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THE EFFECTS OF PERSON-LEVEL VS. HOUSEHOLD-LEVEL QUESTIONNAIRE DESIGN ON SURVEY ESTIMATES AND DATA QUALITY[1]

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Abstract: Demographic household surveys frequently seek the same set of information from all adult household members. An issue for questionnaire designers is how best to collect data about each person without compromising data quality or lengthening the survey. One design strategy is the person-level approach, in which all questions are asked person by person. An alternative approach uses household-level screening questions to identify whether anyone in the household has the characteristic of interest, and then identifies specific individuals. Common wisdom holds that the person-level approach is more thorough. Household-level screening questions offer important efficiencies, since they often present a question only once per household, but may be suspect with regard to data quality. Little research exists comparing these two design strategies.

This paper presents results from Census Bureau's 1999 Questionnaire Design Experimental Research Survey, which included a split-ballot test comparing person-level questions to household-level questions. We find some evidence that the use of a household screener entails an increased risk of under-reporting relative to a person-level design for some topic areas. We also find evidence, however, that the household-level approach produces more reliable data than the person-level approach for most topic areas. Item nonresponse is generally trivial in both treatments. Behavior coding results showed no inherent superiority of one or the other design. We do find the expected increase in interview efficiency with the household-level design, and some evidence that interviewers preferred it. We conclude with a brief discussion of the implications of these findings, and suggestions for further research.

Keywords: field experiment, nonresponse, data quality, response variance, behavior coding, QDERS

1. Introduction and Background

Designers of household demographic surveys face a multitude of questionnaire and procedural design options, each of which offers a mix of not-always-easily-quantifiable costs and benefits. One such option, which has found a home in some of the major

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demographic survey programs of the U.S. government (e.g., the National Crime Victimization Survey and the Survey of Income and Program Participation), is the near-exclusive use of person-level questions to assess the social and economic characteristics of interest to policy-makers and the research community in general: Does John have a disability? Does Mary own a business? Is Robert covered by health insurance? Does Susan receive Food Stamps? Such surveys generally conduct person-level interviews for all eligible household members, returning to the "top" of the interview and repeating the entire questionnaire sequence for each eligible household member in turn. An alternative to the strict person-level approach is a design which first screens for the presence of the characteristic of interest for *any* member of the household, and then follows up as needed to identify specific individuals who possess the characteristic. To distinguish this from the traditional person-level approach, we term this the "household-level" approach.

The person-level approach has a long history in survey organizations, perhaps because it is relatively easy to administer in a paper and pencil interview. However, this advantage is disappearing with the widespread use of automated instruments, which enable fairly smooth administration of a household-level design. Furthermore, there is clear evidence that the person-level design has problems – in terms of perceived tedium and burden, and proper implementation (Hess, Rothgeb, Zukerberg 1997; Hess and Rothgeb 1998). While these factors suggest there may be important benefits of a household-level design, there is an assumption that the use of household-level questions, compared to a thorough, person-by-person enumeration, increases the risk of missed events and circumstances, and consequently results in under-reporting.

We understand the intuitive appeal of this assumption, but stress that it is an assumption, and note that its bottom-line proposition – more reporting is better reporting – is only rarely supported by concrete evidence for the survey measures of concern here. In fact we find very little evidence in the research literature concerning the costs and benefits of the person-level approach as compared to alternatives such as the household-level approach (or, for that matter, any other questionnaire – as opposed to question – design issue). Especially in recent years, survey organizations have become increasingly interested in finding ways to increase interview efficiency, in particular as a means of combating an increase in survey nonresponse (e.g., Groves and Couper 1998). Thus we implemented the experimental study that is the focus of this paper, in order to gather quantitative evidence which might inform this questionnaire design decision. Our evaluation is comprehensive and based on multiple methods including a comparison of survey estimates, response variance measures, item nonresponse, behavior coding of interviewer and respondent interactions, an interviewer evaluation form, and interview length.

The remainder of this paper is organized as follows: The next section begins with a brief discussion of the research survey developed for this experiment, as well as the basic technical and procedural aspects of its implementation. Section 3 describes the methodologies we used to evaluate the two questionnaire treatments. Sections 4 presents

results of the evaluations by questionnaire topic. Section 5 presents results of interview length and interviewers' evaluations of the two designs. And finally we offer some conclusions and suggestions for future research.

2. Methods and Procedures

2.1 The Questionnaire Design Experimental Research Survey (QDERS)

The research presented here was embedded in the initial launch of the Census Bureau's Questionnaire Design Experimental Research Survey (QDERS), a special survey developed by Bureau staff for conducting questionnaire design research in the field but "off-line" from the agency's ongoing production surveys. The goal of QDERS is to allow Census Bureau researchers an opportunity to conduct questionnaire design field experiments in a flexible environment, without risking impacts on important statistics or placing additional burdens on already-overburdened production survey staffs. The first QDERS, fielded in April 1999, included several experiments on alternative questionnaire design strategies for collecting information about functional limitations (disabilities), health insurance coverage, transfer program income sources, asset ownership, asset income amounts, and within-household relationships. (See U.S. Census Bureau, 1999 for a description of QDERS in general and the 1999 QDERS implementation specifically.) This paper focuses on the person-level/household-level component of the 1999 QDERS experiment.

2.2 Sampling and Experimental Design

QDERS was a split-sample controlled experiment, using paper and pencil questionnaires in a telephone interview. We used a nationally representative (excluding Alaska and Hawaii) RDD sample, with independent samples for each of the two treatments. (See *GENESYS Sampling Systems* for a more complete description of the QDERS RDD sample.) Interviewing was conducted from one of the Census Bureau's centralized telephone facilities. Once an interviewer reached an eligible residential phone number, he or she conducted an interview with one household respondent, who was asked to report for himself/herself and up to five other persons in the household.

2.3. Questionnaires

In this section we describe the two questionnaire designs used to test the person-level and household-level approaches. As previously noted, these were paper-and-pencil questionnaires, administered in a telephone interview. The basic questionnaire content for each treatment was identical; only the manner in which the questions were asked differed. The distinctions between the questionnaires for each treatment are provided below.

2.3.1 Person-level design

Interviewers using the person-level approach first identified an eligible household respondent, and then, using Form A (see Attachment A), completed a household roster and basic demographic questions about each household member, asking separate questions for each person. The characteristics collected in this part of the interview included relationship, usual residence (whether each person listed on the household roster usually lives at this residence), Hispanic origin, race, sex, and age for all persons; and marital status, armed forces service, and school enrollment for persons 15 years of age or older.

Once Form A was completed, interviewers used Form B (See Attachment B) for cases assigned to the person-level treatment to collect content data for each person in the household, including questions about functional limitations, health insurance coverage, types of program income, and ownership of selected assets. Form B was a completely person-level instrument – interviewers completed a separate Form B for each person in the household.

2.3.2 Household-level design

For cases in the household-level treatment, interviewers used Form X (see Attachment C) to capture the household roster and household members' basic demographic characteristics. Form X captured the identical content as Form A (see above); the only important difference was that for four of the characteristics (usual residence, Hispanic origin, service in the armed forces, and school enrollment), the instrument used a "household-level approach" – "Does everyone we have listed usually live here?" "Is anyone we have listed Spanish, Hispanic, or Latino?" "Has anyone we have listed ever served on active duty in the U.S. armed forces?" and "At anytime between September 1998 and today, was anyone we have listed enrolled in school either full or part time?" The household-level approach permits an easy household-level response, instead of requiring that each question be asked separately about each person, and only follows up at the individual level as necessary (e.g., "Who does not usually live here?").

Once the demographic questions were completed for the household, interviewers continued to administer the household-level treatment using Form Y (see Attachment D) to collect content data. For the relevant content questions, Form Y was designed as a series of household-level screening questions ("Does anyone in this household ... have any difficulty climbing a flight of stairs without resting?" "Did anyone in the household receive any Social Security payments at any time in 1998?" etc.) with appropriate follow-up questions as necessary ("Who has this difficulty?" "Who received these payments?") to identify individuals with the characteristic of interest. In this treatment, one questionnaire sufficed for the entire household.

2.4 Data Collection

2.4.1 Interviewers and interviewer training

A staff of 22 experienced telephone interviewers received approximately five hours of initial QDERS training. Interviewers received separate training, in two groups of 11, depending on the initial treatment condition to which each interviewer was assigned. During the first half of data collection, each interviewer administered only one of the questionnaire treatments. Midway through data collection interviewers were shifted across treatments; they received training on the opposite treatment and they worked on that treatment exclusively from that point forward. Through these procedures we hoped to allow interviewers to become familiar with and adept with each treatment separately, but also to avoid confounding treatment outcomes with interviewer differences. Inevitably, we experienced some interviewer attrition; only seven (of 11) interviewers who were initially trained on the person-level treatment were available at the midpoint to be trained on the household-level treatment, and similarly only10 (of 11) initial household-level interviewers were subsequently trained on and administered the person-level treatment.

All sample cases were "released" for interviewing at the beginning of data collection. The timing and switch of interviewers and treatment occurred approximately midway through the field period, after 11 days of interviewing. At this point, well over half (in fact, approximately two-thirds) of the eventual total of 1,304 interviews had been completed. Following the switch, and the second training session, data collection continued for 9 more days. Although the implementation design was less than optimal from the standpoint of experimental rigor, we have no reason to believe that it affects our understanding of the results of the person/household experiment.

2.4.2 Response rates

We started with 5,870 sample phone numbers, which had been pre-screened to eliminate known business numbers. This sample size was projected to be sufficient to produce the targeted number of completed interviews, which was 1,800 (900 in each treatment). As is often the case with telephone surveys, we can identify the upper and lower bounds of QDERS response rates, but, due to the presence of a substantial number of cases with unknown eligibility, we are unable to provide precise point estimates. Using accepted response rate calculation guidelines (American Association for Public Opinion Research 1998), the "near minimum" response rate overall for QDERS (including partial interviews as completes, and including all cases of unknown eligibility in the denominator) was 36%, and the "maximum" response rate (also including partial interviews as completes, but excluding unknown eligibility cases from the denominator) was 46%. Excluding eligible non-contact cases from the denominator yields a cooperation rate of 52%. Due to budget, time, and operational constraints, QDERS procedures did not include any special refusal conversion attempts, and as a result refusals accounted for approximately half of

the observed non-response, or about 30% of all cases. The final number of completed interviews (households) was 1,304, of which 13 were subsequently excluded due to missing data, for a final total of 1,291 completed interviews.

At the high end – but not at the low end – response rate estimates differ significantly by experimental treatment. Under the same definitions as above, we estimate the minimum/maximum range for the person-level treatment as 37% to 44%; the comparable range for the household-level treatment is 36% to 48%. Cooperation rate estimates – 51% for the person-level treatment and 54% for the household-level treatment – do not differ significantly, but we do see a significant difference in refusals, which accounted for 32% of all cases assigned to the person-level treatment, compared to 27% for the household-level treatment. While statistically significant, we doubt that the treatment difference in nonresponse is of sufficient magnitude to affect the overall experiment seriously.

Regardless of the range in response rate estimates, it is nevertheless quite clear that the true QDERS response rate, although probably not terribly out of line with non-government RDD surveys, fell substantially short of the typical rate for Census Bureau and other government surveys. Since our goal was to look for differences associated with experimental treatments, we are perhaps somewhat more justified in ignoring the biasing effects of nonresponse than we would be had we intended to use these data to make precise estimates of population parameters. The general similarity of the response rate estimates for our two treatments offers some additional comfort in this regard, as does the absence of differences between treatments in the distribution of basic demographic characteristics. On the other hand, while we have no reason to believe that the propensity to respond to the QDERS survey would interact with the propensity to be affected by our questionnaire design treatments, the low rate of response represents a limitation on confidence in the reliability of our findings.

3. Evaluation Methodologies

We employ several different approaches in our evaluation of the results of the person-level/household-level questionnaire design experiment. These include survey estimates, item nonresponse, response reliability, behavior coding of interviewer and respondent interactions, survey length, and interviewer assessment. Each of these is described in more detail below.

Note that for all of the analyses carried out to evaluate the person/household experiment (save the interviewers' assessments), we restrict our analysis to interviewed QDERS households containing more than one person, since the decision about whether to use person-level or household-level questions only has relevance in those circumstances. In 1-person households the household-level interview's "Did anyone in this household..." wording was obviously inappropriate, and so was modified to a "Did you..."-type question, rendering the two treatments identical. Thus, the analysis sample for purposes

of evaluating the person/household experiment (ignoring occasional missing data for some items) was limited to the 908 interviewed households containing 2 or more persons; the number of people in these households was 2,948.

3.1 Survey estimates and item nonresponse

We examine the extent to which the two treatments yield different estimates for the characteristics of interest, and different levels of item nonresponse. The left data column of Table 1 shows the observed estimates, and, for quick reference across a multitude of estimates, an indicator of the direction of the observed difference regardless of statistical significance. Statistically significant differences are presented in bold font. Unless otherwise stated, we use a chi-square test to evaluate treatment effects, and we use the $p<.10$ level as the standard for statistical significance.

Item non-response is shown in the right data column of Table 1. Item nonresponse decreases the utility of survey data by increasing uncertainty about the precision and representativeness of survey estimates (Groves and Couper 1998). Despite its limitations as a measure of actual data quality, item nonresponse is often used as a general marker of survey data quality. This is likely due in large part due to its easy accessibility, unlike other markers that may be more definitive indicators of data quality but are harder to measure.

For person-level interviews, determining item nonresponse at the individual level is quite straightforward – the respondent says "don't know," or refuses to provide an answer, in response to the question "Does NAME (Do you) [have characteristic X]?" Establishing individual-level item nonresponse under questionnaire procedures employing a household screener approach is not as straightforward – particularly for "don't know" nonresponse – so we describe the household-level procedures in some detail here.

Refusals: In the QDERS household-level interview, a refusal-type nonresponse to the initial household screening question ("Does anyone in the household [have characteristic X]?") was coded as a refusal at the individual level for all household members. The other route to a refusal outcome was a refusal following a "yes" response to the screener. Respondents could refuse to answer the "Who?" or "Anyone else?" follow-up probes, in which case household members not identified as having the characteristic were coded as refusals.

Don't Know's: A "don't know" in response to a household-level screening question is ambiguous; does the respondent not know about anyone's status, or is he or she only uncertain about some members of the household, with the others being definite "no's"? In the demographic, income sources, and asset questions, the QDERS household-level interview attempted to distinguish between these circumstances by asking, following a "don't know" to the household screener, "Who are you uncertain about?" The responses to this followup were the primary source of "don't know" nonresponse at the individual

level, for persons so named (those not identified as "uncertain" cases were assumed to not possess the characteristic). A "don't know" outcome could also occur if, following a "yes" response to the screener, the respondent replied with a "don't know" in response to the request to identify which household members possessed the characteristic of interest. This also elicited the "Who are you uncertain about?" followup, and persons so named were also coded as "don't knows" at the individual level.

Questions on functional limitations and health insurance did not include the "Who are you uncertain about?" follow-up probes. In these items, a response of "don't know" to the household-level item resulted in the recording of a "don't know" nonresponse for each person in the household; an individual level "don't know" could also be recorded if the respondent said "don't know" in response to the "Who (has the characteristic)?" follow-up probe.

3.2 Response reliability

An important indicator of survey data quality is the reliability of responses – the extent to which the consistent administration of a survey question, under consistent conditions, leads to consistent replies. Although high reliability does not automatically mean high data quality (a consistently incorrect response may be perfectly reliable), high reliability is nevertheless a necessary condition for high data quality, and it is generally assumed that increases in reliability indicate increases in overall data quality.

The QDERS experiment included a response variance reinterview of approximately 500 households in each treatment to permit a comparison of the reliability of the data produced by the person-level and household screener interview designs, shown in Table 2. For the most part, reinterview procedures mimicked the original interview procedures. The same facility and staff were used, the introductory script was modified slightly for reinterview, and interviewers collected all the information that was gathered in the original interview, in the same manner, with the exception of the household roster. An office procedure carried out prior to reinterviewing transcribed the household members' names from the roster of the original interview onto the reinterview roster; at the start of the reinterview, interviewers verified that those listed still lived in the household, and anyone no longer in residence was simply dropped from the reinterview roster. Interviewers were allowed to conduct the reinterview with any eligible household member, regardless of who had served as the original interview household respondent. The field period for the reinterview began about two weeks after the original interview field period ended, and ran for about two weeks. All 1,291 originally-interviewed households were eligible for reinterview; altogether 1,088 reintervews were completed.[2]

[2]Due to budget constraints, we requested 450 completed reinterviews per treatment for a total of 900 cases. We stopped reinterview once we were aware that they had exceeded our targeted caseload.

We use two measures of reliability to interpret the reinterview data: the "aggregate index of inconsistency" and the "gross difference rate" (GDR). The aggregate index of inconsistency (referred to as "the index" in the remainder of this paper) estimates the ratio of simple response variance to the combined total of sampling variance and simple response variance for a survey item. The GDR is simply the percentage of responses that change between the original interview and the reinterview. The index of inconsistency takes into account an item's distributional properties, and is the most commonly-used measure at the Census Bureau to evaluate the results of reinterview studies. A low index indicates high reliability; conversely, a high index indicates low reliability.[3] The GDR measure of reliability, on the other hand, is confounded by the frequency of the characteristic being measured. While a large GDR is indicative of a problem, a small GDR does not necessarily mean the item is without problems. For example, the GDR may be small but the index may be high for items measuring very rare characteristics. Despite the limitations of the GDR for producing precise reliability estimates, it is still useful for experimental evaluation purposes, and its simplicity offers an intuitive clarity and appeal that is somewhat lacking in the index of inconsistency, and thus we show both measures in the results that follow. We also note that the two measures yield highly consistent results – in almost all cases they support each other and point to the same conclusions.

3.3 Behavior coding

We used behavior coding, the systematic coding of interviewer/respondent interactions during an interview, as an additional analytical tool in the QDERS study to assess the person/household experiment in terms of the quality of the interview event. (See Fowler 1992 and Oksenberg, Cannell, and Kalton 1991 for a general description of behavior coding and its uses as a means of evaluating survey questionnaires.) QDERS procedures called for the tape recording of all interviews conducted from telephones equipped with tape recoding devices. Over 800 original interviews were recorded and a sample of 100 taped interviews were behavior coded. This permits a comparison of the extent to which household- and person-level interviewers followed their respective interview scripts, and household- and person-level respondents provided adequate responses. Note that for these analyses we restrict our focus, as we have done throughout this paper, to households containing at least two people – 75 such interviews were behavior coded.

All 13 coders (who were recruited from Census Bureau methodological research staff) received both general training in behavior coding as well as training specific to each type of interview, person-level and household-level. In an attempt to minimize confounding coders' experience and other characteristics with behavior coding outcomes, coders were split into two groups – one group received specific training on the person-level

[3] As a rule of thumb, the Census Bureau considers an index of less than 20 as low response variance (high reliability); an index between 20 and 50 and moderate response variance; and one over 50 as high response variance (low reliability) (see McGuinness 1997).

instrument and coded those interviews first, and then received training on and switched to coding the other interview type; the order was reversed for the second group of coders. Thus, each coder coded approximately equal numbers of each type of interview, and coding experience was approximately equally distributed across interview treatments.

We evaluated coders' understanding of the materials presented in training, and their reliability in assigning interviewer and respondent codes, through an intercoder reliability exercise immediately following the training. All coders coded the same four taped interviews, two for each questionnaire treatment. The median kappa score for between-coder agreement on interviewer codes was .58 (person-level) and .75 (household-level) and the score for between-coder agreement for respondent codes was .57 (person-level) and .62 (household level). Kappa values above .75 represent excellent agreement and values from .40 to .75 represent fair to good agreement beyond chance (Fleiss 1981). Thus, our median values represent fair to excellent agreement between coders. (See Fleiss 1981 for a description of intercoder reliability.)

3.3.1 Interviewer codes

The codes for interviewers' question-reading behaviors included the standard array: exact wording/slight change, major change, verification, and omission.[4] We conducted three types of analyses to compare the person-level and household-level approaches with regard to interviewer behaviors: 1) an analysis of behaviors for the initial reading of the question, 2) an analysis of how the question or the relevant followups were administered for the rest of the household, and 3) a global assessment of the interviewer's initial question reading and follow-up performance for a particular characteristic with regard to all relevant members of the household.

This analysis strategy was dictated by the fact that, with the household-level approach, the full question text is intended to be read only once – a "no" response (i.e., no one in the household possesses characteristic X) results in no other questions being asked for other household members, and a "yes" response results in a simple series of "Who? Anyone else?" followups. This interview sequence is in marked contrast to the person-level approach, in which each person, in turn, is administered the full question individually. Thus, the only directly comparable interviewer behaviors in the two interview treatments involve the reading of the question for the first person in the household in the person-level treatment, and the household screening question in the household-level treatment. We refer to this below as the "initial reading."

[4]All coding procedures are described more fully in the QDERS Behavior Coding Training Guide (Keeley 1999).

Results of the analyses for the initial reading of the question are summarized in the column labeled "Person 1/HH-Screener" in Table 3. For simplicity, we collapse the results of the coding into a dichotomous measure representing good and bad interviewer behaviors, which we define, respectively, as reading the question exactly as worded, reading the question with a slight change that does not alter its meaning, or correctly verifying the information ("good"), versus making major, potentially meaning-altering changes to question wording, incorrectly omitting an "on-path" question, or incorrectly reading an "off-path" question ("bad")**.**

We also looked at the implementation of the question for the rest of the household, after the administration of the person-level question to person 1, or, in the household-level treatment, after the administration of the household screener. The results of this analysis are summarized in the column labeled "Persons 2+/'Who' Followups" in Table 3.

The global assessment, labeled "Whole Household" in Table 3, combines results from the first two columns of the table and represents the interviewer's overall administration of all questions necessary for establishing the status of all household members on the characteristic of interest, including the initial reading of the question and all necessary followup questions. The essential question of this scheme was: did the interviewer administer the procedures properly such that, at the end, the status of each person on the characteristic of interest was clearly established? In the simple case of a "no" response to the household screener question, the interviewer's behavior was coded as "good" for the whole household based on his/her reading of the screener question. If, however, the response to the screener was "yes," then coders had to assess whether the interviewer correctly administered sufficient "Who?" and "Anyone else?" follow-up probes until all household members were accounted for. In this case, if both the initial screening question and all necessary followups were administered properly, the interviewer's behavior was considered "good" at the "whole household" level; otherwise the behavior was considered "bad." For person-level interviews, the interviewer's "whole household" behavior was coded as "good" if he/she exhibited good behavior every time the question was appropriate in the household. If the interviewer mis-read the question for the first person in the household, or read the question exactly for the first person but made a major change for any subsequent person, that was coded as bad interviewer behavior at the whole household level. The household-level interview offers an advantage in this regard, of course, since in many households one question – the household-level screener – elicits sufficient information for all household members, while the person-level approach requires separate questions for each person, even if all are "no."

3.3.2 Respondent codes

The behavior coding exercise also produced data about respondents' question-answering behaviors. Respondent codes followed standard practice quite closely: adequate answer, inadequate answer, qualified answer, request for clarification, don't know, and refused; we also coded "break-ins," when respondents interrupted the interviewer before the

question could be read completely. The respondent coding results, shown in Table 4, are also simplified to a dichotomous "good/bad" indicator; the figures in Table 4 represent the proportion of respondents who provided adequate or qualified answers in response to the initial reading. The residual category includes inadequate answers, requests for clarification, don't know's, refusals, and all other behaviors. (Although we coded respondent interruptions to question reading, such behaviors were very rare; for the purposes of this initial analysis we ignore these codes, and use the substantive first-level respondent behavior code instead.)

3.4 Interview length and interviewers' assessments

We compare the two treatments in terms of interview length and interviewers' assessments of their strengths and weaknesses. We did not capture information about the duration of each interview during the field period. However, the fact that we tape-recorded many interviews for subsequent behavior coding does provide a means of evaluating the length of the QDERS interviews. For each type of interview, we drew a random sample of 25 completed interview cases which according to our records had been tape recorded, and which included two or more people in the household. Attrition from this sample due to missing tapes and inaudible recordings left us with 17 cases for analysis from each interview treatment. We determined the length of each of these 34 interviews by re-playing the recording[5].

At the midpoint of the QDERS field period, when interviewers shifted from one questionnaire treatment to the other, and again at the end of interviewing, we distributed a brief questionnaire to QDERS interviewers, requesting their assessment of the particular form they had just finished working on. Interviewers were asked to rate several aspects of the questionnaire on a 7-point scale such as its ease/difficulty of use, efficiency/tedium, boring/engaging, level of consideration respondents gave to their answers, whether the design reduced/made worse respondents' concerns about question sensitivity, interviewers' confidence/lack of confidence about data quality, and how well/poorly the questionnaire worked in various types of households.

4. Results

Results of the survey estimates, item nonresponse, response reliability, and behavior coding are presented below by questionnaire topic – demographic characteristics, functional limitation, health insurance, income sources, and asset ownership – followed by results of the interview length and interviewer assessments.

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[5]In fact, we determined the literal length of each interview by noting its final tape recorder "counter" value, which represents the number of inches of tape consumed. We applied an empirically-derived formula to translate the "counter" value for each interview into a time duration equivalent, which we rounded to the nearest half-minute.

4.1 Demographic characteristics

4.1.1 Demographic characteristics survey estimates and item nonresponse

The first panel of Table 1 compares the estimates (left-hand data column) and item nonresponse (right-hand data column) for the four demographic characteristics of relevance to the person/household experiment: listed household members' "usual residence" status, Hispanic origin, service in the U.S. armed forces, and current school enrollment. All persons, including children under age 15, were included in the questions about usual residence and Hispanic origin, and are included in Table 1 in the calculations of the estimates for these characteristics; only persons aged 15 or older were included in the service in the armed forces and current school enrollment questions, and only those persons are included in these estimates.

The two treatments produced very similar estimates for three of the four comparisons, although we do detect a statistically significant difference in reported current school enrollment, among whom the person-level approach yielded a higher estimate of current enrollment than the household-level approach (21.5% vs. 18.7%). Item nonresponse was almost nonexistent for the four demographic characteristics of interest, regardless of instrument treatment, and was in fact nonexistent in some instances. To be consistent, we show the direction of observed "differences," but it is difficult to apply that term to these results, which are vanishingly small and never more than a tenth of a percentage point apart.

4.1.2 Demographic characteristics response variance

The person-level vs. household-level reliability comparisons for the four demographic items are summarized in the top panel of Table 2. One of the items – current school enrollment – shows a clear difference between the experimental treatment groups, with the household-level approach producing significantly more reliable results than the person-level treatment according to both indicators (for the index, $z=4.55$ (1466df), $p<.001$; for the GDR, $z=3.79$ (1466df), $p<.001$). None of the other comparisons is significant.

4.1.3 Demographic characteristics behavior coding

As shown in the top panel of Table 3, there are no significant differences between the person-level and household-level treatments with regard to how well interviewers read the question the first time it was administered in the household ("Person 1/HH Screener"), nor for the administration of subsequent questions and followups to the rest of the household, nor (not surprisingly) for the household as a whole. Respondent codes, shown in the top panel of Table 4, show no differences in respondents' ability to produce "good" behaviors.

4.1.4 Demographic characteristics: Summary of results

The person-level treatment produced higher estimates for one of the four demographic characteristics (school enrollment); however, the response reliability results indicate that the person-level treatment resulted in lower reliability for this same item. Item nonresponse and behavior coding results showed no difference between the two treatments. With the exception of school enrollment, estimates of selected demographic characteristics appear to be unaffected by the use of a household-level approach to obtain individual-level data, compared to a person-level approach.[6]

4.2 Functional Limitations

4.2.1 Functional limitation survey estimates

QDERS included questions on five functional limitations – "difficulty" with: seeing the words and letters in newsprint, lifting and carrying 10 pounds, climbing a flight of stairs without resting, walking a quarter of a mile, and hearing what is said in normal conversation – and a question on the use of special aids. These questions were asked of persons aged 15 or older.

The estimates and item nonresponse produced by the two questionnaire treatments are summarized in the second section of Table 1. Only one comparison ("difficulty lifting") indicates a statistically significant difference, with the person-level questionnaire design identifying more persons with this difficulty than the household-level approach. Item nonresponse for both versions is trivial and there are no statistically significant differences.

In addition to comparing the individual functional limitations items, we constructed three summary measures paralleling previous work in this content area *(*McNeil 1993*)* – the proportion of persons with any functional limitation, the proportion with a severe limitation, and the number of functional limitations reported per person. We also constructed a fourth summary measure to compare the proportion of households in which at least one person was identified with a functional limitation. (These summary measures are calculated using the five individual limitations items, excluding the use of special aids.) According to all of these summary measures (which, of course, are not independent of each other), the person-level design results in a higher estimate of persons with any functional limitation, a higher estimate of persons with a severe limitation, and a higher estimate of households in which someone had a limitation than the household-level approach. Detailed results for the number of functional limitations per person further indicate that while both approaches worked equally well at identifying people

[6] Due to the lack of literature on the reporting of school enrollment, we cannot assume that more reports of school enrollment are indicative of improved data quality.

with multiple limitations, the person-level approach identified more people with a single limitation. Four of the five individual functional limitations items used in calculating the summary measures are higher for the person-level approach (although only one is statistically significant) and the estimates for the fifth limitation (seeing) are almost identical between treatments. Differences between the person-level and household-level summary functional limitation measures likely reflect the cumulative impact of the marginally higher person-level estimates for the individuals items.

While the direction of the differences for these summary measures may be crystal clear, their interpretation with regard to data quality is somewhat less so. To our knowledge there have been no validation studies regarding functional limitations; therefore, we cannot assume that more reports of limitation are necessarily better.

4.2.2 Functional limitations response variance

As shown in the second panel of Table 2, we find no significant differences in reliability between the person-level design and household-level design, by either measure of reliability, for the six individual functional limitations items. For three of the four summary measures, however, the household-level approach produced significantly more reliable data than the person-level approach. These data suggest that there is a tendency, when the items are used cumulatively, for the person-level approach to produce less reliable measures of functional limitations than the household-level approach.

4.2.3 Functional limitation behavior coding

The second panel of Table 3 summarizes the considerably more complex results concerning interviewer behaviors for the six functional limitations items. Starting with the "Person 1/HH Screener" results, we see a clear trend toward a more by-the-book initial administration of the first person-level question as compared to the household screener, with significant differences in that direction for two items. Following that, however, for subsequent persons (person-level) or the "who?" followups (household-level), the household-level approach appears to have elicited considerably more successful interviewer behaviors. As a result, the "whole household" assessment is a decided mix, with significant effects in both directions.

4.2.4 Functional limitations: Summary of results

The person-level approach produced higher estimates for one of the six individual measures of functional limitations (difficulty lifting). Although the two treatments showed no differences in identifying persons with multiple limitations, the person-level approach produced higher estimates for all other summary measures. The response reliability measures showed no statistically significant differences between the two treatments among the individual functional limitation items, but three of the four summary measures showed higher reliability using the household-level approach. There

was no difference between treatments regarding item nonresponse. Behavior coding data showed mixed results with regard to interviewer reading errors resulting in significant differences for both treatments at the whole household level. Respondents had little difficulty providing adequate answers to these item regardless of treatment.

As with the item on school enrollment in the demographic characteristics section, results for the summary measures of functional limitations indicate that the person-level approach produces higher estimates, but that higher estimates tend to be associated with lower reliability. Due to the lack of supporting research regarding the measurement of functional limitations, we cannot state for certain that the person-level approach improves data quality by reducing under-reporting. To the contrary, our results suggest that the higher estimates resulting from the person-level approach, in fact, may reduce reliability.

4.3 Health Insurance

4.3.1 Health insurance survey estimates and item nonresponse

The QDERS interview included questions on seven types of health insurance coverage – employer/union-based, direct purchase, coverage on a policy held outside the household, Medicare, Medicaid, military or Indian Health Service, and "any other plan." These questions were addressed to all household members regardless of age. Among those not reported as covered by one of these seven types of insurance, a final question was asked in order to verify whether they were actually uninsured. The coverage estimates and item nonresponse for each of these types of health insurance, and the uninsured, are summarized for each questionnaire treatment in the third section of Table 1.

The health insurance results indicate that the person-level approach yielded significantly more reports of employer/union-based coverage than the household-level approach (75.1% vs. 65.3%). However, there is some evidence to suggest that the lower rate of employer-based coverage in the household-design is associated with improper administration of the questionnaire stemming from the hard-copy design.[7] For all other types of insurance coverage the differences between questionnaire treatments were small and non-significant. The difference in employer/union-based coverage reports, which of

[7]In the household-level treatment, interviewers first identified all policyholders in the household and then identified dependents on those policyholders' plans. Detailed behavior coding results indicate that often interviewers did not probe sufficiently to identify all policyholders in the household,; therefore, follow-up questions to identify dependents on those plans were not asked. This failure to probe for all policyholders may have been associated with the hard-copy design; an automated instrument that displayed the entire household roster and controlled the flow of questions may have aided interviewers in proper administration of the policyholder question. The apparent underreporting of employer-based plans in the household-level design, then, could be an artifact of the particular QDERS hard-copy design, and not of the household-level approach in general.

course is far and away the most common type of health insurance in the U.S.[8], is clearly the driving force behind the large and significant difference between questionnaire treatments in the uninsured rate – 12.6% in the household-level approach compared to only about half that rate (6.6%) for person-level interviews.

Overall, item non-response was low for both treatments. The household-level approach produced higher item nonresponse for the item on Medicare coverage; however, it is important to note that cell sizes were particularly small for this item due to an age screener. We conclude from these results that the difference in item non-response is very small and without substantive importance.

4.3.2 Health insurance response variance

The health insurance results, summarized in the third panel of Table 2, reveal several statistically significant differences in reliability across the person- and household-level interview treatments, all of which indicate greater reliability for the person-level design. It is interesting to note, however, that for the one constructed item, a simple dichotomous variable indicating for each person whether he or she was covered or not (regardless of insurance type), the treatment differences in reliability are not significant, and in fact point in opposite directions. This seems to suggest that the household-level design may be less reliable than the person-level design in characterizing household members by particular type of coverage, but that there are no real differences in reliability across designs with regard to the measurement of whether household members are insured or not.

4.3.3 Health insurance behavior coding

The health insurance results (summarized in the third panel of Table 3) reveal no statistically significant differences between interview treatments with regard to interviewers' question-reading behaviors. However, across all three categories of comparisons we note that all of the observed differences favor the household-level treatment with one exception: employer-based plans. The third panel of Table 4 shows a statistically significant difference in respondent behavior for one of the seven items. Respondents were significantly more likely to display "good" behaviors under the person-level approach when answering the question on Medicaid.

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[8]Official U.S. statistics on health coverage are based on the Current Population Survey. In 1998 (the most recent year for which CPS figures are available), 62.0% of the total population was covered by employer/union-based insurance. The next-most-common type of insurance was Medicare, covering 13.2% of the total population. [Source: CPS WebSite, Health Insurance Historical Table 1: Health Insurance Coverage Status and Type of Coverage by Sex, Race and Hispanic Origin: 1987-1998]

4.3.4 Health insurance: Summary of results

On the surface, the results for health insurance survey estimates mirror quite closely the findings for demographic characteristics and the individual measures of functional limitations – there is one significant finding in favor of the person-level treatment. A major difference, however, is the extent to which this one case – employer/union-based plans – dominates the landscape of health insurance. In assessing health insurance coverage, all items are not equal. We cannot escape the conclusion that, in this instance, the person-level approach identified more persons with employer/union-based coverage, and this difference is the driving force behind the statistically significant difference in the rate of uninsured between the two treatments. Item nonresponse is minimal for both treatments. The one statistically significant finding in favor of the person-level approach is questionable due to small cell sizes for that particular item. All significant differences based on response reliability indicate that the person-level approach is more reliable than the household-level approach (three of seven items using the index and five of the seven items using the GDR). We note again, however, that the apparent superiority of the person-level design applies only to responses regarding specific types of coverage – reliability estimates did not differ with regard to a summary insured/not insured measure. There were no statistically significant differences in interviewer question reading errors between treatments, and only one significant difference in respondent behaviors favoring the person-level approach.

Results for the previous topic areas (e.g. school enrollment and the summary measures of functional limitations) suggest a possible trade-off between survey estimates and response reliability, such that higher estimates are associated with lower reliability. Although results for health insurance favor the person-level design both with regard to survey estimates[9] and response reliability, we caution that results may be in part due to procedural problems associated with identifying policyholders in the QDERS household-level paper questionnaire and may not be indicative of the household-level approach in general.

4.4 Program Income Sources

4.4.1 Income sources survey estimates and item nonresponse

[9]There is very little evidence in the survey methods literature to suggest respondents either under-report or over-report health insurance coverage. However, there is some recent evidence (Nelson et al. 2000) suggesting that the validity of respondents' self-reports is fairly high when reporting whether they are covered or not, but fairly low when reporting the particular source of coverage (employer-based, directly-purchased, etc.). Specifically, in a study that compared respondents' self-reports to reports from staff at their health plans, respondents appear to over-report employer-based coverage and under-report public insurance (assuming the health plan staff are the more accurate reporters).

QDERS included questions on receipt of income from seven government program sources – worker's compensation, unemployment benefits, Social Security, veteran's payments, SSI, food stamps, and AFDC/welfare/public assistance. These questions were asked only of persons aged 15 or older, and only those persons are included in the estimates.

Of the seven income types shown in the fourth panel of Table 1, only one of the estimates shows a significant difference between the two treatments. In this case, the estimated frequency of receipt of Social Security is significantly higher for the household-level approach than for the person-level approach (17.4% vs.13.8%). Note that the direction of this difference runs counter to the conventional wisdom that the use of a household-level questions entails greater risk of under-reporting than the standard person-level approach. Moore, Stinson, and Welniak (1999) find a general tendency for program income sources to be under-reported, although the evidence also suggests that this general conclusion may not apply to Social Security specifically (see Marquis and Moore 1990). Since most of the QDERS estimates do not differ, we conclude that the two instrument treatments are, for the most part, quality neutral with regard to reports of program income receipt. Since social security reports, according to the literature, are essentially unbiased, the estimate difference we find for Social Security is uninformative about a possible data quality difference between the two instruments.

There is very little item nonresponse for the program income source questions for either treatment. Although none of the treatment comparisons for these items is significant, the rate of nonresponse elicited by the person-level approach exceeds that of the household-level approach for all seven items. According to a sign test (Snedecor and Cochran, 1967), this level of consistency supports rejection of the null hypothesis that the two treatments had the same effect on item nonresponse ($p<.05$). We also note again, however, that the difference is exceedingly small, and of doubtful substantive importance.

4.4.2 Program income source response variance

Reliability comparisons for the QDERS program income items are summarized in the fourth panel of Table 2. We find two significant differences among the seven items, for veterans' payments and Food Stamps, both of which indicate greater reliability for the household-level treatment, but only according to the index of inconsistency measure. Regardless of statistical significance, however, we also note a striking consistency in the observed differences – for all seven comparisons, and consistently for both reliability estimates, the person-level interview treatment yielded less reliable data than the household screener treatment. Thus, despite the general nonsignificance of the individual comparisons, a sign test suggests that the null hypothesis should be rejected ($p<.05$) in favor of a hypothesis that the household-level treatment produces more reliable responses concerning program income sources.

4.4.3 Program income sources behavior coding

Table 3's fourth panel summarizes the results of the coding of interviewer behaviors regarding their administration of the seven program income source questions. The pattern for these items is very similar to the functional limitations results presented earlier. For the "person 1/household screener" behaviors, interviewers generally performed better in their presentation of the person-level question – this is the case for six of the seven comparisons, two of which (unemployment benefits and veterans' payments) are statistically significant. For the remainder of the household, however, the opposite is true – interviewers administering the household-level questionnaire exhibit consistently higher levels of "good" behavior, with significant differences for three items (workers' compensation, veterans payments, and SSI). And the sum of these two opposite processes leads to a very mixed result for the whole household, with no significant differences and inconsistency in the direction of differences. Respondent behaviors were uniformly high across both treatments and there were no significant differences.

4.4.4 Program income sources: Summary of results

Results for program income sources clearly favor the household-level approach. Unlike the previous topic areas in which all significant differences in survey estimates favored the person-level approach, the one significant difference among program income sources favors the household administration. The household-level approach identified significantly more people receiving Social Security than the person-level approach. Item nonresponse is minimal for both treatments and there are no significant differences; however, in all seven comparisons, item nonresponse is lower using the household-level design. All seven program income sources show higher reliability using the household-level approach, and two of these are significantly higher. Behavior coding data was mixed, resulting in no overall differences between the two treatments at the whole household level.

4.5 Asset Ownership

4.5.1 Asset ownership survey estimates and item nonresponse.

The person/household experiment was also applied to questions on ownership of five common types of assets – interest-earning checking accounts, savings accounts, certificates of deposit (CDs), mutual funds, and stocks. As with the "program" income sources, these questions were asked only of persons aged 15 or older, and only those persons are included in the estimates, which are summarized in the final panel of Table 1.

Estimate differences for four of the five comparisons are in the direction of a higher reported frequency of asset ownership for the person-level approach than for the household-screener approach, and for two of these comparisons – checking accounts and savings accounts – the difference is significant (49.2% vs. 42.5% for checking accounts;

69.3% vs. 60.6% for savings accounts). Especially in light of the strong evidence in the literature that asset income sources tend to be underreported in surveys (e.g., Moore, Stinson, and Welniak, 1999), these results suggest that concerns about the household-screener approach to identifying asset ownership may be justified; a person-level approach may lead to more complete reporting of asset owners.

A distinguishing feature of assets as income sources is that they are often jointly owned. This means that for some important purposes – measuring income at the level of the household, for example – identifying all joint owners is less critical than identifying all assets owned. The QDERS interview, regardless of specific questionnaire procedures, asked about ownership "either alone or jointly" for each asset type. It is possible that the apparent superiority of the person-level approach at identifying asset owners in fact represents only a more complete identification of all owners of jointly-held assets and would not affect the total dollar amount of income from assets attributed to the household. If this were the case, the proportion of households in which someone owned an asset of a particular type would not differ between the treatment groups. Examination of the rate of "household" ownership does not support this conclusion, however. As shown in Table 5, the household-level approach identified significantly fewer households in which anyone owned an interest-earning checking account or a savings account (the two asset types that showed significant person-level ownership differences) – and the table further shows that among asset-owning households the two treatments produced almost identical average numbers of individual owners. So the person-level approach did not merely improve (increase) the number of joint asset owners identified, it identified more households in which assets were owned.

Although still not particularly troublesome, there is a conspicuous elevation of nonresponse levels for these items, compared to the other topic areas. Just as conspicuous, however, are the large (in a statistical sense) and consistent differences which favor the household-level approach – differences that are statistically significant for four of the five asset ownership items.

More detailed analyses suggest that the significant nonresponse differences are due in very large measure to differences in "don't know" nonresponse, as opposed to differences in refusals. For the four significant nonresponse differences, 95 percent or more of the difference is accounted for by the difference in "don't know" nonresponse; across all five comparisons the two treatments differ very little in their refusal rates. We raise some notes of caution with regard to this conclusion. In some respects the household-level approach, at least as implemented in QDERS, may have benefitted from a procedural bias, since in many cases it considered "no" to be the default response in the absence of any other information. A "yes" response to the household-level screening question prompted a "Who had [characteristic X]?" follow-up. Anyone not named in the follow-up sequence was assumed to not have the characteristic. In fact, if specifically questioned – as of course everyone was in the person-level approach – some of those default "no's"

may have been revealed as uncertain cases.[10] And there is evidence in the data, in particular in the asset ownership results, suggesting that some respondents may have said "no" to the household screener when, had they been exposed to the person-level approach, they might have offered a more nuanced response, and revealed some uncertainty for at least some household members. Seen in this light, a "no" response that overstates true certainty for all eligible household members may be a less desirable outcome than a "don't know" response, which allows analysts to remove uncertain cases from survey estimate calculations and permits later adjustments which may reduce bias.

4.5.2 Asset ownership response variance

Asset ownership results are summarized in the final panel of Table 2. For two of the five types of assets included in the QDERS experiment, interest-earning checking accounts and stocks, the evidence suggests significantly higher reliability for the household-level approach compared to the person-level approach. Both the index and GDR show higher reliability for checking accounts using the household-level approach, while for stocks only the index shows a significant difference. With one exception, all of the indicators for the other asset types also suggest higher reliability for the household-level approach, although again, these remaining effects are not statistically significant.

4.5.3 Asset ownership behavior coding

The asset ownership results, shown in the last panel of Table 3, seem to offer a parallel to the functional limitations and program income source items. There is an at-best modest suggestion that for the initial question reading interviewers performed generally better with the person-level approach (no difference is significant, but four of five point in the same direction); for the remainder of the household, the household-level approach produced better results (here, two differences are statistically significant); with the result that at the whole household level there are no significant treatment differences (most of the differences are very small, but also most favor the person-level approach). Respondent behavior coding data show no differences between the treatments.

4.5.4 Asset ownership: Summary of results

Survey estimates and response reliability results for the asset ownership items mirror what we found regarding the items on school enrollment in the demographic section and the summary measures of functional limitations: higher survey estimates using the person-level approach and higher reliability using the household-level approach. The

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[10]We also note that following a "yes" to the screener question, and the initial identification of individuals who possessed the characteristic of interest, the household-level procedures called for continued "Anyone else?" probes until all members of the household were accounted for, or until uncertainty was revealed. The behavior coding results (see section 4.2) suggest that interviewers on the whole performed quite well at this task.

person-level approach identified significantly more people with two asset types (interest-earning checking accounts and savings accounts) than the household-level approach. The household-level approach produced significantly more reliable data for two of the asset types (checking accounts and stocks) and all five differences for the index are in the same direction. The household-level approach resulted in significantly lower item nonresponse for four of the five asset types, and this was primarily due to lower levels of "don't know" nonresponse as opposed to refusals. We caution, however, that the household-level approach may unintentionally reduce "don't know" nonresponse by its use of household screening questions, which assume a default answer of "no." Behavior coding data of interviewer reading errors are mixed, resulting in no statistically significant differences at the whole household level, and respondent behavior coding data shows no difference between treatments.

5. Results – Other Evaluations

In this final section we summarize our evaluation of the person/household experiment on two other dimensions – the average length of the interviews under the two treatments, and interviewers' evaluations of the strengths and weaknesses of each design.

5.1 Interview Length

The timing results clearly confirm the increased efficiency of the household-level interview as compared to the person-level approach. The average duration of the QDERS person-level interview was 14.7 minutes, versus 12.0 minutes for household-level interviews, a 23% increase in length, and a difference that is statistically significant ($t=2.03$, 32df, $p=.05$). Our small samples of timed cases turned out to differ slightly with regard to average household size, with the household-level treatment slightly exceeding the person-level. Taking that into account leads to an even greater duration difference on a per-person basis: person-level interviews took approximately 5.9 minutes per person to complete, compared to 4.6 minutes per person for the household-level treatment, a 28% increase ($t=1.79$, 32df, $p<.10$)[11].

[11] A final note about interview length differences: The difference estimates described here are conservative, due to the presence of another QDERS research study, which was confounded with the person/household treatments. In the person-level treatment, if any household member was not related to the household reference person, a series of questions at the very end of the interview determined who in the household such persons were related to. In the household-level treatment, the very end of the interview included questions to ascertain, for every interviewed household, all interrelationships of all household members. The latter set of questions was not only more involved than the former, but was also administered in every interview. The timing estimates described here include the entire interview, without taking this difference in interview content into account, and thus no doubt underestimate the true efficiency gains of the household-level approach.

5.2 Interviewer Evaluations

Three evaluation items produced significant differences by interview treatment.[12] One item asked interviewers to rate the questionnaires on a 7-point, "boring/repetitious – engaging/NOT repetitious" scale. After administering the household-level questionnaire, interviewers rated it significantly less "boring/repetitious" than they did the person-level questionnaire; the average scale scores were 2.9 for the person-level treatment and 4.3 for the household-level treatment ($F=11.4$, $p<.005$). (Note that these results apply to the "B" and "Y" (detailed content) questionnaire forms. Similar results were observed for the "A/X" (roster and demographic items) forms, although there was not a significant difference.)

Another item asked interviewers to rate the two questionnaires, again on a 7-point scale, with regard to whether they "worked very poorly" (1) or "worked very well" (7) in various kinds of households. Interviewers rated the "Y" (household-level) form as significantly superior to the "B" (person-level form) for two types of households: "large (4+ person) households" and "households with reluctant/unenthusiastic respondents." For the "large household" comparison, the average scale value for the household-level questionnaire was 5.3, versus 2.1 for the person-level questionnaire ($F=54.7$, $p<.001$); for the "reluctant respondents" comparison the average scores were 4.2 and 2.9 ($F=11.1$, $p<.005$). (These results also apply only to the detailed content questionnaires, and not the brief roster/demographics forms.)

While these results offer some indication of interviewers' preferences, perhaps a more compelling indicator of interviewers' attitudes toward the two instruments can be found in their behavior, as opposed to their verbal reports. We saw in Section 2 some evidence of a higher response rate for the household-level treatment and a lower rate of refusals. The latter finding, especially, seems telling. Refusals almost always occur in the first few seconds of the interaction, well before the nature of the interview itself has any chance to actually affect a respondent's desire to participate; thus we would expect that the two interview treatments would present interviewers with equivalent levels of initial

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[12]Evaluation questionnaire items on which there was not a significant main effect for interview treatment included the following:
7-point rating scales: (1) easy to use - (7) hard to use; (1) tedious - (7) efficient; (1) Rs gave their answers careful consideration - (7) Rs answered too quickly, without much thought; (1) the design of Form [B/Y] helped reduce Rs' concerns about sensitivity - (7) the design of Form [B/Y] made Rs' concerns about sensitivity worse; (1) I'm confident that Form [B/Y] produced good data - (7) I'm NOT confident that Form [B/Y] produced good data
% "yes" to the following questions: "Were there aspects of Form [B/Y] that you particularly LIKED?"; "Were there aspects of Form [B/Y] that you particularly DISliked?"; "Did the training you received prepare you adequately to use Form [B/Y]?"
7-point rating scales – "Please... [rate] how well you thought Form [B/Y] worked in the following types of households (1="worked very poorly;" 7="worked very well"): small (1 or 2 person) households; households with unrelated people.

reluctance on the part of respondents. While QDERS did not include any special procedures aimed at converting refusal cases, interviewers were still expected at the initial contact to try to persuade reluctant respondents to participate. The fact that interviewers failed more often on the person-level side to turn that initial reluctance into a completed interview suggests that interviewers invested less effort in persuasion, perhaps because they were less eager to conduct that type of interview. This is all conjecture, of course, about subtle and non-conscious behavioral differences, but it does conform to the logic of the situation (i.e., the limited direct impact that instrument design can have on one-time respondents), and is consistent with other research which finds similar effects (e.g., Moore and Moyer 1996).

6. Conclusions

As is often the case with complex experimental studies – especially those which, like this one, offer a broad range of findings using a broad range of evaluation dimensions across a broad range of topics – the results of the QDERS person/household experiment do not lend themselves to easy or sweeping interpretation. There is some evidence here that the use of a household screener entails an increased risk of under-reporting relative to a person-level design, but we find evidence of such a difference only for the summary measures of functional limitations, the identification of persons covered by employer/union-based health plans, and – perhaps most clearly – in the reporting of asset ownership. We have sufficient concerns about how the QDERS procedures were implemented to justify some lack of confidence about the health insurance results. On the other hand, the results for demographic characteristics, individual functional limitations items, and program income sources suggest that the two treatments produce essentially the same estimates. While our results show that the person-level approach might increase the completeness of reporting for some topic areas, our response reliability measures suggest that this improvement may come at a cost of decreased reliability. For most topic areas (health insurance coverage being the notable exception), we found that the person-level approach produced less reliable answers than the household-level approach. We find differences in item nonresponse to be trivial for the most part, except for asset ownership, where the differences approach important levels, and where the person-level approach results in more nonresponse, and especially more "don't know" nonresponse. Finally, our behavior coding assessment does not suggest any inherent superiority of one design over the other, either with regard to interviewers' correct administration of survey questions, where each treatment shows strengths and weaknesses, or with regard to respondents' ability to produce ready and adequate responses.

Naturally, responsible survey designers would want to choose design features that minimize respondent burden, increase interviewing efficiency, reduce refusals and overall nonresponse, and which appeal most to interviewers. On these dimensions, results from our study suggest that the household-level approach is preferable. We cannot, however, conclude that the household-level approach is preferable across the board in light of other

data quality indicators. We detect very little evidence suggesting that the use of a household screener would cause any problems for the items on demographic characteristics; and for program income sources we find evidence to recommend it, even apart from its efficiency/burden benefits. For functional limitations and asset ownership, however, there is some indication that the household-level approach risks data quality to an extent that increased efficiency and reliability may not be sufficient compensation. Finally, for health insurance we find fairly strong evidence that the household-level approach results in under-reporting of employer-based plans, but caution that this finding could be an artifact of the particular QDERS design, not the general household-level approach.

On the whole, we view the QDERS experience as a positive step toward providing concrete data about the costs and benefits of using household-level screening procedures in household-based surveys. At the same time, we are not blind to QDERS' limitations – chief among them its low response rate, lack of validating information, non-automated format, and limited number of content areas – and the restrictions they impose on our ability to draw firm conclusions.

The mix of results from this study have prompted us to consider several alternative avenues of research to determine why the two design strategies produced different and sometimes conflicting results. One area of research might address the different cognitive processes people use when responding to person-level versus household-level questions. Collecting information about memory organization and knowledge structures as they relate to these two designs – e.g. how the different designs are understood, how respondents decide who does or does not possess a specific characteristic of interest, and what determines how the respondent decides which individuals to report – would be useful for gaining a better understanding of the different results. For example, higher reports from the person-level approach may relate to saliency; that is, individuals who marginally possess the characteristic of interest may be reported in the person-level approach because of the direct person-by-person questioning, whereas they are not reported in the household approach because of the marginality of their circumstances. Research into the cognitive processes used in responding to the two approaches – such as cognitive interviews, respondent debriefings, and reconciled reinterviews – is needed to determine whether issues such as saliency merit further investigation.

Our results also suggest that the household-level approach may be more appropriate for some content areas than for others. Research examining how the two approaches compare with various content areas and question characteristics might help determine when one design may be better suited than the other. We suggest conducting experiments whereby the two approaches are tested and question content and characteristics are varied along dimensions such as subjectivity/objectivity, content sensitivity, prevalence of characteristic of interest, concept clarity, and knowledge level and awareness. The previously noted efficiencies of the household screening questions may be enhanced or reduced depending on the question characteristic or content area.

Lastly, we view the addition of validating data as an especially promising component of the next stage of research. One type of validation study, a one-directional record check approach (i.e. sample people with known characteristics and interview them), may be sufficient to address the primary substantive concern: Does the household-level screening approach increase the risk of under-reporting?

If more rigorous research continues to suggest that use of household-level screening designs increases the risk of under-reporting errors, then survey methodologists will face two important research challenges. First, we will need to develop and test good theories to explain why household screening designs are acceptable for some content areas and not for others. And second, we will need to find ways to refine those designs to maintain their efficiencies and other benefits, while at the same time improving the accuracy of respondents reports.

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Table 1: Estimated Rates and Item Nonresponse for Selected Demographic Characteristics, Functional Limitations, Health Insurance Coverage, Program Income Sources, and Asset Ownership

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	ESTIMATED RATE (% yes for all persons 15+)			ITEM NONRESPONSE (% nr for all persons 15+)		
	Person-level (n=1,110)		HH-level (n=1,152)	Person-level (n=1,119)		HH-level (n=1,162)
Demographic Items						
Usually live here? (includes kids) (% no)	99.0 (1.0)	<	98.8 (1.2)	0	0	0
Hispanic origin? (includes kids)	7.9	<	8.0	0.3	>	0.2
Ever served in US armed forces?	15.4	>	14.4	0.1	>	0
Currently enrolled in school?	**21.5**	**>**	**18.7***	0.1	>	0
Functional Limitations (individual items)						
Difficulty seeing newsprint even with glasses?	5.2	<	5.3	0.5	>	0.4
Difficulty lifting/carrying 10lbs?	**8.5**	**>**	**6.0****	0.5	<	0.9
Difficulty walking quarter mile?	9.3	>	7.9	1.0	<	1.1
Difficulty climbing stairs w/o resting?	6.8	>	6.5	1.0	>	0.8
Difficulty hearing normal conversation?	5.8	>	5.1	1.0	<	1.3
Uses special aids?	5.4	<	5.8	0.7	<	1.0
Functional Limitations (summary measures)						
Persons with any functional limitation	**20.2**	>	**16.2*****			
Persons with any severe limitations	**17.3**	>	**14.0****			
Number of functional limitations:						
1 (number of limitations people have)	**12.1**	>	**8.5*****			
2	3.2	>	3.0			
3+	4.9	>	4.7			
Households w/ at least one person w/ a limitation	**15.2**	>	**12.1****			

(Table 1 continued.....)

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	ESTIMATED RATE (% yes for all persons 15+)			ITEM NONRESPONSE (% nr for all persons 15+)		
	Person-level (n=1,110)		HH-level (n=1,152)	Person-level (n=1,119)		HH-level (n=1,162)
Health Insurance						
Employer/Union	**75.1**	**>**	**65.3*****	2.5	>	1.0
Direct purchase	9.4	<	10.8	1.7	>	0.7
Outside household	3.8	<	4.5	1.2	>	0.4
Medicare	9.7	<	11.2	**0**	<	**4.4****
Medicaid	5.9	<	8.0	2.9	<	4.0
Military	4.7	>	3.8	0.8	>	0.4
Other	1.9	>	1.2	2.0	>	0.4
Uninsured (residual)	**6.6**	**<**	**12.6*****			
Income sources						
Receive worker's compensation?	1.4	<	1.7	1.3	>	0.8
Receive unemployment benefits?	3.1	>	2.4	1.2	>	1.0
Receive Social Security?	**13.8**	**<**	**17.4*****	1.6	>	1.0
Receive vets pension/comp?	2.6	>	2.0	0.8	>	0.4
Receive SSI?	1.9	>	1.5	1.5	>	1.0
Receive Food Stamps?	2.6		2.6	0.9	>	0.6
Receive AFDC/welfare/public asst?	1.3	>	1.0	0.7	>	0.5

(Table 1 continued.....)

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	ESTIMATED RATE (% yes for all persons 15+)			ITEM NONRESPONSE (% nr for all persons 15+)		
	Person-level (n=1,110)		HH-level (n=1,152)	Person-level (n=1,119)		HH-level (n=1,162)
Asset Ownership						
Interest-earning checking account?	**49.2**	>	**42.5*****	7.6 (DK=5.4) (ref=2.3)	>	6.5 (DK=4.4) (ref=2.1)
Savings account?	**69.3**	>	**60.6*****	**6.0** (DK=3.7) (ref=2.3)	>	**4.4*** (DK=1.7) (ref=2.7)
CDs?	17.2	>	15.0	**7.9** (DK=5.6) (ref=2.4)	>	**4.6***** (DK=2.5) (ref=2.1)
Mutual funds?	19.4	>	17.8	**7.1** (DK=4.6) (ref=2.5)	>	**4.3***** (DK=1.9) (ref=2.4)
Stocks?	19.4	<	19.8	**6.9** (DK=4.4) (ref=2.5)	>	**4.6**** (DK=2.2) (ref=2.4)

p<.10*; p<.05**; p<.01***

Table 2: Response Reliability – Index of Inconsistency and Gross Difference Rate[1]

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	INDEX OF INCONSISTENCY			GROSS DIFFERENCE RATE		
	Person-level (n=715)		HH-level (n=740)	Person-level (n=715)		HH-level (n=740)
Demographic Items						
Usually live here? (includes kids)	86.4	<	89.7	1.3	<	1.7
Hispanic origin? (includes kids)	15.3	>	9.4	2.0	>	1.1
Ever served in armed forces?	8.2	<	12.9	2.2	<	3.2
Currently enrolled in school?	**22.1**	>	**15.4*****	**7.0**	>	**4.4*****
Functional Limitations (individual items)						
Difficulty seeing newsprint even with glasses?	60.1	>	46.7	5.6	>	4.7
Difficulty lifting/carrying 10lbs, bag of groc	35.8	<	36.2	5.6	>	4.0
Difficulty walking quarter mile/3 city blks	28.8	>	24.9	4.8	>	4.0
Difficulty climbing stairs w/o resting	35.0	>	33.3	4.3	>	3.9
Difficulty hearing normal conversation	48.4	>	47.5	5.2	>	4.9
Uses special aids	13.5	<	21.9	1.5	<	2.8
Functional Limitations (summary measures)						
Persons with any functional limitation	**40.4**	**>**	**28.3****	**12.4**	**>**	**8.2*****
Persons with any severe limitation	45.6	<	50.4	12.5	>	12.3
Households w/ at least one person w/ a limitation	**33.3**	**>**	**22.2****	**8.0**	**>**	**4.9****
Number of functional limitations)	**53.7**	**>**	**41.8****	**17.5**	**>**	**13****

(Table 2 continued.....)

[1]A low index of inconsistency indicates high reliability; conversely, a high index indicates low reliability. As a rule of thumb, the Census Bureau considers an index of less than 20 as low response variance (high reliability); an index between 20 and 50 as moderate response variance; and one over 50 as high response variance (low reliability) (see McGuinness 1997).

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	INDEX OF INCONSISTENCY			GROSS DIFFERENCE RATE		
	Person-level (n=715)		HH-level (n=740)	Person-level (n=715)		HH-level (n=740)
Health Insurance Coverage (individual items)						
Employer/union	22.8	<	25.8	**7.5**	<	**11.5****
Direct purchase	42.7	<	47.6	**6.1**	<	**9.8****
Outside household	32.1	>	32.0	2.1	>	2.0
Medicare	**0**	<	**9.8*****	**0**	<	**2.0*****
Medicaid	**11**	<	**32.1****	**0.9**	<	**5.2*****
Military	**4.4**	<	**40.1****	**0.5**	<	**2.0***
Other	100.6	<	101	1.2	<	2.6
Health Insurance Coverage (constructed item)						
Uninsured	40.1	>	31.1	3.8	<	6.3
Program Income Source Items						
Receive worker's comp?	52.4	>	44.5	2.4	>	2.3
Receive unemployment benefits?	38.2	>	32.3	2.8	>	2.1
Receive Social Security?	12.7	>	9.4	3.5	>	2.8
Receive vets pension/comp?	**39.6**	>	**27.0*****	2.4	>	1.3
Receive SSI?	50.9	>	36.3	2.5	>	1.3
Receive Food Stamps?	**37.7**	>	**22.5*****	1.9	>	1.2
Receive AFDC/welfare/public asst?	67.3	>	44.9	1.9	>	1.1
Asset Ownership Items						
Interest-earning checking account?	**55.2**	>	**46.1****	**30.8**	>	**25.2****
Savings account?	39.6	>	38.7	19.1	<	20.1
CDs?	47.9	>	44.5	15.7	>	13.6
Mutual funds?	45.6	>	41.9	17.4	>	14.8
Stocks?	**44.6**	>	**34.7***	16.0	>	13.0

p<.10*; p<.05**; p<.01***

Table 3: Behavior Coding Results – Interviewer Behaviors

INTERVIEWER BEHAVIOR CODING ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	PERSON 1/ HH SCREENER (% "good" behavior)			PERSONS 2+/ "WHO?" FOLLOWUPS (% "good" i'er behavior for all followups after person 1)			WHOLE HOUSEHOLD (% "good" i'er behavior for all hh members)		
	Person-level (n=34)		HH-level (n=42)	Person-level (n=33)		HH-level (n=39)	Person-level (n=34)		HH-level (n=42)
Demographic Items									
Usually live here?	75.8	<	83.3	96.6	<	97.2	77.4	<	83.3
Hispanic origin?	100	>	97.7	100	>	97.6	100	>	95.2
Ever served in US armed forces?	100	>	95.2	96.7	>	95.1	96.7	>	92.9
Currently enrolled in school?	97.0	<	97.6	96.6	>	92.7	93.1	>	90.5
Functional Limitations									
Difficulty seeing newsprint?	97.1	>	88.1	**90.9**	**<**	**100.0***	90.9	>	88.1
Difficulty lifting 10 lbs.?	100.0	>	90.5	**68.8**	**<**	**94.7*****	**68.8**	**<**	**85.7***
Difficulty walking 1/4 mile?	**100.0**	>	**85.7****	**63.6**	**<**	**97.2*****	**63.6**	**<**	**83.3***
Difficulty climbing stairs?	**97.1**	>	**83.3***	100.0	>	94.7	**97.0**	**>**	**83.3***
Difficulty hearing conversation?	100.0	>	90.5	100.0	**>**	92.3	**100.0**	**>**	**85.7****
Uses special aids?	100.0	>	92.9	97.0	>	92.3	97.0	>	88.1

(Table 3 continued.....)

INTERVIEWER BEHAVIOR CODING ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	PERSON 1/ HH SCREENER (% "good" behavior)			PERSONS 2+/ "WHO?" FOLLOWUPS (% "good" i'er behavior for all followups after person 1)			WHOLE HOUSEHOLD (% "good" i'er behavior for all hh members)		
	Person-level (n=34)		HH-level (n=42)	Person-level (n=33)		HH-level (n=39)	Person-level (n=34)		HH-level (n=42)
Health Insurance									
Employer/union	93.3	<	100	73.3	>	70.0	66.7	<	70.0
Direct purchase	86.7	<	95.0	93.3	<	95.0	80.0	<	95.0
Outside household	100		100	93.3	<	100	93.3	<	100
Medicare	[insufficient cases for analysis]								
Medicaid	86.7	<	95.0	80.0	<	85.0	80.0	<	85.0
Military	93.3	<	95.0	86.7	<	95.0	80.0	<	95.0
Other	93.3	<	95.0	86.7	<	90.0	80.0	<	90.0
Program Income Sources									
Receive worker's compensation?	94.1	<	95.2	**84.4**	<	**97.5***	81.3	<	92.9
Receive unemployment benefits?	**100**	>	**81.0*****	93.8	<	97.1	93.8	>	78.6
Receive Social Security?	97.1	>	88.4	96.9	>	94.9	93.8	>	83.3
Receive veteran's pension/comp?	**91.4**	>	**71.4****	**84.4**	<	**100***	84.4	>	71.4
Receive SSI?	80.0	>	68.3	**50.0**	<	**96.4*****	46.9	<	65.9
Receive Food Stamps?	100	>	92.5	93.8	<	100	93.8	>	92.5
Receive AFDC/welfare/public asst.	100	>	90.2	93.8	<	100	93.8	>	90.2

(Table 3 continued.....)

INTERVIEWER BEHAVIOR CODING ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	PERSON 1/ HH SCREENER (% "good" behavior)			PERSONS 2+/ "WHO?" FOLLOWUPS (% "good" i'er behavior for all followups after person 1)			WHOLE HOUSEHOLD (% "good" i'er behavior for all hh members)		
	Person-level (n=34)		HH-level (n=42)	Person-level (n=33)		HH-level (n=39)	Person-level (n=34)		HH-level (n=42)
Assets Ownership									
Interest-earning checking account?	100	>	92.7	90.3	>	87.8	90.3	>	82.9
Savings account?	82.4	>	81.0	87.1	<	92.3	80.7	>	76.2
CDs?	85.3	>	73.2	**81.3**	<	**100****	81.3	>	73.2
Mutual funds?	97.0	>	90.5	90.0	<	97.6	90.0	>	88.1
Stocks?	94.1	<	95.2	**83.9**	<	**97.5***	80.7	<	92.9

NOTE: Significant differences are noted in bold

*p<.10; **p<.05; ***p<.01

Table 4: Behavior Coding Results – Respondent Behaviors

RESPONDENT BEHAVIOR CODING ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	PERSON 1 (% adequate and qualified answers)		
	Person-level (n=33)		HH-level (n=42)
Demographic Items			
Usually live here?	93.9	>	90.2
Hispanic origin?	93.9	<	97.6
Ever served in US armed forces?	100	>	97.6
Currently enrolled in school?	84.9	>	78.0
Functional Limitations			
Difficulty seeing newsprint?	97.1	>	92.9
Difficulty lifting 10 lbs.?	100.0		100.0
Difficulty walking 1/4 mile?	100.0	>	92.7
Difficulty climbing stairs?	97.0	>	94.7
Difficulty hearing conversation?	97.1	>	92.7
Uses special aids?	100.0		100.0
Health Insurance			
Employer/union	86.7	<	90.0
Direct Purchase	86.7	<	94.4
Outside Household	100	>	95.0
Medicare	100		100
Medicaid	**100**	**>**	**84.2***
Military	100		100
Other	100	>	90

(Table 4 continued.....)

RESPONDENT BEHAVIOR CODING ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	PERSON 1 (% adequate and qualified answers)		
	Person-level (n=33)		HH-level (n=42)
Program Income Sources:			
Receive worker's compensation?	100	>	92.5
Receive unemployment benefits?	100	>	95.0
Receive Social Security?	97.0	<	97.6
Receive veteran's pension?	82.9	<	95.1
Receive SSI?	100	>	97.4
Receive Food Stamps?	97.0	<	100
Receive AFDC/welfare/public asst?	100		100
Assets Ownership			
Interest-earning checking account?	76.5	>	57.5
Savings account?	94.1	<	97.6
CDs?	91.2	<	92.3
Mutual funds?	90.9	>	80.0
Stocks?	88.2	<	90.2

*p<.10; **p<.05; ***p<.01

Table 5. Household Ownership of Selected Assets and the Average Number of Owners per Asset-Owning Household.

ANALYSIS SUMMARY: PERSON-LEVEL vs. HH-LEVEL QUESTION FORMAT (EXCLUDES 1-PERSON HHs)	HOUSEHOLD OWNERSHIP RATE (% of HHs with any reported ownership by any person age 15+)			AVERAGE NUMBER OF OWNERS PER ASSET-OWNING HOUSEHOLD (among persons 15+)		
	Person-level (n=447)		HH-level (N=461)	Person-level (n=447)		HH-level (N=461)
Interest-earning checking account?	**59.7**	>	**54.0***	1.9	>	1.8
Savings account?	**78.1**	>	**70.7****	2.0		2.0
CDs?	21.5	<	21.9	**1.8**	>	**1.6****
Mutual funds?	25.7	>	24.3	1.7		1.7
Stocks?	25.1	<	29.1	1.8	>	1.6

p<.10*; p<.05**; p<.01***

Form A **Enter Case ID** ☐☐☐☐ **Enter Sample ID** ☐ - ☐☐ **Household Roster**

Mark box if case is taped. ☐

ASK ONLY FOR PERSONS 15 YEARS OLD AND OLDER

	1. What are the names of all persons living or staying here? Start with the name of the person or one of the persons who owns or rents this home.	2. How is (name) related to (reference person?) Enter Code from Flashcard A.1 For persons 3-6, ask: How about (name)?	3. Does (name) usually live here? For persons 2-6, ask: How about (name)?	4. Is (name) Spanish, Hispanic, or Latino? For persons 2-6, ask: How about (name)?	5. Is (name's) race White, Black, American Indian or Alaska Native, Asian or Pacific Islander, or some other race ? You can choose more than one race. Enter Code from Flashcard A.2 For persons 2-6, ask: How about (name)?	6. (ASK IF NECESSARY) Is (name) male or female? For persons 2-6, ask: How about (name)?	7. What is (name's) age? For persons 2-6, ask: How about (name)?	8. (ASK IF NECESSARY) Is (name) now married, widowed, divorced, separated, or never married? Enter Code from Flashcard A.3 For persons 2-6, ask: How about (name)?	9. Has (name) ever served on active duty in the U.S. armed Forces? For persons 2-6, ask: How about (name)?	10. At any time between September 1998 and today, was (name) enrolled in school either full or part time? For persons 2-6, ask: How about (name)?
Reference Person:			Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐
Person 2:		☐☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐
Person 3:		☐☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐
Person 4:		☐☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐
Person 5:		☐☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐
Person 6:		☐☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐	☐☐☐	M ☐ DK ☐ F ☐ Ref ☐	☐☐☐	☐	Yes ☐ DK ☐ No ☐ Ref ☐	Yes ☐ DK ☐ No ☐ Ref ☐

GO TO FORM B FOR REFERENCE PERSON.

Form B(1) Person Questionnaire **Enter Case ID** ☐☐☐☐ **Enter Sample ID** ☐ - ☐☐

(Complete a separate questionnaire for each person)

ENTER PERSON NUMBER (from Item 1, Form A) ☐

CHECK ITEM: Refer to Form A, Item 7
If age is 15+ (Ask 1)
If age is <15 (Go to 14)

1. **The next few questions are related to (your/name's) physical health. (Do you/Does name) have difficulty seeing the words and letters in ordinary newspaper print even when wearing glasses or contact lenses?**

Yes ☐ DK ☐ (Go to 3)
No ☐ (Go to 3) Ref ☐ (Go to 3)

2. **(Are you/Is name) able to see the words and letters in ordinary newsprint at all?**

Yes ☐ DK ☐
No ☐ Ref ☐

3. **(Do you/Does name) have any difficulty lifting and carrying something as heavy as 10 pounds, such as a full bag of groceries?**

Yes ☐ DK ☐ (Go to 5)
No ☐ (Go to 5) Ref ☐ (Go to 5)

4. **(Are you/Is name) able to lift and carry this much weight at all?**

Yes ☐ DK ☐
No ☐ Ref ☐

5. **(Do you/Does name) have difficulty walking a quarter of a mile -- about 3 city blocks?**

Yes ☐ DK ☐ (Go to 7)
No ☐ (Go to 7) Ref ☐ (Go to 7)

6. **(Are you/Is name) able to walk a quarter of a mile at all?**

Yes ☐ DK ☐
No ☐ Ref ☐

7. (Do you/Does name) have any difficulty climbing a flight of stairs without resting?

Yes ☐ DK ☐ (Go to 9)
No ☐ (Go to 9) Ref ☐ (Go to 9)

8. (Are you/Is name) able to climb a flight of stairs without resting at all?

Yes ☐ DK ☐
No ☐ Ref ☐

9. (Do you/Does name) use any special aids such as a hearing aid, cane, wheelchair, or some other aid?

Yes ☐ DK ☐ (Go to 11)
No ☐ (Go to 11 Ref ☐ (Go to 11)

10. Which type of aid (do you/does name) use?
(MARK ALL THAT APPLY)

Hearing aid ☐ Crutches ☐
Cane ☐ Leg Brace ☐
Wheelchair ☐ Other ☐ (Specify) ____
Walker ☐

11. (Do you/Does name) have any difficulty hearing what is said in a normal conversation with another person, (even when using a hearing aid)?

Yes ☐ DK ☐ (Go to 13)
No ☐ (Go to 13) Ref ☐ (Go to 13)

12. (Are you/Is name) able to hear what is said in a normal conversation at all?

Yes ☐ DK ☐
No ☐ Ref ☐

13. (Do you/Does name) have a physical, mental or other health condition that limits the kind or amount of work (you/he/she) can do?

Yes ☐ DK ☐
No ☐ Ref ☐

14. **The next questions are about health insurance coverage.**
(Are you/Is name) covered by a health insurance plan provided through a current or former employer or union?

PROBE: Include COBRA and health insurance plans provided by colleges and universities to students.

PROBE: Do not include military health insurance here; that will be covered later in another question.

Yes ☐ DK ☐ (Go to 16)
No ☐ (Go to 16) Ref ☐ (Go to 16)

15. **Who is the policyholder for this plan?**

Enter line number of person (from Item 1, Form A) ☐ DK ☐ Ref ☐

16. **(Are you/Is name) (also) covered by a health plan that was PURCHASED DIRECTLY, that is, not related to current or past employment?**

PROBE: Include insurance plans purchased through a professional association or trade group.

PROBE: Do not include military health insurance here; that will be covered later in another question.

Yes ☐ DK ☐ (Go to 18)
No ☐ (Go to 18) Ref ☐ (Go to 18)

17. **Who is the policyholder for this plan?**

Enter line number of person (from Item 1, Form A) ☐ DK ☐ Ref ☐

18. **(Are you/Is name) (also) covered by the health plan of someone who does not live in this household?**

Yes ☐ DK ☐
No ☐ Ref ☐

19-CK

Person's age is 65+ **(Ask 19)**
All others **(Go to 20)**

19. **(Are you/Is name) (also) covered by Medicare?**

PROBE: Medicare is the health insurance for persons 65 years old and older or persons with certain disabilities.

Yes ☐ DK ☐
No ☐ Ref ☐

20. **(Are you/Is name) (also) covered by Medicaid or any other type of government assistance program that pays for health care?**

Yes ☐ DK ☐
No ☐ Ref ☐

21. **(Are you/Is name) (also) covered by CHAMPUS, CHAMPVA, Tricare, VA, military health care, or the Indian Health Service?**

Yes ☐ DK ☐ (Go to 23)
No ☐ (Go to 23) Ref ☐ (Go to 23)

22. **Which plan (are you/is name) covered by?**

CHAMPUS ☐ CHAMPVA ☐ Other ☐
Tricare ☐ VA Healthcare ☐
Other Military ☐ Indian Health Service ☐

23. **(Are you/Is name) (also) covered by any (other) type of health plan?**

Yes ☐ DK ☐ (Go to 25-CK)
No ☐ (Go to 25-CK) Ref ☐ (Go to 25-CK)

24. **Which type of insurance (do you/does name) have?**

Medicaid ☐ Indian Health Service ☐
Medicare ☐ Other government healthcare ☐
CHAMPUS ☐ Employer/union-provided (policyholder) ☐
CHAMPVA ☐ Employer/union-provided (as dependent) ☐
Tricare ☐ Privately purchased (policyholder) ☐
VA Healthcare ☐ Privately purchased (as dependent) ☐
Other Military ☐ Plan of someone outside household ☐
Other ☐

25-CK If 14, 16, 18, 19, 20, 21 or 23 is "Yes".....(Go to 27-CK)
All others.....(Ask 25)

25. **I have recorded that (you do/name does) not have health care coverage of any kind. (Do you/Does name) have health insurance or coverage through a plan I might have missed?**

Yes ☐ DK ☐ (Go to 27-CK)
No ☐ (Go to 27-CK) Ref ☐ (Go to 27-CK)

26. **Which type of insurance (do you/does name) have?**

Medicaid	☐	Indian Health Service	☐
Medicare	☐	Other government healthcare	☐
CHAMPUS	☐	Employer/union-provided (policyholder)	☐
CHAMPVA	☐	Employer/union-provided (as dependent)	☐
Tricare	☐	Privately purchased (policyholder)	☐
VA Healthcare	☐	Privately purchased (as dependent)	☐
Other Military	☐	Plan of someone outside household	☐
		Other	☐

27-CK Person is 15+..... Ask 27
Person is <15..... Go to 52-CK

27. **The next few questions are related to various types of income people sometimes receive. At anytime last year, that is, from January to December of 1998, did (you/name) receive the following types of income:**

Worker's Compensation payments or other payments as a result of a job-related injury or illness?

Yes ☐ DK ☐ (Go to 29)
No ☐ (Go to 29) Ref ☐ (Go to 29)

28. **During which months in 1998 did (you/name) receive Worker's Compensation payments?**

Jan	☐	May	☐	Sep	☐	All months	☐
Feb	☐	Jun	☐	Oct	☐		
Mar	☐	Jul	☐	Nov	☐	DK	☐
Apr	☐	Aug	☐	Dec	☐	Ref	☐

29. **How about unemployment payments?**
(Did (you/name) receive any type of unemployment payments at anytime in 1998?)

Yes ☐ DK ☐ (Go to 31)
No ☐ (Go to 31) Ref ☐ (Go to 31)

30. **During which months in 1998 did (you/name) receive unemployment payments?**

Jan	☐	May	☐	Sep	☐	All months	☐
Feb	☐	Jun	☐	Oct	☐		
Mar	☐	Jul	☐	Nov	☐	DK	☐
Apr	☐	Aug	☐	Dec	☐	Ref	☐

31. **(How about) Social Security payments?**
(Did (you/name) receive Social Security payments at anytime in 1998?)

Yes ☐ DK ☐ (Go to 33)
No ☐ (Go to 33) Ref ☐ (Go to 33)

32. **During which months in 1998 did (you/name) receive Social Security payments?**

Jan ☐	May ☐	Sep ☐	All months ☐
Feb ☐	Jun ☐	Oct ☐	
Mar ☐	Jul ☐	Nov ☐	DK ☐
Apr ☐	Aug ☐	Dec ☐	Ref ☐

33. **(How about) Veteran's payments?**
(Did (you/name) receive any Veteran's payments at anytime in 1998?)

Yes ☐ DK ☐ (Go to 35)
No ☐ (Go to 35) Ref ☐ (Go to 35)

34. **During which months in 1998 did (you/name) receive Veteran's payments?**

Jan ☐	May ☐	Sep ☐	All months ☐
Feb ☐	Jun ☐	Oct ☐	
Mar ☐	Jul ☐	Nov ☐	DK ☐
Apr ☐	Aug ☐	Dec ☐	Ref ☐

35. **(How about) Supplemental Security Income, or SSI, a program for low-income elderly or disabled persons?**
(Did (you/name) receive SSI at anytime in 1998?)

Yes ☐ DK ☐ (Go to 37)
No ☐ (Go to 37) Ref ☐ (Go to 37)

36. **During which months in 1998 did (you/name) receive SSI?**

Jan ☐	May ☐	Sep ☐	All months ☐
Feb ☐	Jun ☐	Oct ☐	
Mar ☐	Jul ☐	Nov ☐	DK ☐
Apr ☐	Aug ☐	Dec ☐	Ref ☐

37. **(How about) Food Stamps?**
(Did (name/you) receive Food Stamps at anytime in 1998?)

Yes ☐ DK ☐ (Go to 39)
No ☐ (Go to 39) Ref ☐ (Go to 39)

38. **During which months in 1998 did (you/name) receive Food Stamps?**

Jan ☐	May ☐	Sep ☐	All months ☐
Feb ☐	Jun ☐	Oct ☐	
Mar ☐	Jul ☐	Nov ☐	DK ☐
Apr ☐	Aug ☐	Dec ☐	Ref ☐

39. **(How about) AFDC, welfare, or other public assistance payments?**
(Did (you/name) receive any AFDC, welfare, or public assistance at anytime in 1998?)

Yes ☐ DK ☐ (Go to 41)
No ☐ (Go to 41) Ref ☐ (Go to 41)

40. **During which months in 1998 did (you/name) receive AFDC, welfare, or public assistance?**

Jan ☐	May ☐	Sep ☐	All months ☐
Feb ☐	Jun ☐	Oct ☐	
Mar ☐	Jul ☐	Nov ☐	DK ☐
Apr ☐	Aug ☐	Dec ☐	Ref ☐

41. **Did (you/name) own an interest-earning checking account either alone or jointly at anytime in 1998?**

Yes ☐ Mark an "X" in box on side flap, ONLY if this questionnaire is for reference person.

No ☐ DK ☐
Ref ☐

42. **How about a savings account?**
(Did you own a savings account either alone or jointly at any time in 1998?)

Yes ☐ Mark an "X" in box on side flap, ONLY if this questionnaire is for reference person.

No ☐ DK ☐
Ref ☐

43. **(How about) certificates of deposit?**
(Did you own any certificates of deposit either alone or jointly at any time in 1998?)

Yes ☐ Mark an "X" in box on side flap, ONLY if this questionnaire is for reference person.

No ☐ DK ☐
Ref ☐

44. **Excluding anything held as part of a retirement account, did (you/name) own any mutual funds, either alone or jointly, at any time in 1998?**

Yes ☐ Mark an "X" in box on side flap, ONLY if this questionnaire is for reference person.
No ☐ DK ☐
Ref ☐

45. **Excluding anything held as part of a retirement account, did (you/name) own any stocks, either alone or jointly, at any time in 1998?**

Yes ☐ Mark an "X" in box on side flap, ONLY if this questionnaire is for reference person.
No ☐ DK ☐
Ref ☐

46-CK This questionnaire is for Reference Person and side flap is marked - Ask 47-51, as applicable
All others.....Go to item 52-CK .

The next few questions are about interest and dividend income (you/name) may have received in the last year, that is, between January and December of 1998. For these questions, we're NOT interested in interest and dividends associated with an IRA, a 401K, or any other type of retirement account.

47. How much interest did (you/name) earn on all interest-earning checking accounts in 1998?	☐☐☐☐.☐☐ (GO TO NEXT SOURCE) DK ☐ (GO TO NEXT SOURCE) Ref ☐ (GO TO NEXT SOURCE)
48. How much interest did (you/name) earn on all savings accounts in 1998 ?	☐☐☐☐.☐☐ (GO TO NEXT SOURCE) DK ☐ (GO TO NEXT SOURCE) Ref ☐ (GO TO NEXT SOURCE)
49. How much interest did (you/name) earn from all CDs in 1998?	☐☐☐☐.☐☐ (GO TO NEXT SOURCE) DK ☐ (GO TO NEXT SOURCE) Ref ☐ (GO TO NEXT SOURCE)
50. Excluding retirement accounts, how much did (you/name) earn in mutual fund dividends in 1998?	☐☐☐☐.☐☐ (GO TO NEXT SOURCE) DK ☐ (GO TO NEXT SOURCE) Ref ☐ (GO TO NEXT SOURCE)
51. Excluding retirement accounts, how much did (you/name) earn in stock dividends in 1998?	☐☐☐☐.☐☐ (GO TO NEXT SOURCE) DK ☐ (GO TO NEXT SOURCE) Ref ☐ (GO TO NEXT SOURCE)

52-CK REFER BACK TO FORM A

If Item 2 (FORM A) contains **a code of 40-45** for this person, then ask 52.
All others..... Go to 57-CK

52. Earlier you said (name was/you were) not related to (you/reference person). (Are you/Is name) related to anyone else in the household?

Yes ☐ DK ☐ (Go to 57-CK)
No ☐ (Go to 57-CK) Ref ☐ (Go to 57-CK)

53. How many other people in this household (are you/is name) related to? ☐☐

54. What are the names of the persons in the household (you are/name is) related to?	**55. How is [name of person in item 54, row(1...2, etc)] related to (person for whom this Form B is being completed)?** Enter relationship code from Flashcard A.1. If an answer is an "Other" category, write code number and exact words used to describe relationship.	**56.** [OFFICE USE ONLY: ENTER LINE NUMBER OF THIS PERSON IN FORM A, ITEM 1]
1st person	☐☐	☐
2nd person	☐☐	☐
3rd person	☐☐	☐
4th person	☐☐	☐

57-CK

If this is NOT the last person questionnaire for the household... Go to Form B for NEXT person.

If this is the last person questionnaire for the household.....Go to 58-CK

58 CK This household has only one person 15 + ... (Go to 60)

All others..... (Ask 58)

58. **One last thing: The Census Bureau sometimes recontacts households, for quality control or to update information. If we do that and talk to someone else in the household, is it OK to refer back to the answers you gave today?**

Yes ☐ (Go to 60) DK ☐ (Ask 59)
No ☐ (Ask 59) Ref ☐ (Go to 60)

Record any volunteer comments:

59. **Can you tell me what bothers you or concerns you about this?**

(Record verbatim response: then go to 60.)

60. **That completes the survey. Thank you very much for your participation.**

ATTACHMENT C

Form X **Enter Case ID** ☐☐☐☐ **Enter Sample ID** ☐ - ☐☐ **Household Roster**

Mark box if case is taped. ☐

	REFERENCE Person	**Person 2**	**Person 3**	**Person 4**	**Person 5**	**Person 6**
1. **What are the names of all persons living or staying here?** Start with the name of the person or one of the persons who owns or rents this home. (Enter first and last name)						
2. How is (name) related to (reference person)? Enter code from Flashcard X.1. For persons 3-6, ask: **How about (name)?**	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
3. Does everyone we have listed usually live here? Yes ☐ (Go to 5) No ☐ (Go to 4a) DK ☐ (Go to 4b) Ref ☐ (Go to 5)						
4a. Who does not usually live here? (Mark **Does Not usually live here** for each person mentioned.) PROBE: **Anyone else?** (Continue to mark **Does Not usually live here** for each person mentioned) No ☐ (Go to 5) DK ☐ (Go to 4b) Ref ☐ (Go to 5)	Does NOT usually live here ☐	Does NOT usually live here ☐	Does NOT usually live here ☐	Does NOT usually live here ☐	Does NOT usually live here ☐	Does NOT usually live here ☐
4b. Who are you not sure about? (Mark **DK** for each person mentioned.)	DK ☐	DK ☐	DK ☐	DK ☐	DK ☐	DK ☐

5. Has anyone we have listed ever served on active duty in the U.S. Armed Forces?

Yes ☐ (Go to 6a) DK ☐ (Go to 6b)
No ☐ (Go to 7) Ref ☐ (Go to 7)

6a. Who served in the Armed Forces?
(Mark **Served in A.F.** for each person mentioned.)
PROBE: **Anyone else?**

(Continue to mark **Served in A.F.** for each person mentioned)
No ☐ (Go to 7) DK ☐ (Go to 6b)
Ref ☐ (Go to 7)

Served in A.F. ☐	Served in A.F. ☐	Served in A.F. ☐	Served in A.F. ☐	Served in A.F. ☐	Served in A.F. ☐

6b. Who are you not sure about?

(Mark **DK** for each person mentioned.)

DK ☐	DK ☐	DK ☐	DK ☐	DK ☐	DK ☐

7. At anytime between September 1998 and today, was anyone in the household age 15 and over enrolled in school either full or part time?

Yes ☐ (Go to 8a) DK ☐ (Go to 8b)
No ☐ (Go to 9) Ref ☐ (Go to 9)

8a. Who was enrolled?
(Mark **Enrolled in school** for each person mentioned.)
PROBE: **Anyone else?**

(Continue to mark **Enrolled in school** for each person mentioned)
No ☐ (Go to 9) DK ☐ (Go to 8b)
Ref ☐ (Go to 9)

Enrolled in school ☐	Enrolled in school ☐	Enrolled in school ☐	Enrolled in school ☐	Enrolled in school ☐	Enrolled in school ☐

8b. Who are you not sure about?

(Mark **DK** for each person mentioned.)

DK ☐	DK ☐	DK ☐	DK ☐	DK ☐	DK ☐

9. Is anyone we have listed Spanish, Hispanic, or Latino?

Yes ☐ (Go to 10a) DK ☐ (Go to 10b)
No ☐ (Go to 11) Ref ☐ (Go to 11)

10a. Who is Spanish, Hispanic or Latino?
(Mark "**Hispanic**" for each person mentioned.)
PROBE: **Anyone else?**

(Continue to mark "**Hispanic**" for each person mentioned)
No ☐ (Go to 11) DK ☐ (Go to 10b)
Ref ☐ (Go to 11)

Hispanic ☐	Hispanic ☐	Hispanic ☐	Hispanic ☐	Hispanic ☐	Hispanic ☐

11. Is (name)'s race White, Black, American Indian or Alaska Native, Asian, Pacific Islander, or some other race? You can choose more than one race.
Enter code from Flashcard X.2.

For persons 2-6, ask: How about (name)?

12. (ASK IF NECESSARY)
Is (name) male or female?

For persons 2-6, ask: How about (name)?

M ☐ DK ☐ F ☐ Ref ☐	M ☐ DK ☐ F ☐ Ref ☐	M ☐ DK ☐ F ☐ Ref ☐	M ☐ DK ☐ F ☐ Ref ☐	M ☐ DK ☐ F ☐ Ref ☐	M ☐ DK ☐ F ☐ Ref ☐

13. What is (name)'s age?

For persons 2-6, ask: How about (name)?

☐☐☐	☐☐☐	☐☐☐	☐☐☐	☐☐☐	☐☐☐

14. (ASK IF NECESSARY) (Ask only for 15+)
Is (name) now married, widowed, divorced, separated, or never married?

Enter code from Flashcard X.3.

For persons 2-6, ask: How about (name)?

☐	☐	☐	☐	☐	☐

GO TO FORM Y

Form Y(1) **Household Questionnaire** **Enter Case ID** ☐☐☐☐ **Enter Sample ID** ☐ - ☐☐

	REFERENCE Person	PERSON 2	PERSON 3	PERSON 4	PERSON 5	PERSON 6
DISABILITY						
1a.The next few questions are related to physical health. (Do you/Does anyone in this household)(age 15 or older) have difficulty seeing the words and letters in ordinary newspaper print even when wearing glasses or contact lenses?						
Yes ☐ Dk ☐ (Go to 2a)						
No ☐ (Go to 2a) Ref ☐ (Go to 2a)						
1b. Who has this difficulty? (Mark **Yes** for each person mentioned.)	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐
Probe: **Anyone else?**	Ref ☐	Ref ☐	Ref ☐	Ref ☐	Ref ☐	Ref ☐
1c.(Are you/Is name) able to see the words and letters in ordinary newsprint at all?	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐
	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐
2a.(Do you/Does anyone in this household)(age 15 or older) have any difficulty lifting and carrying something as heavy as 10 pounds, such as a full bag of groceries?						
Yes ☐ Dk ☐ (Go to 3a)						
No ☐ (Go to 3a) Ref ☐ (Go to 3a)						
2b.Who has this difficulty? (Mark **Yes** for each person mentioned.) PROBE: **Anyone else?**	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐
2c.(Are you/Is name) able to lift and carry this much weight at all?	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐	Yes ☐ Dk ☐
	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐	No ☐ Ref ☐

3a.(Do you/Does anyone in this household)(age 15 or older) have difficulty walking a quarter of a mile -- about 3 city blocks?

Yes ☐ Dk ☐ (Go to 4a)
No ☐ (Go to 4a) Ref ☐ (Go to 4a)

3b.Who has this difficulty?
(Mark **Yes** for each person mentioned.)

PROBE: **Anyone else?**

3c.(Are you/Is name) able to walk a quarter of a mile at all?

4a.(Do you/Does anyone in this household)(age 15 or older) have any difficulty climbing a flight of stairs without resting?

Yes ☐ Dk ☐ (Go to 5a)
No ☐ (Go to 5a) Ref ☐ (Go to 5a)

4b.Who has this difficulty?
(Mark **Yes** for each person mentioned.)

PROBE: **Anyone else?**

4c.(Are you/Is name) able to climb a flight of stairs without resting at all?

5a.(Do you/Does anyone in this household) (age 15 or older) use any special aids such as a hearing aid, cane, wheelchair, or some other aid?

Yes ☐ Dk ☐ (Go to 6a)
No ☐ (Go to 6a) Ref ☐ (Go to 6a)

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐
Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐
Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐
Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐

5b. Who uses special aids?
(Mark **Yes** for each person mentioned.)

PROBE: **Anyone else?**

5c. Which type of aid (do you/does name) use?

(MARK ALL THAT APPLY)

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐
Hearing aid ☐		Hearing aid ☐		Hearing aid ☐		Hearing aid ☐		Hearing aid ☐		Hearing aid ☐	
Cane ☐		Cane ☐		Cane ☐		Cane ☐		Cane ☐		Cane ☐	
Wheelchair ☐		Wheelchair ☐		Wheelchair ☐		Wheelchair ☐		Wheelchair ☐		Wheelchair ☐	
Walker ☐		Walker ☐		Walker ☐		Walker ☐		Walker ☐		Walker ☐	
Crutches ☐		Crutches ☐		Crutches ☐		Crutches ☐		Crutches ☐		Crutches ☐	
Leg Brace ☐		Leg Brace ☐		Leg Brace ☐		Leg Brace ☐		Leg Brace ☐		Leg Brace ☐	
Other (Specify) ☐		Other (Specify) ☐		Other (Specify) ☐		Other (Specify) ☐		Other (Specify) ☐		Other (Specify) ☐	

6a. (Do you/Does anyone in this household)(age 15 or older) have any difficulty hearing what is said in normal conversation with another person, (even when using a hearing aid?)

Yes ☐ Dk ☐ (Go to 7a)
No ☐ (Go to 7a) Ref ☐ (Go to 7a)

6b. Who has this difficulty?
(Mark **Yes** for each person mentioned.)
PROBE: **Anyone else?**

6c. (Are you/Is name) able to hear what is said in a normal conversation at all?

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐
Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐	No ☐	Ref ☐

7a. (Do you/Does anyone in this household)(age 15 or older) have a physical, mental or other health condition that limits the kind or amount of work (you/he/she) can do?

Yes ☐ Dk ☐ (Go to 8a)
No ☐ (Go to 8a) Ref ☐ (Go to 8a)

7b. Who has such a condition?
(Mark **Yes** for each person mentioned.)

PROBE: **Anyone else?**

Yes ☐	Dk ☐	Ref ☐
Yes ☐	Dk ☐	Ref ☐
Yes ☐	Dk ☐	Ref ☐
Yes ☐	Dk ☐	Ref ☐
Yes ☐	Dk ☐	Ref ☐
Yes ☐	Dk ☐	Ref ☐

HEALTH INSURANCE

8a. The next questions are about health insurance coverage. The questions apply to ALL persons of ALL ages. (Are you/Is anyone in this household) covered by a health insurance plan provided through (your/their) current or former employer or union?
PROBE: Include COBRA and health insurance plans provided by colleges and universities to students.
PROBE: Do not include military health insurance here; that will be covered later in another question.

Yes ☐ Dk ☐ (Go to 9a)
No ☐ (Go to 9a) Ref ☐ (Go to 9a)

8b. Who in this household is a policyholder?
PROBE: **Anyone else?**

(Mark **Policyholder** for each person mentioned and check the "Insured" box in the corresponding person column of top flap.)

Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐

8c. In addition to (you/policyholder name), who else in this household is covered by (your/policyholder name's) plan?
PROBE: **Anyone else?**

(Mark **Yes** for each person mentioned, enter the person number of the policyholder, and check "Insured" box in the corresponding person column of top flap.)

(FR: REPEAT THIS QUESTION FOR EACH PERSON WHO IS A POLICYHOLDER MARKED IN 8b)

Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐
Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐

9a.(Are you/Is anyone in this household) (also) covered by a health plan that (you/they) PURCHASED DIRECTLY, that is, not related to current or past employment?

PROBE: Include insurance plans purchased through a professional association or trade group.

PROBE: Do not include military health insurance here; that will be covered later in another question.

Yes ☐ Dk ☐ (Go to 10a)

No ☐ (Go to 10a) Ref ☐ (Go to 10a)

9b.Who in this household is a policyholder?

PROBE: **Anyone else?**

Mark **Policyholder** for each person mentioned and check the "Insured" box in the corresponding person column of top flap.)

9c.In addition to (you/policyholder name), who else in this household is covered by (your/policyholder name's) plan?

PROBE: **Anyone else**?

(Mark **Yes** for each person mentioned, enter the person number of the policyholder, and check the "Insured" box in the corresponding person column of top flap.)

(FR: REPEAT THIS QUESTION FOR EACH PERSON WHO IS A POLICYHOLDER MARKED IN 9b)

Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐	Policyholder ☐ Dk ☐ Ref ☐
Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐	Yes ☐ Dk ☐ Ref ☐
Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐	Person Number of policyholder ☐

10a.(Are you/Is anyone in this household) (also) covered by the health plan of someone who does not live in this household?

Yes ☐ Dk ☐ (Go to 11-CK)

No ☐ (Go to 11-CK) Ref ☐ (Go to 11-CK)

10b. Who is that?

PROBE: **Anyone else?**
(Mark **Yes** for each person mentioned, and check the "Insured" box in the corresponding person column of top flap.)

Yes ☐ Dk ☐ Yes ☐ Dk ☐ Yes ■ Dk ☐ Yes ☐ Dk ☐ Yes ☐ Dk ☐ Yes ☐ Dk ☐
Ref ☐ Ref ☐ Ref ☐ Ref ☐ Ref ☐ Ref ☐

11-CK CHECK ITEM

If age is 65 or older for anyone in household.....Ask 11a
Otherwise.....Go to 12a

11a. (Are you/Is anyone in this household) (also) covered by Medicare?

PROBE: **Medicare is the health insurance for persons 65 years old and older or persons with certain disabilities.**

Yes ☐ Dk ☐ (Go to 12a)
No ☐ (Go to 12a) Ref ☐ (Go to 12a)

11b. Who is that?

PROBE: **Anyone else?**

(Mark **Yes** for each person mentioned and check the "Insured" box in the corresponding person column of top flap.)

Yes ☐ Dk ☐ Yes ■ Dk ☐ Yes ☐ Dk ☐ Yes ☐ Dk ☐ Yes ☐ Dk ☐ Yes ☐ Dk ☐
Ref ☐ Ref ☐ Ref ☐ Ref ☐ Ref ☐ Ref ☐

12a. (Are you/Is anyone in this household) (also) covered by Medicaid or any other type of government assistance program that pays for health care?

Yes ☐ Dk ☐ (Go to 13a)
No ☐ (Go to 13a) Ref ☐ (Go to 13a)

12b. Who is that?

PROBE: **Anyone else?**

(Mark **Yes** for each person mentioned and check the "Insured" box in the corresponding person column of top flap.)

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐

13a. (Are you/Is anyone in this household) (also) covered by CHAMPUS, CHAMPVA, Tricare, VA, military health care or the Indian Health Service?

Yes ☐
No ☐ (Go to 14a)
Dk ☐ (Go to 14a)
Ref ☐ (Go to 14a)

13b. Who is that?

PROBE: **Anyone else?**

(Mark **Yes** for each person mentioned and check the "Insured" box in the corresponding person column of top flap.)

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐

13c. Which plan (are you/is name) covered by?

CHAMPUS ☐	CHAMPUS ☐	CHAMPUS ☐	CHAMPUS ☐	CHAMPUS ☐	CHAMPUS ☐
CHAMPVA ☐	CHAMPVA ☐	CHAMPVA ☐	CHAMPVA ☐	CHAMPVA ☐	CHAMPVA ☐
Tricare ☐	Tricare ☐	Tricare ☐	Tricare ☐	Tricare ☐	Tricare ☐
VA Healthcare ☐	VA Healthcare ☐	VA Healthcare ☐	VA Healthcare ☐	VA Healthcare ☐	VA Healthcare ☐
Other Military ☐	Other Military ☐	Other Military ☐	Other Military ☐	Other Military ☐	Other Military ☐
Indian Health Service ☐	Indian Health Service ☐	Indian Health Service ☐	Indian Health Service ☐	Indian Health Service ☐	Indian Health Service ☐
Other ☐	Other ☐	Other ☐	Other ☐	Other ☐	Other ☐

14a. (Are you/Is anyone in this household) (also) covered by any (other) type of health plan?

Yes ☐ Dk ☐ (Go to 15-CK)
No ☐ (Go to 15-CK) Ref ☐ (Go to 15-CK)

14b. Who has insurance?

PROBE: **Anyone else?**

(Mark a **YES** for each person mentioned and check "Insured" box in the corresponding person column of top flap.)

Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐	Yes ☐	Dk ☐
	Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐		Ref ☐

14c. Which type of insurance (do you/does name) have?

(Enter code from list below.)

☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

1 Medicaid
2 Medicare
3 CHAMPUS
4 CHAMPVA
5 Tricare
6 VA Healthcare
7 Other Military
8 Indian Health Service
9 Other government healthcare
10 Employer/union-provided (policyholder)
11 Employer/union-provided(as dependent)
12 Privately purchased (policyholder)
13 Privately purchased (as dependent)
14 Plan of someone outside household
15 Other

15-CK CHECK ITEM

If "Insured" box (on top flap) is checked for everyone in hhld.....Go to INCOME INTRO
Otherwise.....Go to 15a.

15a. Ask 15a for <u>each</u> person who does NOT have "Insured" box checked on "top flap".

I have recorded that (you do/name does) not have health care coverage of any kind. (Do you/Does name) have health insurance or coverage through a plan I might have missed?

Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
No ☐ (Go to INCOME INTRO)	No ☐ (Go to INCOME INTRO)	No ☐ (Go to INCOME INTRO)	No ☐ (Go to INCOME INTRO)	No ☐ (Go to INCOME INTRO)	No ☐ (Go to INCOME INTRO)
Dk ☐ Ref ☐ (Go to INCOME INTRO)	Dk ☐ Ref ☐ (Go to INCOME INTRO)	Dk ☐ Ref ☐ (Go to INCOME INTRO)	Dk ☐ Ref ☐ (Go to INCOME INTRO)	Dk ☐ Ref ☐ (Go to INCOME INTRO)	Dk ☐ Ref ☐ (Go to INCOME INTRO)

15b. Which type of insurance (do you/does name) have?

(Enter code from list below.)

☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

1 Medicaid
2 Medicare
3 CHAMPUS
4 CHAMPVA
5 Tricare
6 VA Healthcare
7 Other Military
8 Indian Health Service
9 Other government healthcare
10 Employer/union-provided (policyholder)
11 Employer/union-provided(as dependent)
12 Privately purchased (policyholder)
13 Privately purchased (as dependent)
14 Plan of someone outside household
15 Other

INCOME INTRO

The next few questions are related to various types of income people sometimes receive.

16a At anytime last year, that is, from January to December of 1998, (did you/anyone in the household) receive any of the following types of income: Worker's Compensation payments or other payments as a result of a job-related injury or illness?

Yes ☐ Dk ☐ (Go to 16c)
No ☐ (Go to 17a) Ref ☐ (Go to 17a)

16b. Who received these payments?
(Mark **Received payments** for each person mentioned.)
PROBE: **Anyone else?**

No ☐ (Go to 16d)
Dk ☐
Ref ☐ (Go to 16d)

16c. Who are you not sure about?
(Mark **Dk** for each person mentioned)

16d. Did (you/name) receive these payments every month in 1998?

16e. Which months in 1998 did (you/name) receive Worker's Compensation payments?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 17a)	Yes ☐ (Next recipient or 17a)	Yes ☐ (Next recipient or 17a)	Yes ☐ (Next recipient or 17a)	Yes ☐ (Next recipient or 17a)	Yes ☐ (Go to 17a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 17a)	Dk ☐ Ref ☐ (Next recipient or 17a)	Dk ☐ Ref ☐ (Next recipient or 17a)	Dk ☐ Ref ☐ (Next recipient or 17a)	Dk ☐ Ref ☐ (Next recipient or 17a)	Dk ☐ Ref ☐ (Go to 17a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

17a. Did (you/anyone in the household) receive any type of unemployment payments at any time in 1998?

Yes ☐ Dk ☐ (Go to 17c)
No ☐ (Go to 18a) Ref ☐ (Go to 18a)

17b. Who received these payments?
(Mark **Received payments** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 17d)
Dk ☐
Ref ☐ (Go to 17d)

17c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

17d. Did (you/name) receive these payments every month in 1998?

17e. Which months in 1998 did (you/name) receive unemployment payments?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 18a)	Yes ☐ (Next recipient or 18a)	Yes ☐ (Next recipient or 18a)	Yes ☐ (Next recipient or 18a)	Yes ☐ (Next recipient or 18a)	Yes ☐ (Go to 18a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 18a)	Dk ☐ Ref ☐ (Next recipient or 18a)	Dk ☐ Ref ☐ (Next recipient or 18a)	Dk ☐ Ref ☐ (Next recipient or 18a)	Dk ☐ Ref ☐ (Next recipient or 18a)	Dk ☐ Ref ☐ (Go to 18a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

18a. How about Social Security payments?
(Did (you/anyone in the household) receive any Social Security payments at any time in 1998?)

Yes ☐ Dk ☐ (Go to 18c)
No ☐ (Go to 19a) Ref ☐ (Go to 19a)

18b. Who received these payments?
(Mark **Received payments** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 18d)
Dk ☐
Ref ☐ (Go to 18d)

18c. Who are you not sure about?
(Mark **Dk** for each person mentioned)

18d. Did (you/name) receive these payments every month in 1998?

18e. Which months in 1998 did (you/name) receive Social Security payments?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 19a)	Yes ☐ (Next recipient or 19a)	Yes ☐ (Next recipient or 19a)	Yes ☐ (Next recipient or 19a)	Yes ☐ (Next recipient or 19a)	Yes ☐ (Go to 19a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 19a)	Dk ☐ Ref ☐ (Next recipient or 19a)	Dk ☐ Ref ☐ (Next recipient or 19a)	Dk ☐ Ref ☐ (Next recipient or 19a)	Dk ☐ Ref ☐ (Next recipient or 19a)	Dk ☐ Ref ☐ (Go to 19a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

19a. How about Veteran's payments?
(Did (you/anyone in the household) receive Veteran's payments at any time in 1998?)

Yes ☐ Dk ☐ (Go to 19c)
No ☐ (Go to 20a) Ref ☐ (Go to 20a)

19b. Who received these payments?
(Mark **Received payments** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 19d)
Dk ☐
Ref ☐ (Go to 19d)

19c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

19d. Did (you/name) receive these payments every month in 1998?

19e. Which months in 1998 did (you/name) receive Veteran's payments?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 20a)	Yes ☐ (Next recipient or 20a)	Yes ☐ (Next recipient or 20a)	Yes ☐ (Next recipient or 20a)	Yes ☐ (Next recipient or 20a)	Yes ☐ (Go to 20a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 20a)	Dk ☐ Ref ☐ (Next recipient or 20a)	Dk ☐ Ref ☐ (Next recipient or 20a)	Dk ☐ Ref ☐ (Next recipient or 20a)	Dk ☐ Ref ☐ (Next recipient or 20a)	Dk ☐ Ref ☐ (Go to 20a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

20a. How about Supplemental Security Income payments, or SSI, a program for low-income elderly and low-income disabled persons?
(Did (you/anyone in the household) receive SSI at anytime in 1998?)

Yes ☐ Dk ☐ (Go to 20c)
No ☐ (Go to 21a) Ref ☐ (Go to 21a)

20b. Who received these payments?
(Mark **Received payments** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 20d)
Dk ☐
Ref ☐ (Go to 20d)

20c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

20d. Did (you/name) receive these payments every month in 1998?

20e. Which months in 1998 did (you/name) receive SSI?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 21a)	Yes ☐ (Next recipient or 21a)	Yes ☐ (Next recipient or 21a)	Yes ☐ (Next recipient or 21a)	Yes ☐ (Next recipient or 21a)	Yes ☐ (Go to 21a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 21a)	Dk ☐ Ref ☐ (Next recipient or 21a)	Dk ☐ Ref ☐ (Next recipient or 21a)	Dk ☐ Ref ☐ (Next recipient or 21a)	Dk ☐ Ref ☐ (Next recipient or 21a)	Dk ☐ Ref ☐ (Go to 21a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

21a. How about Food Stamps?
(Did (you/anyone in the household) receive Food Stamps at any time in 1998?)

Yes ☐ Dk ☐ (Go to 21c)
No ☐ (Go to 22a) Ref ☐ (Go to 22a)

21b. Who received Food Stamps?
(Mark **Received Food Stamps** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 21d)
Dk ☐
Ref ☐ (Go to 21d)

21c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

21d. Did (you/name) receive Food Stamps every month in 1998?

21e. Which months in 1998 did (you/name) receive Food Stamps?

Received Food Stamps ☐	Received Food Stamps ☐	Received Food Stamps ☐	Received Food Stamps ☐	Received Food Stamps ☐	Received Food Stamps ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 22a)	Yes ☐ (Next recipient or 22a)	Yes ☐ (Next recipient or 22a)	Yes ☐ (Next recipient or 22a)	Yes ☐ (Next recipient or 22a)	Yes ☐ (Go to 22a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 22a)	Dk ☐ Ref ☐ (Next recipient or 22a)	Dk ☐ Ref ☐ (Next recipient or 22a)	Dk ☐ Ref ☐ (Next recipient or 22a)	Dk ☐ Ref ☐ (Next recipient or 22a)	Dk ☐ Ref ☐ (Go to 22a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

22a. How about AFDC, welfare, or other public assistance payments?
(Did (you/anyone in the household) receive any AFDC, welfare,or other public assistance payments at any time in 1998?)

Yes ☐ Dk ☐ (Go to 22c)
No ☐ (Go to 23a) Ref ☐ (Go to 23a)

22b. Who received these payments?
(Mark **Received payments** for each person mentioned.)

PROBE: **Anyone else?**
No ☐ (Go to 22d)
Dk ☐
Ref ☐ (Go to 22d)

22c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

22d. Did (you/name) receive these payments every month in 1998?

22e. Which months in 1998 did (you/name) receive AFDC, welfare, or public assistance?

Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐	Received payments ☐
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐
Yes ☐ (Next recipient or 23a)	Yes ☐ (Next recipient or 23a)	Yes ☐ (Next recipient or 23a)	Yes ☐ (Next recipient or 23a)	Yes ☐ (Next recipient or 23a)	Yes ☐ (GO to 23a)
No ☐	No ☐	No ☐	No ☐	No ☐	No ☐
Dk ☐ Ref ☐ (Next recipient or 23a)	Dk ☐ Ref ☐ (Next recipient or 23a)	Dk ☐ Ref ☐ (Next recipient or 23a)	Dk ☐ Ref ☐ (Next recipient or 23a)	Dk ☐ Ref ☐ (Next recipient or 23a)	Dk ☐ Ref ☐ (Go to 23a)
Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐	Jan ☐ Aug ☐
Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐	Feb ☐ Sep ☐
Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐	Mar ☐ Oct ☐
Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐	Apr ☐ Nov ☐
May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐	May ☐ Dec ☐
Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐	Jun ☐ DK ☐
Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐	Jul ☐ Ref ☐

23a. Did (you/anyone in the household) own an interest-earning checking account either alone or jointly at anytime in 1998?

Yes ☐ Dk ☐ (Go to 23c)
No ☐ (Go to 24a) Ref ☐ (Go to 24a)

23b. Who owned an interest-earning checking account in 1998?
(Mark **Owned interest-earning checking account** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 24a)
Dk ☐
Ref ☐ (Go to 24a)

Owned interest-earning checking account ☐ **(Mark an "X" in box on side flap if reference person has this asset.)**	Owned interest-earning checking account ☐	Owned interest-earning checking account ☐	Owned interest-earning checking account ☐	Owned interest-earning checking account ☐	Owned interest-earning checking account ☐

23c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐

24a. How about a savings account?
(Did (you/anyone in the household) own a savings account either alone or jointly at anytime in 1998)?

Yes ☐ Dk ☐ (Go to 24c)
No ☐ (Go to 25a) Ref ☐ (Go to 25a)

24b. Who owned a savings account in 1998?
(Mark **Owned savings account** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 25a)
Dk ☐
Ref ☐ (Go to 25a)

Owned savings account ☐ **(Mark an "X" in box on side flap if reference person has this asset.)**	Owned savings account ☐	Owned savings account ☐	Owned savings account ☐	Owned savings account ☐	Owned savings account ☐

24c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐

25a. (How about) certificates of deposit?
(Did (you/anyone in the household) own any certificates of deposit either alone or jointly at anytime in 1998?)

Yes ☐ Dk ☐ (Go to 25c)
No ☐ (Go to 26a) Ref ☐ (Go to 26a)

25b. Who owned certificates of deposit in 1998?
(Mark **Owned C.D.'s** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 26a)
Dk ☐
Ref ☐ (Go to 26a)

Owned C.D.'s ☐	Owned C.D.'s ☐	Owned C.D.'s ☐	Owned C.D.'s ☐	Owned C.D.'s ☐	Owned C.D.'s ☐
(Mark an "X" in box on side flap if reference person has this asset.)					

25c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐

26a. Excluding anything held as part of a retirement account, did (you/anyone in the household) own any mutual funds, either alone or jointly, at anytime in 1998?

Yes ☐ Dk ☐ (Go to 26c)
No ☐ (Go to 27a) Ref ☐ (Go to 27a)

26b. Who owned mutual funds in 1998?
(Mark **Owned mutual funds** for each person mentioned.)

PROBE: **Anyone else?**

No ☐ (Go to 27a)
Dk ☐
Ref ☐ (Go to 27a)

Owned mutual funds ☐	Owned mutual funds ☐	Owned mutual funds ☐	Owned mutual funds ☐	Owned mutual funds ☐	Owned mutual funds ☐
(Mark an "X" in box on side flap if reference person has this asset.)					

26c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐

27a. Excluding anything held as part of a retirement account, did (you/anyone in the household) own any stocks, either alone or jointly, at anytime in 1998?

Yes ☐ Dk ☐ (Go to 27c)
No ☐ (Go to 28-CK) Ref ☐ (Go to 28-CK)

27b. Who owned stock in 1998?
(Mark **Owned stock** for each person mentioned.)
PROBE: **Anyone else?**

No ☐ (Go to 28-CK)
Dk ☐
Ref ☐ (Go to 28-CK)

27c. Who are you not sure about?
(Mark **Dk** for each person mentioned.)

Owned stock ☐	Owned stock ☐	Owned stock ☐	Owned stock ☐	Owned stock ☐	Owned stock ☐
(Mark an "X" in box on side flap if reference person has this asset.)					
Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐	Dk ☐

28-CK Side flap has No boxes marked ...(Go to 33)
All others..... Read AMOUNTS INTRO, ask 28a - 32b, as applicable, for reference person ONLY.

AMOUNTS INTRO
The next few questions are about interest or dividend income (you/reference person name) may have received last year, that is, between January and December of 1998. For these questions, we're NOT interested in interest and dividends associated with an IRA, a 401K, or any other type of retirement account.

28a. How much interest did (you/reference person name) earn on all interest-earning checking accounts in 1998? Would you say it was more or less than $10?

More ☐

Less ☐
(Go to Next source)

DK ☐
(Go to Next source)

Ref ☐
(Go to Next source)

28b. How much was it to the nearest $5?

				.		

(Go to Next source)

DK ☐ Ref ☐
(Go to Next source)

29a. How much interest did (you/reference person name) earn on all savings accounts in 1998? Would you say it was more or less than $10?

More ☐

Less ☐
(Go to Next source)

DK ☐
(Go to Next source)

Ref ☐
(Go to Next source)

29b. How much was it to the nearest $10?

				.		

(Go to Next source)

DK ☐ Ref ☐
(Go to Next source)

30a. How much interest did (you/reference person name) earn on all CD's in 1998? Would you say it was more or less than $50?

More ☐

Less ☐
(Go to Next source)

DK ☐
(Go to Next source)

Ref ☐
(Go to Next source)

30b. How much was it to the nearest $10?

				.		

(Go to Next source)

DK ☐ Ref ☐
(Go to Next source)

31a. Excluding retirement accounts, how much did (you/reference person name) earn in mutual fund dividends in 1998? Would you say it was more or less than $100?

More ☐

Less ☐
(Go to Next source)

DK ☐
(Go to Next source)

Ref ☐
(Go to Next source)

31b. How much was it to the nearest $50?

				.		

(Go to Next source)

DK ☐ Ref ☐
(Go to Next source)

32a. Excluding retirement accounts, how much did (you/reference person name) earn in stock dividends in 1998? Would you say it was more or less than $100?

More ☐

Less ☐
(Go to 33)

DK ☐
(Go to 33)

Ref ☐
(Go to 33)

32b. How much was it to the nearest $25?

				.		

DK ☐ Ref ☐

RELATIONSHIP GRID

33 Now I'd like to record the EXACT relationships among the persons living or staying here. Please answer by describing adoptive, step, or foster relationships, where appropriate.

(A) 34. How is (person below) related to (person across)? Probe for EXACT relationship. (Enter code from Flashcard Y.1) If "Other", write exact answer in box. Copy Roster name from flap above to rows below in the same order as on flap.	(B) Name: Person #1	(C) Name: Person #2	(D) Name: Person #3	(E) Name : Person #4	(F) Name: Person #5	(G) Name: Person #6
PERSON # 1 NAME						
PERSON # 2 NAME						
PERSON # 3 NAME						
PERSON # 4 NAME						
PERSON # 5 NAME						
PERSON #6 NAME						

35-CK CHECK ITEM

This household has only one person 15 +.....(Go to 35c)
All others.....(Ask 35a)

35a. One last thing: The Census Bureau sometimes re-contacts households, for quality control or to update information. If we do that and talk to someone else in the household, is it okay to refer back to the answers you gave today?

Yes ☐ (Go to 35c) DK ☐
No ☐ Ref ☐ (Go to 35c)

Record any volunteer comments:

35b Can you tell me what bothers you or concerns you about this?

(Record verbatim response: then go to 35c.)

35c. That completes the survey. Thank you very much for your participation.

(Return to the previous page, item 34, and copy the full names from the flap above to the item 34 person columns B-G in exact order. Then return to Form X, item 1, and copy the full person names from the flap above to the question 1 columns in the exact order.)