,912	23.3%
Noncontact	95,758	11.9%	46,754	10.0%	30,232	9.6%	30,548	10.3%
Refusal	116,504	14.5%	68,962	14.7%	44,079	14.0%	32,295	10.9%
Other Nonresponse	19,540	2.4%	12,959	2.8%	12,157	3.9%	9,785	3.3%
Total	805,380		467,800		315,434		295,314	

Excludes cases not worked.

Source: UCLA Center for Health Policy Research, 2001, 2003, 2005, and 2007 California Health Interview Survey

The top portion of Table 6-4b presents the same figures, except dropping the out of scope cases. Here the proportion of noncontact and refusals has increased steadily, at the expense of completed screeners. The lower portion of the table shows the cooperation and completion rates for each cycle, and as a percentage of both CHIS 2001 and the previous cycle. The CHIS 2007 cooperation rate is less than 60 percent of what it was in 2001, while the completion rate is about half. The implication is that the interviewing staff had to work twice as hard to get a completed screener in 2007 as in 2001. The cooperation rate has declined at a steady rate across cycles when viewed as a percentage of the previous cycle – CHIS 2003, 2005, and 2007 each lost about 16 percent in cooperation rate from the previous

³ Note that the proportion of refusals is partly a function of the number of cases ultimately designated as “no conversion,” which has varied over the CHIS cycles after being introduced in 2003.

cycle⁴. The decline in the completion rate has been a bit steeper, and the rate of decline is accelerating because both refusals and noncontact are increasing each cycle.

Table 6-4b. CHIS (landline) RDD screener outcomes excluding out-of-scope cases

	CHIS 2007		CHIS 2005		CHIS 2003		CHIS 2001	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Completed Screeners	84,841	26.8%	69,648	35.1%	66,243	43.2%	82,009	53.0%
Ineligible	142	0.0%	49	0.0%	741	0.5%	2	0.0%
Noncontact	95,758	30.2%	46,754	23.6%	30,232	19.7%	30,548	19.8%
Refusal	116,504	36.8%	68,962	34.8%	44,079	28.7%	32,295	20.9%
Other Nonresponse	19,540	6.2%	12,959	6.5%	12,157	7.9%	9,785	6.3%
Total	316,785		198,372		153,452		154,639	
Cooperation rate	42.2%		50.3%		60.3%		71.7%	
As % of 2001	58.8%		70.1%		84.1%			
As % of previous cycle	83.9%		83.3%		84.1%			
Completion rate	26.8%		35.1%		43.7%		53.0%	
As % of 2001	50.6%		66.2%		82.3%			
As % of previous cycle	76.4%		80.5%		82.3%			

Source: UCLA Center for Health Policy Research, 2001, 2003, 2005, and 2007 California Health Interview Survey

6.1.2 Adult Extended Interview

The number of completed screeners becomes the total number of cases available for the adult extended interview. The results of data collection efforts for the adult extended interview in all samples are shown in Table 6-5.

Adult extended interviews were completed for 58 percent of landline RDD sample adults, down one point from 2005. The CHIS team decided that it would use data from partially completed adult interviews, so long as the interview went at least through Section K. Less than 1 percent of all adult interviews counted as complete were only partially done (CP). The proportion of refusals in the 2005 RDD adult sample (24 percent) was up 2 points from 2005, and the proportion of other nonresponse (17 percent) was unchanged.

⁴ Again, subsampling of refusals confounds this simple statement. In fact, since refusal subsampling was not conducted in 2001 but was in 2003, some of the increase between those cycles was attributable to subsampling. Similarly, since the proportion of cases ultimately assigned to “no conversion” was lower in 2007 than in 2003 or 2005, the rate of refusals actually accelerated somewhat between 2005 and 2007.

Table 6-5. Detailed results of CHIS 2007 data collection, adult extended interview, all samples

	LANDLINE RDD			SURNAME SAMPLES			CELLULAR RDD			AREA SAMPLE		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
		Within category	of Total		Within category	of Total		Within category	of Total		Within category	of Total
Completed Interviews												
CA – COMPLETED ADULT EXTENDED	48,542	99.5%		447	99.1%		835	99.8%		981	100.0%	
CP – ADULT PARTIAL COMPLETE – FINISHED	249	0.5%		4	0.9%		2	0.2%		0	0.0%	
Total Completed Interviews	48,791		57.5%	451		51.6%	837		54.7%	981		73.4%
Ineligible												
IA – INELIGIBLE AGE FOR ADULT EXTENDED	34	81.0%		1	8.3%		1	5.6%		1	100.0%	
IN – INELIGIBLE RACE FOR SURNAME SAMPLE	0	0.0%		11	91.7%		0	0.0%		0	0.0%	
IO: INELIGIBLE OUT OF STATE	8	19.0%		0	0.0%		17	94.4%		0	0.0%	
Total Ineligible	42		0.0%	12		1.4%	18		1.2%	1		0.1%
Out of Scope												
OE – OUT OF SCOPE ENUMERATION ERROR	1,054	99.2%		3	100.0%		12	100.0%		11	100.0%	
OO – OTHER OUT OF SCOPE	8	0.8%		0	0.0%		0	0.0%		0	0.0%	
Total Out of Scope	1,062		1.3%	3		0.3%	12		0.8%	11		0.8%
Refusal												
R1: FINAL REFUSAL, NO CONVERSION ATTEMPT	0	0.0%		0	0.0%		334	98.2%		0	0.0%	
R3 – FINAL REFUSAL RECEIVED 3 OR MORE 2S	38	0.2%		1	0.7%		0	0.0%		0	0.0%	
RB – FINAL REFUSAL	18,013	86.9%		93	63.3%		6	1.8%		83	61.5%	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	2,668	12.9%		53	36.1%		0	0.0%		52	38.5%	
Total Refusal	20,719		24.4%	147		16.8%	340		22.2%	135		10.1%
Other Nonresponse												
LH – LANGUAGE PROBLEM HEARING/SPEECH	331	2.3%		2	0.8%		0	0.0%		2	1.0%	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	938	6.6%		30	11.5%		17	5.2%		22	10.5%	
LP -- FINAL LANGUAGE PROBLEM	369	2.6%		4	1.5%		12	3.7%		2	1.0%	
MC – MAXIMUM CALLS	3,627	25.5%		76	29.1%		196	60.5%		118	56.5%	
ML – MAXIMUM CALLS – SCRNRSLT PROB IN HH	4,208	29.6%		109	41.8%		41	12.7%		13	6.2%	
MR – MAXIMUM CALLS – REFUSAL IN HH	1,535	10.8%		16	6.1%		29	9.0%		0	0.0%	
MT – MAXIMUM NUMBER OF CALL ATTEMPTS	45	0.3%		0	0.0%		1	0.3%		1	0.5%	
ND – RESPONDENT DECEASED	88	0.6%		0	0.0%		0	0.0%		0	0.0%	
NF -- NOT AVAILABLE IN FIELD PERIOD	110	0.8%		1	0.4%		2	0.6%		0	0.0%	
NL -- NOT LOCATABLE THROUGH TRACING	2,416	17.0%		19	7.3%		26	8.0%		40	19.1%	
NO -- OTHER NON-RESPONSE	11	0.1%		0	0.0%		0	0.0%		0	0.0%	
NS – SUBJECT SICK/INCAPACITATED	549	3.9%		4	1.5%		0	0.0%		11	5.3%	
Total Other Nonresponse	14,227		16.8%	261		29.9%	324		21.2%	209		15.6%
TOTAL	84,841		100.0%	874		100.0%	1,531		100.0%	1,337		100.0%
ELIGIBILITY RATE			100.0%			98.6%			98.8%			99.9%
COOPERATION RATE			70.2%			75.4%			71.1%			87.9%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

The completion rate for the surname samples was about 6 points lower than for the landline RDD, despite the fact that the cooperation rate was higher; nonresponse other than refusals accounted for the difference. Both the completion and cooperation rates were higher than in CHIS 2005, however.

The completion rate for the cellular RDD sample was 3 points lower than for the landline RDD, while the cooperation rate was slightly higher, despite the fact that no refusal conversion was attempted for the adult extended interview. The \$25 incentive for an adult interview was undoubtedly a factor in obtaining cooperation from respondents in the cellular sample. It is likely that some of the “other nonresponse” for the cellular sample represented tacit refusals; most if not all respondents could identify the number called from, and some proportion undoubtedly chose not to answer CHIS calls after the screener.

The area sample had adult interview completion (73 percent) and cooperation (88 percent) rates substantially higher than any of the other samples. Contributing factors were the \$25 incentive and the in-person contact for many of the cases with sampled adults. To continue the comparison with the Los Angeles County stratum of the landline RDD sample, for conversion cases only the completion rate was 53 percent and the cooperation rate 70 percent, both substantially lower than for the area sample.

Thus far, the discussion has considered cooperation, eligibility, and completion rates for the screener and adult interviews separately. In fact, it is the combination of these rates that is most instructive in judging performance of the samples. The combined completion (yield) rate provides a basic statistic for sample performance: how many sampled telephone numbers does it take to yield one completed adult interview? Note that the completion rate is a function of the cooperation and eligibility rates, and also includes residency and other nonresponse components. The landline RDD sample had a combined yield rate of about 6 percent, or about 17 sampled telephone numbers per adult completed interview. This rate is 50 percent lower than 2005. The decline in completion or yield rates generally means that the data collection has become less efficient, that is, more resources are required to complete a single interview than in previous years. The overall trends in efficiency are discussed in Section 6.8.

6.1.3 Child Extended Interview

The completion rate for the child interview (Table 6-6) in the landline RDD sample was about 76 percent, down 2 points from CHIS 2005, with an increase in other nonresponse. The cooperation

rate of 88 percent was one point lower than 2005. As in CHIS 2005, the data collection protocol allowed children to be sampled and child interviews to be conducted before adult interviews under certain circumstances. This procedure increased the relative yield of child interviews in CHIS 2005 as compared CHIS 2003. In the CHIS 2003 RDD sample, the ratio of children sampled to adults sampled was 14.9 percent, and of child interviews to adult interviews was 20.5 percent; in the CHIS 2005 main RDD sample, these ratios were 17.7 percent and 23.6 percent. For CHIS 2007, the ratios were 15.2 percent and 20.1 percent, almost exactly the same as CHIS 2003, before the child first procedure.

As shown in Table 6-6, both the completion rate (62 percent) and the cooperation rate (82 percent) were lower for the surname samples than for the landline RDD. These rates compare with 72 percent and 82 percent for the Korean list and 58 percent and 79 percent for the Vietnamese list in CHIS 2005. So overall the completion rate was a bit lower in 2007, and the cooperation rate a bit higher.

The 2005 report examined whether the child-first procedure affected the child interview completion rate as well as increasing the overall yield of child extended interviews, and found no evidence of a net negative effect. Almost half (48 percent) of the children sampled in CHIS 2007 were in child-first households, up two percentage points from 2005. The completion rate for children sampled in these households was 71.5 percent (2.6 points lower than 2005), as compared with 80.0 percent in non-child-first households (0.6 points lower than 2005). Thus, the overall child completion rate was affected negatively by the child-first procedure. But, some of the children sampled with this procedure were in households where no adult interview was conducted. In CHIS cycles before 2005, these children would not have been sampled.

The completion rate among children sampled in households where no adult interview was ultimately completed was 59.3 percent (1.3 points lower than 2005). The largest change from 2005 to 2007 in child-first completions was that 63.5 percent of children sampled in the child-first procedure were in households where no adult interview was completed, up from 55.0 percent in 2005. A good part of the drop in completion rate for child-first interviews, and for children overall, was thus due to the increasing proportion of children sampled in households where no adult interview was completed. More than a quarter of completed child interviews, and almost a third of children sampled, were from these households. Each of these proportions was up about 3 points from 2005.

Table 6-6. Detailed results of CHIS 2007 data collection, child extended interview

	LANDLINE RDD			SURNAME SAMPLES		
	Percentage			Percentage		
	Number	Within category	of Total	Number	Within category	of Total
Completed Interviews						
CC – COMPLETED CHILD EXTENDED	9,823		76.0%	95		61.7%
Ineligible						
IC – INELIGIBLE AGE FOR CHILD EXTENDED	58		0.4%	0		0.0%
Out of Scope						
OE – OUT OF SCOPE ENUMERATION ERROR	49		0.4%	1		0.6%
Refusal						
R3 – FINAL REFUSAL, RECEIVED 3 OR MORE 2S	2	0.2%		0	0.0%	
RB – FINAL REFUSAL	1,022	79.0%		15	71.4%	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	270	20.9%		6	28.6%	
Total Refusal	1,294		10.0%	21		13.6%
Other Nonresponse						
LM – LANGUAGE PROBLEM REACHED MAX CALLS	42	2.5%		4	10.8%	
LP – FINAL LANGUAGE PROBLEM	13	0.8%		1	2.7%	
MC – MAXIMUM CALLS	321	19.0%		9	24.3%	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	746	44.1%		15	40.5%	
MR – MAXIMUM CALLS – REFUSAL IN HH	351	20.7%		6	16.2%	
MT – MAXIMUM NUMBER OF CALL ATTEMPTS	25	1.5%		0	0.0%	
NF – RESPONDENT NOT FOUND AT CALL BACK	1	0.1%		0	0.0%	
NL – NOT LOCATABLE THROUGH TRACING	192	11.3%		2	5.4%	
NO – OTHER NON-RESPONSE	1	0.1%		0	0.0%	
NS -- SUBJECT SICK/INCAPICITATED	1	0.1%		0	0.0%	
Total Other Nonresponse	1,693		13.1%	37		24.0%
TOTAL	12,917		100.0%	154		100.0%
COOPERATION RATE			88.4%			81.9%

Source: UCLA Center for Health Policy Research, 2005 California Health Interview Survey.

Whether the child-first procedure affected the completion rate for adult interviews is a separate question that cannot be answered definitively without an experiment. The 2005 report concluded that adding the child-first procedure seemed to have led to about 200 fewer adult interviews, or about half of one percentage point on the overall completion rate. Table 6-7 compares cooperation and completion rates for adult interviews between CHIS 2003, CHIS 2005, and CHIS 2007, by whether the sampled adult was also the screener respondent and whether children were reported in the screener. All of the child-first cases had a sampled adult who was not the screener respondent and reported children in the household.

Cooperation and completion rates were lower in 2007 than 2005 for all groups except households where the sampled adult was the screener respondent and there were no children reported. The group including child-first cases saw a larger decline than the other groups. However, in 2007 the effect of children (about a two point decline in both completion and cooperation rates) was the same for both sampled adults who were and weren't the screener respondent. So there is no evidence of an additional effect (beyond that experienced in 2005) on adult cooperation of the child first procedure in 2007.

Table 6-7. Cooperation and Completion rates, adult extended interview, by whether children reported in screener and whether sampled adult is the screener respondent

	Sampled Adult Is Screener Respondent		Sampled Adult Is Not Screener_Respondent		
	Children Reported	No Children Reported	Children Reported	No Children Reported	Total
Cooperation rate					
CHIS 2003	84.0%	83.8%	64.8%	62.2%	76.1%
CHIS 2005	78.9%	79.8%	55.3%	56.4%	70.9%
Change 03-05	-5.0%	-4.0%	-9.4%	-5.8%	-5.2%
CHIS 2007	76.7%	79.8%	47.8%	51.2%	68.7%
Change 05-07	-2.2%	-0.1%	-7.5%	-5.2%	-2.2%
Completion rate					
CHIS 2003	70.6%	76.7%	44.9%	47.7%	63.1%
CHIS 2005	65.3%	72.9%	37.6%	43.0%	58.4%
Change 03-05	-5.3%	-3.8%	-7.3%	-4.7%	-4.8%
CHIS 2007	63.8%	73.8%	32.1%	39.5%	57.5%
Change 05-07	-1.5%	0.9%	-5.5%	-3.5%	-0.9%

A notable point is that the proportion of screener respondents reporting children (25.4 percent) declined in 2007, from 28.3 percent in 2005 and 28.5 percent in 2003. This decline appears to be a significant contributing factor to the lower net yield in child interviews for 2007.

6.1.4 Adolescent Extended Interview

Table 6-8 presents data collection results for the adolescent interviews. All of the numbers and percentages in the upper portion of the table refer to sampled adolescents for whom permission to interview was obtained from a responsible adult. The bottom three rows add the permission dimension.

Table 6-8. Detailed results of CHIS 2007 data collection, adolescent extended interview, RDD samples

	LANDLINE RDD			SURNAME SAMPLES		
	Number	Percentage		Number	Percentage	
		Within category	of Total		Within category	of Total
Completed Interviews						
CT – COMPLETED ADOLESCENT EXTENDED	3,622		74.4%	16		59.3%
Ineligible						
IT – INELIGIBLE AGE FOR ADOLESCENT EXTENDED	57		1.2%	2		7.4%
Out of Scope						
OE – OUT OF SCOPE ENUMERATION ERROR	23		0.5%	0		0.0%
Refusal						
R3 – FINAL REFUSAL, RECEIVED 3 OR MORE 2S	1	0.2%		0	0.0%	
RB – FINAL REFUSAL	478	80.7%		2	66.7%	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	113	19.1%		1	33.3%	
Total Refusal	592		12.2%	3		11.1%
Other Nonresponse						
LH – LANGUAGE PROBLEM HEARING/SPEECH	1	0.2%		0	0.0%	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	7	1.2%		0	0.0%	
LP – FINAL LANGUAGE PROBLEM	1	0.2%		0	0.0%	
MC – MAXIMUM CALLS	152	26.3%		1	16.7%	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	242	41.9%		5	83.3%	
MR – MAXIMUM CALLS – REFUSAL IN HH	101	17.5%		0	0.0%	
NF – NOT AVAILABLE IN FIELD PERIOD	2	0.3%		0	0.0%	
NL – NOT LOCATABLE THROUGH TRACING	58	10.1%		0	0.0%	
NS -- SUBJECT SICK/INCAPICITATED	13	2.3%		0	0.0%	
Total Other Nonresponse	577		11.8%	6		22.2%
TOTAL	4,871		100.0%	27		100.0%
COOPERATION RATE			86.0%			84.2%
ADOLESCENTS SAMPLED	7,988			77		
PERMISSION NOT RECEIVED	3,117		39.0%	50		64.9%
COMBINED COMPLETION RATE			45.3%			20.8%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

The completion rate among adolescents for the landline RDD sample (74 percent) was 4 points lower than that for CHIS 2005, and the proportion of permission-giving adults (PGA's) refusing permission (39 percent) was up 6 points from 2005. The combined completion rate (completed adolescent interviews divided by all adolescents sampled, 45 percent) was thus down about 7 points from 2005. There were very few adolescents selected in the surname samples. The permission-giving rate was only 35 percent, about 26 percentage points lower than for the landline RDD; this difference was similar to that seen in 2005.

The child-first procedure also affected the adolescent yield, since adolescents could be sampled and interviewed in child-first households before the adult interviews, although not to the extent of the child yield. In the CHIS 2003 RDD sample, the ratio of adolescents sampled to adults sampled was 8.1 percent, and of adolescent interviews to adult interviews was 9.6 percent. In the CHIS 2005 main RDD sample, these ratios were 10.4 percent and 9.1 percent, respectively. Thus, while relatively more adolescents were sampled in 2005 than in 2003, the relative yield was lower because of the drop in completion rate. For CHIS 2007, the ratios were 9.4 percent and 7.4 percent, respectively. The rate of sampling adolescents remained higher than before the child first procedure, but a point lower than 2005, while the rate of interviewing adolescents dropped almost two points because of the lower completion rate for adolescent interviews.

As with the child interview, the child-first procedure had a negative impact on adolescent completion rates, but the effect comes from the households where no adult interview was completed. As in CHIS 2005, the combined completion rate excluding those households is about 4 points higher than the overall rate, even though only 16.6 percent of sampled adolescents were from those households. Unlike for the child interview, the latter proportion changed only slightly from 2005 (16.1 percent) to 2007.

6.2 Answering Machines

Studies indicate that leaving a message on an answering machine seems to increase cooperation rates (e.g., Xu et al., 1993). Apparently the message acts as an advance letter in that it legitimizes the study, allows the respondent time to make an informed decision, and distinguishes the “survey telephone call” from telemarketing calls. Because of this finding in the literature, the message below was left the first time an answering machine was encountered at a dialed telephone number.

“Hello, I’m calling for the University of California. We are doing a study about the health of the people of California and about health care. I am not asking for money—this is a scientific study called the California Health Survey.

We will call you back in the next few days.”

Table 6-9 shows the proportion of the sample with at least one answering machine contact at the screener and adult extended level for both CHIS 2007 and CHIS 2005, and the percentage point change from 2005 to 2007. Overall, more than one-third of all landline RDD cases attempted at each level had at least one

Table 6-9. Proportion of numbers called at screener and adult extended level with at least one answering machine contact, CHIS 2007 and CHIS 2005

Stratum	Description	Percentage of cases with at least one answering machine contact					
		Screener			Adult extended		
		2007	2005	Diff.	2007	2005	Diff.
1	Los Angeles	42.4%	41.7%	0.7%	38.7%	39.8%	-1.1%
2	San Diego	41.6%	45.1%	-3.4%	38.8%	42.0%	-3.2%
3	Orange	42.5%	41.4%	1.1%	39.9%	40.6%	-0.6%
4	Santa Clara	41.1%	41.6%	-0.5%	38.9%	40.2%	-1.3%
5	San Bernardino	45.3%	42.3%	3.0%	37.3%	40.0%	-2.7%
6	Riverside	45.3%	43.2%	2.1%	38.3%	39.7%	-1.4%
7	Alameda	42.5%	42.9%	-0.4%	38.6%	41.0%	-2.4%
8	Sacramento	41.4%	43.5%	-2.1%	36.3%	38.5%	-2.1%
9	Contra Costa	47.4%	46.1%	1.3%	38.0%	41.4%	-3.4%
10	Fresno	35.5%	35.6%	0.0%	32.7%	32.2%	0.5%
11	San Francisco	40.5%	41.0%	-0.5%	36.4%	37.1%	-0.7%
12	Ventura	42.7%	44.9%	-2.1%	38.3%	43.3%	-5.0%
13	San Mateo	45.5%	42.6%	2.9%	40.2%	43.0%	-2.8%
14	Kern	36.6%	37.2%	-0.6%	31.1%	36.8%	-5.6%
15	San Joaquin	38.5%	41.1%	-2.5%	35.3%	36.9%	-1.6%
16	Sonoma	47.1%	47.7%	-0.7%	40.0%	37.1%	2.9%
17	Stanislaus	41.0%	40.2%	0.9%	37.3%	35.7%	1.7%
18	Santa Barbara	41.9%	43.1%	-1.2%	34.5%	37.8%	-3.2%
19	Solano	47.0%	46.0%	1.1%	40.5%	41.0%	-0.4%
20	Tulare	38.0%	32.9%	5.0%	34.0%	33.9%	0.1%
21	Santa Cruz	44.2%	46.7%	-2.5%	40.5%	42.1%	-1.7%
22	Marin	51.2%	49.6%	1.6%	40.7%	43.6%	-3.0%
23	San Luis Obispo	36.2%	39.4%	-3.2%	32.5%	36.2%	-3.7%
24	Placer	46.6%	45.6%	1.0%	37.6%	40.3%	-2.6%
25	Merced	38.4%	39.1%	-0.7%	34.5%	32.6%	1.9%
26	Butte	43.5%	43.6%	-0.1%	32.9%	37.6%	-4.8%
27	Shasta	40.0%	41.6%	-1.6%	30.8%	32.4%	-1.5%
28	Yolo	39.4%	40.4%	-1.0%	35.5%	37.5%	-1.9%
29	El Dorado	44.8%	44.0%	0.7%	38.6%	40.8%	-2.2%
30	Imperial	32.7%	30.7%	2.0%	30.3%	31.8%	-1.4%
31	Napa	45.0%	42.5%	2.5%	36.1%	38.9%	-2.8%
32	Kings	40.8%	37.6%	3.3%	33.5%	31.4%	2.1%
33	Madera	41.4%	37.6%	3.8%	35.8%	34.3%	1.5%
34	Monterey	38.8%	38.9%	-0.1%	34.1%	37.0%	-2.9%
35	Humboldt	42.8%	42.3%	0.6%	31.7%	33.7%	-2.0%
36	Nevada	46.9%	47.2%	-0.3%	36.9%	37.5%	-0.7%
37	Mendocino	39.8%	41.2%	-1.5%	32.2%	33.1%	-0.9%
38	Sutter	41.3%	37.9%	3.3%	33.8%	36.6%	-2.8%
39	Yuba	43.3%	40.2%	3.1%	35.8%	31.9%	4.0%
40	Lake	40.5%	44.0%	-3.5%	31.0%	35.2%	-4.2%
41	San Benito	43.6%	39.2%	4.4%	40.9%	39.5%	1.4%
42	Tehama, Glen, Colusa	39.4%	35.6%	3.8%	33.3%	31.1%	2.1%
43	North Balance	38.4%	35.4%	2.9%	29.1%	30.4%	-1.3%
44	Sierra Balance	39.9%	38.8%	1.1%	32.3%	37.0%	-4.6%
	Landline RDD Total	42.2%	42.7%	-0.5%	37.2%	39.1%	-1.9%
	Cellular RDD	55.6%	N/A	N/A	36.6%	N/A	N/A

Source: UCLA Center for Health Policy Research, 2007 and 2005 California Health Interview Survey

call reach an answering machine. Both the 2007 screener rate (42 percent) and the adult extended interview rate (37 percent) were down from 2003. At the low end of the RDD screening interview is Imperial County, with 33 percent of all cases having an answering machine contact; at the high end is Marin County, with over 50 percent; these were the extreme strata in 2005 as well. The North Balance stratum had the lowest rate for the extended interview, at 29 percent, and San Benito County the highest, at 44 percent. About the same number of strata showed increases as decreases in the rate for the screening interview, with Tulare County having a 5 point increase and Lake County the largest decrease, at 3.5 points. Kern County showed the largest increase in answering machine contact at the extended interview level, at 5.6 points, while Yuba County had the largest decline at 4 points.

The cellular RDD sample had a higher rate of cases with answering machine contact (55.6 percent) than did the landline RDD, but the rate for adult extended interviews (3.6 percent) was about the same.

Most of the landline RDD screener cases with an answering machine contact wound up with a screener result indicating some contact – only about 19 percent became “NM.” On the other hand, about 44 percent of the cellular RDD screener cases with at least one answering machine contact became NM.

6.3 Time Slice Strategy

If the initial call attempt resulted in “no answer,” a busy signal, or an answering machine, the call scheduler would automatically place the telephone number into time slice queues so that additional calls would be made over several days at several different times of day. The goal is to find a time when someone would answer the telephone. The CHIS 2007 time slice strategy, as follows below, began with one very similar to that used in CHIS 2005, which was modified slightly during the field period.

The time slices were defined as: (1a) early weekdays, 9 a.m. to 2 p.m.; (1b) late weekdays, 2 p.m. to 6 p.m.; (2) early evening, 6 p.m. to 7:30 p.m.; (3) late evening, 7:30 p.m. to 9 p.m.; (4) Saturday, 10 a.m. to 6 p.m.; (5) Sunday, 2 p.m. to 9 p.m. The strategy consisted of a total of 14 calls if there was no contact with a person:

- four calls consisting of an early or late day, early evening, late evening, and weekend (either Saturday or Sunday), in any order;

- 1 week wait;
- three calls consisting of an early evening, late evening, and the weekend day not called in the preceding four calls, in any order;
- 1 week wait;
- four calls consisting of a an early or late day (whichever was not called in the first set), early evening, late evening, and weekend (either Saturday or Sunday), in any order;
- 1 week wait; and
- three calls consisting of an early evening, late evening, and the weekend day not called in the preceding 4 calls, in any order.

If, after these 14 calls, there was still no contact, the telephone number was retired by coding it NA (all no answer or busy) or NM (at least one answering machine, but no “live” contact). In CHIS 2005, cases with at least one answering machine result received another four calls, up to 18 total. This last set was dropped for CHIS 2007.

Initially in 2007, most of the telephone numbers with no contact after the first 7 calls were sent to a vendor for further calling. This vendor used a predictive dialer, so that no operator (interviewer) was necessary for calls that were not answered by a live person. The vendor used the time slice strategy described above for the second set of 7 calls, and the same set of result codes to record the outcome. If a call was answered by a live person, an operator would come on the line and ask whether the number was for business or household use. Numbers with answered calls were returned to Westat for further follow-up. The operator’s script did not mention CHIS specifically.

The logic for sending the no-contact numbers out for predictive dialing is that numbers with no contact after 7 calls yield very little with further attempts. Table 6-10 demonstrates this logic, and provides information on the effects of sending the numbers out earlier in the process. The first column in Table 6-10 is the number of the call on which the first contact was made for all screeners completed in the landline RDD sample. The second column is the percentage of all ultimately completed screeners and ineligible determinations for cases with first contact on that call. (The completed screener or ineligibility determination may have happened on a later call.) The third column is the cumulative percentage of completed screeners and ineligibility determinations. By 7 calls, contact had been made with almost 97 percent of the cases that would ultimately be completed screeners or ineligible numbers. Another way of stating this is that all of the calls to no-contact cases after the first 7 yielded about 3 percent of the total

number of completed screeners and ineligible cases. By 4 calls, contact had been made with 89 percent of the cases ultimately completed.

Table 6-10. Completed screeners (including ineligibles) by number of call on which first contact was made

Number of calls to first contact	Completed cases	Percentage of all completes	
		This call number	Cumulative
1	48,243	56.77%	56.77%
2	15,813	18.61%	75.38%
3	7,373	8.68%	84.05%
4	4,401	5.18%	89.23%
5	3,154	3.71%	92.94%
6	1,945	2.29%	95.23%
7	1,252	1.47%	96.70%
8	827	0.97%	97.68%
9	522	0.61%	98.29%
10	386	0.45%	98.74%
11	328	0.39%	99.13%
12	299	0.35%	99.48%
13	219	0.26%	99.74%
14	146	0.17%	99.91%
15	17	0.02%	99.93%
16	13	0.02%	99.95%
17	4	0.00%	99.95%
18	7	0.01%	99.96%
19	12	0.01%	99.97%
20	8	0.01%	99.98%
21	8	0.01%	99.99%
22	4	0.00%	100.00%
23	2	0.00%	100.00%
<i>Total</i>	84,983		

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

In an effort to make the data collection more efficient, Westat conducted an experiment with cases that had had no contact after 4 calls, sending a sample of these to the predictive dialing vendor. The results for cases without answering machine results among the first 4 calls were very comparable to those obtained by interviewer calls, so for the latter part of the field period all cases with no contact (including no answering machine contact) were sent to the vendor for follow-up. The results were not as comparable for those cases with at least one answering machine result in the first 4 calls, so no change was made to the procedures for those cases.

At the end of the survey, 15 percent of the landline RDD numbers available to call (after purging the nonworking and business numbers) were coded NA, an increase of 2 percentage points from CHIS 2005. About 8 percent of the callable landline RDD numbers ended up as NM, up 3 points from CHIS 2005. The combined 5-point increase in no contact cases is 26 percent above the 2005 rate.

6.4 Maximum Call Limits

When a person answered the telephone, the telephone number was removed from the time slice strategy described above. Once contact was made, all subsequent calls were based upon the respondent's assessment of the best time to call or it was left to the interviewer to suggest the best time. This was generally in terms of an exact appointment or a general "best time" to call (e.g., day, evening, or weekend). The maximum call counter for these cases for both the screener and the extended interview was set at 23 each. This limit was set to allow enough calls for two refusal conversion efforts and calls in Spanish or Asian languages. As a result, only about 3.8 percent of the landline RDD sample telephone numbers ended as "maximum calls" (MC or LM) at the screener level (Table 6-1a). In some strata, work on screening interviews was stopped before the end of the field period as the stratum targets were reached. In other strata, sample was added late in the field period that may not have received the full complement of possible screener calls. In such instances, cases received maximum call codes without necessarily reaching the call limit. The rate of maximum call cases for the cellular RDD was virtually identical to that for the landline RDD. The rate for the surname samples was much higher, because of the second sample fielded as described in Section 6.1.1.

At the adult extended level, about 12.2 percent of landline RDD cases (Table 6-3) received one of the "maximum call" codes—MC, LM/ML (maximum calls where the number was coded a language problem at some point), MR (maximum calls where a refusal was encountered at some point), and MT (maximum calls where we were given a different telephone number to reach the adult respondent). The rate for the cellular RDD (10.5 percent) was a bit lower, and for the surname samples was considerably higher, as for the screening interview. About 11.5 percent of child interviews (Table 6-7) and 10.3 percent of adolescent interviews (Table 6-8) from the landline RDD sample were in these categories; rates for the surname samples were about double those for the landline RDD. Maximum call codes were also applied to pending cases for which work was stopped because of the end of the field period.

6.5 Language Strategy

An important capability for CHIS 2007 was conducting interviews in a variety of languages, including English, Spanish, Mandarin, Cantonese, Korean, and Vietnamese. Section 3.3 of this report describes the process by which the questionnaires were translated and prepared for use, and Sections 4.4 and 4.5 describe the recruitment and training of Spanish- and Asian-language bilingual interviewers, respectively. This section describes how the non-English interviews were managed in the CATI system and the TRCs where they were conducted.

6.5.1 RDD Strategy

Most sampled telephone numbers for the landline RDD sample were loaded into the default CATI work class, which meant that they were available to any interviewer working the RDD sample. (See Section 5.2 for a complete description of the CHIS 2007 work classes.) Before the non-English questionnaires were in use, whenever an interviewer encountered a respondent who did not speak English in attempting to complete the screener or an extended interview, he or she would indicate that it was a “language problem,” and what language the respondent was speaking, if it could be determined. The first sort was into Spanish, Cantonese, Mandarin, Korean, Vietnamese, undetermined Asian language, and other or not determined language. Cases determined to require a Spanish bilingual interviewer were put into the Spanish-language work class, and became available to bilingual interviewers after the Spanish translations were finalized in CATI.

Cases where the respondent was thought to speak an undetermined Asian language were called by a group of Asian bilingual interviewers, who would either continue with the process if they spoke the appropriate language or move it to the appropriate language work class. Cases where the language was not determined at all were assigned first to Spanish bilingual interviewers, then to Chinese bilingual interviewers if the language was still undetermined. Often in the process respondents were able to tell interviewers what language they spoke, and the interviewers would immediately re-assign the case to the appropriate language work class. Cases requiring a language other than the five for which translations were available were finalized as language problem nonresponse.

6.5.2 Supplemental Sample Strategy

Initially, the Korean and Vietnamese surname samples were worked by all interviewers. Much of the screening work could be done in English. Once a language problem was encountered, the case was transferred to the appropriate language work class. About three-quarters of the adult extended interviews completed from the surname samples were conducted in Korean or Vietnamese. (See Table 6-10 in the next section.)

6.5.3 Completed Interviews by Language

Table 6-11 shows the number of adult extended interviews completed in each of the five CHIS 2007 languages, by RDD stratum and supplemental sample.

Overall, some 3,132 adult interviews were conducted in Spanish, just over 6 percent of the total, which was about a point lower than in 2005. The highest percentage of adult interviews completed in Spanish in the landline RDD sample was in Imperial County (29.3 percent), more than twice that of any other landline RDD stratum. For the area sample, 23.4 percent of adult interviews were conducted in Spanish, almost three times as many as in the Los Angeles County stratum of the landline RDD. Only 2.9 percent of adult interviews in the cellular RDD sample were conducted in Spanish.

In the landline RDD sample, there were 804 adult interviews conducted in an Asian language, or about 1.6 percent of the total, down more than a point from 2005. The highest RDD proportions of Cantonese (4.9 percent), Mandarin (2.2 percent), and Asian languages in total (7.7 percent) were in the San Francisco stratum. The highest proportion of Korean interviews was in Los Angeles (1.5 percent) and of Vietnamese in Santa Clara (1.8 percent). For the surname samples, more than three-quarters of all adult interviews were conducted in Korean or Vietnamese.

See Table 7-2 in *CHIS 2007 Methodology Series: Report 4—Response Rates* for more on numbers of interviews conducted by language.

Table 6-11. Number of adult interviews completed by language and sample/RDD sample stratum

Strata	Sampling stratum	Completes	English	Spanish	Cantonese	Mandarin	Korean	Vietnamese	Percentage Spanish	Percentage Asian
1	Los Angeles	11,048	9,749	916	51	138	169	25	8.3%	3.5%
2	San Diego	4,873	4,570	270	4	7	10	12	5.5%	0.7%
3	Orange	2,775	2,539	143	0	19	40	34	5.2%	3.4%
4	Santa Clara	1,629	1,489	68	7	26	9	30	4.2%	4.4%
5	San Bernardino	1,677	1,547	116	0	6	7	1	6.9%	0.8%
6	Riverside	1,745	1,617	125	0	2	1	0	7.2%	0.2%
7	Alameda	1,556	1,464	34	15	30	5	8	2.2%	3.7%
8	Sacramento	1,451	1,399	33	7	1	1	10	2.3%	1.3%
9	Contra Costa	1,051	1,019	23	1	6	1	1	2.2%	0.9%
10	Fresno	794	731	59	0	3	0	1	7.4%	0.5%
11	San Francisco	923	833	19	45	20	4	2	2.1%	7.7%
12	Ventura	724	694	28	0	2	0	0	3.9%	0.3%
13	San Mateo	730	694	24	3	6	3	0	3.3%	1.6%
14	Kern	672	616	54	0	0	2	0	8.0%	0.3%
15	San Joaquin	601	551	44	3	1	0	2	7.3%	1.0%
16	Sonoma	579	564	14	0	0	0	1	2.4%	0.2%
17	Stanislaus	581	536	44	0	0	0	1	7.6%	0.2%
18	Santa Barbara	593	539	53	0	1	0	0	8.9%	0.2%
19	Solano	567	554	13	0	0	0	0	2.3%	0.0%
20	Tulare	583	511	72	0	0	0	0	12.3%	0.0%
21	Santa Cruz	583	558	25	0	0	0	0	4.3%	0.0%
22	Marin	573	558	14	0	1	0	0	2.4%	0.2%
23	San Luis Obispo	577	563	14	0	0	0	0	2.4%	0.0%
24	Placer	571	568	3	0	0	0	0	0.5%	0.0%
25	Merced	577	522	51	0	1	2	1	8.8%	0.7%
26	Butte	594	581	13	0	0	0	0	2.2%	0.0%
27	Shasta	575	570	4	1	0	0	0	0.7%	0.2%
28	Yolo	586	557	27	0	2	0	0	4.6%	0.3%
29	El Dorado	579	574	3	0	1	1	0	0.5%	0.3%
30	Imperial	581	409	170	0	0	2	0	29.3%	0.3%
31	Napa	573	544	28	0	0	0	1	4.9%	0.2%
32	Kings	585	512	71	1	0	0	1	12.1%	0.3%
33	Madera	569	524	45	0	0	0	0	7.9%	0.0%

Table 6-11. Number of adult interviews completed by language and sample/RDD sample stratum (continued)

Strata	Sampling stratum	Completes	English	Spanish	Cantonese	Mandarin	Korean	Vietnamese	Percentage Spanish	Percentage Asian
34	Monterey*	570	499	67	0	0	3	1	11.8%	0.7%
35	Humboldt*	602	597	5	0	0	0	0	0.8%	0.0%
36	Nevada *	582	576	6	0	0	0	0	1.0%	0.0%
37	Mendocino*	614	595	19	0	0	0	0	3.1%	0.0%
38	Sutter*	576	552	24	0	0	0	0	4.2%	0.0%
39	Yuba*	582	562	20	0	0	0	0	3.4%	0.0%
40	Lake*	572	559	13	0	0	0	0	2.3%	0.0%
41	San Benito*	574	518	56	0	0	0	0	9.8%	0.0%
42	Tehama, Glen, Colusa	483	441	41	1	0	0	0	8.5%	0.2%
43	North Balance*	476	470	6	0	0	0	0	1.3%	0.0%
44	Sierra Balance*	485	484	1	0	0	0	0	0.2%	0.0%
	TOTAL LANDLINE RDD	48,791	45,109	2,878	139	273	260	132	5.9%	1.6%
	Surname samples	451	103	0	0	1	189	158	0.0%	77.2%
	Area sample	981	739	230	2	5	4	1	23.4%	1.2%
	Cellular RDD sample	837	813	24	0	0	0	0	2.9%	0.0%
	TOTAL	51,060	46,764	3,132	141	279	453	291	6.1%	2.3%

Source: UCLA Center for Health Policy Research, 2007 California Health Interview Survey

6.6 Refusal Conversion

At each stage of the interview process, Westat interviewers made extensive conversion efforts for refusals that were not judged to be hostile or abusive. These procedures and the results are described in *CHIS 2007 Methodology Series: Report 4 — Response Rates*. That report contains the initial and conversion cooperation rates by type of interview.

6.7 Proxy Interviews

As in previous CHIS cycles, UCLA decided to allow proxy reporting for sample persons over 65 who were unable to respond for themselves because of physical, mental, or emotional limitations. Proxy respondents had to be adult members of the household knowledgeable about the sampled adult's health. Some 511 candidates for proxy interviews were identified based upon interviewers' notes; of these, 168 interviews were completed with proxies, and another 22 were completed with the sampled adults themselves.

Interviewers who conducted the proxy interviews were trained to substitute the name of the sampled adult or an appropriate pronoun wherever "you" appeared in the question text; in cases where "you" referred specifically to the respondent (e.g., "You said earlier . . ."), the word "you" was highlighted for the proxy interviews.

6.8 Level of Effort

For a variety of reasons, CHIS 2007 represented a substantial increase in the level of effort for data collection as compared with CHIS 2005, in part because of the increase in the number of completed adult interviews. Table 6-12 presents the number of completed interviews by type and the level of effort in terms of interviewer hours worked for CHIS 2007, CHIS 2005, and CHIS 2003. For comparability, the CHIS 2007 numbers exclude the cellular RDD sample and the area sample cases that were completed on inbound calls. Interviewer hours include time spent interviewing, contacting respondents, and gaining cooperation, as well as administrative activities. Hours per completed interview amortizes all interviewer time across the completed interviews of a given type, including time spent on nonresponse, ineligible, and out-of-scope cases.

As shown in Table 6-12, total interviewer time increased by more than 35 percent from CHIS 2005 to CHIS 2007, while the number of completed adult interviews rose 15 percent. Thus, the hours per completed adult rose about 18 percent, which was about the same rate of increase as was seen between 2003 and 2005. However, CHIS 2005 included more screening of ineligible (for child supplemental samples) than either CHIS 2003 or CHIS 2007, so the actual increase in effort for results overall was greater between 2005 and 2007 than between 2003 and 2005. The main factor contributing to the increase was the lower screener completion rate. The hours per screener (including ineligible) increased by about one-third between 2005 and 2007.

Table 6-12. Number of screeners and extended interviews, total interviewer hours and hours per interview

	CHIS 2007	CHIS 2005	CHIS 2003	Increase 2005-2007	Increase 2003-2005
Completed screeners	86,040	73,814	66,657	16.6%	10.7%
Ineligible at screener	397	11,368	1,174	N/A	N/A
Completed extended interviews					
Adults	49,472	43,020	42,044	15.0%	2.3%
Children	9,918	11,358	8,526	-12.7%	33.2%
Adolescents	3,638	4,029	4,010	-9.7%	0.5%
Interviewer hours	153,161	113,203	93,448	35.3%	21.1%
Hours per screener					
Including ineligible	1.77	1.33	1.38	33.2%	-3.6%
Without ineligible	1.78	1.53	1.4	16.3%	9.3%
Hours per completed adult	3.10	2.63	2.22	17.7%	18.5%

Source: UCLA Center for Health Policy Research, 2007, 2005, and 2003 California Health Interview Survey

These overall numbers mask considerable variation in the level of effort per case for different samples and for different strata within the RDD sample. The primary reasons for these differences include:

- Large differences in interview administration time across languages;
- Differences across samples and strata in sample yield (proportion of telephone numbers resulting in completed adult interviews);
- Differences in the mean number of calls needed to complete a case, whether an interview, nonresponse, ineligible, or out of scope; and

- Differences across samples and strata in the proportion of households with sampled children and adolescents.

As described in Chapter 2, CHIS 2007 was conducted in five languages: English, Spanish, Vietnamese, Chinese (Cantonese and Mandarin dialects), and Korean. Table 6-13 presents mean administration times for the various questionnaires by language for both CHIS 2007 and CHIS 2005. The 2007 screener interview was slightly longer overall than the 2005 screener. In other languages the screener was 19 to 56 percent longer than in English, about the same range as in 2005.

The mean administration time for the English adult extended interview was about half a minute shorter in 2007 than 2005. The ratio to English administration time was comparable between 2007 and 2005 for all languages other than Korean. The mean Korean adult interview was actually shorter than the English.

The child interview, with an overall mean length of 17.5 minutes, was two and half minutes longer in 2007 than in 2005. The ratio of other languages to English was comparable between 2007 and 2005, except for Korean and Cantonese, which were relatively shorter in 2007, and little different from English. The child interview timings presented here do not include the adult interview questions administered when the child interview was done first. Those questions averaged 8.6 minutes to administer in English, about a minute and a half longer than 2005. In Korean and Cantonese, the mean times were about the same or less than in English; the other languages ranged from 9.4 to 11.5 minutes.

The adolescent interview was about the same length as in 2005, and the ratio to English was about the same, again for every language except Korean and Cantonese. Very few adolescent interviews were conducted in the Asian languages.

Table 6-13. Mean administration times (in minutes), relative times, and sample sizes for CHIS 2007 and CHIS 2005 instruments by language of administration

	CHIS 2007			CHIS 2005		
	N	Mean	Ratio to English	N	Mean	Ratio to English
Screener						
All Languages	88,583	2.61		73,814	2.51	
English	78,727	2.50	1.00	64,469	2.37	1.00
Spanish	7,882	3.48	1.39	7,141	3.40	1.43
Vietnamese	592	3.90	1.56	641	3.31	1.40
Korean	712	3.32	1.33	736	3.60	1.52
Cantonese	287	2.98	1.19	419	3.09	1.30
Mandarin	383	3.50	1.40	408	3.73	1.57
Adult Interview						
All Languages	50,805	34.74		42,643	35.22	
English	46,556	33.91	1.00	38,242	34.08	1.00
Spanish	3,093	47.35	1.40	3,043	47.38	1.39
Vietnamese	285	37.79	1.11	341	38.65	1.13
Korean	451	28.03	0.83	427	43.35	1.27
Cantonese	141	35.27	1.04	284	37.62	1.10
Mandarin	279	42.17	1.24	306	40.22	1.18
Child Interview						
All Languages	9,933	17.30		11,358	14.98	
English	8,371	16.43	1.00	9,307	14.09	1.00
Spanish	1,395	22.31	1.36	1,717	19.13	1.36
Vietnamese	56	21.62	1.32	81	19.10	1.36
Korean	57	16.54	1.01	123	17.69	1.26
Cantonese	19	17.06	1.04	55	17.02	1.21
Mandarin	35	21.28	1.30	75	19.35	1.37
Adolescent Interview						
All Languages	3,643	19.77		4,029	19.64	
English	3,398	19.46	1.00	3,739	19.27	1.00
Spanish	215	24.65	1.27	258	24.52	1.27
Vietnamese	5	21.76	1.12	12	23.21	1.20
Korean	15	17.94	0.92	5	24.61	1.28
Cantonese	3	21.86	1.12	2	24.73	1.28
Mandarin	7	20.38	1.05	13	22.91	1.19

Source: UCLA Center for Health Policy Research, 2007 and 2005 California Health Interview Survey

7. QUALITY CONTROL

Westat's quality control procedures were in place throughout the study. Some of them, such as CATI testing and interviewer training, were used before data collection began as preventive quality controls. Others, such as supplemental interviewer training, monitoring, and comment and problem sheet review were used during data collection to respond to issues with interviewers or to make adjustments to the questionnaires. Each quality control method is briefly described below.

7.1 Computer-Assisted Telephone Interview Testing

Quality control of the survey questionnaires began with development of specifications for CATI programming. Westat's automated management system for CATI specifications tracked question text, sequencing, response categories, the appropriate use of "fills" within questions based upon previously recorded information, and range and logic checks. The CATI specification document, published both in PDF and Microsoft Word format, provided the guide for project staff and programmers as to what the CATI instrument should include. The system tracked each change to the specifications and the reason for that change, whether it originated from UCLA, Westat project staff, or the programming team. At some points during the design period, changes were programmed directly into CATI, and the specification database was updated later to reflect what was actually administered.

Once programming commenced, quality control continued with testing to make sure that the CATI instrument was working according to the specifications. The questions and skip patterns were tested as soon as the questionnaires were programmed, as was the database used to store the captured responses. This testing included review by project staff, TRC staff (including interviewers), data preparation staff, the statistical staff and programmers, and by staff at UCLA and Public Health Institute.

After the pilot test and then again during the first few weeks of the statewide field period, the data preparation and programming staffs reviewed frequency counts from each instrument to make sure that the CATI program was performing correctly and all responses and administrative data were being stored in the appropriate variable fields.

7.2 Online Range and Logic Checking

Another method of quality control involved the use of edits in the CATI system. Specifically, online range checks were programmed for several sections of the questionnaire to catch unlikely or impossible responses and also to catch errors that might result from typographical errors by interviewers. Each check had defined ranges with minimum and maximum values. For example, there were checks to ensure that a child's reported height and weight were within appropriate ranges for the units (metric or English/avoirdupois) the interviewer had specified. Some of these edits were added during the field period.

The edits included both soft and hard ranges. "Hard-range" checks do not allow the interviewer to continue without entering an answer within the range programmed, while "soft-range" checks merely require an interviewer to confirm an unlikely entry. In the rare situations where a respondent insisted on an answer that violated a hard-range check, the interviewer entered "Don't know" for the response to the item and wrote a comment describing the situation that was later reviewed by data preparation staff.

Other edits checked logic between responses. For example, if a respondent 65 years of age or older reported not being covered by Medicare, a verification question appeared on the CATI screen.

7.3 Training

A good training program is another important quality control measure. Training was standardized across sessions so that all interviewers received the same information. Also, team leaders attended the same project-specific training sessions as the interviewers so that they would be well prepared to handle their duties. Team leaders were also prepared because of their previous experience. Many TRC supervisory staff occupy permanent positions at Westat, have worked on many RDD surveys, and are very familiar with the kinds of questions asked by interviewers and respondents and the common problems that occur in an RDD study.

7.4 Supplemental Training

In addition, about 2 weeks after each training session interviewers began attending sessions designed to maximize respondent cooperation. Following this training, interviewers were monitored further and feedback was provided about how well they were doing and what they might do to improve their performance.

7.5 Interviewer Memoranda

As discussed in Chapter 4, interviewer memorandums were given to the staff to clarify and reinforce issues, as well as to inform staff of procedural changes. A total of 11 memoranda were distributed to interviewers.

7.6 Interviewer Monitoring

Westat monitored telephone interviewer performance throughout the field period. Monitoring forms for each interviewer were reviewed weekly, and any interviewers who were identified as in need of additional monitoring were monitored more heavily in the following week. Team leaders also performed additional monitoring if there was concern about an interviewer's performance.

Westat's capacity to monitor telephone interviewers is based on an investment in highly sophisticated equipment and electronic linkages. From a remote location, team leaders and monitors intercepted calls and silently listened to both the interviewer and the respondent. At the same time, the team leader could see what appeared on the interviewer's computer screen and the responses that the interviewer entered. Team leaders simultaneously checked on interviewing technique and the interviewer's ability to correctly capture data.

Westat team leaders and monitors selected 15-minute intervals of each interviewer's working time to monitor. Team leaders performed extra monitoring if there was a concern about an interviewer's performance. An interview monitoring report form was completed each time an interviewer was monitored. Interviewers who continued to have significant problems after receiving feedback or remedial training were released from the study.

During the first weeks following completion of training, the results of monitoring were discussed with each interviewer immediately following the monitoring session. This discussion provided feedback to the interviewer and suggestions to improve his or her techniques to gain cooperation, ask questions, or record responses. Subsequent reports were only reviewed with an interviewer if there was a specific problem, in which case the report was discussed immediately. Team leaders reviewed the monitoring reports throughout the survey period to identify any common problems that might have revealed the need for additional interviewer-wide training.

7.7 Triage

Interviewing during all hours of TRC operation is supported by a specially trained “triage” team leader. The triage team leader was called whenever a problem interfered with the ability to conduct CATI interviewing. When the triage team leader received a problem report, he or she diagnosed the problem and called the appropriate personnel. Hardware, software, and project-specific support were always available via home telephones or beeper numbers. The appropriate support personnel were able to respond to problems within minutes of a problem report, regardless of the time.

7.8 Using Comments and Problem Sheets to Find Problems

Interviewers made comments within the CATI questionnaire whenever a response did not fit a category and/or when they perceived a problem with a question. With input from UCLA and PHI, some of these comments were used to update data. Data updates and other data preparation issues are discussed in detail in *CHIS 2007 Methodology Series: Report 3 — Data Processing Procedures*.

Comments were also used as indicators of difficulties with the questionnaire. If there were many comments about a particular item, it potentially indicated that a question needed to be changed or reinforced with an interviewer memorandum or a meeting.

Problem sheets were also used for quality control. When interviewers or team leaders encountered a problem in conducting or monitoring an interview, they completed a CATI problem sheet. These sheets were reviewed by a triage team leader and forwarded to the appropriate staff member for

resolution. Any problems that suggested a change to the questionnaire were discussed with the UCLA project director.

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Appendix Table A-1. Changes in the CHIS 2007 Adult Questionnaire after the start of data collection

Element	Q#	Section	Text	Midchange
AB81	QA07_B23	B	Has a doctor ever told you that you had diabetes ONLY during pregnancy?	Mid-administration change: On August 3, 2007, the question text was changed from "that starts during pregnancy" to "ONLY during pregnancy," an update that was missed after the pilot.
AH59	QA07_H32	H	Was this plan obtained in your own name or in the name of someone else?	Mid-Administration Change: On September 5, 2007, the missing condition for asking this question (AI19_2 = 1) was added to the CATI program. In cases where this section was already completed, the value for AH59 was set to -9.
AI24	QA07_H68	H	What is the ONE MAIN reason why you do not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
AI36	QA07_H66	H	What is the ONE MAIN reason why you did not have any health insurance during those months?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
AI13	QA07_H23	H	Does your employer offer health insurance to any of its employees?	Mid-Administration Change: On September 5, 2007, the missing condition for asking the question (AK1 = 2) was added to the CATI program. In cases where this section was already completed, the value for AI13 was set to -9.
CF18	QA07_I19	I	What is the ONE MAIN reason {CHILD NAME/AGE/SEX} does not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
CF29	QA07_I29	I	What is the ONE MAIN reason {CHILD NAME/AGE/SEX} did not have any health insurance during the time {he/she/he or she} wasn't covered?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
IA18	QA07_I49	I	What is the ONE MAIN reason why {ADOLESCENT /AGE/SEX} does not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
IA29	QA07_I59	I	What is the ONE MAIN reason why {ADOLESCENT /AGE/SEX} did not have any health insurance during the time {he/she/he or she} wasn't covered?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
AF69	QA07_F14	F	Did your emotions interfere a lot, some, or not at all with your performance at work?	Mid-administration change: Beginning on August 2, 2007, respondents over age 70 were no longer asked this question, an update that was missed earlier. Those asked in error prior to this were reset to a valid skip (-1).

Appendix Table A-1. Changes in the CHIS 2007 Adult Questionnaire after the start of data collection (continued)

Element	Q#	Section	Text	Midchange
AF79	QA07_F25	F	Did you complete the recommended full course of treatment?	Mid-administration change: Question text, response categories, and skip pattern were changed on 08/21/2007.
AF80	QA07_F26	F	What is the MAIN REASON you are no longer receiving treatment?	Mid-administration change: Question text and response categories were changed on 08/21/2007.
AH16	QA07_J14	J	During the past 12 months, did you either delay or not get a medicine that a doctor prescribed for you?	Mid-Administration Change: On September 5, 2007, CATI programming that limited the population for this question was removed. In cases where this section was already completed, the value for AH16 was set to -9.
AJ19	QA07_J15	J	Was cost or lack of insurance a reason why you delayed or did not get the prescription?	Mid-Administration Change: On September 5, 2007, CATI programming that limited the population for this question was removed. In cases where this section was already completed, the value for AJ19 was set to -9.
AH79	QA07_H78	H	The following questions are about your current health plan. While you've had your current health plan, have you reached the limit of what your insurance company would pay for?	Mid-administration change: Conditions for asking this question were changed on 12/26/2007
AH84	QA07_H83	H	Were you or your family member uninsured at the time care was provided?	Mid-administration change: Beginning on 12/18/2007, this question was asked of those who answered "Yes" to AH81 in addition to those who were already receiving this question. Cases completed before this time that should have received the question were c
AH85	QA07_H84	H	Because of these medical bills, were you unable to pay for basic necessities like food, heat or rent?	Mid-administration change: Beginning on 12/18/2007, this question was asked of those who answered "Yes" to AH81 in addition to those who were already receiving this question. Cases completed before this time that should have received the question were c
AH86	QA07_H85	H	Because of these medical bills, did you take on credit card debt?	Mid-administration change: Beginning on 12/18/2007, this question was asked of those who answered "Yes" to AH81 in addition to those who were already receiving this question. Cases completed before this time that should have received the question were c
AH87	QA07_H86	H	Did you take out a loan or use up your savings?	Mid-administration change: Beginning on 12/18/2007, this question was asked of those who answered "Yes" to AH81 in addition to those who were already receiving this question. Cases completed before this time that should have received the question were c

Appendix Table A-1. Changes in the CHIS 2007 Adult Questionnaire after the start of data collection (continued)

Element	Q#	Section	Text	Midchange
AH88	QA07_H87	H	Did you declare bankruptcy?	Mid-administration change: Beginning on 12/18/2007, this question was asked of those who answered "Yes" to AH81 in addition to those who were already receiving this question. Cases completed before this time that should have received the question were c
AM33	QA07_N6A	N	Do you have a working cell phone?	Mid-administration Change: This question was added to the survey on July 6, 2007.
AM34	QA07_N6B	N	Of all the telephone calls that you receive, are ...	Mid-administration Change: This question was added to the survey on July 6, 2007.
AI56C	QA07_I61C	I	In what country was {CHILD NAME /AGE/SEX} born?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as CH8 in the Child questionnaire.
AI58C	QA07_I63C	I	Is {CHILD NAME /AGE/SEX} a citizen of the United States?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as CH8A in the Child questionnaire.
AI59C	QA07_I64C	I	Is {CHILD NAME /AGE/SEX} a permanent resident with a green card?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as CH9 in the Child questionnaire.
AI56T	QA07_I61T	I	In what country was {ADOLESCENT /AGE/SEX} born?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as TI3 in the Adolescent questionnaire.
AI58T	QA07_I63T	I	Is {ADOLESCENT /AGE/SEX} a citizen of the United States?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as TI4 in the Adolescent questionnaire.
AI59T	QA07_I64T	I	Is {ADOLESCENT /AGE/SEX} a permanent resident with a green card?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as TI5 in the Adolescent questionnaire.
AI60T	QA07_I65T	I	About how many years has {ADOLESCENT /AGE/SEX} lived in the United States?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as TI6 in the Adolescent questionnaire.
AI60C	QA07_I65C	I	About how many years has {CHILD NAME /AGE/SEX} lived in the United States?	Mid-administration change: Beginning on July 26, 2007, this question was asked as part of the Adult questionnaire if not already asked as CH10 in the Child questionnaire.

Appendix Table A-2. Changes in the CHIS 2007 Child Questionnaire after the start of data collection

Element	Q#	Section	Text	Midchange
CE17	QC07_E7	E	In the past 12 months, have you seen a billboard that says, "Obesity in Little Children is a big Problem."?	Mid-administration change: This item was added on 07/10/2007 after the start of the main study.
CE18	QC07_E8	E	In the past 12 months, have you seen or heard a radio or TV ad that says, "So for many children of smokers, the question isn't IF they'll become smokers...but WHEN."?	Mid-administration change: This item was added on 07/10/2007 after the start of the main study.
CH10	QC07_H13	H	About how many years has {CHILD NAME /AGE/SEX} lived in the United States?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI60C in the Adult questionnaire.
CH8	QC07_H10	H	In what country was {CHILD NAME /AGE/SEX} born?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI56C in the Adult questionnaire.
CH8A	QC07_H11	H	Is {CHILD NAME /AGE/SEX} a citizen of the United States?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI58C in the Adult questionnaire.
CH9	QC07_H12	H	Is {CHILD NAME /AGE/SEX} a permanent resident with a green card?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI59C in the Adult questionnaire.
KAH56	QK07_H22	H	{Who besides your spouse pays any portion of the cost for this plan, such as your spouse's employer, a union, or professional organization/Who is that}?	Mid-administration change: On Sept. 14, 2007, the text of this question was changed to more accurately reflect the Adult questionnaire, i.e., "such as your employer" was changed to "such as your spouse's employer."
KAH59	QK07_H32	H	Was this plan obtained in your spouse's own name or in the name of someone else?	Mid-Administration Change: On September 5, 2007, the missing condition for asking this question (KAI19_2 = 1) was added to the CATI program. In cases where this section was already completed, the value for KAH59 was set to -9.
KAI11	QK07_H19	H	Is your spouse covered by a health insurance plan that your spouse purchased directly from an insurance company or HMO?	Mid-administration change: On Sept. 14, 2007, the text of this question was changed to more accurately reflect the Adult questionnaire, i.e., "such as your employer" was changed to "such as your spouse's employer."

Appendix Table A-2. Changes in the CHIS 2007 Child Questionnaire after the start of data collection (continued)

Element	Q#	Section	Text	Midchange
KAI13	QK07_H23	H	Does your spouse's employer offer health insurance to any of its employees?	Mid-administration change: On September 5, 2007, the missing condition for asking the question (KAK1 = 2) was added to the CATI program. In cases where this section was already completed, the value for KAI13 was set to -9.
KAI24	QK07_H68	H	What is the ONE MAIN reason why your spouse does not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
KAI36	QK07_H66	H	What is the ONE MAIN reason why your spouse did not have any health insurance during those months?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
KCF18	QK07_I19	H	What is the ONE MAIN reason {CHILD NAME /AGE/SEX} does not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
KCF29	QK07_I29	H	What is the ONE MAIN reason {CHILD NAME /AGE/SEX} did not have any health insurance during the time {he/she/he or she} wasn't covered?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
KIA18	QK07_I49	H	What is the ONE MAIN reason why {ADOLESCENT /AGE/SEX} does not have any health insurance?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.
KIA29	QK07_I59	H	What is the ONE MAIN reason why {ADOLESCENT /AGE/SEX} did not have any health insurance during the time {he/she/he or she} wasn't covered?	Note: Response categories 9 and 10 were added after the field period for the purpose of upcoding comments.

Appendix Table A-3. Changes in the CHIS 2007 Adolescent Questionnaire after the start of data collection

Element	Q#	Section	Text	Midchange
TI3	QT07_K10	K	In what country were you born?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI56T in the Adult questionnaire.
TI4	QT07_K11	K	Are you a citizen of the United States?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI58T in the Adult questionnaire.
TI5	QT07_K12	K	Are you a permanent resident with a green card?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI59T in the Adult questionnaire.
TI6	QT07_K13	K	About how many years have you lived in the United States?	Mid-administration change: Beginning on July 26, 2007, this question was only asked if not already asked as AI60T in the Adult questionnaire.