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CHIS 2009 Methodology Report Series

Report 2

Data Collection Methods

CALIFORNIA HEALTH INTERVIEW SURVEY

CHIS 2009 METHODOLOGY SERIES

REPORT 2

DATA COLLECTION METHODS

NOVEMBER 2011

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www.chis.ucla.edu

This report describes how data were collected for CHIS 2009. 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 2009 California Health Interview Survey (CHIS 2009). The other reports are listed below. A similar set of reports is available for each previous CHIS cycle.

CHIS is a collaborative project of the University of California, Los Angeles (UCLA) Center for Health Policy Research, the California Department of Public Health, and the Department of Health Care Services. Westat was responsible for data collection and the preparation of five methodological reports from the 2009 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 2009 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 2009. 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. 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 2009 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 2009 SAMPLE 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 (CDPH) and the Department of Health Care Services (DHCS). 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 Asian and Latino 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 2009, the fifth CHIS data collection cycle, which was conducted between September 2009 and April 2010. The previous CHIS cycles (2001, 2003, 2005, and 2007) are described in similar series, available at http://www.chis.ucla.edu/methods.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, 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 since CHIS 2005. In the first two CHIS cycles there were 41 total sampling strata, including 33 individual counties. The CHIS 2009 samples in Humboldt, Marin, and San Diego Counties were enhanced with additional funding.

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. CHIS 2009 included additional Korean and Vietnamese oversamples conducted on behalf of the National Cancer Institute.

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 2009, the goal was to complete approximately 2,500 interviews statewide with adults from the cell-phone sample . The CHIS 2009 cell-phone sampled from the CHIS 2007 cell-phone sample in two significant ways. First, all cell-phone sample cases were eligible for the extended interview regardless of the presence of a landline phone. The landline and cell samples, therefore, overlap and contrasts to CHIS 2007 when cell-phone cases with a landline telephone were screened out to limit the cell-phone sample to

"cell-phone only" cases. This change was made due to the large and potentially unique characteristics of telephone users who possess both a landline and cell-phone, but rely principally on their cell-phone for communication and would otherwise be excluded from the sample. The second change to the cell-phone sample was the inclusion of child and adolescent extended interviews. About 200 teen interviews and nearly 500 child interviews were completed from the cell-phone sample in CHIS 2009. 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. 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.

Table 1-1. California county and county group strata used in the CHIS 2009 sample design

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

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey.

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 2009 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 has been continued in subsequent CHIS cycles; this procedure substantially increases 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. Table 1-2 shows the number of completed adult, child, and adolescent interviews in CHIS 2009 by the type of sample (landline RDD, surname list, and cell RDD).

Table 1-2. Number of completed CHIS 2009 interviews by type of sample and instrument

Type of sample	Adult	Child	Adolescent
Total all samples	47,614	8,945	3,379
Landline RDD	42,682	7,918	3,002
Surname list	1,885	545	178
Cell RDD	3,047	482	199

Source: UCLA Center for Health Policy Research, 2009 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 40 minutes to complete. The average child and adolescent interviews took about 16 minutes and 18 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 12 percent of the adult interviews were completed in a language other than English, as were almost 24 percent of all child (parent proxy) interviews and 9 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 2009 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 landline sampled telephone numbers for which an address could be obtained from reverse directory services. An advance letter was mailed for approximately 58 percent of the landline RDD sample telephone numbers, and 82 percent of list sample numbers. Addresses were not available for the cell sample. As in CHIS 2005 and 2007, a $2 bill was included with the advance letter to promote cooperation.

The CHIS 2009 screener completion rate for the landline and samples was 36.1 percent, and was higher for households that were sent the advance letter. For the cell phone sample, the screener completion rate was 19.3 percent in all households. The extended interview completion rate for the landline sample varied across the adult (49.0 percent), child (72.9 percent) and adolescent (42.8 percent) interviews. The adolescent rate includes getting permission from a parent or guardian. The adult interview completion rate for the cell sample was 56.2 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 2009, the landline sample household response rate was 19.7 percent (the product of the screener response rate and the completion rate at the household level of 54.7 percent). All of the household and person level response rates vary by sampling stratum. For more information about the CHIS 2009 response rates, please see *CHIS 2009 Methodology Series: Report 4 – Response Rates*.

Table 1-3. CHIS 2009 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, pre-diabetes/borderline	✓		
Heart disease, high blood pressure	✓		
Physical disability	✓		
Developmental assessment and developmental conditions			✓
Mental health	**Adult**	**Teen**	**Child**
Mental health status	✓	✓	✓
Perceived need, access and utilization of mental health services	✓	✓	✓
Suicide ideation and attempts	✓		
Health behaviors	**Adult**	**Teen**	**Child**
Dietary intake, fast food, high sugar diet	✓	✓	✓
Physical activity and exercise	✓	✓	✓
Walking for transportation and leisure	✓		
Sedentary time		✓	✓
Flu Shot	✓		✓
Alcohol and tobacco use	✓	✓	
Illegal drug use		✓	
Sexual behavior	✓	✓	
HIV/STI testing		✓	
Sun exposure	✓	✓	
Women's health	**Adult**	**Teen**	**Child**
Mammography screening, hormone replacement therapy	✓		
Age at menarche, live births, menopause, birth control medications	✓		
Pregnancy status	✓	✓	
Cancer history and prevention	**Adult**	**Teen**	**Child**
Family history	✓		
Colorectal cancer screening, prostate specific antigen (PSA) test	✓		
Dental health	**Adult**	**Teen**	**Child**
Last dental visit, main reason haven't visited dentist		✓	✓

Table 1-3. CHIS 2009 survey topic areas by instrument (Continued)

Food environment	**Adult**	**Teen**	**Child**
Availability of food in household over past 12 months	✓		
Brought lunch to school from home		✓	
Doctor discussed nutrition/physical activity		✓	✓
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 and medical care)	✓	✓	✓
Medical home	✓	✓	✓
Communication problems with doctor	✓		
Long-term care	✓		
Health insurance	**Adult**	**Teen**	**Child**
Current insurance coverage, spouse's coverage, who pays for coverage	✓	✓	✓
Health plan enrollment, characteristics and plan assessment	✓	✓	✓
Employer offers coverage, respondent/spouse eligibility	✓		
Coverage over past 12 months, reason for lack of insurance	✓	✓	✓
Medical debt, high deductible health plans	✓	✓	✓
Partial scope Medi-Cal, Medi-Cal deficit reduction act requirements	✓		
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	✓		
Medi-Cal and healthy families eligibility	✓	✓	✓
Reason for Medi-Cal non-participation among potential beneficiaries	✓	✓	✓
Neighborhood and housing	**Adult**	**Teen**	**Child**
Neighborhood safety, use of parks		✓	✓
Homeownership, length of time at current residence	✓		
Civic engagement		✓	✓
Social cohesion			✓
Emergency Preparedness	**Adult**	**Teen**	**Child**
Medication supply and basic preparedness	✓		
Interpersonal Violence	**Adult**	**Teen**	**Child**
Intrapersonal violence	✓		

Table 1-3. CHIS 2009 survey topic areas by instrument (Continued)

Parental involvement/adult supervision	**Adult**	**Teen**	**Child**
Adult presence after school/knowledge of teen's activities, role models		✓	
Parental concerns/involvement			✓
Child care and school attendance	**Adult**	**Teen**	**Child**
Current child care arrangements			✓
Paid child care	✓		
First 5 California: Parent kit, educational TV programming			✓
Preschool/school attendance, name of school		✓	✓
Employment	**Adult**	**Teen**	**Child**
Employment status, spouse's employment status	✓		
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**
Race and ethnicity, age, gender, height, weight, education	✓	✓	✓
Veteran status	✓		
Marital status, registered domestic partner status	✓		
Sexual orientation	✓	✓	
Language spoken with peers, language of TV, radio, newspaper used	✓		
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, 2009 California Health Interview Survey.

Historically, the CHIS response rates are comparable to response rates of other scientific telephone surveys in California, such as the California Behavioral Risk Factor Surveillance System (BRFSS) Survey. It has become increasingly difficult, however, to compare the CHIS and BRFSS response rates due to changes in the BRFSS response rate calculation methods. 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. The 2009 BRFSS, for example, shows the refusal rate for the California (32.2%) is

the highest in the nation and more than twice the national median (15.7%).[1] 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. Further 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 283 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 2009 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;

[1] As reported in the Behavioral Risk Factor Surveillance System 2009 Summary Data Quality Report (Version #1 – Revised: 04/27/2010, available online at ftp://ftp.cdc.gov/pub/Data/Brfss/2009_Summary_Data_Quality_Report.pdf

- 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 2009 were created primarily from the California Department of Finance's 2009 Population Estimates and 2009 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 differential response rates from households with and without landline telephones. 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 those 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 item nonresponse 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, CHIS 2007, and CHIS 2009 (i.e., race, ethnicity, home ownership, and education).

UCLA-CHPR imputed missing values for nearly every variable in the data files other than those imputed by Westat and some sensitive variables in which nonresponse had its own meaning. Overall, item nonresponse rates in CHIS 2009 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 25% 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, model-based 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 generalized linear model with a set of control variables (predictors). The link function of the model is corresponding to the nature of the variable being imputed, e.g. generalized linear regression for continuous variables, logistic regression for binary and multinomial variables, and negative binomial regression for counts variables. The donors and recipients are grouped based on their predicted values from the model.

Control variables (predictors) used in the model to form 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 procedures were complete, every step in the data quality control process is 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 2009:

- 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 2009 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 three distinct samples: landline RDD (referred to as "landline"), surname list, and cellular RDD (referred to as "cell"). The administrative functions varied somewhat across samples, but the content of the adult extended questionnaire was virtually identical for the three samples. Child and adolescent interviews were conducted in each sample.

2.1 Initial Screening Interview for the Landline and Surname List Samples

The CHIS 2009 sample was composed of telephone numbers selected as described in *CHIS 2009 Methodology Series: Report 1 – Sample Design*. On first contact with a sampled landline 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 sample. As in other CHIS cycles since 2003, 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 one or more of the other adults, the interviewer then enumerated all the other adults, and one was randomly selected.

Starting with CHIS 2005, once an adult was sampled for the extended interview, the landline 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. Once a child was selected, the child interview could be completed before the adult interview if the most knowledgeable adult (MKA) was not the sampled adult[2]. This "child-first" protocol is described further in the next section. If the above conditions were not met, children and adolescents were enumerated as part of the adult extended interview as in CHIS cycles before 2005.

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

- The number of children under 12 years of age living in the household[3];
- 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.[4]

[2] If an adolescent was also sampled in the screener, an adolescent interview could be completed before the adult interview if the screener respondent cold give permission.

[3] See *CHIS 2009 Methodology Series: Report 5 – Weighting and Variance Estimation*, Section 3.7.

[4] See *CHIS 2009 Methodology Series: Report 5 – Weighting and Variance Estimation*, Section 3.8.

For telephone numbers in the surname list samples, the initial screening interview was very similar to that for the landline 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 Cell Sample

The goals of the screening interview for the cell sample were similar to those of the landline screener: to determine whether the telephone was associated with a household and to identify an eligible adult respondent. One important difference from the landline design was 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?**

In CHIS 2007, if the answer to this question was "Yes," the sampled number was considered to be ineligible. In CHIS 2009, this item was used in weighting, but all cell numbers in the sample were considered eligible unless (1) the owner was not a California resident, (2) the number was used only for business purposes, or (3) an adult did not own or share the phone. 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.

Besides the screening items and the question above, 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. Similar

questions were included in the adult interview for the landline sample to assess coverage and response patterns for the two samples.

2.3 Overall Structure of CHIS 2009 Interviews

Given the number of different instruments and the rules for who could respond to each, one household 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,
- 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 (see Exhibit 2.1). If there are remaining interviews, the interviewer selects another individual (e.g., the MKA for the Child Questionnaire), and so on.

As described in Section 2.1, CHIS 2009 allowed sampling of children and adolescents as part of the screening interview for the landline and surname samples 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.

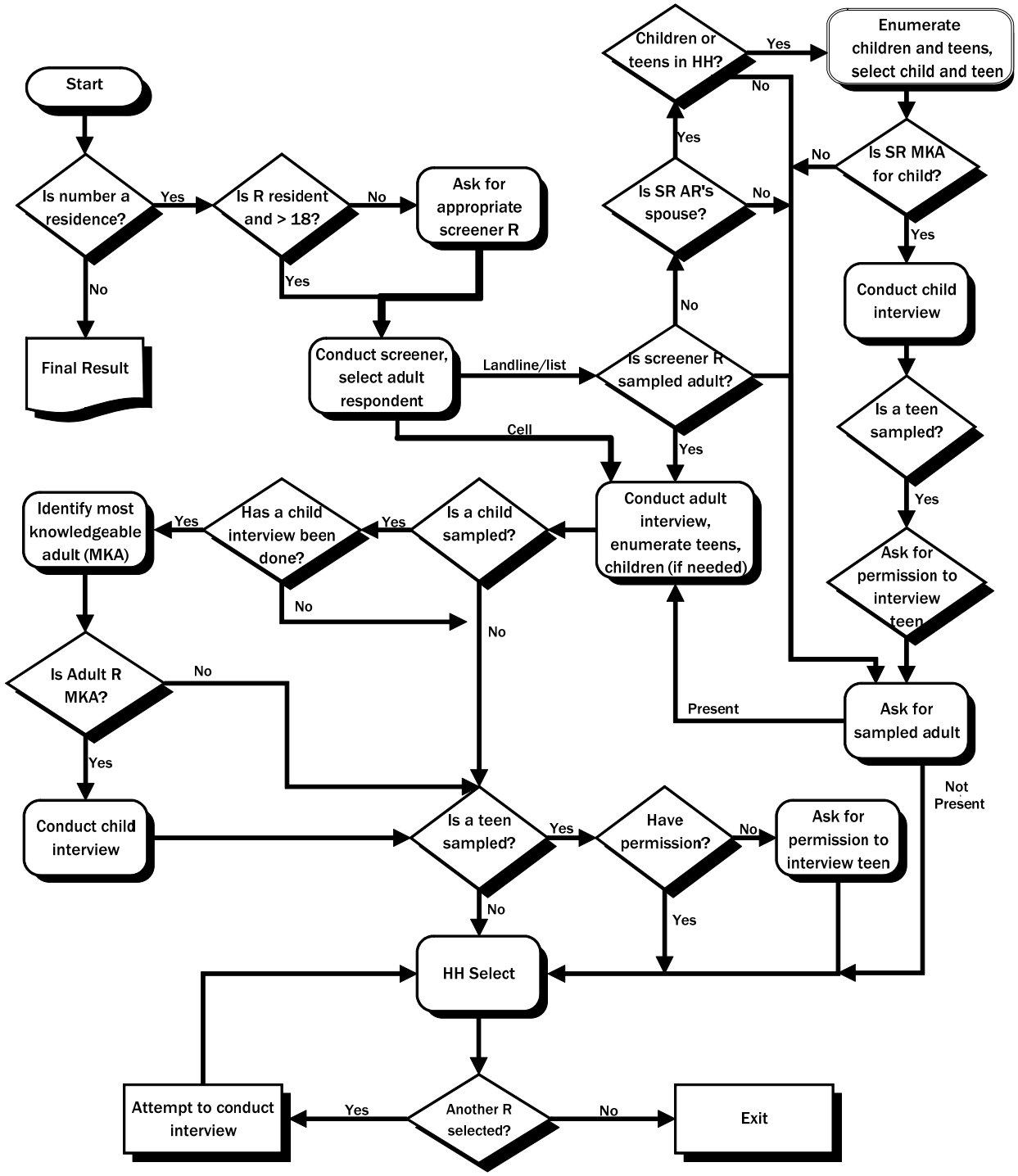

Figure 2-1. CHIS 2009 Interview Flow

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.

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 cell phone sample adult interview was completed, or after a landline 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.]

                                      (  )
                                                AT
                                                THIS            APPOINTMENT
#      RESPONDENT      TYPE    SUBJECT          PHONE   RSLT    DATE/TIME
1      MARY/30/F       ADLT                       Y     CA

2-SR   ALFRED/32/M     CHLD    WILL/8/M           Y
```

3. EXTENDED INTERVIEWS

CHIS 2009 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 2008, 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 16 sections:

A. **Demographics** – Age, gender, race, ethnicity, marital status.

B. **Health Conditions** – General health, asthma, diabetes, gestational diabetes, hypertension, heart disease, flu shot, family history of cancer, colon cancer screening, PSA test.

C. **Health Behaviors** – Walking for transportation and leisure, moderate and vigorous physical activity, dietary intake, fast food, sun exposure and sunscreen use, tobacco and alcohol use, second-hand smoke.

D. **General Health, Disability, and Sexual Health** – Height and weight, disability, sexual partners and sexual orientation, LGBT domestic partners.

E. **Women's Health** – Fertility history, infertility, breast cancer screening, hormone replacement therapy, birth control.

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, veteran status, employment status of self and spouse.

H. **Health Care and Health Insurance –** Usual source of care, emergency room visits, current coverage by public or private plans, coverage of prescription drugs, coverage over past 12 months, spouse's coverage, high deductible plans, medical debt, partial scope Medi-Cal.

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, high deductible plans, coverage in past 12 months, citizenship and immigration.

J. **Health Care Utilization and Access and Violence** – Doctor visits in past year, patient-centered care: information, communication with doctor, delays in getting care, interpersonal violence from intimate partner or acquaintance, caregiving.

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, assets, alimony and child support, Social Security, pensions, reasons for non-enrollment in Medi-Cal, application for Medi-Cal.

DM. **Discrimination Module –** Perceptions of unfair treatment and the reason(s) for that treatment, asked only of a subsample of adults based on self-reported race and ethnicity.

M. **Housing, Parks, Transportation** – Type of housing and tenure, neighborhood cohesion and safety, civic engagement, prescriptions, emergency preparedness.

S. **Suicide Ideation** – History of suicide attempts, thoughts of suicide.

N. **Final Demographics** – County of residence, address, use of cell phone, willingness to participate in follow-up study.

The child extended questionnaire comprises 8 sections:

A. **Demographics and Health Status** – Age, height, and weight, school attendance, general health, asthma, other conditions.

B. **Dental Health** – Most recent visit to a dentist.

C. **Diet, Physical Activity and Park Use –** Types of food eaten, getting to school, name of school, physical activity, use of parks, sedentary time.

D. **Access to and Use of Health Care Services** – Usual source of care, emergency room use, most recent physician visit, patient-centered care: information, communication with doctor, delays in care, flu shot.

E. **Public Program Participation** – Participation in TANF, Food Stamps, and WIC.

F. **Parental Involvement, Concerns, Mental Health –** Parental involvement with child, developmental assessment, educational TV programming, First 5 Parent Kit.

G. **Child Care** – Types of child care used, difficulty finding care, neighborhood cohesion and safety, civic involvement.

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 in the event an adult interview was not completed:

- Sampled adults' education, employment status, and age;
- Citizenship and immigration;
- Health insurance coverage for the sampled adult, 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 12 sections, presented in the order they appear in the interview:

A. **Demographics** – Age, gender, school attendance, name of school.

B. **Health Status and Health Conditions** – Self-reported health status, height and weight, missed school days.

C. **Exposure to and Prevention of Skin Cancer** – Sunburn and indoor tanning devices,

D. **Diet, Nutrition, and Food Environment** – Dietary intake, sources of meals.

E. **Physical Activity and Sedentary Time –** Exercise, physical education in school, commute to school, sedentary time, park or playground use and safety.

F. **Tobacco, Alcohol, and Drug Use –** Smoking habits, drinking, use of recreational drugs.

G. **Emotional Functioning** – Mental health over past 30 days.

H. **Sexual Behaviors** – Sexual activity, pregnancy, sexually transmitted infection testing.

I. **Health Care Utilization and Access** – Usual source of care, emergency room use, most recent doctor visit, recall of provider advice, patient-centered care: information, delays in care, emotional and psychological counseling.

M. **Dental Health** – Most recent dental visit.

J. **Adult Supervision** – Marital status of parents, adult presence after school, role models, civic engagement.

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 2009 questionnaires began with a thorough review of the 2007 instrument to identify items that would be administered again in 2009. This review was performed by Westat staff that compared printed versions of the two instruments side by side. In addition, electronic comparisons were made using text files of the 2007 and the 2009 "screen libraries" generated by the CATI system. The comparison process was completed on August 6, 2008.

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 2009. The results of the electronic comparison showed the need to fully translate or to update over 600 screens in 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 2007. Screens requiring translation were divided into two categories: "new" screen files which consisted of questions not previously administered in any iteration of CHIS, and "modified" (Mod) screens which consisted of screens identified as having been used in prior administrations of CHIS but requiring text or formatting changes.

Other items requiring translation included a Discrimination Module for administration to respondents self-identifying as having experienced racial, ethnic, religious, or gender bias in the past, as well as several consent scripts needed to allow the respondent to continue particular sections of the interview. The Discrimination Module consisted of 73 "new" screens.

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. In addition, the entire library of more than 1,100 CATI screens was reviewed and checked for consistency in wording across screens.

3.3.1 Letter Translations

The primary text used in the CHIS 2009 advance letter, adhoc letter, and initial (screener level) and extended interview refusal conversion letters was left intact from letters used for CHIS 2007. The only item requiring translation in all non-English languages (Spanish, Korean, Vietnamese, and Chinese) was the list of survey sponsors on the bottom of each page. These edits were completed by Westat translators, then reviewed and approved by UCLA. The multilanguage advance letter was printed in the same layout as in CHIS 2007—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 conversion 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 between March 2009 and October 2009. A formatted text file of the English CATI screens for these items was used for translation work. There were 613 new or updated items in CHIS 2009 that required Spanish translation.

Following a Westat internal evaluation of the initial translation, UCLA reviewed the translation and in that process identified a number of screens requiring further attention. On July 27, 2009, 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 modified screens were translated. The same list of 613 new or modified items identified as needing Spanish translation was used for the Asian language translations. 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").

In addition, the 2009 Asian-language translation process had Westat's in-house language experts write suggested revisions or modifications on a hard-copy version of each translated section. These documents were then forwarded to Westat's contracted translation firm. The suggested modifications were accepted or rejected at the translation firm's discretion. This additional round of review, first implemented in CHIS 2007, improved translation accuracy and expedited the adjudication and approval process with UCLA.

Chinese Questionnaire Translation. The new and revised items were translated into Chinese by Westat and contracted translators between May 2009 and October 2009. 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 July 29, 2009 to discuss and finalize 473 Chinese language screens available at that time. The remaining 140 screens were adjudicated through October 2009.

Korean Questionnaire Translation. The first set of text files of the new and modified English CATI screens were sent to contracted translators in March 2009, and the final translated section was returned to Westat by late-October 2009. 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 July 28, 2009 to discuss and finalize 473 Korean language screens available at that time. The remaining 140 screens were adjudicated on a roll-out basis through October 2009.

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

between May 2009 and October 2009. Westat's internal review of the initial translation was completed by mid-October. Westat conducted a conference call with UCLA staff and their language experts to discuss 473 Vietnamese language screens on July 31 and August 3, 2009. As with the other Asian language screens, the remaining 140 screens were adjudicated through October 2009.

3.4 Pretest and Pilot Test

Westat conducted a small paper-and-pencil pretest of portions of the CHIS 2009 adult, child, and adolescent interviews December 9-10, 2008. 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 7 through June 10, 2009. Twenty-one experienced interviewers were trained and conducted interviews; 14 had interviewed for CHIS 2007, and the remaining 7 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 was drawn from listed telephone numbers 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 pilot tests back to 2003. Generally, the rates are comparable to those from 2007, although both the screener and adult cooperation rates were down slightly. The 2009 pilot test included an experiment testing a longer version of the adult informed consent script against a script similar to that used in previous CHIS cycles. The difference in overall cooperation rate between 2007 and 2009 was not statistically significant, but the rate for the longer script was 64 percent, as compared with 72 percent for the standard script.

The adult extended interview averaged just under 36 minutes to administer, longer than the target of 30 minutes. The child interview averaged 15 minutes, and the adolescent interview about 16 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.

Table 3-1. Number of completed interviews and refusals and cooperation rates in the CHIS 2009 pilot test, and CHIS 2007, 2005, and 2003 pilot cooperation rates

Instrument	Completed Interviews	Refusals	Cooperation Rate 2009	2007	2005	2003
Screener	317	764	29.3%	31.4%	39.3%	43.0%
Adult interview	117	55	68.0%	71.2%	69.5%	78.9%
Child interview	72	8	90.0%	90.7%	95.1%	96.2%
Adolescent permission	42	17	71.2%	73.8%*	69.4%	NA
Adolescent interview	22	4	84.6%	81.8%	92.3%	77.8%

Source: UCLA Center for Health Policy Research, 2003, 2005, 2007 and 2009 California Health Interview Survey
*Rate reported in 2007 was incorrect.

Table 3-2a. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2009 pilot adult extended interview, by section (in minutes)

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	117	35.83	8.08	22.33	87.88	34.72
A	117	3.10	1.10	1.6	8.37	2.83
B	117	3.45	1.85	1.07	10.72	3.07
C	117	6.77	2.11	4.33	23.00	6.32
D	117	1.95	0.70	1.15	6.77	1.82
E	70	1.97	0.76	0.43	3.43	1.95
F	117	2.95	1.33	1.45	7.80	2.35
G (before screener)	117	0.79	0.49	0.32	2.75	0.55
G (screener)	104	1.34	0.68	0.07	3.07	1.43
G (after screener)	117	1.46	0.54	0.47	4.07	1.38
H (adult respondent)	117	2.02	0.80	1.03	7.20	1.82
H (spouse)	99	0.55	0.40	0.23	2.77	0.40
H (plan details)	117	1.42	0.76	0.43	4.40	1.18
I (child)	57	0.80	1.00	0.22	4.28	0.32
I (adolescent)	81	0.51	0.58	0.07	4.32	0.42
Interpersonal Violence	117	1.75	0.55	1.07	5.52	1.62
J	117	1.93	1.24	0.78	5.60	1.30
Emergency Preparedness	107	0.83	0.31	0.57	2.20	0.73
K	117	2.27	0.98	0.35	5.27	2.10
L	30	1.90	1.06	1.02	6.32	1.55
M	117	0.47	0.46	0.25	5.12	0.40
N	117	1.45	0.58	0.33	3.92	1.37

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

Table 3-2b. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2009 pilot child extended interview, by section (in minutes)

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	72	14.95	3.47	7.97	26.28	14.73
A	72	3.04	1.12	1.43	7.63	2.72
B	72	0.32	0.14	0.15	1.10	0.30
C	72	3.72	1.32	0.53	9.52	3.54
D	72	1.73	0.46	0.95	3.20	1.72
E	53	0.27	0.14	0.15	0.75	0.22
F	72	2.91	1.21	1.50	7.75	2.45
G	72	1.56	0.87	0.40	4.12	1.47
H1	72	1.47	0.80	0.45	3.48	1.30

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

Table 3-2c. Mean, standard deviation, minimum, maximum, and median lengths of CHIS 2009 pilot adolescent extended interview, by section (in minutes)

Section	N	Mean	Std Dev	Minimum	Maximum	Median
Total	22	16.18	3.07	12.25	24.18	15.31
A	22	2.29	0.38	1.70	3.05	2.21
B	22	1.22	0.81	0.43	2.78	0.78
C	22	0.42	0.14	0.28	0.78	0.38
D	22	1.77	0.37	1.40	2.90	1.68
E	22	2.75	0.68	1.93	4.72	2.66
F	22	0.70	0.53	0.32	1.83	0.41
G	22	1.23	0.42	0.95	2.80	1.07
H1	22	0.38	0.44	0.22	2.20	0.27
I	22	2.04	0.48	1.38	3.00	2.01
M	22	0.31	0.15	0.13	0.65	0.25
J	22	1.50	0.57	0.87	2.83	1.55
K	22	1.57	0.56	0.93	3.08	1.42

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

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.

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. DATA COLLECTOR RECRUITING AND TRAINING

4.1 Organization of the Telephone Research Centers

Westat conducted CHIS 2009 at four of its Telephone Research Centers (TRCs), in Rockville, 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 data collectors 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 Sarasota center and by at home data collectors.

4.2 Pretest and Pilot Test Recruiting and Training

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

2009 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 data collectors on contacting and callback procedures.

The pilot test was also conducted out of the Citrus Heights TRC. Westat utilized 21 experienced data collectors, fourteen of whom had interviewed for CHIS 2007. 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 2009 began in late-September of 2009, ran for 13 months ending on October 12 2010. Westat's data collection plan was to recruit and train a large number of data collectors 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 early December to incorporate bilingual Asian data collectors and supplement the English interviewing staff. Bilingual Spanish-speaking data collectors were to be trained along with English-only data collectors 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 data collectors were to be added in the fall.

4.3.1 Recruiting Telephone Data collectors

The CHIS 2009 interviewing force was a combination of Westat-experienced and newly-hired data collectors. In all locations some experienced data collectors were available at the beginning of the field period. After all training sessions had been held, 445 Westat data collectors of the 475 invited to training successfully completed all sessions. Of those who completed training, 322 had previous interviewing experience at Westat and 123 were new hires. The subcontracting company trained 80 additional data collectors.

Westat recruits new data collectors by 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 data collectors 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 data collectors were then directed to a project-specific training that focused on the CHIS 2009 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 presentation of some background information, review of the advance letter and an instruction to go the web sites www.californiahealthsurvey.org and http://chis.ucla.edu to review material from previous administration of CHIS. These sites offered answers to commonly asked questions and provided numerous examples of how the data is used. The self-tutorial materials involved the completion of four screener interviews 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. Additionally, a series of contact procedures were simulated for how to handle calls which did not result in a completed interview. Other

materials to be reviewed in this self-paced training include the questions and answers to common respondent concerns, , refusal avoidance lines, function key use, key concepts/definitions, a sensitivity guide, an auditory pronunciation guide, instructions on how to create a conference call for distressed respondents, 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 contact procedures not covered in the self-tutorial. The was followed by the presentation of an adult and an adolescent interview with the trainees serving as data collectors and the instructor acting as the respondent. Training points were incorporated into the interview. Next was a discussion of how to gain cooperation with refusal avoidance suggestions presented and shared. A sensitivity session reviewed how to deal with questions of a personal nature.

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 20, 2009 Additional trainings were conducted as needed throughout the data collection period.

After all data collectors 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 conference calls. Monitoring of data collectors continued throughout data collection as a method of quality control.

Data collectors 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 a physical or mental condition. Proxy data collectors 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 data collector during each session.

- Data collector Help Text. In order to provide easy access to additional information about interview questions, Westat included in the CATI program online help text.. Additional information related to a question was 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 interview interactive scripts, contact procedures and refusal avoidance suggestions. .

- Website Materials. These self-tutorial, web based materials were provided to data collectors 4-7 days prior to their scheduled WebEx training. It included the simulated screener interviews, contact procedures,the reference materials, the CHIS 2009 advance letter, background information on the study, questions and answers to common respondent concerns, website information from http://www.californiahealthsurvey.org, pronunciation guide, sensitivity training, refusal avoidance lines taken from support materials, instructions on how to create a conference call for distressed respondents 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.

- Introductory video narrated by E. Richard Brown, CHIS Principal Investigator.

- Key Concepts Sheet

- The CHIS 2009 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 2007
- Additional Website information
- A gaining cooperation presentation
- Refusal Avoidance statements from experienced data collectors
- Problem Sheet instructions
- Tips for successful interviewing

Exhibit 4-1. Agenda for English-Language Telephone Data collector Training, CHIS 2009

Session	Length	Topic	Trainee Materials
Self-Tutorial Study	3 hours	Project Specific self-study	PC and posted reference materials.
WebEx Session	3 hours		
1	5 minutes	Introduction	
2	10 minutes	Questions about self-tutorial	Personal Computer, Reference materials
3	20 minutes	Contact Procedures	Personal computer, Q & A's, Refusal Avoidance Sheet
4	75 minutes	Adult/Adolesent inerviews	Personal computer, Q & A's, Refusal Avoidance Sheet
5	20 minutes	Gaining Cooperation	Personal computer, Q & A's, Refusal Avoidance Sheet
6	20 minutes	Sensitivity Session	PC
7	15 minutes	Entering "Comments" exercise	PC
8	5 minutes	Questions & Answers	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 2009 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 data collectors.

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 Data collector Training

Data collectors were trained in five stages. The first two stages are standard for all CATI data collectors, 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 data collector 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, data collectors 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 data collectors 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 data collector was eligible for the specific project training.

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

After data collectors 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, data collectors were emailed instructions on accessing the project specific materials which included self-guided practice interviews of the CHIS 2009 screener, and contact procedures. The training utilized a program simulating the computer assisted telephone interviewing conducted in CHIS 2009 production. Respondent answers to interview questions appeared on each screen. Data collectors 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 data collectors 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 data collectors with the questionnaire. They were conducted as mock interviews in which the trainer acted as the respondent and the data collectors 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 data collector 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 data collector using the computer while the other acted as the respondent, both using a prepared script that was produced using the CATS system. Data collectors reversed roles after the end of each role play. Each data collector 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 data collectors 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.

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 Data collectors Trained

Table 4-1 shows the timing of project-specific data collector training sessions for CHIS 2009. The first WebEx trainings beginning June 21, 2009, 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 onset of CHIS production, Westat scheduled abbreviated small group WebEx 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 data collectors 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 data collectors 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 data collectors 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 data collectors. In these meetings, the emphasis was on the review of good interviewing techniques by direct observation. In addition, supervisors selected experienced data

collectors with average or above average cooperation rates in either the screener, the extended interview, or both for refusal conversion activities.

Table 4-1. CHIS 2009 data collector training dates, and number of data collectors trained

Training Dates		Data collectors Invited to Training	Data collectors Completing Training
2009	All WebEx		
5/20/09 - Pretest		24	24
6/21/09		66	65
6/22/09		36	35
6/24/09		31	30
6/25/09		29	27
6/27/09		58	57
6/29/09		22	21
6/30/09		25	20
7/02/09		36	31
7/27/09		7	7
10/5/09		13	13
10/8/09		23	23
10/10/09		8	8
10/10/09		48	42
10/12/09		62	57
10/13/09		8	8
12/07/09		3	3
12/21/09		11	11
12/29/09		4	4
1/03/10		2	2
1/22/10		10	10
2/1/10		4	4
3/19/10		6	6
3/20		3	3
4/1/10		7	6
4/14/10		13	12
Total Data collectors completing		475	445

Refusal conversion focuses on attempts to persuade respondents who have previously refused to participate or to complete an interview. Data collectors 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 2009, 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 Data collector Performance

Data collector 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 data collectors 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. Data collectors 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. Data collectors 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 Project Coordinator published a weekly priority list for team leaders and mentors. It included lists of data collectors 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 data collector's ability to answer respondent questions/concerns quickly and accurately, and read all screens (in particular the screener introduction) at the appropriate pace and tempo for the respondent; read screens verbatim; and probe neutrally and appropriately. For refusal data collectors, the emphasis was on the ability to engage respondents and use appropriate techniques.

- Supervisors provided feedback to data collectors on an individual basis after monitoring sheets had been completed. This included feedback on positive aspects of the interview and suggestions for improving performance.

- Project Coordinators sent reports regarding data collector performance to the operations manager. Reports identified strengths and weaknesses as reported in monitoring sheets. They also provided input on data collectors recommended for special tasks.

- Project coordinator reports were used in combination with cooperation rates to identify data collectors for refusal conversion and other specialized tasks.

4.4 Training for Spanish-language Interviewing

All Spanish bilingual data collectors were trained according to the protocol described in Section 4.3.5, in sessions that included both English-only and bilingual data collectors. 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 data collectors initially worked in English. Once the Spanish-language instrument was ready, bilingual data collectors 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 data collectors began interviewing at the TRCs in Spanish, they were monitored closely by Spanish-speaking supervisors. The first priority in CATI for Spanish bilingual data collectors were cases from the work class identified as speaking Spanish. Bilingual Spanish data collectors 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 data collectors 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 data collector. If the household was not Spanish speaking and the Spanish data collector was unable to ascertain the language being spoken, these cases were next called by data collectors 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 data collectors was conducted in multiple stages. Data collectors 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, data collectors 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. Data collector instructions and help text remained in English. Asian data collectors 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 data collectors 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 data collectors hired to conduct interviews in Vietnamese, Mandarin, Cantonese and Korean. Because the Asian-language data collectors 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 data collector 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 data collector'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, data collectors had the capability to change the displayed text on a screen from English to an Asian language or vice versa. Additionally, data collectors 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 data collector speaking another language. Practice on this capability was included in the language specific trainings.

Live Interviewing. After training and practice, the data collectors 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 data collectors 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 data collectors. Specific monitoring forms and guidelines describing what to look and listen for were utilized. After a data collector 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 data collector 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 data collectors working the landline sample, who had the capability of moving cases into a specific language group if necessary. This approach allowed the Asian data collectors 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 data collectors 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 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 data collectors 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 data collector 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 data collectors 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 data collectors trained for proxy interviewing.

4.8 Training for Cell Sample Interviewing

All data collectors who called the RDD landline sample were also designated to call the cell phone sample. The screener differed for these interviews but the adult, child and adolescent interviews remained the same.. 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 inter-mixed with the main study sample. Data collectors were kept knowledgeable on the type of cases being called by the differences in the screener text.

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 and surname samples. The chapter also describes similar activities for preparing the area sample.

Data collection for the statewide landline sample began September 25, 2009, and ended May 26, 2010. The list samples were fielded December 27, 2009, through May 26, 2010, and the cell sample January 14, 2010, through May 12, 2010.

5.1 Sample Preparation

5.1.1 Landline Sample

The landline sample for CHIS 2009 was selected and released to CATI in much the same way as in previous CHIS cycles. *CHIS 2009 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 845,341 telephone numbers was selected for the landline sample. Table 5-1 shows the number and proportion of sampled telephone numbers excluded because they were identified as nonworking or business numbers by landline stratum, and for the surname supplemental sample. See *CHIS 2009 Methodology Series: Report 1 – Sample Design* for more details on these procedures. Overall, 8.4 percent of sampled numbers were purged as businesses, as compared with 8.7 percent in 2007. The proportion of landline numbers purged as business ranged from a low of 5.3 percent in Yuba County to a high of 9.5 percent in Napa County. Another 44 percent of landline numbers were identified as nonworking by automated dialing and detection of a tritone sound, an increase of about 5 points over 2007. The low was 35.3 percent in Butte County and the high 58.8 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 58

percent of numbers yielded addresses in the matches performed with multiple vendors, down from 62 percent in 2005. Sutter County had the highest address rate at 67.7 percent, and San Francisco the lowest at 48.7 percent.

An advance letter signed by the CHIS Principal Investigator was sent for all sampled landline and surname telephone numbers for which an address was available from reverse directory services. The advance letter (shown in Appendix B in English only) 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 List Samples

Supplemental samples were fielded for CHIS 2009 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 four different lists, according to whether the surname was likely Korean only, Vietnamese only, Korean or some other nationality, or Vietnamese or some other nationality. The quotas for ethnic Korean and Vietnamese adult interviews were doubled from those used in previous cycles to support assessment of the discrimination module for these groups. One sample from the lists, sufficient to reach the usual quotas of 500 of each ethnicity when combined with the landline and cell samples, was fielded in the usual fashion in mid-December 2009. A second sample, intended to yield another 500 adult interviews of each ethnicity, was fielded in mid-January 2011. This second sample was "pre-screened" in a different CATI system using predictive dialing, as had been done for some of the list sample in CHIS 2007. The surname sample had 17 percent of numbers purged as nonworking or business; more than 81 percent of the remainder had 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	212,398	19,029	9.0	95,328	44.9	98,041	55,747	42,294	56.9
2	San Diego	111,197	9,247	8.3	50,574	45.5	51,376	28,139	23,237	54.8
3	Orange	53,346	5,015	9.4	25,266	47.4	23,065	12,830	10,235	55.6
4	Santa Clara	27,382	2,080	7.6	13,074	47.7	12,228	6,806	5,422	55.7
5	San Bernardino	24,580	2,102	8.6	9,882	40.2	12,596	7,452	5,144	59.2
6	Riverside	26,282	2,213	8.4	10,018	38.1	14,051	8,131	5,920	57.9
7	Alameda	23,928	1,685	7.0	11,923	49.8	10,320	5,776	4,544	56.0
8	Sacramento	19,725	1,625	8.2	8,596	43.6	9,504	5,103	4,401	53.7
9	Contra Costa	16,509	1,089	6.6	8,119	49.2	7,301	4,233	3,068	58.0
10	Fresno	11,360	873	7.7	5,158	45.4	5,329	3,299	2,030	61.9
11	San Francisco	27,211	2,086	7.7	14,754	54.2	10,371	5,055	5,316	48.7
12	Ventura	15,899	1,426	9.0	6,494	40.8	7,979	4,597	3,382	57.6
13	San Mateo	13,202	935	7.1	6,751	51.1	5,516	3,215	2,301	58.3
14	Kern	9,071	669	7.4	3,919	43.2	4,483	2,848	1,635	63.5
15	San Joaquin	7,961	597	7.5	3,117	39.2	4,247	2,601	1,646	61.2
16	Sonoma	7,685	646	8.4	3,199	41.6	3,841	2,369	1,472	61.7
17	Stanislaus	7,154	621	8.7	2,782	38.9	3,751	2,375	1,376	63.3
18	Santa Barbara	11,368	1,010	8.9	5,243	46.1	5,115	2,880	2,235	56.3
19	Solano	9,178	660	7.2	3,705	40.4	4,813	2,929	1,884	60.9
20	Tulare	8,725	619	7.1	4,372	50.1	3,734	2,378	1,356	63.7
21	Santa Cruz	7,458	580	7.8	3,289	44.1	3,589	2,059	1,530	57.4
22	Marin	37,505	2,920	7.8	18,018	48.0	16,567	9,654	6,913	58.3
23	San Luis Obispo	6,219	557	9.0	2,253	36.2	3,409	1,935	1,474	56.8
24	Placer	7,244	629	8.7	3,063	42.3	3,552	2,019	1,533	56.8
25	Merced	6,680	485	7.3	2,557	38.3	3,638	2,161	1,477	59.4
26	Butte	5,525	509	9.2	1,953	35.3	3,063	2,015	1,048	65.8
27	Shasta	5,592	504	9.0	2,146	38.4	2,942	1,832	1,110	62.3
28	Yolo	7,698	630	8.2	3,141	40.8	3,927	2,257	1,670	57.5
29	El Dorado	7,122	489	6.9	3,007	42.2	3,626	2,341	1,285	64.6
30	Imperial	9,506	853	9.0	3,522	37.1	5,131	3,436	1,695	67.0

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	7,944	756	9.5	3,309	41.7	3,879	2,274	1,605	58.6
32	Kings	7,298	514	7.0	2,755	37.8	4,029	2,557	1,472	63.5
33	Madera	8,004	579	7.2	3,530	44.1	3,895	2,239	1,656	57.5
34	Monterey	8,244	630	7.6	3,835	46.5	3,779	2,142	1,637	56.7
35	Humboldt	8,777	661	7.5	3,974	45.3	4,142	2,633	1509	63.6
36	Nevada	6,654	588	8.8	2,369	35.6	3,697	2,318	1,379	62.7
37	Mendocino	7,461	680	9.1	3,155	42.3	3,627	2,419	1,208	66.7
38	Sutter	6,443	536	8.3	2,857	44.3	3,050	2,066	984	67.7
39	Yuba	7,243	381	5.3	3,424	47.3	3,438	2,032	1,406	59.1
40	Lake	7,843	488	6.2	3,761	48.0	3,594	2,375	1219	66.1
41	San Benito	9,539	680	7.1	4,406	46.2	4,453	2,773	1,680	62.3
42	Tehama, Glen, Colusa	3,940	304	7.7	1,511	38.4	2,125	1,375	750	64.7
43	North Balance	5,792	338	5.8	3,225	55.7	2,229	1,236	993	55.5
44	Sierra Balance	5,012	364	7.3	2,287	45.6	2,361	1,378	983	58.4
Total	**Landline**	844,906	69,882	8.3	373,007	44.1	398,661	232,309	166,352	58.3
	Surname Sample 1	30,968	133	0.4	5,208	16.8	25,627	20,854	4,773	81.4
	Surname Sample 2	95,747	327	0.3	16,033	16.7	79,387	64,932	14,455	81.8

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey.

5.1.3 Cell Sample

Because of the increasing proportion of households without landline telephone service, CHIS 2009 included a sample of telephone numbers assigned to cellular service as was done in 2007. Unlike in 2007, adults were sampled in all eligible households identified from this sample, and children and adolescents were sampled as well when present in the household. 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 cell sample included 58,900 numbers from cellular banks and 3,874 identified from the landline. The latter number is more than triple what was identified from the landline sample in 2007. No addresses were available for this sample, and there was no purging for non-working and business numbers.

5.2 Sample Management

All of the landline cases were classified by whether they were designated for second refusal conversion[5] at the screener stage or not and whether an address was obtained from directory services. Cases designated for second 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 generally 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 2009 work classes were defined as follows:

[5] This was a change from previous CHIS cycles, in which the stratification was on whether any refusal conversion was to be conducted. During CHIS 2007, it appeared that first conversion work was at least as productive as new work, but second conversion work was less productive than either, hence the change.

- **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.

During 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 strata that appeared to be falling short of the targets, additional sample was released for calling. 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 2009 Methodology Series: Report 1 – Sample Design* for a discussion of meeting the target numbers of completed adult and child interviews by stratum.

Yield from the cell and list 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.

5.3 Staged Interviewing

Westat conducted an experiment in interviewer assignments during the early months of the field period. This section will describe the experiment and its results, and how interviewer assignments were changed for the last part of the field period based on those results.

All CHIS cycles, along with most other RDD surveys involving within-household sample selection, have assigned cases to interviewers as the cases are scheduled to be called, regardless of which part of the interview is to be done. For CHIS, this is done within the parameters of work classes as described in the preceding section, so there is some specialization among interviewers, by language and for refusal conversion, for example. However, there is seldom if ever specialization by portion of the interview. As described in Chapter 2, CHIS includes a brief screening interview to determine household eligibility and select a random adult. This part of the interviewer's job also involves gaining initial cooperation, which requires a different set of skills from that needed to conduct the subsequent extended interviews. Cooperation rates vary considerably among interviewers, particularly with a large staff such as that required for CHIS. In theory, if the interviewers most skilled in gaining initial cooperation could do the screening interview and then turn it over to others for the extended interview, a survey might wind up with a higher response rate. In practice, the transfer is not so simple. Conventional wisdom is that once a respondent has started, the interviewer should continue as long as possible on that call. The experiment in CHIS 2009 was intended to test whether (1) screener cooperation rates could be increased through interviewer specialization and (2) whether this increase could offset any drop in cooperation for the extended interview caused by having a different interviewer continue with the extended interview. Given the CATI and telephony systems used for CHIS 2009, this transfer would involve a callback, which could either be a few minutes after the initial call or, if the respondent preferred, at a later time or date. The

pause between the screener and extended interview could also allow an intervention, such as sending further information about the survey or an incentive to the sampled adult.

The experiment was set up to compare three different "two-stage" interviewing approaches early in the CHIS 2009 field period with the traditional one-stage interviewing approach. A total of 21,732 landline sample numbers were selected for the experiment. Half were assigned to the "control" group, and one-sixth to each of three two-stage treatments:

1. All extended interviews were done with callbacks by different interviewers; the "child first" procedure was not allowed;
2. Same treatment as #1, except that a $10 incentive was mailed to the sampled adult after the screening interview;
3. Same treatment as #1, except that the child first procedure was allowed.

To staff the experiment, 89 experienced interviewers were selected from the CHIS work force. They were sorted by their historic screener cooperation rates; within the sort, interviewers were assigned alternately to the control group or the experimental group. Within the control group, all interviewers worked cases as usual – the only difference from the regular sample was that the child first procedure was not allowed. Within the experimental group, interviewers with the highest screener cooperation rates were assigned to do screeners only, and the balance to do extended interviewers only. The experiment ran concurrently with the regular CHIS field period, and when there were no experiment cases available to work, interviewers also worked the regular sample in the usual way.

The experiment was conducted in English only. Any case that required another language was transferred to the appropriate language work class and removed from the experiment.

Treatment 1 and the control group were fielded first, and allowed to run their course. The results of this part of the experiment are shown in Table 5-2. We examined both the completion rates (number of completed interviews divided by the sample attempted, minus those determined to be out of scope or ineligible and those with no contact at all) and the number of calls required per completed interview. Calls for all cases in the completion rate denominator were included in this measure.

Table 5-2. Completion rates and calls per complete for staging experiment, control group and Treatment 1

	Control Group		Treatment 1	
	N	Rate	N	Rate
Completion Rate				
Screener	4,584[a]	45.0%	1,509[a]	51.4%
Adult interview	1,189[b]	63.3%	724[b]	61.0%
Combined[c]		28.5%		31.4%
Adult Interview				
Screener R is Adult R	1,171[b]	76.5%	494[b]	65.8%
Screener R not Adult R	708[b]	41.4%	230[b]	50.8%
Total Calls per Complete				
Screener		33.5		28.8
Adult interview		9.8		12.5
Combined		67.9		62.9

[a] Excludes cases pending at end of experiment period, final cases with no contact, nonresidential and nonworking numbers

[b] Excludes cases pending at end of experiment period

[c] Product of screener and adult rates

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

As expected, the screener completion rate for the two-stage group (Treatment 1) was significantly higher than that for the one-stage control group. The rate for the adult interview was only slightly lower for the two-stage treatment, so the completion rate was about 3 percentage points, or 10 percent, higher than for the control group. This difference was not statistically significant, however. Breaking down the adult completion rate by whether the screener respondent was the sampled adult or not, the rate was 10 percentage points higher for the one-stage control group when the screener respondent was sampled. This result is consistent with the conventional wisdom that a two-stage approach would lose some otherwise willing respondents because of the need for a callback or transfer. However, the rate for cases where someone other than the screener respondent was sampled was almost 10 points higher for the two-stage treatment. This result was unexpected, and was the main reason for the advantage held by the two-stage approach in the combined completion rate.

Comparing the number of calls per completed interview, the two-stage approach required an average of almost 5 fewer calls per completed screener than the one-stage approach. This difference is largely attributable to the higher screener completion rate among the two-stage cases. At the adult level, the one-stage approach required almost 3 fewer calls per completed interview than the two-stage approach. This difference is attributable to both the difference in completion rate and the fact that at least

one call after the screener was needed for every two-stage adult interview, while for many of the one-stage cases the adult interview was completed on the same call as the screener. Looking at total calls per completed adult (counting both screener and adult calls), the two-stage approach required 5 fewer calls on average than the one-stage approach. Thus, not only did the two-stage approach yield a greater proportion of adult interviews, it did so for less effort per interview.

Interviewers selected for the experiment were generally positive about their experience. Those doing screeners only felt "more professional," in part because when they said that the screener would only take 2-3 minutes, they felt they were being more honest than with the one-stage approach. There were also anecdotal reports of respondents whom the interviewers felt appreciated the chance to "think it over" before agreeing to do the adult interview. There were also anecdotal reports of respondents who said that they just wanted to go ahead with the interview, didn't want a callback. Interviewers assigned to do only extended interviews were relieved not to have to do the screener.

The second two experimental treatments (the $5 incentive for the sampled adult, and allowing the child first procedure) were fielded later than the control group and the first experimental treatment. Because of the success of the initial effort, these experiments were halted when it appeared (1) that the $5 incentive treatment was resulting in lower cooperation rates for the adult interview and (2) the child first procedure was not having an adverse impact on cooperation.

The two-stage procedure was introduced for all landline sample cases, both newly fielded and pending, beginning in mid-January 2010, except for cases requiring an Asian language interview. While this was not intended to be an experiment, it is possible to compare those cases newly fielded after the change (Time 2) with those fielded under the one-stage approach (Time 1). Since the sample fielded in 2010 was not in every stratum and the allocation across strata was different from the early release, the comparison excludes cases in some strata, and the Time 2 analyses were weighted to reflect the Time 1 allocation across the remaining strata. The results are shown in Table 5-3. Because not all of the cases were fully worked, the initial cooperation rate (completed interviews without a refusal divided by that number plus initial refusals) is used as a comparison metric rather than the completion rate. The treatment (one-stage vs. two-stage) is confounded with the time difference, so there are two comparison groups among the one-stage treatment – early field (September and October 2009) and mid-field (November and December 2009). Even with this break, the results can only be suggestive. As with the earlier analysis, nonresidential numbers and those with no contact are excluded.

Table 5-3. Initial cooperation rates by whether one-stage or two-stage interviewing and when fielded

	Early (1-stage)		Mid (1-stage)		Late (2-stage)	
	N	Rate	N	Rate	N	Rate
Initial Cooperation Rate						
Screener	45,193	33.9%	28,426	31.7%	40,226	35.1%
Adult interview	19,161	56.6%	11,337	55.3%	15,762	52.0%
Combined [a]		19.2%		17.6%		18.3%
Adult Interview						
Screener R is Adult R	11,954	67.9%	7,074	65.5%	9,911	59.8%
Screener R not Adult R	7,207	37.8%	4,263	38.8%	5,581	38.8%

[a] Product of screener and adult rates

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

For the screener, there was a 2 point drop in initial cooperation between the early and mid one-stage samples, and the two-stage sample had a 3.4-point higher rate than the mid one-stage sample. So, there was the expected benefit from the two-stage approach, although it was smaller proportionally than was seen in completion rate for the experiment. The adult initial cooperation rate also dropped between the early and mid one-stage samples, and was lower still for the two-stage sample. The combined initial cooperation rate for the two-stage sample was between those for the early and mid on-stage samples. Since this was not an experiment, it is not clear what the relative effects of staging and time are on the rates. Looking just at the adult interview, the initial cooperation rate where the screener respondent was also the sampled adult is substantially lower for the two-stage group than for either of the one-stage groups, which is consistent with the experiment results. However, there is no compensating gain for cases where the screener respondent was not sampled as there was in the experiment.

While the experiment in two-stage interviewing yielded promising results, they were dependent in part on an outcome for which there was no ready explanation, i.e., that the adult completion rate increased by 10 points for cases where the sampled adult was not the screener respondent. Implementing two-stage interviewing nearly study-wide did not show the same relative level of success as the experiment. However, for a variety of reasons these results are not conclusive. The experiment also suggested that two-stage interviewing could reduce the level of effort required to complete a given number of adult interviews. It is not possible to extract the same kind of information from the larger implementation because of how the sample was fielded and what else was happening during the implementation. Further experimentation would be needed to assess both the effectiveness and cost of two-stage interviewing in CHIS.

5.4 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 September 2009 and the end in September 2010, 6,241 calls were made to the toll-free number, more than twice as many as in 2007. 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. Some of these exchanges involved cell sample respondents who claimed not to have received promised incentive payments. Again, Westat followed up as needed to resolve these issues.

6. DATA COLLECTION RESULTS

This chapter describes the results of the CHIS 2009 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. 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 matching, the code "NM" was assigned. Groups of NA and NM cases were periodically re-fielded for an additional set of seven calls each. 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. Most RBs were re-fielded for a third attempt. If a third refusal was encountered, the case was coded "R3."

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

Landline and Cell Samples. As shown in Table 6-1, more than 63 percent of the sampled landline telephone numbers were determined to be out of scope, either because they were nonresidential or nonworking. About 83 percent of the out-of-scope cases were identified before the sample was fielded (NB and NT results, see also Table 5-1) and the remainder through interviewer calls (NR, NW, and OD results). In contrast, about a third of the cell 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 11 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 sample were quite limited; only 219 cases were determined to be ineligible during the screener. For the cell sample, sampled numbers were ineligible if the number belonged to someone under 18 years of age. The eligibility rate for the cell sample (completed screeners divided by that number plus ineligibles) was 70.4 percent.

The completion rate, or sample yield, is simply the ratio of completed screeners for eligible households to the total sample, excluding numbers never called. Since the denominator includes out-of-scope and ineligible cases, the completion rate is considerably lower than the response rate (see *CHIS 2009 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 9.6 percent for the landline sample, compared with 10.5 percent in 2007. The completion rate for the cell sample was 8.3 percent.

The cooperation rate, shown at the bottom of Table 6-1, was 7 points higher for the landline sample than in 2007, and almost 4 points lower for the cell sample. One explanation for the drop in the cell sample rate may be that in 2007 households with landlines were considered ineligible, and thus did not get to the questions selecting an adult respondent. The cooperation rate was thus about 18 points lower for the cell sample than for the landline sample in 2009. Several differences in survey procedures help explain this difference. There was no advance letter for the cell sample, and hence no prepaid incentive, although there was a promised incentive. There was also no second refusal conversion attempted for the cell sample screener, while there was for much of the landline screener sample. The noncontact rate was also substantially higher for the cell 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 groups, with somewhat different procedures for each group. Tables 6-2a and 6-2b describe the performance of the surname samples at the screener level. Table 6-2a shows the results of the prescreening for the second set of surname samples. The overall eligibility rate (45.0 percent) was lower than that for a similar operation in 2007 (58.3 percent), with a larger decline among the Korean lists, although the specific lists used and the allocation of the sample across them was somewhat different between 2007 and 2009. The cooperation rate (50.8 percent) was comparable to the 2007 rate for this operation, which used only English-speaking interviewers. All those identified as eligible or language problems were moved to the regular screening for follow-up, but because the yield from the first set of samples was greater than expected, not all were actually called in the follow-up.

Table 6-2b shows the results of the screening interview for both sets of samples. The combined eligibility rate for the first set of samples (43.1 percent) was comparable to that of the prescreening just described, and, again, lower than in 2007, with the Korean samples much lower than in 2007. On the other hand, the cooperation rate for both sets of samples (42.8 percent) was considerably higher than that in 2007 (25.1 percent).

Table 6-1. Detailed results of CHIS 2009 data collection, screening interview, landline and cell samples

	LANDLINE			CELL		
		Percentage			Percentage	
	Number	Within category	of Total[a]	Number	Within category	of Total[a]
CS – COMPLETED SCREENER (C)	81,375		9.8	5,196		8.3
NEVER CALLED	11,372			0		
Ineligible(I)						
IF – INELIGIBLE SCREENER; >9 UNRELATED ADULTS	11	5.0		3	0.1	
IO – INELIGIBLE OUT OF STATE	136	62.1		642	29.3	
IP -- INELIGIBLE CELLULAR	0			1,543	70.5	
IS -- INELIGIBLE SCREENER; NO ELIGIBLE ADULTS	14	6.4		0	0.0	
IZ -- INELIGIBLE SCREENER; NO ADULTS IN HH	58	26.5		0	0.0	
Total Ineligible	219		0.0	2,188		3.5
Out of Scope						
NB – NON-RESIDENTIAL, BUSINESS PURGE	69,882	13.0		0	0.0	
NR – NON-RESIDENTIAL PHONE NUMBER	22,197	4.1		792	3.7	
NT – NON-WORKING, TRITONE MATCH	379,621	70.6		0	0.0	
NW – NON-WORKING PHONE NUMBER	65,923	12.3		20,342	96.2	
OD – DUPLICATE TELEPHONE NUMBER	17	0.0		7	0.0	
Total Out of Scope	538,075		64.5	21,141		33.7
Noncontact						
NA – NO CONTACT MADE AFTER TIME SLICES FILLED	73,253	64.7		918	6.1	
NM – NO CONTACT – REACHED ANSWERING MACHINE	40,000	35.3		14,157	93.9	
Total Noncontact	113,253		13.6	15,075		24.0
Refusal (R)						
R3 – FINAL REFUSAL – RECEIVED 3 OR MORE 2S	17,609	20.9		12	0.1	
RB – FINAL REFUSAL	42,843	50.9		6,712	41.0	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	18,189	21.6		9,628	58.9	
RX – RE-RELEASED RB REACHED MAX CALL LIMIT	5,569	6.6		0	0.0	
Total Refusal	84,210		10.1	16,352		26.0
Other Nonresponse						
LH – HEARING AND SPEECH PROBLEM	313	1.9		5	0.2	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	2581	15.3		334	11.8	
LP – FINAL LANGUAGE PROBLEM	1213	7.2		17	0.6	
MC – MAXIMUM CALLS	9524	56.6		1732	61.4	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	2149	12.8		729	25.8	
MR -- MAXIMUM CALLS, REFUSAL IN HH	559	3.3		0	0.0	
NO – OTHER NON-RESPONSE	498	3.0		5	0.2	
Total Other Nonresponse	16,837		2.0	2,822		4.5
TOTAL	844,906		100.0	62,774		100.0
ELIGIBILITY RATE (C / (C+I))			99.7			70.4
COOPERATION RATE ((C+I) / (C+I+R))			49.2			31.1

[a]Numbers never called are excluded from the denominator

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

Table 6-2a. Detailed results of CHIS 2009 data collection, surname sample prescreening

	KOREAN SAMPLE #1*		VIETNAMESE SAMPLE #1*		TOTAL SAMPLE #1*		KOREAN SAMPLE #1		VIETNAMESE SAMPLE #1		TOTAL SAMPLE #1	
	Number	Percentage	Number	Number	Percentage	Number	Number	Percentage	Number	Percentage	Number	Percentage
COMPLETED SCREENER												
ELIGIBLE							640	3.4	3,245	8.7	3,885	6.9
INELIGIBLE							2,169	11.5	2,571	6.9	4,740	8.4
OUT OF SCOPE							6,904	36.6	12,960	34.6	19,864	35.2
NONCONTACT							3,728	19.8	7,744	20.6	11,472	20.4
REFUSAL							2,576	13.7	5,768	15.4	8,344	14.8
LANGUAGE PROBLEM							2,233	11.8	3,994	10.6	6,227	11.0
OTHER NONRESPONSE							606	3.2	1,222	3.3	1,828	3.2
TOTAL (excluding numbers not called)							18,856	100.0	37,504	100.0	56,360	100.0
ELIGIBILTY RATE (C / (C+I))								22.8		55.8		45.0
COOPERATION RATE ((C+I) / (C+I+R))								52.2		50.2		50.8

*Samples not screened

Table 6-2b. Detailed results of CHIS 2009 data collection, screening interview, surname samples

	KOREAN SAMPLE #1		VIETNAMESE SAMPLE #1		TOTAL SAMPLE #1		KOREAN SAMPLE #2		VIETNAMESE SAMPLE #2		TOTAL SAMPLE #2	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
NOT CALLED							2,195		3,944		6,139	
COMPLETED SCREENER												
ELIGIBLE	961	7.1	1,883	10.8	2,844	9.2	323	47.6	893	27.1	1,216	30.6
INELIGIBLE	2,261	16.7	1,490	8.5	3,751	12.1	44	6.5	98	3.0	142	3.6
OUT OF SCOPE	3,549	26.2	4,319	24.8	7,868	25.4	39	5.8	114	3.5	153	3.9
NONCONTACT	1,849	13.7	2,324	13.3	4,173	13.5	22	3.2	88	2.7	362	9.1
REFUSAL	3,615	26.7	5,182	29.7	8,797	28.4	168	24.8	860	26.1	1,028	25.9
OTHER NONRESPONSE	1,305	9.6	2,230	12.8	3,535	11.4	82	12.1	1,242	37.7	1,324	33.3
TOTAL (excluding numbers not called)	13,540	100.00	17,428	100.00	30,968	100.0	2,873		7,239		10,112	
ELIGIBILTY RATE (C / (C+I))		29.8		55.8		43.1		88.0		90.1		89.5
COOPERATION RATE ((C+I) / (C+I+R))		47.1		39.4		42.8		68.6		53.5		56.9

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

Landline Sample over Time. Table 6-3a presents a comparison of CHIS 2009 RDD (landline) screener data collection results with those of previous cycles. The steady decline of the proportion of the sample resulting in a completed screener slowed considerably between 2007 and 2009. 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 also grown larger over time as the vendor has improved its procedures for identifying business and nonworking numbers. The proportion of noncontact cases rose slightly between 2007 and 2009, and the proportion of other nonresponse cases dropped slightly. The proportion of refusals declined substantially as compared with the relatively even level between 2003 and 2007. One factor in this change is that there was no subsampling of cases for (first) refusal conversion in 2009, for the first time since 2001.

Table 6-3a. Comparison of landline screener outcomes CHIS 2001 - CHIS 2009

	CHIS 2009	CHIS 2007	CHIS 2005	CHIS 2003	CHIS 2001
Sample Size (excluding numbers not called)	833,534	805,380	467,800	315,434	295,314
Completed Screeners	9.8%	10.5%	14.9%	21.0%	27.8%
Ineligible	0.0%	0.0%	0.0%	0.2%	0.0%
Out of Scope	64.5%	60.7%	57.6%	51.4%	47.6%
NB/NT	54.0%	47.9%	45.0%	35.6%	24.3%
NR/NW	10.6%	12.8%	12.6%	15.8%	23.3%
Noncontact	13.6%	11.9%	10.0%	9.6%	10.3%
Refusal	10.1%	14.5%	14.7%	14.0%	10.9%
Other Nonresponse	2.0%	2.4%	2.8%	3.9%	3.3%

Source: UCLA Center for Health Policy Research, 2001, 2003, 2005, 2007, and 2009 California Health Interview Survey

Table 6-3b presents similar figures, except that the out of scope cases have been removed from the table and the denominator for the rates. Here the proportion of completed screeners actually rose slightly in 2009, ending the series of dramatic drops in this rate. There was also a substantial increase in the proportion of numbers with no contact, offset by a similar decrease in the proportion of numbers with refusal as the final outcome.

Table 6-3b. Comparison of (landline) RDD screener outcomes excluding out of scope cases, CHIS 2001-CHIS 2009

	CHIS 2009	CHIS 2007	CHIS 2005	CHIS 2003	CHIS 2001
Sample Size	295,894	316,785	198,372	153,452	154,639
Completed Screeners	27.5%	26.8%	35.1%	43.2%	53.0%
Ineligible	0.1%	0.0%	0.0%	0.5%	0.0%
Noncontact	38.3%	30.2%	23.6%	19.7%	19.8%
Refusal	28.5%	36.8%	34.8%	28.7%	20.9%
Other Nonresponse	5.7%	6.2%	6.5%	7.9%	6.3%

Source: UCLA Center for Health Policy Research, 2001, 2003, 2005, 2007, and 2009 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 6-4.

Adult extended interviews were completed for 52.5 percent of landline sample adults, down 5 points from 2007. As in past cycles, 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. Fewer than 1 percent of all adult interviews counted as complete were only partially done (CP). The proportion of refusals in the 2009 RDD adult sample (27.9 percent) was up 3½ points from 2007, and the proportion of other nonresponse (18.5 percent) was up almost 2 points.

The completion rate for the surname samples, 46.4 percent, was about 6 points lower than for the landline, the same difference as in 2007, despite the fact that the cooperation rate was higher; nonresponse other than refusals accounted for the lower surname sample completion rate. Both the completion and cooperation rates were lower than in CHIS 2007.

The completion rate for the cell sample, 58.6 percent, was 6 points higher than for the landline sample, and 4 points higher than it was in 2007. The cooperation rate, 67.7 percent, was also higher than that for the landline sample, despite the fact that no refusal conversion was attempted for the adult extended interview in the cell sample. Nonresponse other than refusals, at 12.8 percent, was more than 8 points lower for the 2009 cell sample than for the 2007 sample. The $25 incentive for an adult

interview was undoubtedly a factor in obtaining cooperation from respondents in the cell sample. A difference between 2007 and 2009 was that in 2009 adults were sampled from all households in the cell sample, while in 2007 adults were sampled only in cell-only households. The adult cooperation rate was virtually identical between cell-only and cell-landline households, and the completion rate was 5 points higher for cell-landline households. Nonresponse other than refusal was higher among cell-only than among cell-landline households, but the cell-only proportion of other nonresponse was still about 5 points lower than in 2007. (Data comparing cell-only and cell-landline households are not shown in a table.)

Table 6-4. Detailed results of CHIS 2009 data collection, adult extended interview by sample type

	LANDLINE SAMPLE			SURNAME SAMPLES			CELL SAMPLE		
		Percentage			Percentage			Percentage	
	Number	Within category	of Total	Number	Within category	of Total	Number	Within category	of Total
Completed Interviews *(C)*									
CA – COMPLETED ADULT EXTENDED	42,368	99.3		1,845	97.9		3,028	99.4	
CP – ADULT PARTIAL COMPLETE – FINISHED	314	0.7		40	2.1		19	0.6	
Total Completed Interviews	42,682		52.5	1,885		46.4	3,047		58.6
Ineligible *(I)*									
IA – INELIGIBLE AGE FOR ADULT EXTENDED	13	18.1		4	4.4		2	22.2	
IN – INELIGIBLE RACE FOR SURNAME SAMPLE	0	0.0		86	94.5		0	0.0	
IO: INELIGIBLE OUT OF STATE	59	81.9		1	1.1		7	77.8	
Total Ineligible	72		0.1	91		2.2	9		0.2
Out of Scope									
OE – OUT OF SCOPE ENUMERATION ERROR	922	99.9		35	100.0		23	100.0	
OO – OTHER OUT OF SCOPE	1	0.1		0	0.0		0	0.0	
Total Out of Scope	923		1.1	35		0.9	23		0.4
Refusal *(R)*									
R1: FINAL REFUSAL, NO CONVERSION ATTEMPT	0	0.0		0	0.0		1,432	98.5	
R3 – FINAL REFUSAL RECEIVED 3 OR MORE 2S	26	0.1		1	0.1		0	0.0	
RB – FINAL REFUSAL	16,594	73.2		727	84.3		18	1.2	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	6,060	26.7		134	15.5		4	0.3	
Total Refusal	22,680		27.9	862		21.2	1,454		28.0
Other Nonresponse									
LH – LANGUAGE PROBLEM HEARING/SPEECH	279	1.9		23	1.9		0	0.0	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	333	2.2		31	2.6		12	1.8	
LP -- FINAL LANGUAGE PROBLEM	204	1.4		4	0.3		0	0.0	
MC – MAXIMUM CALLS	4,478	29.8		111	9.4		316	47.7	
ML – MAXIMUM CALLS – SCRNRSLT PROB IN HH	3,235	21.5		690	58.1		141	21.3	
MR – MAXIMUM CALLS – REFUSAL IN HH	2,256	15.0		66	5.6		109	16.4	
MT – MAXIMUM NUMBER OF CALL ATTEMPTS	30	0.2		2	0.2		1	0.2	
ND – RESPONDENT DECEASED	82	0.5		0	0.0		0	0.0	
NF -- NOT AVAILABLE IN FIELD PERIOD	115	0.8		28	2.4		0	0.0	
NL -- NOT LOCATABLE THROUGH TRACING	3,159	21.0		181	15.2		80	12.1	
NO -- OTHER NON-RESPONSE	11	0.1		0	0.0		2	0.3	
NS – SUBJECT SICK/INCAPACITATED	836	5.6		51	4.3		2	0.3	
Total Other Nonresponse	15,018		18.5	1,187		29.2	663		12.8
TOTAL	81,375		100.0	4,060		100.0	5,196		100.0
ELIGIBILITY RATE (C / (C+I))			99.8			95.4			99.7
COOPERATION RATE (C / (C+I+R))			65.3			68.6			67.7

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

Table 6-5. Detailed results of CHIS 2009 data collection, child extended interview by sample type

	LANDLINE SAMPLE			SURNAME SAMPLES			CELL SAMPLE		
		Percentage			Percentage			Percentage	
	Number	Within category	of Total	Number	Within category	of Total	Number	Within category	of Total
Completed Interviews *(C)*									
CC – COMPLETED CHILD EXTENDED	7,918		73.5	545		71.1	482		81.0
Ineligible *(I)*									
IC – INELIGIBLE AGE FOR CHILD EXTENDED	53	94.6	0.5	5	100.0	0.7	4	100.0	0.7
I0 – INELIGIBLE OUT OF STATE	3	5.4		0	0.0		0	0.0	
Total Ineligible	56			5			4		
Out of Scope									
OE – OUT OF SCOPE ENUMERATION ERROR	38		0.4	2		0.3	0		0.0
Refusal *(R)*									
R1 – FINAL REFUSAL, NO CONVERSION	0	0.0		0	0.0		54	98.2	
R3 – FINAL REFUSAL, RECEIVED 3 OR MORE 2S	2	0.2		0	0.0		0	0.0	
RB – FINAL REFUSAL	665	59.5		66	71.7		1	1.8	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	451	40.3		26	28.3		0	0.0	
Total Refusal	1,118		10.4	92		12.0	55		9.2
Other Nonresponse									
LH -- LANGUAGE PROBLEM HEARING/SPEECH	1	0.1			0.0			0.0	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	8	0.5		1	0.8		1	1.9	
LP – FINAL LANGUAGE PROBLEM	6	0.4		0	0.0		0	0.0	
MC – MAXIMUM CALLS	379	23.1		14	11.4		26	48.1	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	450	27.5		66	53.7		17	31.5	
MR – MAXIMUM CALLS – REFUSAL IN HH	470	28.7		25	20.3		3	5.6	
MT – MAXIMUM NUMBER OF CALL ATTEMPTS	40	2.4		2	1.6		1	1.9	
NF – RESPONDENT NOT FOUND AT CALL BACK	3	0.2		0	0.0		0	0.0	
NL – NOT LOCATABLE THROUGH TRACING	280	17.1		15	12.2		6	11.1	
NO – OTHER NON-RESPONSE	1	0.1		0	0.0		0	0.0	
NS -- SUBJECT SICK/INCAPACITATED	1	0.1		0	0.0		0	0.0	
Total Other Nonresponse	1,639		15.2	123		16.0	54		9.1
TOTAL	10,769		100.0	767		100.0	595		100.0
COOPERATION RATE (C / (C+I+R))			87.6			85.6			89.8

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

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 sample loss components. The landline sample had a combined yield rate of 5.0 percent, or about 20 sampled telephone numbers per adult completed interview. The 2007 rate was 6.1 percent or about 16.5 sampled numbers per completed adult interview. Part of the decline is attributable to the increase in the proportion of the sample that is identified as business or nonworking before calling. Taking these sampled numbers out of the denominator, the adult yield rate was 10.9 percent in 2009, as compared with 12.7 percent in 2007. 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 6-5) in the landline sample was about 73.5 percent, down 2½ points from CHIS 2007, with an increase in other nonresponse accounting for most of the difference. The cooperation rate of 87.6 percent was less than one point lower than in 2007. As in CHIS 2005 and 2007, the data collection protocol allowed children to be sampled and child interviews to be conducted before adult interviews under certain circumstances. This procedure had 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. By CHIS 2007, the ratios were 15.2 percent and 20.1 percent, almost exactly the same as CHIS 2003, before the child first procedure. The ratios continued to decline in 2009, to 13.2 and 18.6 percent, respectively. Interviewing in landline households with children has been increasingly difficult throughout all CHIS cycles.

In previous CHIS cycles, virtually all of the child sample came from the landline sample. In CHIS 2009, children were selected in the cell sample for the first time. The landline sample still accounted for 88 percent of the of child interviews completed.

As shown in Table 6-5, the completion rate (71.1 percent) and the cooperation rate (85.6 percent) were only slightly lower for the surname samples than for the landline sample. These rates compare with 61.7 percent and 81.9 percent for the surname samples in CHIS 2007. The completion (81.0 percent) and cooperation (89.8 percent) rates for the cell sample were both higher than for the landline sample.

The 2005 and 2007 reports 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 2009 (all samples) were in child-first households, the same as in 2007 despite the fact that children were selected from the cell sample for the first time in 2009 but not child first. The completion rate for children sampled in these households was 64.5 percent (7 points lower than 2007), as compared with 82.8 percent in non-child-first households (2.8 points higher than in 2007). Thus, the overall child completion rate was affected negatively by the child-first procedure, and the gap between child-first and non-child first increased substantially between 2007 and 2009. 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 53.6 percent, almost 6 points lower than 2007, mirroring the general decline in completing child interviews in child-first households. In 2009, 69.4 percent of children sampled in the child-first procedure were in households where no adult interview was completed, up from 66.1 percent in 2007. 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. Almost a quarter of completed child interviews, and one third of children sampled, were from these households.

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 6-6 compares cooperation and completion rates for adult interviews between CHIS 2003, CHIS 2005, CHIS 2007, and CHIS 2009 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. Adult interview cooperation and completion rates for the landline sample were lower in 2009 than in 2007 for all groups, but the decrease was larger for cases where the sampled adult was the screener respondent than when the sampled adult was someone else. This change in the pattern from previous years may partly be the result of introducing two-stage interviewing in 2009. But, there was no difference within those two groups by whether a child was present in the household. So, as in 2007 there is no evidence of an additional effect (beyond that experienced in 2005) on adult cooperation of the child first procedure.

Table 6-6. Cooperation and Completion rates, landline sample 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
CHIS 2009	71.8%	74.7%	47.7%	50.4%	65.3%
Change 07-09	-4.9	-5.1	-0.1	-0.8	-3.4
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
CHIS 2009	56.7%	66.8%	29.4%	37.4%	52.5%
Change 07-09	-7.1	-7.0	-2.7	-2.1	-5.0

The proportion of screener respondents in the landline, cell, and list samples reporting children (25.4 percent) was exactly the same as that in 2007. However, the landline and list samples both

had a higher proportion of households reporting children, and also had a larger proportion of the overall sample than in 2007. So, the reporting of children in the screener was actually down slightly from 2007.

6.1.4 Adolescent Extended Interview

Tables 6-7a and b presents data collection results for the adolescent interviews. All of the numbers and percentages in the upper portion of the tables refer to sampled adolescents for whom permission to interview was obtained from a responsible adult. The bottom three rows add the permission dimension.

The completion rate among adolescents for the landline sample (74.6 percent, Table 6-7a) was almost exactly the same as that in 2007, and the proportion of permission-giving adults (PGA's) refusing permission (41.5 percent) was up 2½ points from 2007. The combined completion rate (completed adolescent interviews divided by all adolescents sampled, 43.6 percent) was thus down less than 2 points from 2007. Because the surname samples were much bigger in 2009, there were many more adolescents selected in 2009. The components of yield were all lower than for the landline sample, but were much higher than for the surname samples in 2007. The combined completion rate was 37.2 percent in 2009, as compared with 20.8 percent in 2007.

As shown in Table 6-7b, the adolescent yield for the cell sample (50.9 percent) was higher than that for the landline sample, largely because the rate for permission denial (29.7 percent) was much lower than that for the landline sample (41.5 percent). The cooperation and completion rates for the cell sample were a bit lower than for the landline sample.

Table 6-7a. Detailed results of CHIS 2009 data collection, adolescent extended interview, landline and surname samples

	LANDLINE SAMPLE			SURNAME SAMPLES		
		Percentage			Percentage	
	Number	Within category	of Total	Number	Within category	of Total
Completed Interviews						
CT – COMPLETED ADOLESCENT EXTENDED	3,002		74.6	178		72.7
Ineligible						
IO – INELIGIBLE: OUT OF STATE	1	2.6		0	0.0	
IT – INELIGIBLE AGE FOR ADOLESCENT EXTENDED	37	97.4	0.9	8	100.0	3.3
Total Ineligible	38			8		
Out of Scope						
OE – OUT OF SCOPE ENUMERATION ERROR	8		0.2	0		0.0
Refusal						
R1 – REFUSAL, NO CONVERSION ATTEMPTED	0	0.0		0	0.0	
R3 – FINAL REFUSAL, RECEIVED 3 OR MORE 2S	3	0.6		0	0.0	
RB – FINAL REFUSAL	374	70.6		22	91.7	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	153	28.9		2	8.3	
Total Refusal	530		13.2	24		9.8
Other Nonresponse						
LH – LANGUAGE PROBLEM HEARING/SPEECH	1	0.2		0	0.0	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	2	0.4		0	0.0	
LP – FINAL LANGUAGE PROBLEM	1	0.2		0	0.0	
MC – MAXIMUM CALLS	134	29.9		3	8.6	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	137	30.6		23	65.7	
MR – MAXIMUM CALLS – REFUSAL IN HH	87	19.4		6	17.1	
NF – NOT AVAILABLE IN FIELD PERIOD	11	2.5		1	2.9	
NL – NOT LOCATABLE THROUGH TRACING	57	12.7		1	2.9	
NS -- SUBJECT SICK/INCAPICITATED	18	4.0		1	2.9	
Total Other Nonresponse	448		11.1	35		14.3
TOTAL	4,026		100.0	245		100.0
COOPERATION RATE (C / (C+I+R))			85.0			88.1
ADOLESCENTS SAMPLED	6,883			478		
PERMISSION NOT RECEIVED	2,857		41.5	233		48.7
COMBINED COMPLETION RATE			43.6			37.2

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

Table 6-7b. Detailed results of CHIS 2009 data collection, adolescent extended interview, cell sample

	CELL SAMPLE		
		Percentage	
	Number	Within category	of Total
Completed Interviews			
CT – COMPLETED ADOLESCENT EXTENDED	199		72.4
Ineligible			
IO – INELIGIBLE: OUT OF STATE	0	0.0	
IT – INELIGIBLE AGE FOR ADOLESCENT EXTENDED	2	100.0	0.7
Total Ineligible	2		
Out of Scope			
OE – OUT OF SCOPE ENUMERATION ERROR	1		0.4
Refusal			
R1 – REFUSAL, NO CONVERSION ATTEMPTED	45	97.8	
R3 – FINAL REFUSAL, RECEIVED 3 OR MORE 2S	0	0.0	
RB – FINAL REFUSAL	1	2.2	
RM – REFUSAL REACHED MAXIMUM CALL LIMIT	0	0.0	
Total Refusal	46		16.7
Other Nonresponse			
LH – LANGUAGE PROBLEM HEARING/SPEECH	0	0.0	
LM – LANGUAGE PROBLEM REACHED MAX CALLS	0	0.0	
LP – FINAL LANGUAGE PROBLEM	0	0.0	
MC – MAXIMUM CALLS	9	33.3	
ML – MAXIMUM CALLS – LANGUAGE PROB IN HH	7	25.9	
MR – MAXIMUM CALLS – REFUSAL IN HH	7	25.9	
NF – NOT AVAILABLE IN FIELD PERIOD	0	0.0	
NL – NOT LOCATABLE THROUGH TRACING	3	11.1	
NS -- SUBJECT SICK/INCAPICITATED	1	3.7	
Total Other Nonresponse	27		9.8
TOTAL	275		100.0
COOPERATION RATE			81.2
ADOLESCENTS SAMPLED	391		
PERMISSION NOT RECEIVED	116		29.7
COMBINED COMPLETION RATE			50.9

Source: UCLA Center for Health Policy Research, 2009 California Health Interview Survey

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 10.0 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; the child first procedure increased the number of adolescents sampled, but the completion rate declined, so the net number of adolescent interviews was lower than in 2003. In 2007 the ratios were 9.4 percent and 7.4 percent, respectively, declines of 1.0 and 1.7 percent. For 2009, the ratio of adolescents sampled to adults sampled was 8.5 percent and the ratio of adolescent interviews completed to adult interviews completed was 7.0 percent. Thus, the adolescent yield continues to decline, but the rate of decline slowed in 2009, and the gap between the two ratios was reduced.

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 6-8 shows the proportion of the sample with at least one answering machine contact at the screener and adult extended level for both CHIS 2009 and CHIS 2007, and the percentage point change from 2007 to 2009. Overall, more than 40 percent of all landline sample cases attempted at each level had at least one call reach an answering machine. The 2009 screener rate (41.7 percent) was down a half point from 2007, while the 2009 adult extended rate (40.9) was up 3.7 points. The latter change may help explain why the adult completion rate was down in 2007 – more respondents screening their calls. At the low end of the RDD screening interview is Imperial County, with 30.1 percent of all cases having an answering machine contact; at the high end is Marin County, with 52.1 percent; these were the extreme strata in 2005 and 2007 as well. The North Balance stratum had the lowest rate for the extended interview, at 31.4 percent, and San Mateo County the highest, at 44.8 percent.

Table 6-8. Proportion of landline and cell numbers called at screener and adult extended level with at least one answering machine contact, CHIS 2009 and CHIS 2007

		Percentage of cases with at least one answering machine contact					
		Screener			Adult extended		
Stratum	Description	2009	2007	Diff.	2009	2007	Diff.
1	Los Angeles	40.0	42.4	-2.4	42.7	38.7	4.0
2	San Diego	42.1	41.6	0.5	43.4	38.8	4.6
3	Orange	41.5	42.5	-1.0	43.1	39.9	3.2
4	Santa Clara	43.9	41.1	2.8	41.9	38.9	3.0
5	San Bernardino	42.1	45.3	-3.2	41.4	37.3	4.1
6	Riverside	43.7	45.3	-1.6	39.9	38.3	1.6
7	Alameda	44.4	42.5	1.9	42.8	38.6	4.2
8	Sacramento	40.9	41.4	-0.5	36.2	36.3	-0.1
9	Contra Costa	45.8	47.4	-1.6	44.7	38.0	6.7
10	Fresno	34.9	35.5	-0.6	34.8	32.7	2.1
11	San Francisco	39.7	40.5	-0.8	42.8	36.4	6.4
12	Ventura	41.1	42.7	-1.6	40.6	38.3	2.3
13	San Mateo	46.2	45.5	0.7	44.8	40.2	4.6
14	Kern	36.8	36.6	0.2	35.7	31.1	4.6
15	San Joaquin	41.2	38.5	2.7	42.1	35.3	6.8
16	Sonoma	45.8	47.1	-1.3	43.5	40.0	3.5
17	Stanislaus	38.8	41.0	-2.2	37.5	37.3	0.2
18	Santa Barbara	42.2	41.9	0.3	37.3	34.5	2.8
19	Solano	46.5	47.0	-0.5	43.6	40.5	3.1
20	Tulare	35.4	38.0	-2.6	37.9	34.0	3.9
21	Santa Cruz	43.5	44.2	-0.7	41.1	40.5	0.6
22	Marin	52.1	51.2	0.9	43.7	40.7	3.0
23	San Luis Obispo	37.6	36.2	1.4	38.5	32.5	6.0
24	Placer	49.7	46.6	3.1	41.6	37.6	4.0
25	Merced	36.1	38.4	-2.3	38.4	34.5	3.9
26	Butte	44.3	43.5	0.8	38.9	32.9	6.0
27	Shasta	41.6	40.0	1.6	34.8	30.8	4.0
28	Yolo	38.6	39.4	-0.8	38.6	35.5	3.1
29	El Dorado	48.4	44.8	3.6	39.7	38.6	1.1
30	Imperial	30.1	32.7	-2.6	31.7	30.3	1.4
31	Napa	44.0	45.0	-1.0	43.3	36.1	7.2
32	Kings	39.0	40.8	-1.8	39.6	33.5	6.1
33	Madera	37.4	41.4	-4.0	38.3	35.8	2.5
34	Monterey	37.3	38.8	-1.5	35.2	34.1	1.1
35	Humboldt	40.5	42.8	-2.3	34.7	31.7	3.0
36	Nevada	47.1	46.9	0.2	39.5	36.9	2.6
37	Mendocino	37.4	39.8	-2.4	32.6	32.2	0.4
38	Sutter	44.6	41.3	3.3	39.4	33.8	5.6
39	Yuba	40.7	43.3	-2.6	40.5	35.8	4.7
40	Lake	38.5	40.5	-2.0	34.0	31.0	3.0
41	San Benito	40.4	43.6	-3.2	44.5	40.9	3.6
42	Tehama, Glen, Colusa	38.9	39.4	-0.5	33.0	33.3	-0.3
43	North Balance	37.1	38.4	-1.3	31.4	29.1	2.3
44	Sierra Balance	44.3	39.9	4.4	35.6	32.3	3.3
	Landline Sample Total	41.7	42.2	-0.5	40.9	37.2	3.7
	Cell Sample	55.1	55.6	-0.5	40.9	36.6	4.3

Source: UCLA Center for Health Policy Research, 2009 and 2007 California Health Interview Survey

As in 2007, the cell sample had a higher rate of cases with answering machine contact (55.1 percent) than did the landline sample, and as with the landline sample, the rate was down a half point from 2007. The cell sample rate for adult extended interviews (40.9 percent) was exactly the same as that for the landline sample, and it also experienced a substantial increase from 2007. However, unlike the landline sample, the cell sample rate was much lower for the adult interview than for the screener, perhaps indicating that some respondents recognized who was calling and accepted the call.

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 2009 time slice strategy, as follows below, began with one very similar to that used in CHIS 2007.

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 2009, we continued the practice begun during CHIS 2007 of moving cases (except cell sample cases) with 4 calls that did not reach a person or an answering machine out of the main CATI scheduler. In previous CHIS cycles, such cases were sent to an outside vendor to continue the call sequence using a system with a predictive dialer. 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. In CHIS 2009, Westat conducted this operation using a different CATI system from the main CHIS; otherwise it was unchanged from 2007. The logic for this operation is described in *CHIS 2007 Methodology Series: Report 2 – Data Collection.*

At the end of the survey, 24 percent of the landline numbers available to call (after purging the nonworking and business numbers) were coded NA, an increase of 9 percentage points from CHIS 2007. About 13 percent of the callable landline numbers ended up as NM, up 5 points from CHIS 2007. As shown in Table 6-3b, the combined 8-point increase in no contact cases is 26.8 percent above the 2007 rate, about the same proportional increase as from 2005 to 2007.

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 4.8 percent of the landline sample telephone numbers that were not determined to be out of scope ended as "maximum calls" (MC or LM) at the screener level (Table 6-1a). This proportion was down slightly from 2007 (5.1 percent[6]). In some strata, work on screening interviews was stopped before the end of the field period as the stratum targets were reached. In

[6] The rates given in *CHIS 2007 Methodology Series: Report 2 – Data Collection* appear to be incorrect.

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 cell sample was 6.7 percent, up from 5.6 percent in 2007.

At the adult extended level, about 12.7 percent of landline 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), slightly higher than the rate in 2007. The rate for the cell sample (11.1 percent) was a bit lower than for the landline sample, as it was in 2007, and the rate for the surname samples was considerably higher 22.2%, again mirroring 2007.

The pattern was similar with the child and adolescent interviews across the samples. About 11.5 percent of child interviews (Table 6-7) and 10.3 percent of adolescent interviews (Table 6-8) from the landline sample were in these categories; rates for the surname samples were about double those for the landline sample. 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 CHIS capability is conducting interviews in a variety of languages. CHIS instruments have been administered in English, Spanish, Mandarin, Cantonese, Korean, and Vietnamese in every cycle to date. 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 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 2009 work classes.) However, for the first time in CHIS 2009, landline telephone numbers matched to an address associated with a likely Hispanic surname were loaded into the Spanish work class for their first calls. Whenever an interviewer encountered a respondent who did not speak English or another language the interviewer spoke, 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 bilingual interviewer in one of the CHIS languages were put into the appropriate language work class, and became available to bilingual interviewers once the 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. Sixty-three percent of the adult extended interviews completed from the surname samples were conducted in Korean or Vietnamese. (See Table 6-9 in the next section.)

6.5.3 Completed Interviews by Language

Table 6-9 shows the number of adult extended interviews completed in each of the five CHIS 2009 languages, by landline stratum and separately for the cell and surname samples.

Overall, some 3,844 adult interviews from these samples were conducted in Spanish, just over 8 percent of the total, which was two points higher than in 2007. The highest percentage of adult interviews completed in Spanish in the landline sample was in Imperial County (42.6 percent), more than twice that of any other landline stratum, and about 13 points higher than in 2007. More than 7 percent of adult interviews in the cell sample were conducted in Spanish, a substantial increase over 2007. These increases in the proportion of interviews conducted in Spanish may have been due to a number of factors, including the growing proportion of Californians who are Hispanic, the strategy of loading numbers associated with Hispanic surnames into the Spanish language work class, and a larger bilingual work force in 2009.

In the landline sample, there were 639 adult interviews conducted in an Asian language, or about 1.5 percent of the total, down slightly from 2007. The highest RDD proportions of Cantonese (6.6 percent), Mandarin (1.8 percent), and Asian languages in total (8.8 percent) were in the San Francisco stratum. The highest proportion of Korean interviews was in Orange (1.6 percent) and of Vietnamese in Santa Clara (2.6 percent). For the surname samples, 63 percent of all adult interviews were conducted in Korean or Vietnamese.

See Table 7-2 in *CHIS 2009 Methodology Series: Report 4—Response Rates* for more on numbers of interviews conducted by language.

Table 6-9. Number of adult interviews completed by language and sample/RDD sample stratum

Strata	Sampling stratum	English	Spanish	Cantonese	Mandarin	Korean	Vietnamese	Total	Percentage Spanish	Percentage Asian
1	Los Angeles	6,817	1,168	23	73	51	93	8,225	14.2	2.9
2	San Diego	4,495	370	19	12	6	20	4,922	7.5	1.2
3	Orange	1,881	171	44	34	0	17	2,147	8.0	4.4
4	Santa Clara	1,123	45	32	9	4	14	1,227	3.7	4.8
5	San Bernardino	1,275	135	3	4	0	2	1,419	9.5	0.6
6	Riverside	1,421	154	1	2	1	1	1,580	9.7	0.3
7	Alameda	1,012	41	5	5	15	7	1,085	3.8	2.9
8	Sacramento	1,107	39	5	5	6	1	1,163	3.4	1.5
9	Contra Costa	819	41	0	0	2	3	865	4.7	0.6
10	Fresno	578	79	0	0	1	2	660	12.0	0.5
11	San Francisco	623	29	1	2	47	13	715	4.1	8.8
12	Ventura	818	53	2	5	0	2	880	6.0	1.0
13	San Mateo	545	19	1	0	5	3	573	3.3	1.6
14	Kern	501	68	0	2	0	0	571	11.9	0.4
15	San Joaquin	440	55	1	0	1	1	498	11.0	0.6
16	Sonoma	490	12	1	0	1	0	504	2.4	0.4
17	Stanislaus	430	39	0	0	0	0	469	8.3	0.0
18	Santa Barbara	553	54	1	0	0	0	608	8.9	0.2
19	Solano	459	12	1	0	0	0	472	2.5	0.2
20	Tulare	380	92	0	1	0	0	473	19.5	0.2
21	Santa Cruz	462	40	0	0	0	0	502	8.0	0.0
22	Marin	2,001	33	1	1	1	2	2,039	1.6	0.2
23	San Luis Obispo	467	10	0	0	0	0	477	2.1	0.0
24	Placer	488	8	0	0	0	0	496	1.6	0.0
25	Merced	408	83	1	0	0	0	492	16.9	0.2
26	Butte	482	10	0	1	0	0	493	2.0	0.2
27	Shasta	498	3	0	0	0	0	501	0.6	0.0
28	Yolo	480	36	0	0	0	1	517	7.0	0.2
29	El Dorado	481	10	0	1	0	0	492	2.0	0.2
30	Imperial	305	229	1	2	0	1	538	42.6	0.7
31	Napa	453	32	0	0	0	0	485	6.6	0.0
32	Kings	394	81	0	0	0	1	476	17.0	0.2
33	Madera	469	65	0	1	0	0	535	12.1	0.2

Table 6-9. Number of adult interviews completed by language and sample/RDD sample stratum (continued)

Strata	Sampling stratum	English	Spanish	Cantonese	Mandarin	Korean	Vietnamese	Total	Percentage Spanish	Percentage Asian
34	Monterey*	355	62	1	4	0	0	422	14.7	1.2
35	Humboldt*	827	16	0	0	1	0	844	1.9	0.1
36	Nevada *	533	4	0	0	0	0	537	0.7	0.0
37	Mendocino*	569	30	0	0	0	1	600	5.0	0.2
38	Sutter*	427	39	0	2	0	0	468	8.3	0.4
39	Yuba*	440	26	0	0	0	0	466	5.6	0.0
40	Lake*	509	16	0	0	0	0	525	3.0	0.0
41	San Benito*	476	71	0	1	0	0	548	13.0	0.2
42	Tehama, Glen, Colusa	345	37	0	0	0	0	382	9.7	0.0
43	North Balance*	399	3	0	1	0	0	403	0.7	0.2
44	Sierra Balance*	386	2	0	0	0	0	388	0.5	0.0
	TOTAL LANDLINE SAMPLE	38,421	3,622	144	168	142	185	42,682	8.5	1.5
	Surname samples	698	0	741	435	9	2	1,885	0.0	63.0
	Cell sample	2,796	222	2	13	8	6	3,047	7.3	1.0
	TOTAL	41,915	3,844	887	616	159	193	47,614	8.1	3.9

Source: UCLA Center for Health Policy Research, 2009 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 2009 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 710 candidates for proxy interviews were identified based upon interviewers' notes; of these, 283 interviews were completed with proxies, and another 38 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

CHIS 2007 Methodology Series: Report 2 — Data Collection described a substantial increase in the relative level of effort required to complete the CHIS 2007 data collection as compared with CHIS 2005. Again in 2009 the relative level of effort required increased over the previous cycle, for a variety of reasons, including:

- lower completion rates for the screener and extended interviews;
- a longer adult interview (see below);
- a substantial increase in the number of interviews required with Korean and Vietnamese individuals; and

- an increase in the cell sample size.

Because the various samples were not handled separately in the Telephone Research Center, we are unable to allocate the level of effort for each sample as was done in CHIS 2007. Thus, we cannot tell what proportion of the increase in level of effort is attributable to the reasons cited above.

As described in Chapter 2, CHIS 2009 was conducted in five languages: English, Spanish, Vietnamese, Chinese (Cantonese and Mandarin dialects), and Korean. Table 6-10 presents mean administration times for the various questionnaires by language for both CHIS 2009 and CHIS 2007. The 2009 screener interview was slightly longer overall than the 2007 screener. In other languages the screener was 33 to 59 percent longer than in English, about the same range as in 2007.

The mean administration time for the English adult extended interview was more than 5 minutes longer in 2009 than 2007. The ratio to English administration time was virtually identical for Spanish between 2009 and 2007, but higher for all of the Asian languages.

The child interview, with an overall mean length of 15.7 minutes, was more than a minute and a half shorter in 2009 than in 2007. The ratio of other languages to English was comparable between 2009 and 2007, with the exception of Korean, which was actually shorter than English in 2007. The child interview timings presented here do not include the adult interview questions administered when the child interview was done first. Those questions averaged 8.3 minutes to administer in English, slightly less than in 2007. The other languages ranged from 8.7 to 10.9 minutes.

The adolescent interview (17.8 minutes in English) was almost two minutes shorter than in 2007. The Spanish interview was about 21 percent longer, and the Asian interviews generally only a bit longer than those conducted in English. Very few adolescent interviews were conducted in the Asian languages.

Table 6-10. Mean administration times (in minutes), relative times, and sample sizes for CHIS 2009 and CHIS 2007 instruments by language of administration

	CHIS 2009			CHIS 2007		
	N	Mean	Ratio to English	N	Mean	Ratio to English
Screener						
All Languages	90,631	2.65		88,583	2.61	
English	75,746	2.49	1.00	78,727	2.50	1.00
Spanish	11,566	3.41	1.37	7,882	3.48	1.39
Vietnamese	1,546	3.96	1.59	592	3.90	1.56
Korean	1,091	3.30	1.33	712	3.32	1.33
Cantonese	366	3.57	1.43	287	2.98	1.19
Mandarin	316	3.84	1.54	383	3.50	1.40
Adult Interview						
All Languages	47,241	39.83		50,805	34.74	
English	41,668	38.27	1.00	46,556	33.91	1.00
Spanish	3,758	53.25	1.39	3,093	47.35	1.40
Vietnamese	865	46.57	1.22	285	37.79	1.11
Korean	607	45.82	1.20	451	28.03	0.83
Cantonese	155	55.48	1.45	141	35.27	1.04
Mandarin	188	55.10	1.44	279	42.17	1.24
Child Interview						
All Languages	8,945	15.74		9,933	17.30	
English	6,760	14.64	1.00	8,371	16.43	1.00
Spanish	1,816	19.41	1.33	1,395	22.31	1.36
Vietnamese	224	18.19	1.24	56	21.62	1.32
Korean	88	16.12	1.10	57	16.54	1.01
Cantonese	38	19.01	1.30	19	17.06	1.04
Mandarin	19	19.99	1.37	35	21.28	1.30
Adolescent Interview						
All Languages	3,379	17.94		3,643	19.77	
English	3,099	17.66	1.00	3,398	19.46	1.00
Spanish	252	21.30	1.21	215	24.65	1.27
Vietnamese	10	19.97	1.13	5	21.76	1.12
Korean	9	17.98	1.02	15	17.94	0.92
Cantonese	6	18.82	1.07	3	21.86	1.12
Mandarin	3	16.94	0.96	7	20.38	1.05

Source: UCLA Center for Health Policy Research, 2009 and 2007 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 2009 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.

REFERENCES

Rizzo, L, Brick, J.M., & Park, I. (2004). A Minimally Intrusive Method for Sampling Persons in Random Digit Dialing Surveys. *Public Opinion Quarterly, 68,* 267-274.

Xu, M., Bates, J.B., and Schweitzer, J.C. (1993). Impact of Answering Machines. *Public Opinion Quarterly 57:2,* pp. 232-237.

Yu, J., and Cooper, H. (1983). A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing Research,* 20, 36-44.

APPENDIX A

CHANGES IN CHIS 2009 QUESTIONNAIRES AFTER START OF DATA COLLECTION

CHIS 2009 Mid-Administration Changes--Adult

Section B1

AB1 QA09_B1 ***Would <you> say that in general your health is excellent, very good, good, fair or poor?***

Mid-administration change: On 1/15/2010, an experiment was begun studying the position of this item, with one-fourth of the interviews during the experiment receiving the question here at the default location of the first among all health-related questions, one-fourth following the chronic illness questions in Section B, one-fourth following the mental health questions in Section F, and one-fourth at the end of all health-related questions (before Section N). See programming notes for further details.

Section DM

DMB9A QA09_DMB9A ***Now, I'm going to ask you why you may have been treated unfairly.***
Please answer the following questions with a yes or no.

Mid-Administration change: On 12/1/2009, the last sentence of the introduction was added to this item.

DMB9AOS QA09_DMB9AOS ***What was that reason?***

Mid-Administration change: On 12/1/2009, the reminder to interviewers not to read the response categories to the respondent was added.

DMC6A QA09_DMC6A ***Now, I'm going to ask you why you may have been treated unfairly.***
Please answer the following questions with a yes or no.

Mid-Administration change: On 12/1/2009, the last sentence of the introduction was added to this item.

DMC6AOS QA09_DMC6AOS ***What was that reason?***

Mid-Administration change: On 12/1/2009, the reminder to interviewers not to read the response categories to the respondent was added.

DMD7A QA09_DMD7A ***And what was that?***

Mid-Administration change: On 12/1/2009, the reminder to interviewers not to read the response categories to the respondent was added.

DMDINTR QA09_DMDINTRO ***The next questions ask about how you have usually responded when you have been treated unfairly over your entire lifetime.***
Please answer the following questions with a yes or no.

Mid-Administration change: On 12/1/2009, the last sentence of the introduction was added to this item.

Section EM

EM4 QA09_EM4 ***What is the main reason you would not be able to get an extra supply of your prescription drugs?***

Mid-administration change: This item was changed from an open-ended response to an

unread list of categories (along with an "Other (Specify)" option) for selection by the interviewer on December 8, 2009, because most responses were falling into these categories. A new variable--EM4CODE--was created to handle these categories and the old variable--EM4--was retained to hold "Other (Specify)" responses.

Section GH1

AB1_A QA09_B1 ***Would you say that in general your health is excellent, very good, good, fair or poor?***

Mid-administration change: On 1/15/2010, an experiment was begun studying the position of this item, with one-fourth of the interviews during the experiment receiving the question at the default location of the first among all health-related questions, one-fourth here following the chronic illness questions in Section B, one-fourth following the mental health questions in Section F, and one-fourth at the end of all health-related questions (before Section N). See programming notes for further details.

Section GH2

AB1_B QA09_B1 ***Would you say that in general your health is excellent, very good, good, fair or poor?***

Mid-administration change: On 1/15/2010, an experiment was begun studying the position of this item, with one-fourth of the interviews during the experiment receiving the question at the default location of the first among all health-related questions, one-fourth following the chronic illness questions in Section B, one-fourth here following the mental health questions in Section F, and one-fourth at the end of all health-related questions (before Section N). See programming notes for further details.

Section GH3

AB1_C QA09_B1 ***Would you say that in general your health is excellent, very good, good, fair or poor?***

Mid-administration change: On 1/15/2010, an experiment was begun studying the position of this item, with one-fourth of the interviews during the experiment receiving the question at the default location of the first among all health-related questions, one-fourth following the chronic illness questions in Section B, one-fourth following the mental health questions in Section F, and one-fourth here at the end of all health-related questions (before Section N). See programming notes for further details.

Section H

AH83 QA09_H82 ***What is the total amount of medical bills?***

Mid-administration change: On October 12, 2009, response categories were changed: "Less than $2,000" was broken into "$1,000 to less than $2,000" and "Less than $1,000." Cases that had been coded as "Less than $2,000" prior to that were recoded to "92."

AI22A QA09_H57 ***What is the name of your {Medi-Cal} health plan?***

Mid-administration change: On Feb. 2, 2010, the display of "Santa Barbara Health Plan" was changed to "CenCal Health" and "Central Coast Alliance/Santa Cruz-Monterey" was changed to "Central California Alliance for Health." In addition, the latter was also added to the

Section I

CF14	QA09_I20	***Is {CHILD NAME/AGE/SEX} covered for prescription drugs?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA1 was changed from "SKIP TO CF24" to "SKIP TO MA3," because of an error made by the spec writer. Because of this error, 90 cases skipped CF14 that should not have. The value for CF14 was set to -9 for those cases.
IA14	QA09_I54	***Is {ADOLESCENT /AGE/SEX} covered for prescription drugs?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA5 was changed from "SKIP TO IA24" to "SKIP TO MA8," correcting an error made by the spec writer. Because of this error, 90 cases skipped IA14 that should not have. The value for IA14 was set to -9 for those cases.
MA1	QA09_I2	***Does {CHILD NAME/AGE/SEX} have the same insurance as {your spouse/your partner/SPOUSE NAME/ PARTNER NAME}?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response was changed from "SKIP TO CF24" to "SKIP TO MA3," correcting an error made by the spec writer.
MA2	QA09_I19	***What is the name of {CHILD NAME/AGE/SEX}'s {Medi-Cal} health plan?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA1 was changed from "SKIP TO CF24" to "SKIP TO MA3," correcting an error made by the spec writer. Because of this error, 90 cases skipped MA2 that should not have. The value for MA2 was set to -9 for those cases.
MA3	QA09_I18	***Is {CHILD NAME /AGE/SEX}'s main health plan an HMO, that is, a Health Maintenance Organization?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA1 was changed from "SKIP TO CF24" to "SKIP TO MA3," correcting an error made by the spec writer. Because of this error, 90 cases skipped MA3 that should not have. The value for MA3 was set to -9 for those cases. On Feb. 2, 2010, the display of "Santa Barbara Health Plan" was changed to "CenCal Health" and "Central Coast Alliance/Santa Cruz-Monterey" was changed to "Central California Alliance for Health." In addition, the latter was also added to the display for Merced.
MA5	QA09_I36	***Does {ADOLESCENT /AGE/SEX} have the same insurance as your spouse?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response was changed from "SKIP TO IA24" to "SKIP TO MA8," correcting an error made by the spec writer.
MA7	QA09_I53	***What is the name of {ADOLESCENT /AGE/SEX}'s {Medi-Cal} health plan?***
		Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA5 was changed from "SKIP TO IA24" to "SKIP TO MA8," correcting an error made by the spec writer. Because of this error, 90 cases skipped MA7 that should not have. The value for MA7 was set to -9 for those cases; On Feb. 2, 2010, the display of "Santa Barbara Health Plan" was changed to "CenCal Health" and "Central Coast Alliance/Santa Cruz-Monterey" was changed to "Central

California Alliance for Health." In addition, the latter was also added to the display for Merced.

MA8 QA09_I52 ***Is {ADOLESCENT /AGE/SEX}'s main health plan an HMO, that is, a Health Maintenance Organization?***

Mid-administration change: On November 27, 2009, the skip instruction for a "YES" response to MA5 was changed from "SKIP TO IA24" to "SKIP TO MA8," correcting an error made by the spec writer. Because of this error, 90 cases skipped MA8 that should not have. The value for MA8 was set to -9 for those cases.

Section IN

EXP1 ***You have been selected for the interview.***
The interview takes about 30 minutes on average, but may be as short as 20 minutes.
There are questions about your health, diet and exercise, sexual behaviors, violence, suicide, emotional health and treatment for mental health problems, and your healthcare and insurance. We will also ask you about where you live.
Do you have any questions about this?

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen.

EXP2 ***{ADULT NAME /AGE/SEX} has been selected for the interview.***

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen.

EXP3 ***You have been selected for the interview.***
The interview takes about 30 minutes on average, but may be as short as 20 minutes.
There are questions about your health, diet and exercise, sexual behaviors, violence, suicide, emotional health and treatment for mental health problems, and your healthcare and insurance. We will also ask you about where you live.
Do you have any questions about this?
We would like to send you a letter with more information and ${ } as a token of our appreciation.

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen.

EXP3A ***We would like to call you in the near future to complete the interview.***
We could call back in a couple of minutes if that would work for you.

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen and a skip over collecting the address of respondents who did not want the incentive.

EXP4 ***{ADULT NAME /AGE/SEX} has been selected for the interview.***
We would like to send him/her a letter with more information and ${ } as a token of our appreciation.

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen.

EXP4A ***We would like to call {ADULT NAME /AGE/SEX} in the near future to complete the interview.***
We could call back in a couple of minutes if that would work for {respondent }.

Mid-administration change: On Dec. 3, 2009, new responses were added to this screen and a skip over collecting the address of respondents who did not want the incentive.

Section J

AJ10	QA09_J10	***Did you need someone to help you understand the doctor?***
		Mid-administration change: On Dec. 7, 2009, the conditions for asking AJ50 were changed because some respondents who spoke multiple languages at home were being skipped out of that question. Those respondents who missed AJ50 would have also missed this question if they answered "English" to AJ50.
AJ50	QA09_J8	***In what language does your doctor speak to you?***
		Mid-administration change: On Dec. 7, 2009, the conditions for asking this question were changed because some respondents who spoke multiple languages at home were being skipped out of the question. This change also affects AJ10.

Section N

AN8	QA09_N10 (SUICIDE RESOURCE 2)	***As I mentioned earlier, if you'd like to talk to someone about suicidal thoughts or attempts, someone is available 24 hours a day to provide information to help you. The toll-free number is 1-800-273-TALK (8255). Or you can visit their website at www.suicidepreventionlifeline.org. Would you like to speak with someone now?***
		Mid-administration change: This question was added on 10/29/2009 with the restart of the suicide section to be asked of those who had turned down an offer of talking to a counselor during the suicide section. On 10/31/2009, the conditions for asking the question were further limited to those who either had suicidal thoughts in the past 2 months or attempted suicide in the past 12 months) AND said no to talking to a counselor during the suicide section.

Section S

AF86	QA09_S1	***The next section is about thoughts of hurting yourself. Again, if any question upsets you, you don't have to answer it. Have you EVER seriously thought about committing suicide?***
		Mid-administration change: The suicide section was suspended for revision on October 8, 2009. The flag variable ADLT.SVERSION was added to designate all surveys that took the revised suicide path after the restart of that section on October 29, 2009.
AF93_2	SUICIDE PROTOCOL	
		Mid-administration change: On November 16, 2009, an instruction was added to this screen about what to do if the interviewer could not connect to the assigned number for crisis counseling.

CHIS 2009 Mid-Administration Changes--Child

Section G

CG43 QC09_G17 ***In the past 12 months, have you done any volunteer work or community service that you have not been paid for?***

Mid-administration change: Beginning on Dec. 7, 2009, the condition for asking this question dropped the phrase "TEEN SELECTED."

CHIS 2009 Mid-Administration Changes--Adolescent

Section K

TI3	QT09_K11	***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	QT09_K12	***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	QT09_K13	***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	QT09_K14	***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.

APPENDIX B

CHIS 2009 ADVANCE LETTER (IN ENGLISH ONLY)

UCLA | UCLA CENTER FOR HEALTH POLICY RESEARCH

Dear Current Resident,

Your household has been selected for this year's California Health Survey. This important telephone survey is your opportunity to have your voice heard on health issues.

This survey helps California learn about the health of its people and the problems they have getting health care. The results may help the people and families in your community.

Your household is very special because you are part of a scientific sample representing many other households like yours. We do this survey every two years. Since 2001, more than 200,000 Californians have talked to us about many different health topics.

We will be calling sometime in the next two weeks and one adult in your household will be selected for the interview. If you have teenagers (ages 12-17), we will ask to interview one with permission from a parent. Participation is voluntary and confidential. Your answers will be combined with other participants and used only for statistical reporting.

Please take a moment to take our call. We are not selling anything or asking for money. If we call at an inconvenient time, you can suggest a better time for us to call back. To thank you in advance for taking our call and hearing about this survey, we are enclosing a $2 bill. This small gift is for you to keep whether or not you decide to participate (this money is not from State or local taxes).

Thank you for your help.

Sincerely,

Dr. E. Richard Brown
Director, UCLA Center for Health Policy Research

Note: If you have questions about the California Health Survey, you can call toll-free 1-888-941-2950 or visit our website at www.californiahealthsurvey.org

Major funders of this survey include the California Department of Health Care Services, California Department of Public Health, First 5 California, Office of the Patient Advocate, The California Endowment, and the National Cancer Institute.

Relevant to Privacy Act Information, the legislative authority for this survey is 42 USC 285.

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