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Evaluation of National Health Interview Survey Diagnostic Reporting

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This report presents the results of a study of the reporting of chronic conditions in the National Health Interview Survey. The analysis compares the reporting of certain chronic conditions by household interview respondents against the presence of these conditions in medical records, examining the differences in agreement across conditions and across respondent characteristics.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Public Health Service Centers for Disease Control and Prevention National Center for Health Statistics

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Evaluation of National Health Interview Survey Diagnostic Reporting

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Introduction

The National Health Interview Survey (NHIS) is a continuous cross-sectional survey of the civilian noninstitutionalized population of the United States, conducted by the National Center for Health Statistics (NCHS) and the U.S. Bureau of the Census. The NHIS core interview provides national estimates of, for example, the use of physician and hospital services, and of functional limitations and restrictions of everyday activities for health reasons. Annual supplements provide timely information on other topics of health policy interest.

The NHIS has also become a major source of estimates for the prevalence of certain chronic conditions and physical impairments in the United States. Since its inception in 1957, the NHIS has included checklists of chronic conditions and impairments. The procedures for collecting this information have been revised several times, with the current approach (since 1978) of asking questions about more than 100 chronic conditions and impairments in six separate checklists (one checklist per household interviewed). There are several advantages to collecting information on the presence of chronic conditions in a national survey, as opposed to other sources. For example, a survey can capture conditions or health characteristics that may not result in medical care or may not be entered in medical records. A survey also includes persons, such as the poor and minority groups, who may be less likely to get into the health care system than others. However, a survey has drawbacks as well. Survey respondents are not medically trained, so they may not know of the presence of a condition or may misdiagnose symptoms, and they may be unwilling to report the presence of certain embarrassing or stigmatizing conditions.

The Health Interview Evaluation Survey (HIES) was designed to evaluate the reporting of service utilization and chronic conditions in the NHIS (the first such evaluation in nearly 20 years) by comparing interview responses with medical records for the same individuals. In addition, it is the first evaluation since the 1978 introduction of the current NHIS questionnaire and procedures for making prevalence estimates of chronic conditions. Comparing household interview reports with medical records can improve our understanding of data from both sources and may also shed light on people's understanding of their own health and how well the health care system meets their needs for information.

Evaluations using record-check designs are difficult; if one simply interviews persons and checks the sources they mention, it is likely that sources will be missed. Similarly, a design starting with medical records and following up with interviews will miss persons who have not sought professional medical care. Like the previous studies of the reporting of chronic conditions in the NHIS (1-3), HIES drew its subjects from the membership of a health maintenance organization (HMO) to allow as complete a verification of reports of chronic conditions as possible. However, the selection of an HMO as a source of the sample has drawbacks. The evaluation cannot examine differences by provider because there is in essence only one provider, nor can it examine the effects of variations in access to care. Also, persons belonging to an HMO may exhibit different care-seeking behavior from the general population, and they may differ in other ways.

Because of interest in possible reporting differences by race, the study design of the HIES included an oversample of black persons. The sample was also stratified by age and sex, with oversamples of older persons. Because chronic conditions generally are far less prevalent among children than adults, the selection of list-sample persons was limited to persons 18 years of age and over. To accommodate the examination of doctor visits within 2 weeks of the interview and hospitalizations within 13 months, persons identified in the medical record as having recent utilization were oversampled.

HIES methods and procedures followed those of the NHIS as closely as possible. The questionnaire included a slightly modified core NHIS, with a composite condition list that included the most prevalent chronic conditions and impairments. To avoid confounding the examination of data on the list-sample persons by whether a self- or proxy report was obtained, all list-sample persons responded for themselves. Other household members, including children, were included in the interview, as in the NHIS. To the extent that these persons were members of the HMO and permitted access to their medical records, they are included in some analyses.

In analyzing differences between the interview report and medical record, the medical record was viewed as "the truth" for the presence and timing of doctor visits. For the presence of chronic conditions, however, the medical record may not represent a "gold standard," and this issue is examined in this report. An analysis of the reporting of 2-week doctor visits will be published separately.

This report includes a review of previous research on the reporting of chronic conditions by household respondents, describes the methods used in the HIES, and presents results relating to the reporting of chronic conditions. Appendixes present the HIES questionnaire, procedures used for abstracting from medical records, and specifications for a detailed analysis.

The HIES was conceived and mandated by NCHS. It was conducted by Westat, Inc.; the Project HOPE Center for Health Affairs shared the design and analysis responsibilities. The study sample was drawn from the membership of the Group Health Association, whose staff provided essential assistance in identifying the sample and in making available participants' medical records.

Highlights

The findings from the Health Interview Evaluation Survey (HIES) support the observations from previous research on the National Health Interview Survey (NHIS) and from other studies that survey interviews and medical records often provide very different pictures of the prevalence of chronic conditions in a population. The HIES design and analysis did not assume the medical record to be a "gold standard" with regard to the presence of chronic conditions but rather focused on interpreting the differences between the two data sources. Some of these differences are artifacts of the procedural differences in acquiring and interpreting reports from the two sources, but others are inherent in the definitions, manifestations, and need for professional medical care of the conditions studied. Regardless of the reason for the differences, their existence sheds some light on the accuracy of survey-based prevalence estimates of chronic conditions.

Chronic conditions may be classified in several ways. Conditions that require a physician's diagnosis to identify and are very likely to require ongoing medical care showed the highest levels of agreement between the interview and medical record. The conditions studied that fall into this category include diabetes, most heart conditions, high blood pressure, and asthma. The presence of these conditions, once diagnosed, is likely to be noted in the medical record. Each of these conditions (with the exception of heart murmurs, a special case among heart conditions) was underreported in the HIES interview, and most other conditions were apparently overreported. Thus, interview reports of these conditions are likely to be accurate, but their prevalence may be underestimated by survey data. The problem of underestimation may be particularly severe for heart disease, where individuals with more than one heart condition according to the medical record often reported fewer in the interview.

The other conditions apparently underreported by HIES respondents were cataracts and dermatitis. Although the medical record may have overstated the prevalence of cataracts (counting some that were surgically removed before the "past year"), it is likely that cataracts were underreported by survey respondents. Many notations of "beginning cataracts" or "early cataracts" were in the records, but these conditions may not have been serious enough for respondents to remember or may not have even been mentioned by the provider who discovered them. Dermatitis is a condition for which chronicity is difficult to determine from the medical record – the apparent HIES underreport is unlikely to indicate a corresponding underreport from the NHIS.

At the other end of the spectrum from the first group of conditions are those that can only be diagnosed by patient report. In the HIES, constipation and tinnitus meet this criterion. Both were significantly overreported by HIES list-sample persons, and both had very low rates of agreement with the medical record. For these conditions, the medical records shed almost no light on the accuracy of interview-based prevalence estimates. However, the records do suggest that many people do not report these conditions to their physicians, so medical records would almost certainly underestimate prevalence.

Another group of conditions is those that may be quite salient to the persons suffering from them but that may not require ongoing treatment and thus may not be in the medical record. These include orthopedic impairments, visual and hearing impairments, migraine headaches, varicose veins, allergic rhinitis, and chronic sinusitis. These conditions were all substantially overreported in general in HIES interviews, but with the exception of visual and hearing impairments, all had a number of underreports in the medical record as well. The presence of impairment is a somewhat subjective determination. whether by a provider or an individual; other conditions in this group, such as constipation, may tend to be selfdiagnosed. Overall, it is clear that medical records alone would provide a very different picture of prevalence for this group of conditions than do interviews and that the rates from medical record data would likely be considerably lower.

Some conditions studied are less well defined than others, from both the household respondents' perspective and the clinical perspective as well. Some interview reports of arthritis, for example, although technically "false positives," appear to match clinically equivalent conditions in the medical record. The extent to which other reports of arthritis may reflect more generalized joint pain could not be determined. Circulatory conditions provide particular definitional problems for respondents. Persons with several heart or other circulatory conditions seem to tend to group them under one heading. The HIES found evidence of this tendency for heart conditions; it may be true for the larger family of circulatory conditions as well. That is, persons with heart disease may report "high blood pressure" as the overall condition that encompasses all their circulatory problems.

The HIES design, using an HMO membership, studied only persons with good access to health care, including preventive care. Some evidence from the HIES analysis and previous research indicates that people who receive medical care are better able to report the presence of chronic conditions. This is clearly true for the first group of conditions described earlier, because a physician's diagnosis is necessary for patients to know that they have a condition. Among the general population, many of whom have less access to medical care than the study sample, it may be that the conditions underreported in the HIES are even more underreported for the general population. This is because some people may not have received a diagnosis and some may not have sought medical care after receiving a diagnosis. Conversely, it may be that self-diagnosed conditions might be more overreported among the general population than in the HMO study sample because people with limited access to care might have less chance to have their own diagnoses refuted.

Finally, some proxy effects seem to be present in the reporting of chronic conditions. Although the HIES did not include a formal study of proxy reporting, a comparison of probable self-responders and persons with proxy reports among household members indicated that proxy reports included considerably less overreporting, but agreement with the medical record was about the same as for self-responders. The net effect of proxy reports on NHIS prevalence estimates is difficult to determine from the analysis possible in the HIES.

Previous research on interview reliability and validity

For more than 50 years, the accuracy of data reported on household health surveys has been studied by examining medical provider reports and through review of medical records, provider surveys, or physical examinations of study subjects. These methodologies have been applied to large national surveys, including the 1935–36 National Health Survey (4), the Hunterdon County Health Study (5), the National Health Interview Study (NHIS) (1,3,6), the Center for Health Administration Studies 1970 Health Survey (7), and the 1977 National Medical Care Expenditure Survey (NMCES) (8–10), as well as to smaller, more focused studies. Although each study has a different design, all of the studies attempt to describe the error in survey results.

Most of the studies sponsored by NCHS referred to in this report are described in greater depth by Jabine (11), who reviews findings from methodological research on health interview surveys as they relate to chronic condition reporting. He discusses sources of information used, the size of various components of nonsampling error, and relationships of these errors to data requirements, respondent and interviewer characteristics, and survey design features. In addition, Jabine describes current NHIS objectives and historical changes in the survey, as well as NHIS operating procedures. He evaluates the quality of chronic conditions data, discussing which chronic conditions should be reported, as well as alternative evaluation methods.

Interviews compared with provider reports

The NHIS is the principal source of prevalence estimates for many chronic conditions in the noninstitutionalized U.S. population. Prevalence estimates from household reports are subject to various kinds of reporting error. Underreporting may occur for several reasons. Interview respondents may not be aware of the presence of a condition, particularly if they are reporting for others. They may not know the proper name for a condition or they may forget that it was present. They may also choose not to report a condition. Overreporting may also occur as respondents misdiagnose medical problems or confuse or not remember names of conditions.

Because of these limitations of household respondents as sources of clinical information, one might consider another possible method for producing such prevalence estimates, through the review of a nationally representative sample of medical records. However, as Marquis (12) and others have described, medical records have shortcomings as sources of prevalence data. Perhaps the most significant limitation for prevalence estimates is that only people seeking medical care are included.

Limitations of record checks

Marquis identified limitations of particular recordcheck methodologies. He was concerned with response bias, the systematic overreporting or underreporting of a medical condition or health service use. He described a basic record-check typology in terms of the values obtained for a binary variable (i.e., a variable with two possible values) from two different sources, specifically a household interview and medical records. This typology is reproduced as table A. Cell A may be referred to as "positive match" and cell D as "negative match." Cells B and C represent disagreement between the two sources; if the record is taken as truth, cell B would be considered a false positive or overreport, and cell C would be a false negative or underreport.

Marquis extended this model to describe the design of record checks. A design in which a sample of persons with a particular characteristic (such as the presence of a certain chronic condition) is drawn from records and the characteristic is then tested for in a survey he labeled "AC," noting that such a design would not capture overreports, i.e., responses in cell B. On the other hand, a design in which a survey is conducted first and record checks performed on persons reporting a characteristic of interest ("AB" design) would fail to capture underreports, i.e., responses in cell C. Record checks of either AB or AC

Table A. Marquis' basic record-check matrix for binary variable with no missing data, by survey response and notation of condition in medical records

Condition noted		Survey response	e
Condition noted in medical record	Yes	No	Both responses
Yes	A	С	A+C
No	В	D	
All conditions	A+B		A+B+C+D

NOTES: A is positive match, B is false positive, C is false negative, and D is negative match.

design would thus not measure response bias accurately; estimates of bias would be skewed by the limitations of the design. Fully designed record checks identify a population and sample from it independently of records, obtain survey and record information for each sampled element, and compare the two data sources.

Thus, Marquis believes that cognitive research on health surveys should contain external validation features such as fully designed record checks or other careful strategies to measure the correlation of survey responses with true values. Furthermore, because of the problems inherent in certain types of record checking, it cannot be assumed that respondent forgetfulness is the dominant response problem in health surveys. In addition, record checking has inherent limitations; for example, it does not explain why respondents give incorrect answers.

Looking more generally at the use of records in survey research. Edwards and Cantor (13) expanded Tourangeau's (14) cognitive model of survey response processes to include responses based on a review of records. They pointed out idiosyncratic sources of error in using records, including error that may arise during the creation of records and error resulting from using records developed for a purpose other than research. Records thus have a different "error structure" than do interviews, where one is concerned, for example, with how well respondents understand questions, how well they recall relevant information, and how willing they are to report potentially embarrassing facts. Thus, even for a population for which the operational difficulties of selecting a representative sample of medical records are overcome (such as the membership of an HMO), one would expect that the inherent differences in the data would almost certainly result in different prevalence estimates.

Physical examinations and other data sources

Physical examinations appear to yield yet a different set of prevalence estimates from interviews or medical records. A comparison of clinical examination and medical history in the National Health Survey (15) found that only about half of adults 25-74 years of age classified as "definite hypertensive" in the examination reported being told by a doctor that they had high blood pressure. Gordon (16) described a three-way record check comparing self-administered medical history reports, physical examinations, and private physicians' reports, for heart conditions and hypertension. In the full sample, the prevalence of heart disease was slightly higher using physical examination as the source than using medical history and slightly lower for hypertension. Table B compares prevalence estimates from all three sources for the subsample subjected to the medical records verification. For both heart disease and hypertension, the medical record showed the lowest prevalence among the three sources. Heart disease had the highest rate using examination as the source, and hypertension had the highest rate using selfadministered medical history.

Table B. Condition prevalence per 1,000 persons, by source of information and type of condition

	Source of information		
Condition	Medical history	Physical examination	Medical records
	Rate per 1,000 persons		
Heart disease	161.9	192.6	118.9
Hypertension	204.9	172.1	133.2

SOURCE: Gordon (16).

Methodology of previous studies

The two previous studies of diagnostic data in the NHIS, one reported by Balamuth (1) with a sample drawn from the Health Insurance Plan (HIP) of New York City, and the other reported by Madow (2,3) with Kaiser Permanente (KP) members in California, both used reverse record-check designs, or "AC" designs, using Marquis' typology from table A. Interview responses were compared with diagnostic information from medical records; the HIP study used an existing form routinely completed for medical encounters, and the KP study used a specially designed form completed by KP physicians for 1 year. Both studies acknowledged the limitations of medical records as validation. Balamuth largely limited analysis of the HIP study to conditions reported in the medical record, merely pointing out differences between householdreported conditions that were and were not in the record. Madow's study was limited to conditions entered in the medical records or about which respondents said they had spoken with a physician during the year. Thus, a condition a respondent reported, but for which no physician had been seen during that year, would appear as an overreport, even though a physician may have been seen in the previous year.

Harlow and Linet (17) reviewed studies comparing questionnaire responses of chronic conditions to medical records. Accuracy of recall was measured by agreement between the two data sources, although not all studies quantified the agreement. The authors noted that accuracy of recall includes correct reporting of medical conditions and absence of medical conditions in both data sources. Thus, if medical records are reviewed only for subjects reporting disease, the measure of agreement does not assess false negatives. The converse is also true; if interviews are conducted only for subjects whose medical records contain notation of disease, false positives cannot be calculated.

Harlow and Linet noted that in these studies, because the condition data were derived from two different sources rather than being a repeat measurement, the term "reliability" is not appropriate to describe the accuracy of reporting. They concluded that the Kappa statistic (see "Kappa statistic as a measure of agreement") and overall proportion of agreement remain the most useful summary measures. Subsequently, Harlow and Linet (18) and Hertz-Picciotto (19) refined these views, stating that the use of medical records for assessment of accuracy is inappropriate for conditions in which medical service use depends upon self-identification of medical problems and subsequent care-seeking behavior. Harlow and Linet believe that medical records are appropriate for the assessment of conditions that have clear and unambiguous diagnostic criteria, are relatively severe, and require frequent physician contact. They conclude that agreement between medical records and self-reports cannot be generalized across conditions or across severities of conditions.

Kappa statistic as a measure of agreement

The Kappa statistic is widely used as a measure of interrater agreement, a method for analyzing the variation in different observer responses to the same phenomenon (Landis and Koch (20)). The Kappa statistic is a weighted proportion that summarizes the extent of agreement, adjusted for the rate of agreement expected by chance. Landis and Koch suggested value labels corresponding to the range of possible values for the statistic, with the labels providing benchmarks for interpreting the statistic.

In a critique of the Kappa statistic, Maclure and Willett (21) noted that it was originally conceived as a measure of agreement between two observers who sought to classify subjects into two nominal categories. The Kappa statistic has also been interpreted as a measure of validity. According to Maclure and Willett, this is not an appropriate use of the Kappa statistic. The authors cited as the Kappa statistic's major weakness the fact that it is a measure of the frequency of exact agreement, not a measure of the degree of agreement. The same weakness applies to simpler measures of agreement such as percent agreement and percent over- or underreporting. Several studies of the reporting of medical conditions (1,3,10) have addressed this problem by examining "loose matches" of interview and medical record data in which categorical definitions were expanded.

Another criticism of the Kappa statistic is that it measures agreement, which may or may not be equivalent to accuracy. Thus, if two raters agree on an incorrect judgment, resulting statistics may be biased (22). It is difficult to imagine a resolution of this weakness for the current application because a third source of information may itself be subject to idiosyncratic error, as noted earlier in an examination of interview, medical records, and physical examinations (16).

Results of studies of reporting medical conditions

This section describes some results from previous studies examining the reporting of medical conditions by survey respondents. Table C lists sources that describe characteristics of persons and correspondence with higher levels of agreement between interview and medical record reports. Details are provided in the sections that follow.

Early studies

The first use of a physician report to verify householdreported data occurred more than 50 years ago, in the

Factor	Reference
Male sex	Daugherty ¹ (7); Linet et al. (23)
Male sex, nonelderly	Madow (3)
Female sex	Balamuth (1)
Female sex, elderly	Madow (3)
Noneiderly age	Daugherty ¹ (7)
Age over 44 years	Balamuth (1)
White race	Daugherty ¹ (7); Linet et al. (23)
Self-report versus proxy	Balamuth (1); Linet et al. (23)
Proxy for spouse versus child	Balamuth (1)
Proxy reporting stigmatizing condition	Berk et al. ² (8)
Less threatening condition ³	Daugherty ¹ (7); Cox and Iachan ⁴ (10); Trussell and Elinson (5)
More salient condition ⁵	Daugherty ¹ (7)
More numerous conditions	Daugherty1 (7)
More numerous physician visits	Daugherty ¹ (7); Madow (3); Balamuth (1)
Recent physician visit	Balamuth (1)
Higher levels of expenditure	Daugherty ¹ (7)
Medication for condition	Madow (3)
Fewer household members	Balamuth (1)
Urban location	Daugherty ¹ (7)

¹Daugherty analyzed "physician visit conditions," that is, any condition for which a respondent had a physician visit during the survey year.

²Respondents reported "physician visit conditions."

³A classification of threatening versus nonthreatening diseases was developed by Cannell and Fowler (6) to identify conditions most likely to be misreported because they are threatening or embarrassing. These conditions are called stigmatizing by other authors (8).

⁴The condition for this study was "physician visit condition."

⁵Salience Is used to mean severity of the condition or importance of the condition to the patient.

1935–36 National Health Survey (4). Trussell and Elinson (5) also verified each major condition classification in their Hunterdon County study. Trussell and Elinson found that 30 percent of medically-attended conditions mentioned by the attending physicians were not reported in the family interview. For some conditions such as obesity, Trussell and Elinson noted that about 80 percent of the time a condition was listed in the medical record but not reported in the household interview.

Studies using health maintenance organization members

The HIP and KP studies described earlier examined the quality of NHIS diagnostic data in HMO settings, where it is relatively easy to collect medical provider record data from all providers (without missing those not reported by the respondent). The HIP study surveyed members who sought care during a specific 12-month period (1). The diagnoses from their medical records were summarized, and the summary records were compared with interview reports of chronic illnesses taken at the end of the study period. Conditions noted during physician visits that were not diagnoses were not included on the summary records. Families in which at least one person had received a medical service related to a selected list of conditions were sampled three times as intensively as other families.

Two recode classifications were used for matching health conditions in the HIP study: recode number 1, which had 278 detailed titles, and recode number 3, which had 43 more general categories. Three types of matches were recorded: two that matched according to each recode type, and one that did not fit a recode, but had characteristics recorded in the interview that allowed a match to be made to the summary record.

Fewer than half of the conditions gleaned from medical record summaries were reported in interviews, with underreporting ranging from 4 to 76 percent. The authors suggested the following factors not related to accuracy that may have contributed to low match rates: Conditions from the summary records may have been errors, some conditions judged from the medical record to be chronic may have been acute and thus not appropriate for mention in the interview, and lack of training or experience of the interviewers.

Self-reports were more often matched to summary records than were proxy reports in 21 of 32 class or diagnosis categories. The study also concluded that the proportion of all conditions inferred from the summary records that are correspondingly reported in interviews remains constant no matter how many summary record diagnoses are sustained by the given individual. In addition, the HIP survey found some underreporting of physician contacts in both the 2-week preinterview period and the previous year. This study did not examine whether medical care reported as occurring in a given time interval did, in fact, occur within that interval. In the second HMO study, Stanford Research Institute compared interviews of a sample of members of the Kaiser Foundation Health Plan's Southern California Permanente Medical Group with medical encounter forms developed specifically for the study. The study was limited to conditions that were entered in the medical records or about which respondents said they had spoken with a physician during the year. The results can be applied only to conditions for which a physician had been seen in the past year. The study sample was designed to be able to measure the effect the number of visits had on accuracy of recall.

The survey found 15,417 chronic conditions reported in interviews or records, but only 7,182 after exclusions noted in the previous paragraph were made. Many conditions that were under- or overreported were those for which only a single physician visit was made during the study year. The matching of respondent and record reports of conditions improved markedly as the number of physician visits increased and also when medication for the condition was taken on a regular basis. The most accurate reporting was found for diabetes, vascular lesions of the central nervous system, heart conditions, diseases of the gallbladder, and absence of fingers and toes. Many more medical records than interviews noted benign and unspecified neoplasms, mental illness, menstrual disorders, and skin diseases, and there were few household reports that were unconfirmed by medical records. The opposite pattern was observed for allergic rhinitis, asthma, tuberculosis, headache and migraine, hypertension, hemorrhoids, rheumatic fever, sinusitis, bronchitis, visual and hearing impairments, and speech defects. These had many unconfirmed household reports and few medical record notations not matched by interview responses. The authors suggested that overreporting of these conditions could be the result of their long duration, as they may have begun well before the period covered by reviewed medical records.

Center for Health Administration Studies research

In the 1970 Center for Health Administration Studies of the University of Chicago survey, Daugherty (7) noted a strong inverse relationship between underreporting and the condition's effect on the individual. The greater the effect, the less often it was underreported. Daugherty explained that the type of illness affects patient reporting. She also described error estimates for reporting of three types of illnesses. In her study, 99 physician visit conditions were matched on a per person rather than a per visit basis.

Daugherty found that 40-50 percent of conditions reported by one source were not reported by the other. Overall, 35 percent of physician-mentioned conditions matched patient reporting. The author noted that reporting accuracy did not vary widely by age. She found that males were slightly better reporters than females and that the largest differences in reporting were by race and by urban versus rural location. White people had somewhat higher agreement with medical records than people of other races, and urban more than rural residents. The study found that self-reporting was not more accurate than proxy reporting. People with more conditions had a higher accuracy score, probably because of the greater effect on their lives, called the "salience effect." Those reporting six or more conditions had an overall accuracy score of 73 percent, which was well above the overall mean. The most serious conditions have an overall accuracy score of 62 percent, also above the overall mean. Underreporting by respondents was found to be greater than overreporting. This study differs from others in that it found a greater effect of demographic factors on reporting error.

Record checks of special populations

Linet et al. (23) studied people diagnosed with chronic lymphocytic leukemia, comparing medical records with questionnaire responses about a wide range of health conditions. The overall proportion of agreement for each condition, Kappa statistic, and confidence interval for the Kappa statistic were calculated. The Kappa statistic was calculated because it incorporates an adjustment for chance agreement. Agreement for self-respondents and proxies was compared.

Based on their results, the authors concluded that some specific diseases are more accurately identified in medical records, but other conditions (such as allergic rhinitis) are more accurately ascertained from interviews. They suggest that other conditions such as asthma, may be best determined from a combination of medical records and interviews. The authors also concluded that recall is consistently better for self-respondents than for surrogates.

Studies using the National Medical Care Expenditure Survey

Cox and Cohen (9) explored whether a household interview survey could be used to predict provider response to a survey. The basic research question reflected the authors' supposition that the medical record is the most reliable data source for conditions of the population. The authors compared reason-for-visit reports from the Medical Provider Survey component of the NMCES with reports from the household component, which obtained data on the use of and costs for health services from a national probability sample of the civilian, noninstitutionalized population. The Medical Provider Survey oversampled providers of survey respondents believed to be poor reporters, based on social demographics. The authors found that only 30 percent of conditions reported by physicians were reported by households, and only 40 percent of the conditions reported by households were reported by providers. Subsequently, the authors collapsed conditions into 16 categories to determine whether this poor match was caused by inability to match at a greater level of detail. This change substantially improved agreement between the two sources. Thus, the authors suggested that the coding system should be modified to reflect the less precise nomenclature more familiar to nonprofessionals. True agreement could be detected at a less detailed level. They also recommended relying on medical provider surveys rather than household interviews for resolution of differences between sources. Cox and Cohen concluded that the relationship between these two data sources is too weak to allow prediction of the provider's report of reason for visit from a household survey report.

Cox and Iachan (10) investigated the effectiveness of household reports of conditions in describing providers' corresponding diagnoses. The authors compared responses to the NMCES with those included in the Medical Provider Survey component. Respondents were asked for conditions and providers were asked for diagnoses. The principal measures used were the percent of household reports matching provider reports and the percent of provider reports matching respondent reports. In addition, to examine overall agreement by demographic category, the (overall) probability of agreement was calculated. This was the sum across 63 conditions of the weighted percent of visits for which the two reports matched. Because of the large number of conditions, no correction for chance agreement was made (Kappa statistics were not used). Agreement for specific conditions was generally weak, but it improved when conditions were grouped together to be less specific. Questionnaire revisions also would have improved agreement because different questions were used for household respondents and providers.

Berk, Horgan, and Meyers (8) challenged the notion that self-respondents were better reporters than were proxies on health interview surveys. Using a survey of all the health providers for respondents to the NMCES for comparison, the authors were able to evaluate whether proxies or self-respondents had more accurate reports. This study focused specifically on "stigmatizing conditions" that can be very serious or that may be embarrassing to the patient. It was found that for these conditions, although the number of conditions reported was higher for self-respondents than for persons with proxy responses, the proxies reported as well as or better than actual patients when compared with medical records. Previous examinations of proxies versus self-reporters in the NHIS (24,25,26) had found self-reports generally superior to proxy reports for a variety of health indicators. Berk et al. (8) suggested that fewer conditions were reported by proxy respondents because persons not present during a household interview have fewer medical conditions than those who are present. This factor had not been controlled for in other studies. This report concluded that the use of a household proxy does not result in increased reporting bias for the conditions examined.

Studies of interview design influence

Questionnaire types

The Michigan Survey Research Center Study (27) was conducted in 1968 to compare differences in reporting of health conditions (both chronic and acute) obtained through three different questionnaire types and data collection procedures. In a survey of nonelderly white adult females of low-to-middle socioeconomic status in Detroit, Michigan, three questionnaire versions were tested: (1) an extensive interview using multiple cognitive frames of reference, multiple cues, additional probes, and recognition of items through numerous questions; (2) a respondent diary completed daily for 1 week, followed by an interview visit; (3) a control procedure with one interview and a shorter questionnaire with the same major items and questions as the 1968 NHIS. Although there was little difference in reporting levels from the diary and control procedures, the extensive procedure resulted in a 58percent higher mean number of conditions reported per person than the control group; most of the increase came from conditions not on the checklist. Furthermore, the majority of newly reported conditions were shown to have significant public health implications.

Comparison of condition and person approaches

From July 1967 through June 1968, a multistage national probability sample of 43,600 households was interviewed to compare the results of a "condition" approach and a "person" approach in the NHIS (28,29). The condition-approach survey, in the same format as the previous NHIS, included a series of direct questions on accidents, injuries, and illnesses of short and long duration, followed by a checklist of selected chronic conditions and impairments. The person approach also collected reports of health conditions from questions at the beginning of the interview on bed days, activity limitations, and physician contacts. It differed from the condition approach by starting the collection of health condition data through the effects of conditions. In addition, the person approach limited collection of prevalence data on chronic conditions to one of six specific body systems during a given interview. During the test period, information was collected on chronic conditions affecting the digestive system.

The person-approach survey resulted in significantly higher overall prevalence for the conditions studied (those affecting the digestive system) than the conditionapproach survey. The increase was considered an improvement and was attributed to the greater detail in the checklist used in the person approach. This finding led to the present system of using more detailed checklists covering only a single body system in each interview. Furthermore, beginning in January 1969, the NHIS replaced its condition approach with a person approach.

Discussion

Using provider reports to assess the accuracy of diagnostic data reported in household interviews has provided useful information in a number of studies. However, this methodology cannot be said to provide precise measures of reporting error; it is limited by flaws in medical records as a data source, by the statistics available to interpret comparative data, and by lack of knowledge of the true prevalence of medical conditions.

The basic assumption of most investigations using record-check designs is that the provider record is "the truth." However, this may hold only for those conditions that have clear diagnostic criteria, are perceived as relatively severe by the patient, and require frequent physician contact (17–19). Chronic conditions that do not require ongoing physician contact may be correctly reported by household interview but may not be in provider records.

Some record-check study designs do not include full household interviews and medical record review. Rather, only those households for which certain conditions were found on medical records might be interviewed. Alternatively, only those provider records for households mentioning certain conditions might be examined. These incomplete survey designs can result in erroneous estimates of the bias attributable to the use of a survey report (1–3).

The record-check design is also limited by the difference between the questions asked in the household survey and the medical record. The sources can be expected to differ in content (10). Even when the patient and provider intend to describe the same condition, they may use different nomenclature, resulting in mismatches (1,3,9,10,30).

"Agreement" between household and provider sources has been inconsistently defined in previous studies. How closely do the two sources have to match to be considered in agreement? Some investigators have explored matching in broader categories with generally improved match rates.

The Kappa statistic controls for marginal variations in measuring agreement, but because it only measures exact agreement, it may be considered to measure only the frequency of use of the same medical terminology (20) in reporting of health conditions. The Kappa statistic cannot, of course, measure the intent or true meaning of what was actually reported from either source being compared and whether that intent is in agreement between sources.

A record check to examine the reporting of chronic conditions in a household survey would be most likely to be successful if the following conditions are met:

- It uses a full design, allowing evaluation of both overand underreports.
- It measures agreement in some standard ways but goes further to examine the nature of disagreements to determine whether two sources are really talking about the same phenomenon in different terms.
- It does not necessarily assume the medical record to be the truth, but considers the possible reasons why some chronic conditions might legitimately be absent from the medical record.

The design and analysis of the HIES, described in the following sections, were planned with awareness of these lessons from previous research in evaluating survey reports of chronic conditions.

Methods

This section presents the methodology used to conduct the HIES. The evaluation was designed to mimic the content and procedures of the NHIS as closely as possible within certain design and analytic constraints. The differences in design and conduct between the HIES and the NHIS are presented in figure 1.

Sample design

The HIES was conceived as a full-design recordscheck study. That is, following the typology used by Marquis (12) presented in table A, the intent was to examine the reporting of chronic medical conditions by interview respondents in such a way that both apparent interview overreports (cell B in table A) and underreports (cell C in table A) could be detected. Further, the design was to allow interpretation of the absence of reports of a condition from both sources as agreement that the condition was not present. To this end, the study universe was members of Group Health Association (GHA), a staffmodel HMO in the greater Washington, D.C., area. The

use of a staff-model HMO with centralized records was the surest and most efficient way to implement a full design because the HMO's records provide a nearly complete inventory of members' use of health care services. The sample was restricted to individuals who had been GHA members for at least 3 years before selection to maximize the completeness of participants' medical records and to further strengthen the record-check design.

The study design was further guided by the desire to evaluate the reporting of chronic conditions by age, race, and sex, as well as to evaluate the reporting of medical events (doctor visits and hospital stays), which will be the subject of a separate report. However, this secondary objective strongly affected the overall sample design by leading to oversampling of persons with recent medical utilization.

Because of cost considerations early in the planning of the HIES, the target sample size was 1,000 self-responding adults selected from the GHA membership rolls. Children were omitted from this list sample because of their relatively low prevalence of chronic conditions. (The most

Area	NHIS ¹ practice	HIES ² procedures
Sample frame	Area probability; nationally representative	List of members of Washington, D.C., area health maintenance organization
Sample design	Multistage selection, oversampling of areas with higher proportion of black residents	Disproportionate sampling by age and whether recent doctor visit or hospital stay
interviewer selection	U.S. Bureau of the Census staff; mostly experienced	Westat staff; many new hires
nterviewer training	Verbatim training by U.S. Bureau of the Census staff	Verbatim training by U.S. Bureau of the Census staff
Data collection period	Continuous survey; cases targeted for 2-week field period	Field work lasted 6 months; cases targeted for 2-week field period
Contact procedures	In person; sought household informant	Telephone appointment allowed; sample person only
Respondent selection	Knowledgeable audut in household	Sample person only
Questionnaire content	Core and supplement(s)	Modified core only
Data preparation	U.S. Bureau of the Census and National Center for Health Statistics staff rules for resolving discrepancies	Westat staff; same procedures except: refer to questionnnaire for resolving discrepancies

Figure 1. Comparison of National Health Interview Survey procedures and Health Interview Evaluation Survey design elements

²HIES is Health Interview Evaluation Survey.

common chronic conditions among children occur at a rate of about 50 cases per 1,000 persons.) Because the NHIS is a household interview, HIES interview data were collected for all household members as well as the listsample persons. Many of these household members were also GHA members. The total sample available for analysis included, in addition to the list sample, all such household members who signed permission forms allowing access to their GHA medical records and for whom records were located. This group was called the "supplementary" sample or "household members," as distinguished from the "primary" sample or "list-sample persons."

Because GHA contracts with the Federal Government to provide health coverage to employees and because Federal employees may be atypical in their reporting of chronic conditions in a Government-sponsored survey, the number of Federal employees in the list sample was limited in the study design. Employees of GHA, Westat, NCHS, and the U.S. Bureau of the Census were excluded from the list sample. The sample design is summarized in figure 2.

Selection of medical centers

GHA was serving approximately 160,000 people at nine medical centers in the greater Washington, D.C., area at the time of the study. To reduce the burden on GHA staff and to increase the clustering of the sample for more efficient field work, two medical centers were selected to provide the sample of study subjects. The criteria for selection included the desire to have one urban and one suburban center, a need to limit the number of Federal employees selected, and the requirement that the sample include an oversample (compared with the national population) of black persons. GHA records included other person-level information required for sample stratification (see next section), but did not include systematic notation of members' race. Thus, the oversample of black persons was affected by selecting medical centers in communities with a high proportion of black residents. The analytic sample turned out to be predominantly black persons: The list sample was two-thirds black persons, and the supplementary sample almost 70 percent black persons.

Explicit stratification of list sample

A sample intended to produce 1,000 completed interviews with medical record data was selected from three list frames: persons having a recent ambulatory care visit (60 percent); persons having a recent hospital stay (20 percent); and persons from the general membership rolls (20 percent). Individuals from the three lists were stratified by demographic characteristics (age and sex), by recency of ambulatory visit (ambulatory care frame only), and by employer group (Federal Government or not). Sampling rates within each stratum followed the guidelines described later. Although some separate analyses were planned for each of these subgroups, the intent was not to create a fully crossed design for analysis but to ensure that list-sample persons included appropriate representation by these key characteristics.

For stratification by age, two major groups (those 18–64 years of age and those 65 years and over) were broken into four age categories typically used in NHIS reports of chronic condition prevalence: 18–44 years, 45–64

Design element	Description	Purpose or reason
Study population	Members of a Washington, D.C. area health maintenance organization	To allow a full study design
Selection of medical centers	Two of nine centers selected from which to draw study sample	To reduce burden on health maintenance organization staff; to cluster sample and reduce field costs; to ensure representatio black persons
Selection of list-sample persons	Sample limited to adults (18 years and over)	Chronic conditions to rare among children
	Stratification of sample by age	To ensure representation of all age groups
	Oversampling of persons 65 years and over	To allow separate analysis by age group
	Among those 18-64 years of age, oversampling of those aged 45-64 years	To ensure sufficient reports of chronic condition
	Limitation of number of Federal employees	To guard against response bias possibly associated with Federal employment
	Oversample of persons with recent doctor visits	To allow analysis of reporting of doctor visits
	Oversample of persons with recent hospital stays	To allow analysis of reporting of hospital stays

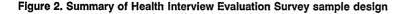


Table D. Planned allocation of persons cooperating in Health	
Interview Evaluation Survey, by sex and age group	

	List	sample	Supplementary sample	
Age	Males	Females	Males	Females
	Number of persons			
All ages	500 -	500 -	374 125	374 125
18-64 years				
18–44 years	146 187	146 188	72 93	72 94
65 years and over				
65–74 years 75 years and over	100 67	100 66	50 34	50 33

years, 65-74 years, and 75 years and over. The sample was divided between the two major age groups so that each would be expected to yield at least 40 reports of the 10 most prevalent chronic conditions for that age group. Thus, persons 65 years and over were selected at a higher rate than those persons aged 18-64 years. Within the younger group, persons 45-64 years of age were selected at a higher rate than those in the general population to increase the number of chronic condition reports expected for the overall group. Within the older group, persons 65-74 years of age and those 75 years and over were selected so as to be represented at the same rates as in the general population. Equal numbers of males and females were selected in each age group. Table D presents the planned sample allocation by age and sex. The first two columns represent the planned allocation for the list sample; the next two columns represent estimated yields from the supplementary sample of other household members. A "household" is defined as one or more families sharing common cooking facilities.

The distribution of the analytic sample by age and sex is shown in table E. Again, the first two columns represent list-sample persons and the second two represent other

 Table E. Actual allocation of persons cooperating in Health

 Interview Evaluation Survey, by sex and age group

	List	sample	Supplementary sample		
Age	Males	Females	Males	Females	
	Number of persons				
All ages	460 -	545 -	310 147	393 138	
18-64 years					
18–44 years	145 171	164 202	69 50	104 88	
65 years and over					
65–74 years	85 59	108 71	30 14	41 22	

household members. The list sample produced more females than males, partly because of higher nonresponse among males and partly because of the difficulty of identifying sufficient numbers of older men from GHA visit logs. The larger number of females in the supplementary sample may be the result of the household composition patterns of the Washington, D.C., area, a greater likelihood that female household members would be available and willing to sign permission forms, and perhaps a greater likelihood that female household members would also be GHA members.

Although the primary objective of the study was to evaluate the validity of patient reports of medical conditions, secondary objectives related to the validity of reports of the number and timing of doctor visits and hospitalizations. A random sample of the GHA membership would be unlikely to yield sufficient reports of doctor visits within the 2-week NHIS reference period or hospitalizations within the 13-month reference period for meaningful analysis. Therefore, the study design oversampled persons known to have had visits or stays within the appropriate periods.

To identify persons with recent doctor visits, a sample was drawn weekly from primary care encounter forms filled out for each patient visit. For persons with hospitalizations within the past 13 months and for a general sample of persons with neither recent doctor visits nor hospitalizations, GHA's central records system provided the sampling frame. The sample of persons with recent doctor visits and recent hospital stays was further stratified so that approximately equal numbers of persons would recall visits or stays over given time intervals. Age and sex strata were also imposed within the utilization groups, as was an upper limit of one-third of the sample representing Federal employees on each list frame.

This sampling strategy did not guarantee mutually exclusive groups as some persons selected from the general rolls could have visited a medical center between the time they were selected and the time of the interview. In addition, persons selected because of recent doctor visits may also have had hospital stays within the reference period and vice versa. Sampling procedures did not allow the selection of a given person more than once either within or across categories. However, probabilities of selection were not calculated, and the sample was not weighted for analysis.

Table F presents the planned allocation of the list sample by event history (that is, by whether the person had a recent doctor visit or hospital stay). The supplementary sample was expected to fall largely in the "persons with neither" category.

The reporting of the number and timing of medical events is subject to recall error of various kinds. Two complementary kinds of recall error are forgetting and "telescoping," or drawing in events from outside a reference period. The study design, as described, would allow analysis of forgetting or of misplacing an event within the reference period. It would not allow any meaningful

Table F. Planned allocation of list-sample persons cooperating in
Health Interview Evaluation Survey, by event history, age, and
sex

Characteristic	All persons	Persons with recent visits	Persons with hospital- izations	Persons with neither
		Number	of persons	
All age groups, both sexes	1,001	601	200	200
Age				
18–44 years	292	176	58	58
4564 years	375	225	75	75
65–74 years	200	120	40	40
75 years and over	134	80	27	27
Sex				
Male	500	300	100	100
Female	500	300	100	100

Table G. Planned allocation of list-sample persons cooperating in Health Interview Evaluation Survey, by event history revised to analyze telescoping, age, and sex

		Persons with recent visit		Persons with hospitalizations		_	
Characteristic	All persons	0–2 weeks	2–4 weeks	0–13 months	14–19 months	Persons with neither	
	Number of persons						
All age groups, both sexes	1,001	400	201	134	66	200	
Age							
18–44 years 45–64 years 65–74 years 75 years and over	292 375 200 134	117 150 80 53	59 75 40 27	39 50 27 18	19 25 13 9	58 75 40 27	
Sex							
Male	500 500	200 200	100 100	67 67	33 33	100 100	

analysis of the extent to which telescoping affects NHIS reporting of medical visits and hospital stays. To analyze forward telescoping, the sample of recent doctor visits was extended to include patients who had visits just outside of the reference period, in the preceding 2 weeks. Similarly, the sample of persons with recent hospitalizations was extended to include the 6 months before the 13-month reference period. This strategy resulted in the allocation presented in table G. Again, the categories are not mutually exclusive because persons may visit the doctor in both 2-week periods.

The actual analytic sample was affected by slippage in the field period for many cases. That is, persons selected because of a doctor visit within the 2-week reference period were often not interviewed in the designated week, and the reference period shifted. Tables H and J present, respectively, the actual list and supplementary samples available for analysis by event history as noted in the medical record.

Sample selection and response rates

The sample design described in the previous section is summarized in table K. Implementing the sample selection and obtaining cooperation from selected persons was a multistep process. GHA required an initial passive informed-consent process before releasing members' names for contact. Thus, the initial step in obtaining cooperation was to mail letters to all qualifying members of the two GHA medical centers selected for the study. The letter included a return postcard that members were to send to GHA if they did not want GHA to release their names to the study. Thirteen percent of notified members returned these postcards.

The sample cases were selected and fielded over 26 weeks beginning in June 1990. Each week, a sample of recent doctor visits and recent hospitalizations and a general ("no utilization") sample were fielded. The recentutilization cases were stratified so that equal numbers were from the previous week and from the week before, and equal numbers were from each of the preceding 2 weeks. Thus, each interview wave included members from all sampling cells, with the timing of recent-visit and recent-stay groups spread across the reference periods and the extended reference periods for analysis of telescoping. Interviewers were expected to complete their assignments in each wave within 1 week; however, a number of cases in each wave slid into the second week or later. NHIS rules indicate that such "holdover" cases have the reference period updated; the HIES followed this procedure. Because the HIES sample was an unclustered list, as opposed to the NHIS clustered-area sample, HIES interviewers fared worse than their NHIS counterparts in completing interviews during the assigned weeks.

Interviews were conducted with list-sample persons and any household members who happened to be present. Following NHIS procedures, proxy responses were obtained for household members not present during the interview. At the conclusion of the interview, list-sample persons and any household members also belonging to GHA were asked for written permission to abstract information from medical records. Second permission forms were later required for certain patients with medical problems of a sensitive nature; these were requested by mail.

A total of 1,846 household members were identified in 1,077 interviews. Of these, 1,312 were reported as GHA members. Only limited followup for permission forms was attempted for household members not available when the list-sample person was asked to sign a permission form. Of the 733 household members who did sign permission forms, medical records data were not obtained for a total of 70 persons; of these, 54 required further followup beyond what the schedule or resources would permit, 11 refused second permission forms, and 5 turned out not to be GHA members.

Table H. Actual number of list-sample persons available for analysis, by event history from the medical record, age, and sex

		Persons with recent visits		Persons with hospitalizations			
Characteristic	All persons	0–2 weeks	2–4 weeks but not 0–2 weeks	0–13 months	14–19 months but not 0–13 months	Persons with neither	
			Numb	er of persons			
All age groups, both sexes	1,005	433	233	145	51	287	
Age							
18–44 years	309	116	77	27	16	105	
45–64 years	373	164	73	58	16	109	
65–74 years	193	86	50	33	9	51	
75 years and over	130	67	33	27	10	22	
Sex							
Male	460	187	114	73	21	133	
Female	545	246	119	72	30	154	

NOTE: Columns add to more than total because of overlap between persons with visits and persons with stays.

Table J. Actual number of supplementary-sample persons available for analysis, by event history according to medical record, age, and sex

		Persons	Persons with recent visits		Persons with hospitalizations		
Characteristic	All persons	0–2 weeks	2–4 weeks but not 0–2 weeks	0–13 months	14–19 months but not 0–13 months	Persons with neither	
	Number of persons						
All age groups, both sexes	703	103	79	18	10	512	
Age							
0–17 years	285	29	35	5	2	217	
18–44 years	173	21	12	2	1	139	
45-64 years	138	27	24	5	6	85	
65–74 years	71	14	6	3	Ō	51	
75 years and over	36	12	2	3	1	20	
Sex							
Male	310	40	38	8	6	227	
Femal	393	63	41	10	4	285	

NOTE: Columns add to more than total because of overlap between persons with visits and persons with stays.

Table K. Number and percent of initial draw and response rates for Health Interview Evaluation Survey, by utilization group

			Utilization group							
	Total	Recent doctor visit		Recent hospital stay		No recent utilization				
ltem		Number	Percent	Number	Percent	Number	Percent			
Initial draw	1,615	1,132	••••	277	• • •	206				
Locating rate			0.96		0.93		0.93			
Number located	1,540	1,090		258		192				
Number ineligible	130	70		34		26				
Interview requested	1,410	1,020		224		166				
Interview response rate			0.76		0.78		0.77			
Permission form requested	1,077	775		174		128				
Cooperation rate for permission						120	•••			
forms			0.94		0.95		0.96			
Usable cases	1,017	728		166		123				

NOTE: Twelve additional cases were dropped because the respondents refused to sign a second permission form required by Group Health Association for certain patients.

Table K presents the number and percent of listsample persons at each stage of the locating, interviewing, and permission form process. The refusal rate was higher than anticipated (all interviews were conducted in metropolitan Washington, D.C., a traditionally difficult area in

which to interview), but the locating and permission-form rates were somewhat higher than expected. The selection rates were adjusted during the field period in response to the slippage in reference weeks described earlier so that more persons than originally anticipated were selected in the "recent doctor visit" group. (See tables G and H to compare the effective sample against the original allocation by event history.)

Data collection forms

Questionnaire

The selected GHA members were administered the NHIS core questionnaire with several modifications. Although the sampled GHA members were selected as individuals, the NHIS questionnaire is a household interview. Thus, the interview included the households of the sampled individuals.

The NHIS core interview includes the following sections:

- Household composition: names of all household members, relationships, ages, full-time active duty, hospital probe.
- Limitations of activities: current limitations and underlying conditions. All conditions mentioned are recorded for later review in condition sections.
- Other: ongoing list of conditions, other information required for administering interview.
- Restricted activities: restrictions of activities (days missed work, school, or work around the house, days in bed, cut-down days) and underlying conditions for the previous 2 weeks. Conditions recorded as previously described.
- Doctor visits: number of doctor visits or phone calls to doctor in previous 2 weeks.
- Doctor visit details: details of doctor visits reported in previous item, including condition necessitating visit. Conditions recorded under "Other."
- Health indicators: other accident or injury in previous 2 weeks, total bed days and doctor visits in last 12 months, perceived health status, height, weight.
- Condition lists (one per interview): (1) skeletal, muscular, skin disorders; (2) hearing, vision, or speech impairments; (3) digestive conditions; (4) glandular, anemia, nervous system, genitourinary system disorders; (5) heart and circulatory system problems; (6) respiratory system disorders.
- Hospital page: details of each hospital stay reported in previous 12 months (since "13-month hospital date"), including entering condition, operations, and name of hospital.
- Condition page: details of each condition reported in "Limitations of activities," "Restricted activities," "Doctor visit details," "Condition lists," and "Hospital page."
- Demographic background: information including military experience, education, race, ethnicity, employment status, marital status, income, father's last name, and social security number.

Three kinds of changes were made to this core interview for the HIES:

- The six categories under "Condition lists" were abridged and condensed into one list asked of every respondent.
- To assist in matching visits reported by household respondents with visits in the medical records, questions on the location of each visit were added to the "Doctor visits details" section.
- The HIES household composition put the list-sample person in the first column and collected relationships to this person.

The selection of chronic conditions from the six NHIS lists was based on the expected prevalence of the conditions in the sample. The 10 most prevalent conditions in each adult age group (according to NHIS estimates) were included, with the goal of having at least 40 reports of each condition from the list sample for analysis. Groups of conditions, such as heart conditions and impairments, were all included, even if some did not meet the prevalence rules, because it was felt that some conditions might be reported in response to a probe for another condition in the group. For example, a hearing impairment (which met the quantitative criteria for inclusion) might be reported in response to the probe for deafness (which did not meet the quantitative criteria), leading to the need to have both conditions included in the HIES list. The HIES questionnaire is included as appendix I.

Medical records abstraction form

Most abstraction of medical records was done from photocopies of the past 3 years' records (before the interview date) from an individual's file. A direct data entry form was tested, but the abstractors preferred a paper form, largely because of the time required to type condition names. The purposes of the abstracting were to identify all medical conditions and impairments mentioned in the record and to identify doctor visits and hospital stays within the relevant reference periods. The medical records abstracting form and instructions for abstractors are presented as appendix II.

To limit the amount of resources required for abstracting, encounter-specific information was abstracted for a limited number of medical encounters—only those felt to have direct relevance to the planned analysis. Specifically, encounters abstracted included the following:

- Any encounter within 2 months before the interview date.
- The most recent encounter, if there were none within the 2 months before the interview.
- Any health assessment (comprehensive medical checkup) within 3 years before the interview date.
- Any hospital stay within 19 months before the interview date.

In addition, abstractors recorded and coded all medical conditions from the entire 3-year medical record, regardless of the type or date of encounter for which it was noted.

Supporting materials

Materials were developed or adapted from NHIS materials for a variety of data collection support purposes, including:

- Advance letters-GHA required an initial postcard mailing to all members of the selected medical centers for informed consent. An advance letter from NCHS was sent to sampled persons.
- Labels, logs, and assignment materials For each week's wave of sample members, computer-generated interviewer assignment materials were prepared, including a face sheet, reporting log, and a receipt-control log, as well as mailing labels to attach to the advance letter.
- Interviewer manual—The HIES used a modified version of the NHIS interviewer manual, a comprehensive guide to the conduct of the core interview, with additional sections on idiosyncratic administrative procedures, the purpose of the evaluation study, and how to describe the study to respondents, as well as questionby-question specifications for new questions.
- Abstractor manual—Abstracting procedures, definitions, and code categories were detailed in an abstractor's manual (appendix II).

Data collection

Selection and training of field interviewers

Twenty-four interviewers were recruited for the HIES, 20 of whom had previous interviewing experience. Five of the interviewers were based outside the Washington, D.C., area and traveled there as needed to supplement the local staff.

All HIES interviewers were trained as if they were new interviewers for the NHIS. An experienced U.S. Bureau of the Census trainer conducted the session, using NHIS materials that included a verbatim guide with participative lectures, practice, and exercises. Supervisory staff observed the NHIS session and conducted additional training in specific procedures, including receiving assignments, and contacting, locating, reporting, and submitting of completed work.

The $3\frac{1}{2}$ -day project-specific training included orientation to U.S. Bureau of the Census format and questionnaire conventions, training on the NHIS core interview, and training on additional questions. Some interviewers attended an additional day of training in general interviewer training, adapted from U.S. Bureau of the Census general training procedures.

Field data collection

Advance contact by mail—As noted in the section entitled "Review," the HIES included two advance contacts by mail. The first was a letter from GHA mailed to all members at the two selected medical centers. It gave a very brief description of the research and included a postpaid return postcard for members to return if they did not want their name released. The second letter, from the Director of NCHS, was sent to persons selected for interview. Much of the content and language of this letter was specified by the Privacy Act of 1974 and NCHS enabling legislation.

Contacting and interviewing-Unlike NHIS procedures, in which interviewers approach addresses from an area probability sampling frame, interviewers contacted HIES sample members directly, knowing their names. The initial contact was made by telephone (when a number was available). HIES required the sample person to be present for the interview. Other family members present could respond for themselves; the sample person answered for family members not present.

Following the interview, the interviewer asked all GHA members in the family for written permission to review their medical records. For adults, this permission could only be given by the persons themselves; for children under the age of 14 years, the interviewer requested the signature of a parent or guardian. For children aged 14 to 17 years, the interviewer asked for the signatures of both the child and a parent or guardian. Interviewers attempted return visits to obtain permission forms for household members (supplementary sample) not available at the time the interview was conducted.

Data collection schedule and staffing – Interviewing was conducted over 26 weeks, from June to November 1990. Interviewing went on longer than expected for a variety of reasons. Because the sample was a list of individuals, contact was required with the particular person selected, which is more time-consuming than simply interviewing a household informant. Second, the sample was not geographically clustered, resulting in further inefficiency in interviewer time. Third, GHA addresses were not always up to date, which sometimes required locating.

These factors affected the average time per completed case as well. The estimate of 4.75 interviewer hours per completed interview used in planning the study was quite low; the actual overall average was just under 7 hours per case. As interviewers tend to work part time regardless of how much work is available, the level of staffing was less than optimal, because staffing estimates were based on the lower number of hours per complete interviews.

The interviewers reported to a field supervisor, who in turn reported to the field director. The field supervisor discussed each interviewer's workload at least weekly and oversaw quality assurance measures.

Field quality assurance measures – Following the NHIS model, interviewer performance was measured in three ways: review of hard-copy interviews and feedback; observation of interviews; and verification reinterviews.

Each interviewer's first two completed cases, and 10 percent of his or her cases thereafter, were thoroughly reviewed by inhouse staff. The reviewer completed a feedback form detailing both good performance and performance requiring improvement. The field supervisor reviewed these forms with the interviewer within 1 week of receipt of the cases. Interviewers not meeting minimum performance standards were retrained or dismissed.

Each interviewer was observed in person twice during the field period by an experienced observer. The observer followed each interview carefully, noting examples of both good and bad performance, and reviewed the results with the interviewer after they left the household.

The field supervisor conducted a short (3 minute) reinterview with 10 percent of respondents, using the standard NHIS verification interview. Verification interviews for households without telephones were conducted in person. Comparison of verification interviews with the completed work revealed no evidence of falsification.

Abstracting medical records

All signed permission forms were sent to GHA, which in turn copied the corresponding medical records, going back 3 years. Medical records abstractors then reviewed the records and identified and recorded all medical conditions and relevant encounters noted in the records.

Receipt of records

The copying process took much longer than anticipated. GHA staff were very busy, and the records were often very long. A variety of problems were encountered that prevented or delayed the copying of records. These problems included:

- Some household members signing permission forms were not GHA members or had lapsed memberships.
- Some records were temporarily unavailable when sought.
- Some records included referrals to mental health services, drug or alcohol treatment, or acquired immunodeficiency syndrome (AIDS); for such persons, GHA requested an additional permission form specifically acknowledging the sensitive information. When this additional permission was refused, no information was obtained.

Abstracting process

Abstracting procedures are described in appendix II. The abstractors were experienced at abstracting from medical records and condition coding. The staff participated in development of the abstracting form and wrote the manual. Because of delays in receiving the records from GHA, some of the abstracting work was subcontracted. The subcontracted work was subject to the same quality control and strict confidentiality procedures as that performed by Westat Inc., and they reviewed all subcontracted work.

Abstractors recorded information on abstract sheets for each case. For 10 percent of the cases, a second abstractor then reabstracted the record, noting discrepancies as they were discovered. A third member of the abstracting staff acted as arbitrator, working with the first two abstractors to resolve discrepancies.

Data preparation and processing

Data preparation activities for the HIES included medical condition coding, other coding of hard-copy questionnaires from the field interviews, retrieval of missing or ambiguous critical items, key entry of the questionnaires and abstract forms, and machine edits of all study data.

Condition coding

Conditions from both the household interview and the medical record were coded according to the *International Classification of Disease, 9th Revision, Clinical Modification* (ICD–9–CM), as modified by the NHIS. All condition coding was subject to 10-percent recoding by a second coder. A third coder then worked with the first two coders to resolve discrepancies.

Coding data into machine-readable format

NHIS coding specifications were applied to the household interview data. Coders reviewed all hard-copy questionnaires for legibility, missing or incorrectly entered data, and assignment of numeric codes to any nonnumeric values (such as "2" for "Feb" or "other – specify" fields). Coders received a full day of training, and 100 percent of their first batches (about 25 cases) were reviewed. Ten percent of subsequent batches were reviewed.

Retrieval of missing or ambiguous data

Project staff identified critical items for analysis as part of the coding specifications. When coders found missing or ambiguous responses in these critical fields, the cases were flagged for retrieval. The field supervisor conducted data retrieval, including recontacting of interview respondents.

Keying and verifying data

File layouts were prepared and keying procedures developed for the survey questionnaires to ensure comparability with the NHIS. All key entry was 100-percent verified and adjudicated by a keying supervisor. Abstract forms were also key entered, with 100-percent verification and resolution.

Editing and correcting computer files

After data were keyed and verified, they were computer edited against an exhaustive set of machine specifications. The specifications were adapted from those used by the NHIS to run on Westat software. The cleaning specifications included skip, range, and logic checks. Coders reviewed all fail-edit cases and made appropriate corrections to the data file. The edit specifications were rerun until all discrepancies were resolved. Coders also reviewed frequency distributions for all data items as a final step in machine editing.

Machine editing was also performed on the medical records data. A series of skip and logical checks paralleled those done on the household data. Discrepancies were resolved when possible by the abstracting or analysis staff.

Discussion

The current NHIS method for obtaining reports of chronic conditions includes collecting the names of conditions associated with restricted activity, limitations of activity, doctor visits in the 2 weeks before the interview, or hospital stays in the 13 months before the interview. Following these indirect probes, the interview presents the respondent with one of the six condition checklists. The checklist asks directly: "Does anyone in the family NOW have" Depending upon the condition, the reference period is "now," "ever," or "the last 12 months." Interviewers record "yes" responses by writing the condition name on the interview booklet, alongside any conditions reported earlier through the indirect probes. Later in the interview, the interviewer asks more detailed questions about each of the conditions he or she has recorded.

In data preparation, medical coders review the reported condition names and the other information about that condition, and assign a code from the NHIS adaptation of the ICD-9-CM. One condition report may lead to multiple codes, and duplicate reports of the same coded condition are collapsed. Coders also determine whether any given condition is chronic or acute, adding an indicator to the modified ICD-9-CM code. Many conditions, such as diabetes and hypertension, are "chronic by definition," that is, they are always coded as chronic. Conditions not defined as chronic are considered chronic if they last 3 months or longer, from date of onset to the date of interview or cure. These dates are part of the detailed questionnaire condition section. A series of computer edits (11) ensure that reported conditions identified as chronic in the data file meet the NHIS definition for chronicity.

The NHIS produces prevalence estimates for chronic conditions defined by groups of NHIS-modified ICD-9-CM codes; these groups are referred to as "recode C" codes. For this report, recode C is referred to as the "NHIS recode." Note that there is no one-to-one match between the condition checklists in the questionnaire and the NHIS recode conditions for prevalence estimates and that responses to the checklist do not define whether a person has a particular NHIS recode condition. For example, a person may say "yes" to the checklist probe for dermatitis but give information in the condition section that leads to an ICD-9-CM code outside the NHIS recode group for dermatitis, such as athlete's foot. On the other hand, a person may say "no" to the checklist probe but report a condition coded into the NHIS recode group as the reason for a 2-week doctor visit.

To compare reports of chronic conditions between interview and medical record data, it would be desirable to adapt the NHIS procedures to the use of medical records. Procedures for abstracting medical records are detailed in appendix II. Abstractors recorded all conditions mentioned in 3 years' worth of medical records, using the NHIS adaptation of the ICD-9-CM, except for the chronicity indicator, which was not used. The abstracted conditions were then collapsed into NHIS recode groups.

The interview and medical record procedures differ in potentially significant ways. First, the medical record review includes no stimulus comparable to the interview's condition checklist. A more comparable procedure would be to ask a physician who had examined the person, "Does this person have . . . ?" This approach was used by the Baltimore and Hunterdon County studies (31,5). The absence of such a checklist may result in failure of the medical record to confirm accurate interview reports. For example, conditions may have been noticed by an attending physician or other medical professional but not entered in the record.

A second problem of comparability occurs in the timing of condition reports. As previously noted, the household interview asks about "now" for some conditions, or "ever" or "in the past 12 months" for others. Medical records are dependent upon when a person seeks care and often do not include information on duration. Thus, medical record reports are subject to error for "now" conditions because the person may or may not have been seen at a time near the interview date. "In the past 12 months" may also be difficult: Positive reports within the 12-month period are fairly clear, but a positive report occurring only outside the 12 months is likely not to have information on whether the condition continued to be present into the 12-month period. The only systematic review of this problem instituted for the HIES was for cataracts, where mention of cataract surgery more than 12 months before the interview date was not considered "cataracts in the past 12 months."

A third problem lies in the NHIS definition of "chronic." As already noted, some conditions are "chronic by definition." This rule is straightforward in the medical record context. However, the "chronic by duration" rule is not easily transferrable. One could derive rules for coding conditions as chronic by duration (if, for example, the medical record documented two encounters about the same condition separated 3 months or more), but these rules would not be comparable to the NHIS interview, in which duration is asked about specifically. The HIES procedures counted all conditions mentioned in the medical record as chronic, except those that most obviously were not (i.e., sunburn and poison ivy under "dermatitis").

A fourth problem in comparing prevalence from medical records with that from household interviews is references to a "history of" a condition in the record. This problem ties in with the second one previously mentioned the timing of the condition report. For those conditions about which the interview asks "ever had," "history of" is a comparable indication of the presence of the condition. For the "now" or "past 12 months" conditions, however, the correct treatment is less clear. HIES procedures excluded "history of" references for all conditions subject to these time frames.

It appears that prevalence estimates based on medical records would be different in many cases from those based on household interviews. There is no uniform and easy answer to the question of where truth lies. This analysis uses the methodological differences described here as well as other factors to help explain differences by condition in reporting between the household and medical record. A second analysis examines differences in agreement between the household and medical record by characteristics of the subject. The assumption in the latter analysis is that more agreement means better reporting in the interview, but the medical record is not routinely viewed as a validation mechanism for the interview report.

Analysis methods

As noted earlier, the HIES design was intended to allow evaluation of the reporting of chronic conditions as well as ambulatory medical care visits and hospital stays. Because this report focuses on the reporting of chronic conditions, this discussion of analysis methods is limited. Future reports will describe other aspects of the study.

Once the medical record data were coded, edited, and the condition data reclassified into the NHIS recode, the two sources were compared for each of 23 chronic conditions, person by person. The checklist included probes for more than 23 conditions, and orthopedic impairments and deformities were collapsed into one category for HIES analysis. Blindness and other visual impairments were combined, as were deafness and other hearing impairments. Rheumatism and congenital heart disease were

Table L. Matrix for matching interview with medical record reports of chronic conditions

	Condition mentioned by respondent in interview				
Condition noted in medical record	Yes	No			
Yes	А	с			
No	В	D			

NOTES: A is positive match, B is false positive, C is false negative, and D is negative match. Prevalence by Health Interview Evaluation Survey report calculated as (A+B)/N. Prevalence by medical record calculated as (A+C)/N. Kappa value calculated as $2((A \times D) - (B \times C))/((A+B) \times (B+D) + (C+D) \times (A+C))$.

excluded from the analysis because of very low prevalence among the study sample. For each condition, a person was classified into one of four cells as shown in table L, depending upon whether the condition was present in the interview file and the medical record file. Multiple conditions for a person in one NHIS recode classification were counted the same as a single condition. Prevalence for the analytic sample was calculated using the formulae in the notes of table L.

Comparison of prevalence from the two sources is an aggregate measure of agreement; it says nothing about how well individual cases matched. The Kappa statistic was used to analyze the agreement at a person level. Kappa is a weighted proportion, with possible values ranging from -1 (perfect disagreement) through 1 (perfect agreement). Regarding Kappa as a measure of interrater reliability, Landis and Koch (20) suggest that values of less than 0.4 represent poor-to-fair agreement, 0.4-0.6 moderate agreement, 0.6-0.8 substantial agreement, and 0.8-1.0 almost perfect agreement. It is possible for two sources to produce identical prevalence with very low agreement at the individual level. If the medical record was considered "the truth" in such a case, the rates of interview overreporting and underreporting would both be high and about the same.

Survey statistical differences

As described earlier, the HIES sample was drawn from the membership rolls of an HMO in the Washington, D.C., area. Oversamples were drawn of older persons, those with recent hospital stays and those with recent doctor visits. In addition, the sample was by design drawn from medical centers serving communities with large black populations. Therefore, black people are much more heavily represented in the HIES sample than in the general population. These features of the HIES design limit direct comparisons to the NHIS. As shown in table 1, the HIES sample is older and contains more black people, people of higher income, and more highly educated people than the U.S. population. Because of the oversample of persons with recent medical utilization, the HIES sample is also probably sicker than the U.S. population. In addition, the sample is limited to one geographic area, and all HIES sample persons have health insurance coverage and access to basic health care services.

The combination of these factors, some of which can be controlled for in examining HIES results and some of which cannot, should have significant effects on prevalence of chronic conditions derived from HIES household interviews when compared with the same rates derived from the NHIS. Also, NHIS prevalence estimates are weighted to the U.S. noninstitutionalized civilian population; HIES data are presented unweighted.

The prevalence of chronic conditions reported in the interview for list-sample persons is about twice that of the general U.S. population according to the 1989 NHIS. Adding household members (the "supplementary sample") reduces the differential to 60-percent greater prevalence overall in the HIES. Much of this difference is attributable to the HIES oversample of persons 65 years of age and over. Tables 2-5 compare the NHIS and HIES prevalence of the chronic conditions studied by age group. Column 1 of these tables presents the weighted NHIS estimates (prevalence per 1,000 population) for the particular age group for 1989, and column 2 shows the comparable prevalence rate for the HIES, including both listsample persons and household members. Column 3 is the raw difference between the two rates, and column 4 is the percent difference between columns 1 and 2. In table 2, for example, the HIES prevalence of arthritis is 13 persons per 1,000, or 27 percent higher, than the NHIS

estimate. The "All conditions" row shows, in columns 1 and 2, the total number of conditions listed that are reported per 1,000 persons by the NHIS and HIES, respectively.

Column 4 of tables 2-5 shows that the HIES had an overall prevalence of the selected chronic conditions that was 41 percent higher than the NHIS for persons 18-44 years of age, 27 percent higher for those aged 45-64 years, 14 percent higher for persons aged 65-74 years, and 11 percent higher for persons aged 75 years or over. This decrease by age may be related to oversampling for HIES persons with recent doctor visits (assumed to be sicker); the effect of this sampling strategy on prevalence may be lessened with older persons. Some of the remaining discrepancy between the two sources is attributable to particularly high rates of hypertension and diabetes, which are more prevalent among black people than white people, because the HIES sample is disproportionately composed of black people. However, the NHIS shows lower prevalence of most other conditions studied here for black persons.

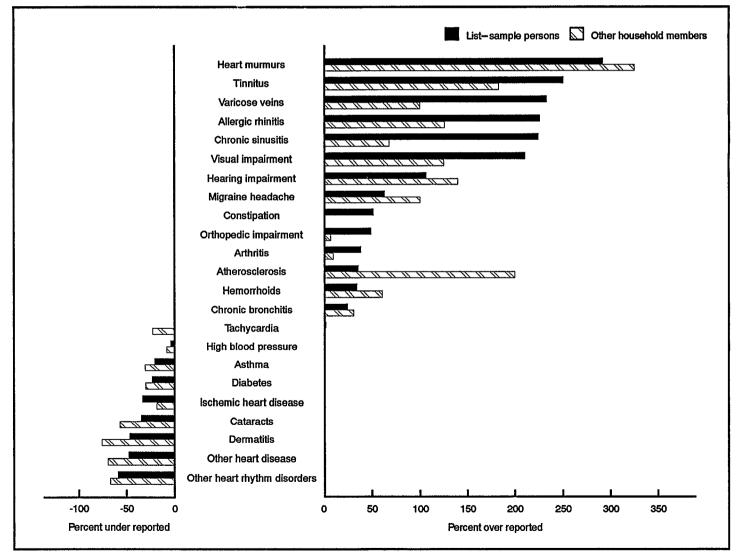
In summary, the HIES sample has reported more chronic conditions than one would expect from a nationally representative sample, even when HIES age and race oversampling are taken into account. The list sample's greater likelihood of having a recent doctor visit probably accounts for some of this difference. Also, all HIES sample persons are insured and have access to health care. People who do not seek medical care may be less likely to report chronic conditions that require professional diagnosis. The effects of geographic clustering and differences in procedures between the HIES and NHIS are unknown, but procedural differences (summarized in figure 1) were minimized and probably have little effect.

Interview reporting compared with medical record, by condition

Tables 6 and 7 present the results of matching interview and medical record reports for the 23 chronic conditions studied for list-sample persons and household members, respectively. The conditions are arranged in order of their NHIS recodes, with summary lines for heart conditions in general and for heart rhythm disorders. Following the typology of table L, the tables show numbers of cases falling into positive match (type A), negative match (type D), apparent interview overreport (type B), and apparent interview underreport (type C). They also present prevalence calculated from HIES interview and medical records using the formulae in table L, and compare these rates by showing net and proportional overreporting by the interview as opposed to the medical record. Finally, the tables present the Kappa values describing person-level agreement between the interview and medical record. Tables 8 and 9 present the same data, without the heart condition summary rows, in descending order of Kappa values.

As shown in tables 6 and 7, about two-thirds of the conditions were overreported in the HIES interview, and these were divided into two roughly equal groups (by proportional net overreport among list-sample persons) of conditions overreported by 200 percent or more and conditions overreported by about 100 percent or less. Kappa values ranged from around 0 to about 0.82 for list-sample persons and were generally slightly lower for household members. In tables 8 and 9, the conditions with the highest Kappa values are all underreported by the interview.

The proportional differences from tables 6 and 7 are presented in figure 3, with the conditions arranged from highest to lowest proportional net overreporting. Figure 3 reveals a fairly consistent pattern of higher interview reporting versus the medical record for list-sample persons than for household members. The interview reported noticeably higher rates for list-sample persons for varicose veins. allergic rhinitis without asthma, chronic sinusitis, constipation, and orthopedic impairment. Higher relative rates for household members were reported for heart murmurs, migraine headache, hardening of the arteries, hemorrhoids, and ischemic heart disease. Although the HIES did not include an experimental design to examine the effects of proxy reporting, it is reasonable to speculate that much of the difference between list-sample persons and household members in the proportion of overreporting by condition is attributable to proxy response, because all list-sample persons were self-respondents, but many household members were not. Comparing proportional overreporting controls for many of the artifactual differences between the two populations-the list-sample



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Figure 3. Percent overreport by interview compared with medical record in the Health Interview Evaluation Survey

persons are older, sicker, and have more recent doctor visits than the household members.

Previous studies have used other measures of agreement. In particular, Harlow and Linet (17) accumulated findings from a number of studies using only positive responses to measure agreement. (They also presented percent agreement and Kappa values where these could be calculated.) Their measures were "percent of positive reports in records matched by interviews" (A/(A+C) in the terminology of table L) and "percent of positive reports in interviews matched by records" (A/(A+B) in table L terms). Similar measures were used by Madow (2) as "rate of underreporting" and "rate of overreporting," respectively.

Table 10 compares the Harlow and Linet statistics for the Health Insurance Plan (HIP) and Kaiser Permanente (KP) studies and the HIES. It also calculates the HIES measure "net overreporting" from these statistics. Table 10 contains striking similarities (between KP and HIES for arthritis and hearing impairments and between KP and HIP for asthma) and striking differences (between all three studies for visual impairments). The three studies were done in HMO settings but in different geographic areas, in different times, and using somewhat different procedures. For example, the HIP and KP studies used 1 year's medical records, but the HIES used 3 years'; the KP study included experiments in questionnaire design, the HIES and HIP did not. The NHIS questionnaire and coding procedures changed considerably between the times HIP, KP, and HIES studies were conducted. The HIP and KP studies used the seventh revision of the International *Classification of Diseases*, but the HIES used the ninth; the chronic condition recodes and condition checklists on which the HIES was based were considerably expanded following the time of the earlier studies. The HIP and KP studies used one recode for most heart conditions, but the HIES used six of the eight current NHIS recodes. The KP study combined asthma and allergic rhinitis, and the HIES separated them. Thus, the comparison of specific conditions across these three studies must be done with care and must be limited to fairly broad generalities.

Possible reasons for mismatches

Tables 6 and 7 indicate considerable variation in the rates of agreement across conditions, as well as in the differences in prevalence estimates between the sources. There are several plausible explanations for both type B and type C mismatches. Possible reasons for interview reports not confirmed by the medical record (mismatch type B) include (with examples from the list in tables 6 and 7):

 Medical treatment was not sought for the reported condition, either because it was not thought to be serious, the person was averse to seeking treatment, the condition was felt to be embarrassing, or the condition (e.g., hemorrhoids, constipation, chronic sinusitis, hearing impairment) was treated by patent medication or other nonprofessional means.

- The reported condition (e.g., tinnitus or constipation) is a symptom of a more serious condition and is not recorded in the medical record because it was subsumed by the causative condition or not felt to be worthy of note.
- The reported condition (e.g., varicose veins or heart murmur) is stable and requires no ongoing treatment.
- An impairment (e.g., orthopedic) has not necessitated treatment.
- Respondents may confuse two condition names or misdiagnose a condition.

Possible reasons for conditions appearing in the medical record but not being reported in the interview (mismatch type C) include:

- The condition name is not familiar to the patient and therefore is not remembered or recognized in the interview.
- The condition (e.g., cataracts) is not salient to the respondent, perhaps because it is at a threshold level and has not caused any discomfort or worry.
- The respondent's definition of a condition in the checklist is different from that intended by the study.
- The respondent can only describe a condition in a vague way that is not included in the NHIS definition for the prevalence estimates.
- The medical provider did not tell the patient about the condition.
- The respondent is aware of the condition (e.g., impairment), but denies its presence.
- The respondent does not recall having the condition because of cognitive limitations.

Thus, one would expect agreement between interview and medical records for conditions that (a) are fairly well defined from both the clinical and lay perspectives, (b) require ongoing treatment, (c) have commonly recognized names, and (d) are salient to the respondent because they cause discomfort or worry. The conditions with the highest Kappa values—diabetes, high blood pressure, asthma, and ischemic heart disease ("heart attack" and angina)—meet these criteria.

Condition-level prevalence

The prevalence and match ratios between interview reports and medical records described so far have been conducted at a person level—that is, if a person reports one or more conditions within an NHIS recode group, that person is counted as one occurrence. However, the NHIS prevalence estimates are prepared at a condition level. Each mention of an ICD–9–CM condition within an NHIS recode group counts as one occurrence (but multiple reports of the same ICD–9–CM condition for a person only count as one). For most of the conditions examined in this report, the person-level prevalence and conditionlevel prevalence are virtually identical. The exception is heart conditions; multiple conditions within one NHIS recode are often present for one person. Table 11 presents the prevalence for heart conditions in the study sample at both the person level and the condition level. The NHIS recode groups examined are ischemic heart disease, tachycardia or rapid heartbeat, heart murmurs, other heart rhythm disorders, and "other selected diseases of the heart." Not included because of their relatively low prevalence are NHIS recode groups for rheumatic heart disease and congenital heart disease.

Effect of broader condition typologies

Several of the possible reasons for type C mismatches and one of the reasons for type B mismatches given earlier relate to interview respondents' not knowing, misremembering, or confusing condition names. Cox and Iachan (10) found that agreement between survey respondents and medical records in reasons for visit was considerably higher for higher levels of aggregation in condition coding. Madow (3) used a "loose match" that the author admitted was "not well specified" as well as a "tight match" in comparing interview reports with physician reports of chronic conditions. The idea is that interview respondents often know generally what is wrong but cannot specify a condition in sufficient detail for agreement with medical records with relatively highly differentiated classification schemes.

From the perspective of evaluating prevalence estimates on the NHIS, the loose-match concept has some limited applicability. The aggregation of ICD-9-CM codes into the NHIS recode for the purpose of making prevalence estimates may be viewed as somewhat arbitrary, more so for some conditions than for others. One concept of loose match, then, is that the NHIS recode classifications could be expanded to include conditions that are clinically equivalent to those in the existing group. In other words, would a typical physician classify the person as having the broad clinical entity (such as "arthritis") based upon the information available from the medical record?

Constructing an extension of the NHIS recode groups under consideration here began with a review of mismatches. Based upon other conditions reported by the interview or medical record for mismatches (types B and C), additional clinically equivalent ICD-9-CM codes were added to the following chronic conditions:

- Arthritis
- Dermatitis
- Hardening of the arteries
- Chronic bronchitis

In addition, allergic rhinitis and chronic sinusitis were combined and expanded into one upper respiratory category. The analysis based on these broadly defined condition groupings will be referred to as the "loose match." Details of the loose-match condition map are presented in appendix III. The revised map was used to evaluate the mismatches from the NHIS recode-level analysis. First, only persons classified as type B or type C mismatches for the specified conditions were evaluated. The purpose of this analysis was essentially to evaluate the NHIS recode definitions by determining how often one source reported a chronic condition within the definitions when the other source reported a clinically equivalent but excluded condition. Then, the loose-match map was applied to the negative matches to examine the overall effect of the revised map on prevalence. The results are presented in table 12 for list-sample persons only. (Note that chronic bronchitis is not included in table 12; there were no changes as a result of the loose match for this condition.)

Table 12 includes three groups of five columns. The first group presents the match classification and Kappa value when applying the NHIS recode definition of the specified condition. These columns also appear in table 6. The second group of columns, labeled "loose match 1," presents the results of applying the expanded condition definitions to cases originally falling into mismatch types B and C. Comparing the first and second groups of columns indicates how much of the apparent discrepancy between the two data sources may be attributable to reporting equivalent conditions in different terms. The third group of columns, labeled "Loose match 2," presents the results of applying the expanded definitions to negative matches (type D) as well as mismatches. Comparing this group of columns with the others shows the effect on prevalence if one were to use the expanded definitions in place of the NHIS recode C classification.

Condition-specific results

The discussion in this section is based on tables 2–5 for all conditions, on table 10 for conditions included in the earlier studies, on table 11 for heart conditions, and on table 12 for the loose-match conditions.

Arthritis-When controlling for age, the prevalence of arthritis for all HIES sample persons is roughly comparable to NHIS estimates (tables 2–5). The largest difference is for persons 18-45 years of age (27 percent higher in the HIES). Arthritis was reported somewhat more frequently by households than it was recorded in medical records-38 percent more for list-sample persons and 12 percent more for household members (tables 6 and 7). Agreement between the interview and medical record on the presence of arthritis was moderate (Kappa = 0.40 for list-sample persons, 0.48 for household members), perhaps surprisingly low for a well-known condition often treated by prescription drugs. The discrepancy between medical records and interviews appears to be the result of several factors: imprecise or erroneous use of the term "arthritis" by respondents, lack of physician visits for this affliction, physicians not recording arthritis, even if present, and the somewhat limited definition of arthritis in the NHIS recode. Persons with joint pain of unknown cause may be self-diagnosed as "arthritis." Bursitis and tendinitis might

also be reported as arthritis—these would be reporting errors. Such errors would make arthritis appear to be overreported. Medical records may not include mention of arthritis even if the patient has it. The condition may not be severe enough to be worth noting, the arthritis may never have been a reason for a visit, or the physician may have written something more specific, such as cervical radiculopathy, which is caused by arthritis, but is not considered arthritis in the NHIS recode definition.

By the NHIS recode definition, arthritis includes pyogenic arthritis, unspecified infective arthritis, crystal arthropathies, rheumatoid arthritis and other inflammatory polyarthropathies, osteoarthrosis and allied disorders, other and unspecified arthropathies, ankylosing spondylitis, and spondylosis and allied disorders. For the loose match, this definition has been expanded to include 13 other conditions that involve inflammation of the joint. They also either occur with such regular frequency that they can be considered part of the disease, as in the case of Sjogren's syndrome, or they commonly occur as a principal result or sequela of arthritis, as in cervical radiculopathy and sciatica. The full list of conditions added for the loose match is: Siogren's syndrome, cervical radiculopathy, sciatica, spinal stenosis, neuritis or radiculitis, carpal tunnel, spondylitis, chondromalacia of the knee, periarthritis of the shoulder, costochondritis, disc disorder, lumbosacral or cervical degeneration, and gout.

As shown in table 12, when applied only to previous mismatches, the loose match resulted in a 15-percent reduction in the number of type B mismatches (interview reports not confirmed by the medical record) and only a 4-percent reduction in type C mismatches (medical record reports only). Thus, it appears that interview respondents are somewhat likely to report clinically equivalent conditions as arthritis but fairly unlikely to do the reverse. Applying the loose match to negative matches as well as mismatches results in an overall 27-percent increase in type C mismatches but has almost no effect on type B mismatches relative to applying the loose match just to original mismatches. This result indicates that many persons with clinically equivalent conditions (but not arthritis) according to the medical record are not reporting arthritis in the interview. Only one additional positive match was created by extending the loose-match criteria to original negative matches. In summary, the loose match helps to explain some of the apparent overreporting of arthritis by interview respondents. If prevalence estimates of arthritis were to be made from medical records, an expansion of the NHIS recode might be appropriate. However, there is little evidence to support expanding the NHIS recode definition of arthritis for classifying interview responses.

Some diagnoses may be confused with arthritis and may accompany it but are not invariably associated with it. These kinds of conditions were not included in the loose match. A case-by-case review of mismatched interviews and medical records revealed a large number of these conditions, many pertaining to restricted mobility and painful joints and backs. Tendinitis, for example, may accompany arthritis, but just as often may not be associated with it. Similarly, tenosynovitis, myositis, and tendinitis do not always, or even frequently, involve the joint. All of these conditions involve inflammation around the joint, and could be confused with the diagnosis of arthritis. Pain in joints was not considered specific enough to be considered arthritis. Many type B mismatches remained type B mismatches after the loose match because they involved conditions not considered clinically equivalent.

Arthritis is more prevalent among the elderly than the nonelderly, and physician contacts also increase with age. Because physician contacts increase with age, one might expect agreement between the medical record and interview to improve with age. However, the Kappa values vary only from a low of 0.26 for the group 45–64 years of age to a high of 0.39 for the group aged 65–74 years among list-sample persons. These are all in the poor-to-fair agreement range. Percent net overreport increases with age except for those 75 years of age and over. List-sample persons and household members reported similarly.

Dermatitis – Dermatitis is more prevalent among the HIES sample than would be expected from NHIS estimates in all age groups except for persons 18–44 years of age (tables 2–5). Prevalence from the medical record is considerably higher than from the HIES interview for both list-sample persons and household members (tables 6 and 7), and agreement between the two sources is low (Kappa = 0.23 for list-sample persons and 0.17 for household members).

The presence of chronic dermatitis is perhaps the most ill-defined of any of the conditions studied. Determination of chronicity (presence of a condition for 3 months or longer) is very difficult from the medical record because much of the apparent underreport may be the result of acute episodes of dermatitis in the medical record. Sunburn and poison ivy, which are included in the NHIS recode definition of dermatitis, were excluded from the definition for classifying medical record conditions because they are unlikely to last 3 months or more.

As defined by the NHIS recode, dermatitis includes the following ICD-9-CM codes: 690, Erythematosquamous dermatosis; 691, Atopic dermatitis and related conditions; 692 Contact dermatitis and other eczema; 693, Dermatitis due to substances taken internally; and 694, Bullous dermatoses. However, a more liberal definition of dermatitis (inflammation of the skin), is practical. Match results using this expanded definition are presented in table 12. The conditions included in the loose match are presented in appendix III.

Ten of the 33 type B mismatches (interview reports not confirmed by the medical record), but only 2 of the 81 type C mismatches (medical record report only), were matched using the loose-match criteria. These additional matches increased the Kappa value from 0.23 to 0.36. However, applying the loose-match criteria to negative matches resulted in an overwhelming increase in type C mismatches. Although a substantial proportion of interview respondents reporting originally unverified cases of dermatitis were confirmed by the loose match, there is no evidence of interview respondents reporting dermatitis as any clinically equivalent condition in the loose match.

Impairments – Impairments represent a different set of issues when comparing interview reports and medical records than morbidity conditions do. Two attributes of impairments make this true. One is that the perception of an impairment is different for the patient and the physician to the extent that they may disagree as to whether the patient has an impairment. The other is that impairments do not always necessitate physician visits.

This analysis included reviews of the following impairments: blindness, other visual impairments, deafness, other hearing impairments, and deformity and orthopedic impairments. Because of limitations in the HIES design and the relatively low prevalence of some types of impairments, the NHIS recodes for blindness and other visual impairments (201 and 202), for deafness and other hearing impairments (203 and 204), and for orthopedic impairments and deformities (228–240) were collapsed for matching and analysis. Within the deformity and orthopedic-impairment group, any code on the medical record could thus match any other within that classification on the interview. Thus, hammertoe could be matched to chronic elbow pain because these are both within the collapsed categories.

As shown in tables 6 and 7, visual and hearing impairments, including tinnitus, had high net overreports in the interview, ranging from 100 percent to 250 percent for list-sample persons, and within the same range for household members. Agreement was low for tinnitus and visual impairment, but in the fair range for hearing impairment. Tinnitus is entirely a subjective phenomenon, but hearing impairments may be noted by physicians in the course of seeing patients for any reason. Agreement tended to be highest for persons 75 years of age or over for these conditions.

For orthopedic impairments and deformities, the interview and medical record produced very similar prevalence, but with very low agreement (Kappa = 0.17 for list-sample persons and 0.12 for household members) despite (or perhaps because of) the broad match criteria. Thus, the similarity in prevalence appears to be coincidental.

The interview questions for impairment ask about the existence of a symptom falling into the previously named categories and about the cause of the impairment. In general, the pattern among the type B mismatches for impairment was that the impairment was reported to the interviewer but the cause was not. In many cases of type B mismatch, a probable underlying disease (cause) was on the medical record, and the resulting impairment was not on the medical record. This is particularly true for visual and orthopedic impairment where about half the type B mismatches have a probable cause on the medical record.

Thus, the same information may not be located in both places. Rather, the mismatches show the effect of using two different instruments—an interview and a medical record—to attempt to collect the same information. The interview reflects a response to a direct question about impairment. The medical record would only note an impairment if it was a reason for visit or clinically significant in itself. For example, many of the orthopedic impairments were probably caused by arthritis. However, the impairment was not noted on the medical record, and the cause of the impairment was not known to the patient and was therefore not reported in the interview.

The cause is not always reported on the medical record because often the respondent has never seen a physician for an impairment. This pattern is notable for the hearing impairments, where there are five times more type B mismatches than type C mismatches.

The type C mismatches may be the result of differing perceptions about impairment. The physician may note an impairment, but the patient may compensate for it so well that it does not seem worthy of reporting to an interviewer as an impairment. Type C mismatches may also result from different nomenclature used by physicians and patients, as with all condition mismatches. As discussed earlier, it is possible that type C mismatches were the result of a report in the medical record for an acute episode, not a chronic condition.

The mismatches also reflect coding instructions. For example, when the interviewer asks if anyone has blindness in one or both eyes, a positive response would be recoded to 201 or 202. However, the medical record would show the results of an acuity exam to be recoded as 201 or 202. The medical record might have an indication of presbyopia, the degeneration of sight because of age. Presbyopia is not matched to poor vision under the NHIS recode. The respondent may have said that "old age" caused their poor vision. However, old age is not specific enough to be matched to presbyopia.

Case-by-case review of the mismatches reveals that approximately half of them would be matched if symptoms were matched to probable underlying diseases or medical conditions. However, the great number of positiveinterview, negative-medical record combinations leads one to believe that impairments are frequently reported to interviewers but not to physicians. In addition, patients may have reported impairments to physicians, but the impairments were either not noted, because they were not diagnostically relevant, or were noted as "patient complains of ______," which would not have been coded.

An interview may be a better source of data on impairment than a review of medical records. This is because an impairment reflects self-perception, which is unknown by the physician, and because the interview specifically asks about impairment, which physicians often do not.

The HIES interview prevalence of impairment is generally about what would be expected from NHIS estimates or slightly lower, except among persons 75 years of age and over (tables 2–5). The HIES sample's greater access to medical care may be related to the lower rates of impairment.

Tinnitus – Alone among the conditions studied, a diagnosis of tinnitus, or ringing in the ears, is based solely on a patient's report. Thus, one would not expect a high level of type C mismatches, that is, reports found only in the medical record. In fact, there were only nine type C mismatches for list-sample persons and two for household members (tables 6 and 7). There were also very few positive matches, but a fair number of type B mismatches (interview reports not confirmed by the medical record), leading to a low Kappa (0.17 for list-sample persons, 0.34 for household members), and indicating that tinnitus was often not reported to medical professionals or not recorded if reported.

Tinnitus was reported in the HIES at roughly the rates expected from NHIS estimates, except for persons 75 years of age and over (table 5). For these persons, the rates are almost double those of the NHIS estimates; the relatively greater extent of self-reporting for older persons in the HIES may partially explain this difference. It is likely that proxy reports of tinnitus would not be as comprehensive as self-reports. Tinnitus was reported much more often for list-sample persons than for household members (tables 6 and 7), which reflects the higher proportion of older persons in the list sample than among household members, but may also be affected by the presence of proxy reporting for household members.

Cataracts – Cataracts were more prevalent by interview report among the study sample than would be expected from NHIS estimates (tables 2–5). For persons 45–64 years of age, the relative prevalence in the HIES study sample is almost 120 percent higher than the NHIS estimate for that age group. Access to preventive care, including eye examinations, may contribute to this difference; cataracts are often detected in routine exams long before they cause discomfort or loss of vision.

Agreement between the interview and medical record (Kappa) was slightly higher for cataracts than the average across conditions for list-sample persons (table 6) but was somewhat lower than average for household members (table 7). In terms of agreement, cataracts seem to be more poorly reported by proxy than average for the conditions studied.

In comparing the HIES interview prevalence with the medical record, cataracts appear relatively underreported by the interview. This finding is not surprising because it is unlikely a person would report cataracts unless they had been detected by a medical professional. Thirty-four percent more list-sample persons and 58 percent more household members were shown as having cataracts in the medical record than were reported by the interview. Several factors may contribute to this difference. First, the NHIS asks about cataracts "in the past year." If a person had cataract surgery more than 1 year before the interview date, the proper report would be "no." The medical record review covered 3 years before the interview and included some persons recorded as having cataract surgery. A second, and probably more important, reason for the interview underreport is the likelihood of mention in the medical record of "early cataracts" that may not be mentioned to the patient, may be forgotten, or may not be considered as really having cataracts by the interview respondent.

Type B mismatches were relatively uncommon; 27 of 83 interview reports were not confirmed by the medical record. However, a review of medical records for these apparently false positives indicates some possible confusion with similar (but not equivalent) conditions present in the records, such as eye floaters, diabetic retinopathy, uveitis, and dry eye syndrome. Some respondents who did not report cataracts mentioned in the medical record (type C mismatches) did report other eye problems. However, these problems were typically confirmed by the record. Thus, any confusion by respondents about the definition of cataracts seems to contribute to overreporting rather than underreporting.

Several indications from this study point to the likelihood of a significant underreport of cataracts in the NHIS: the relatively higher reported prevalence among a study population with good access to preventive eye care, the relative underreporting by the interview against the medical record, and the apparent additional underreporting by proxy respondents. Only an apparent slight tendency for definitional confusion to result in overreport counterbalances these factors.

Constipation – Constipation (asked as "frequent constipation" in the past year in the NHIS checklist) was relatively much more prevalent (more than 100 percent for all study subjects) in the HIES sample than would be expected from the NHIS. The greatest difference is in the group 18–44 years of age (table 2). Part of this higher prevalence may be attributable to the higher proportion of black people in the HIES sample; prevalence from the NHIS is higher for black people than for white people (32).

Prevalence from the interview and from medical records is similar for both list-sample persons and household members, but Kappa values for both are relatively low (tables 6 and 7). Thus, although there are about the same number of reports from the interview as from medical records, most reports from both sources are unconfirmed. The presence of apparently false positives is not surprising because constipation is somewhat subjective, afflicted persons may not seek care, and constipation as a symptom may not be recorded in the medical record when the condition causing it is. On the medical record side, both the difficulty of determining chronicity (3 months or more) and the timing (past year versus earlier) make the record potentially unreliable in providing reports that meet the NHIS definition.

In summary, the similarity between prevalence obtained from the interview and prevalence in the medical record appears coincidental. Intuitively, it seems that the interview would be a better source for prevalence data than the medical record. The fact that the Kappa value for household members (0.22) is twice as high as for listsample persons may indicate that persons who tell family members about problems with constipation are more likely also to seek medical treatment.

Diabetes – Diabetes has exceptionally good agreement between interviews and medical records: Kappa = 0.82for list-sample persons and 0.74 for household members. Most of the mismatches are of type C-reported in the medical record but not in the interview. Thus, the interview had a net underreport of 23 percent for list-sample persons and 30 percent for household members. The high rate of agreement reflects the specific nature of the disease, and the general agreement between patients and physicians on the terminology used to describe it. Diabetes is also a condition that requires a specific test, and therefore physician visit, to diagnose, so it would be noted in the medical record.

There were only three type B mismatches, where an interview report was not confirmed by the medical record. Review of these cases showed that two of the three had elevated blood sugar readings noted in their medical record, and the other one had a diagnosis of hyperglycemia. These three mismatches, then, are probably the result of some confusion by the patients as to their exact diagnoses.

The type C mismatches, of which there are 40, are likely to be accurate indicators of underreporting by interview respondents. It is unlikely that the respondents reported this condition under any other name. Review of the medical records of these respondents showed that the majority had hypertension, and about one-fourth had heart disease. Most had a number of serious conditions but appeared to be reporting only hypertension or some other condition such as arthritis. It may be that respondents with multiple related conditions identify one as the source of their health problems—perhaps the most serious or the earliest diagnosed.

Prevalence of diabetes in the HIES sample was consistently higher than would be expected from NHIS agespecific estimates (tables 2-5). However, this difference in most age groups is likely the result of the relative overrepresentation of black people in the HIES sample; NHIS prevalence estimates of diabetes in black people are about twice that for white people, except among those under 45 years of age (32), for whom the prevalence among black people is less than 20 percent higher than that for white people. The HIES prevalence in the group aged 18-45 years is nearly 2.5 times the NHIS estimate for that age group. Given this pattern of reporting between the HIES interview and medical record and the high access to care among the HIES sample, the HIES findings suggest that the NHIS may significantly underestimate the prevalence of diabetes in younger persons.

Migraine headache – Prevalence of migraine headache in the HIES sample was not significantly different than would be expected from the NHIS (tables 2–5). Compared with the medical record, the HIES interview overreported migraine by 63 percent for list-sample persons and 100 percent for household members. Agreement between the interview and medical record was about the same for these groups, and a little worse than the average across conditions (tables 6 and 7). Although migraine is a fairly well-defined condition clinically, the popular concept of migraine may be indistinguishable from "bad headache." Indeed, headaches were mentioned in the medical record for some type B mismatches (those with interview reports not confirmed by the medical record). Migraine is also a condition for which, once it is diagnosed, some patients seek no further treatment. Thus, there is good reason to suspect error in household reporting for migraine as well as in reliance on medical records for prevalence data. The HIP study showed a net underreport of "headache and migraine, chronic" and much lower agreement than the HIES for migraine (table 10), which may be because of the broader definition used in the earlier study.

Heart conditions—Heart disease was reported much more often in the HIES interview than would be expected from NHIS prevalence estimates, particularly among younger persons. "Other selected diseases of the heart," which includes vague reports such as "heart trouble," showed the largest difference among those 18–45 years of age (table 2), and heart rhythm disorders showed the largest difference among older people (tables 4 and 5). Oversampling people for the HIES with recent doctor visits and hospital stays may have influenced these rates.

With the exception of heart murmurs, heart conditions were more prevalent from the medical record than from the interview report. Heart murmurs represent a special case in this condition group because they are often detected early in one's life and usually require no treatment. One reason for the relatively greater prevalence of heart conditions in the medical record is the phenomenon of individuals with multiple heart conditions (in different NHIS recode classifications). Often such people report only one or two of the conditions in the interview (sometimes vaguely as "heart trouble"), apparently lumping together such diverse problems as angina and tachycardia. Only ischemic heart disease (including angina and myocardial infarction) showed a Kappa value above 0.40, at 0.62 for list-sample persons, and 0.68 for household members. The terms "angina" and "heart attack" are apparently among the most salient and least ambiguous to household respondents of the chronic conditions studied.

In contrast to the HIES, the HIP and KP studies (table 10) both showed little net overreporting of heart conditions and also showed relatively good agreement between the interview and medical record or examination report. However, the KP study and some HIP tables used only one major category for heart conditions, and the classification of heart disease changed somewhat between the seventh and ninth revisions of the ICD. Gordon (16) found a considerable net overreport of heart conditions by self-report as opposed to medical records, but net underreport, compared with a physical examination.

Just as some people have multiple heart problems classified into several NHIS recodes, some have multiple problems within an NHIS recode classification. Of the conditions studied, the heart conditions are nearly unique in this regard. The NHIS prevalence estimates are condition-level statistics (that is, they represent the number of distinct conditions per 1,000 persons), so a person with two distinct conditions within a recode C classification would contribute two counts to the estimate. The HIES analysis has examined only person-level prevalence, where a person can only contribute one count within a recode C classification. Table 11 compares person-level prevalence with condition-level prevalence for heart conditions in the HIES, for list-sample persons only. The "person-level prevalence" columns of table 11 replicate the information in table 6 for heart conditions. The "condition-level prevalence" columns show prevalence using normal NHIS rules. Aside from ischemic heart disease, there is no significant difference between the personlevel and condition-level rates for household reports. Again, the reporting for angina and heart attack (myocardial infarction) appear relatively good-interview respondents are somewhat able to distinguish the two conditions and report them separately. However, on the medical records, there are much bigger differentials between person-level and condition-level rates for ischemic heart disease and other selected diseases of the heart than in interview reports. Heart rhythm disorders (except heart murmurs) show a slight increase in prevalence at the condition level on the medical record side but no change on the interview side. Overall, relative underreporting of heart conditions in the interview jumps from 29 percent at the person level to 44 percent at the condition level. Excluding heart murmurs, the rates of relative underreporting are 40 percent at the person level and 53 percent at the condition level.

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Case-by-case review of persons with reported heart conditions revealed that the interview respondent often mentioned one or two, perhaps ill-defined, heart ailments, but the medical record lists several specific problems, often falling into two or more NHIS recode groups. Of the mismatches in the NHIS recode group "other selected diseases of the heart," 39 percent of the type B mismatches fall into the "unspecified ill-defined" subcategory (e.g., "heart trouble"), but all of the type C mismatches are more specific ailments, further supporting this notion.

The loose match for heart conditions consisted of a person-level collapsing of the three NHIS recodes under heart rhythm disorders into one and collapsing all heart conditions into one recode. Note that this approach violates the "clinical equivalence" criterion for the loose match described earlier but follows the NHIS practice of presenting prevalence estimates for heart conditions in the aggregate categories. In table 12, the "loose match 1" row for heart rhythm disorders shows an increase in the number of positive matches over the original match by NHIS recode, and a Kappa value considerably higher than that for two of the three NHIS recodes individually. These results indicate that there may be some confusion within the heart rhythm disorder categories. Excluding heart murmurs from the loose match (loose match 2) further improves the Kappa value, mostly by eliminating more than half the type B mismatches from the totals.

The loose match for all heart conditions reveals a similar pattern. The Kappa value for all heart conditions combined is 0.58, and 0.60 if heart murmurs are taken out. Again, this result indicates some confusion about the exact nature of heart trouble by some respondents. The improvement in agreement is also related to the earlier observation of multiple heart conditions (across NHIS recodes) being more likely in the medical record than in the interview. Even at the aggregate level, however, there remains considerable underreporting of heart conditions in the interview as opposed to the medical record.

Thus, the evidence from the HIES data suggests that NHIS prevalence estimates for heart conditions may be low for several reasons: Interview respondents may fail to mention a heart condition at all, people with conditions in multiple NHIS recodes may report only one or two, and people with multiple conditions within one NHIS recode may report fewer than are delineated in the medical record.

Hypertension – The reporting pattern for hypertension is similar to that for diabetes. After diabetes, hypertension had the highest rates of agreement of any of the chronic conditions reviewed (Kappa = 0.72 for both list-sample persons and household members), and a comparison of the prevalence between interview and medical record shows a slight net underreport by the interview. Like diabetes, hypertension requires a medical provider's diagnosis, so the net underreport is not surprising. However, some 59 list-sample persons reported hypertension that was not confirmed by the medical record. Some of these type B mismatches may be the result of patients receiving the diagnosis of hypertension before the 3-year period covered by abstracted medical records or by self-testing of their blood pressure.

More than one-fourth of type C mismatches for hypertension had long medical records, indicating a poor health status. About one-third of the type C persons had some type of heart disease, which was often reported in interviews. As discussed under heart conditions, such respondents may have felt they covered the topic by reporting the most salient of their circulatory problems or may have reported a general problem meant to encompass both heart disease and hypertension.

Like diabetes, the HIES prevalence for hypertension far exceeds what would be expected from NHIS estimates and most notably for persons 18–45 years of age (table 2). Also like diabetes, hypertension is more prevalent among black than white people according to the NHIS (32) (about 69 percent higher for persons under age 45, with gradually decreasing differentials in older age groups). However, this does not explain the large differences in tables 2 and 3 (HIES 233 percent higher for persons 18–44 years of age, 90 percent higher for persons 45–64 years of age). Once again, the relatively higher access to care of the HIES sample may be related to the higher-thanexpected prevalence of hypertension. If this relationship does exist, the NHIS estimates of the prevalence of hypertension in the general population under 65 years of age may be considerably below the true prevalence. Another way of stating the same thing is that the general population may have considerable undetected or unacknowledged hypertension among the groups under 65 years of age, a supposition consistent with comparisons of medical histories and clinical examinations in the National Health Survey (15).

Hardening of the arteries—The HIES interview and medical record showed very low prevalence of atherosclerosis, also called hardening of the arteries—19 interview reports and 14 from the medical record for list-sample persons. Only one of these reports matched, resulting in a Kappa near zero.

From a clinical standpoint, hardening of the arteries requires a physician's diagnosis and is a gradual process occurring in all persons (with no definitional threshold). The term may mean conditions other than atherosclerosis to some respondents, which could explain some of the type B mismatches. In addition, some type B mismatches might be the result of the patient reporting atherosclerosis, a general condition, when they have developed more specific conditions as a result. The more specific condition would more likely be recorded on the medical record.

Atherosclerosis, NHIS recode 510, consists of atherosclerosis of any arteries. It would be clinically consistent to match ischemic heart disease and angina pectoris to atherosclerosis for analytical purposes. Ischemic heart disease is a form of atherosclerosis. Atherosclerosis is the only cause of ischemic heart disease. Angina pectoris is also a sequela of atherosclerosis. Because they are clinically consistent, ischemic heart disease and angina pectoris are included in the loose match for atherosclerosis. This will result in a match for the patient who reported "hardening of the arteries," but whose physician reported "angina."

Cerebral atherosclerosis is also clinically consistent with atherosclerosis, although not included in the NHIS recode, and is therefore included in the loose match. Because cerebral atherosclerosis is a more specific diagnosis than hardening of the arteries, one would expect it to be on the medical record but not the interview. Claudication, (angina in the leg) is also a common sequela of atherosclerosis and is thus also included in the loose match. As with the two previously described conditions that are included in the loose match, adding claudication should result in matching some previously denoted type B mismatches.

As shown in table 12, applying the loose-match criteria to the type B and C mismatches results in a dramatic improvement in the match for atherosclerosis—a Kappa value of 0.686 as opposed to 0.045. Of the 16 type B and C mismatches that became loose matches, 10 were previously matched on ischemic heart disease. These figures suggest two possible explanations for the low match rate on atherosclerosis. First, persons with conditions of the circulatory system, including heart conditions and hypertension, may tend to summarize their complaints in one or two condition names. If so, atherosclerosis may be part of this phenomenon. Second, persons who have developed ischemic heart disease may report an earlier diagnosis of atherosclerosis, whether or not they report the more recent condition, although the medical record (limited to the past 3 years) makes no mention of the earlier condition.

Extending the loose match to previous negative matches results in a great increase in the prevalence of atherosclerosis, both from the interview and medical record. Because the loose match essentially combines atherosclerosis with ischemic heart disease, the second loose-match results look very similar to the figures for ischemic heart disease.

The loose-match results are relatively encouraging for the accuracy of NHIS estimates, in the sense that persons reporting atherosclerosis appear to be clinically correct much of the time. However, the loose match raises the question of how to define the "true" prevalence of atherosclerosis. If some, but not most, people who have developed ischemic heart disease report an earlier diagnosis of atherosclerosis, then the NHIS prevalence estimates may be either somewhat too high or considerably low, depending upon how the prevalence rate is defined.

Varicose veins of the lower extremities – Varicose veins were reported in the HIES at roughly comparable rates to the NHIS (tables 2–5). They were overreported in the interview compared with the medical record by more than 200 percent for list-sample persons and 100 percent for household members (tables 6 and 7). Persons afflicted with varicose veins may not seek medical advice or treatment for many years after a medical consultation.

In the HIP and KP studies, varicose veins were not limited to those in the lower extremities. The HIP figures for varicose veins were similar to those in the HIES, but the KP study, although showing a comparable rate of false negatives to the other studies, did not show net overreporting by the interview.

Hemorrhoids—Hemorrhoids may be considered a stigmatizing condition, and thus one would expect net underreporting in an interview. However, the HIES interview showed a net overreport of 35 percent against the medical record for list-sample persons and 58 percent for household members (tables 6 and 7). The less frequent reporting by list-sample persons than by household members, which is contrary to the typical pattern, may reflect some respondent embarrassment at mentioning their own hemorrhoids. Among adult household members, those present for the interview reported hemorrhoids at about the same rate as the medical record, but proxies reported almost three times more hemorrhoid cases than the medical record for persons not present in the interview.

The general apparent overreport by the interview compared with the medical record may reflect selfmedication, mis-self-diagnosis of hemorrhoids, or, as suggested by Marquis (12), possible disinclination of medical professionals to check for them in an examination. Further, hemorrhoids discovered during an examination for another condition, such as colorectal cancer, may not be noted in the medical record. These speculative reasons and the relatively low rate of agreement between the interview and medical record (Kappa = 0.27 for list-sample persons and 0.32 for household members), suggest that the actual prevalence of hemorrhoids in the sample population may be underestimated by both sources.

Hemorrhoids were reported at about the same rate by HIES respondents as would be expected from the NHIS estimates, except among those 75 years of age and over (table 5), who reported hemorrhoids about 90 percent more than the NHIS estimate for persons in that age group.

The HIP and KP studies showed similar net overreporting of hemorrhoids (table 10), with the HIP study showing slightly less agreement between interview and examination report than HIES, and the KP study showed considerably more agreement.

Chronic bronchitis – The agreement between the interview and medical record for chronic bronchitis is very low (Kappa = 0.09 for list-sample persons and 0.14 for household members). However, the prevalence is similar between the two sources, with a net interview overreport of 25 percent for list-sample persons and 31 percent for household members (tables 6 and 7). There were only 5 positive matches for list-sample persons, but 40 type B mismatches (interview report only) and 31 type C mismatches (medical record report only).

Part of the reason for the discrepancy between medical records and interviews is the NHIS recode definition of chronic bronchitis. Half of the 31 type C mismatches are interpreted from the medical record as "bronchitis not specified as acute or chronic." These cases may have been acute and would not have been reported in the interview.

In 11 of the 40 type B mismatches, the respondent reported chronic bronchitis, and the medical record indicated acute bronchitis. It cannot be determined whether the medical record reflected an acute episode in a person with the chronic condition, which would mean that both sources were correct, or if one source misreported.

The NHIS and HIES prevalence estimates for chronic bronchitis differ by as much as 58.1 percent for the group 65–74 years of age, and as little as 5.9 percent for those 75 years of age and over.

Several related diseases occurred concurrent with chronic bronchitis in the HIES survey and medical records for some individuals. Possible related conditions include rhinitis, chronic cough, upper respiratory infection, sinusitis, asthmatic bronchitis, pneumonia, and chronic obstructive pulmonary disease (COPD). Among these, only COPD is diagnostically consistent enough to be used for a loose match. There were no reports of COPD among list-sample persons in the HIES, however, so no loose-match analysis was performed for chronic bronchitis.

Asthma – Asthma has fairly good agreement between medical records and household interviews, compared with other conditions, despite its relatively low prevalence among the study sample. The interview showed a net underreport of 20 percent for list-sample persons and 30 percent for household members, with both sample groups showing fairly high rates of agreement (Kappa = 0.55 for list-sample persons and 0.58 for household members).

Asthma, like the other conditions with at least fair agreement (Kappa greater than 0.40), requires a physician visit for diagnosis. Severe asthma may require many physician visits throughout the year, which would increase the likelihood of agreement between the interview and medical record.

On the other hand, several factors may account for cases where the two sources did not agree. The interview asks whether the respondent has had asthma in the past 12 months. The patient may have had it, but it could legitimately not be on the medical record if it did not require medical supervision. Alternatively, the medical record may have mentioned asthma more than 1 year before the interview, and the patient may not have suffered an attack in the interview reference period. Yet another possibility is that the patient could have actually had a similar but different condition, such as acute bronchitis, and erroneously reported it as asthma.

Bronchitis not specified as acute or chronic is included in the NHIS recode for asthma. Therefore, in some cases where the medical record appears to note asthma, but the interview does not, the medical record could be reflecting acute bronchitis, and not asthma. Also, the medical record could have a notation of asthma, but it might not have been recent or important enough for the respondent to report it in the interview.

Although chronic bronchitis and asthma appear frequently together, they are distinct diseases and were not grouped together for a loose-match analysis.

Upper respiratory conditions -- Two chronic conditions, chronic sinusitis and allergic rhinitis without asthma, show similar patterns of reporting, with many more interview reports than medical record notations. The net overreport for the interview is 226 percent and 221 percent for chronic sinusitis and allergic rhinitis, respectively, for list-sample persons. The net overreport rates for household members are about one-half those for list-sample persons. These conditions have among the lowest match rates of all conditions studied, with Kappa values of only around 0.1 for list-sample persons. The Kappa values are higher, around 0.2, for household members. This difference, and the difference in net overreport for the two samples, suggests that respondents may report more cases, including perhaps less serious cases, for themselves than for others. More serious cases would be both more likely to receive medical attention and more likely to be noticed by other family members.

Two attributes of these conditions also contribute to the reporting pattern described here. First, chronic sinusitis and allergic rhinitis may be easily confused. In the NHIS recode definitions, allergic rhinitis includes hay fever, pollinosis, and spasmodic rhinorrhoea, but chronic sinusitis includes postnasal drip and sinus drainage. For example, some respondents, may consider postnasal drip to be a symptom of allergy rather than sinusitis. Second, both allergic rhinitis and chronic sinusitis are frequently self-treated. If they were never the reason for a medical visit or involved in a diagnosis in the 3 years covered by the medical record, they would probably not be in the record. Review of the mismatched medical records and interviews revealed that often these two conditions occur in tandem. In addition, the medical record showed many sample persons reporting these conditions having lower respiratory conditions.

Chronic sinusitis is both a disease entity and a description of specific symptoms. However, allergic rhinitis, is a disease that can manifest itself with a variety of symptoms, including sinusitis. Chronic rhinitis and chronic nasopharyngitis are also sequelae of allergic rhinitis. Because of this relationship, the four conditions-allergic rhinitis, chronic sinusitis, chronic rhinitis, and chronic nasopharyngitiswere grouped together for a loose match. The results are presented in table 12. Under "loose match 1," the row "Upper respiratory problems" shows the results of combining allergic rhinitis and chronic sinusitis; a small increase in agreement indicates some possible confusion of the two conditions, but the pattern of much higher prevalence from the interview report persists. Similarly, adding chronic rhinitis and chronic nasopharyngitis to the loose match ("loose match 2") increases the agreement slightly, but does not affect the overall pattern of mismatches.

The HIES prevalence is consistently higher than the NHIS estimates for both conditions, more so for allergic rhinitis. This tendency may be related to the climate around Washington, D.C., which is damp and laden with pollen and other irritants much of the year.

Effect of person characteristics on reporting

As previously noted, the HIES sample was skewed in a number of ways when compared with the U.S. population: All persons in the study were HMO members, the population from which the sample was drawn included a much higher proportion of black people than the general U.S. population, and the design oversampled older people and people with recent doctor visits and hospital stays. Some effects of these design features were apparent when the relative prevalence of the studied chronic conditions was compared between NHIS estimates and the HIES sample. However, the analysis has not included differentials in reporting behavior between NHIS estimates and the HIES sample across different person characteristics.

Tables 13 and 14 summarize the reporting of all chronic conditions together by various demographic and other person characteristics, for list-sample persons and household members, respectively. Rather than prevalence, as in tables 6 and 7, these tables present the mean number of NHIS recode conditions per person. As in the earlier tables, a particular NHIS recode condition is only counted once per person, even though for some conditions a person may have more than one condition falling into the recode. The net and proportional overreport and Kappa columns are similar to those in tables 6 and 7; that is, they are computed from the total numbers of type A and D matches and type B and C mismatches across all conditions.

Demographic characteristics

Age-Distinct patterns of increasing number of conditions and decreasing net and percent of overreported conditions are apparent across increasing age groups among list-sample persons. Kappa values are markedly lower for the youngest (under age 45) and oldest (75 years of age and over) age groups. The increasing number of conditions reported with age is expected; the other patterns are attributable to different causes. The lower Kappa values and higher overreporting for persons under 45 years of age are in large part the result of the mix of conditions reported for this age group. The most common conditions among those studied include upper respiratory ailments and orthopedic impairments, which show generally lowerthan-average agreement between the data sources and are among the most overreported conditions. Younger persons may also be less likely to seek treatment for relatively minor conditions. The oldest group are more likely to have heart conditions and cataracts, conditions that are generally underreported in the interview and that have relatively low Kappa values. Older persons may also be more likely to have cognitive problems that interfere with accurate reporting and may be less likely to report less serious conditions because they have more conditions overall.

Previous research has yielded mixed results with regard to reporting differences by age (table L), with both younger and older respondents appearing to be more in agreement with medical records in different situations. The HIES analysis suggests that these differences may be attributable in part to differences in what conditions were included in the respective analyses.

Sex—List-sample women in both the age group under 65 years and the group 65 years and over were more likely to overreport compared with the medical record than men. Men showed only slightly higher agreement with the medical record. There was little difference in the number of conditions reported per person by the medical record between sexes.

Women under 65 years of age were much more likely to report upper respiratory problems, migraine headaches, hemorrhoids, and heart murmurs not confirmed by the medical record than were men under age 65. Among those aged 65 years and over, women were more likely than men to report arthritis and varicose veins not confirmed by the medical record. Both sources showed considerably higher prevalence of these two conditions among women as well. Thus, greater reporting by women appears to be largely for conditions that might be viewed as embarrassing (hemorrhoids, varicose veins, possibly arthritis) or that are usually relatively minor (heart murmurs, chronic bronchitis, allergic rhinitis, chronic sinusitis). For the latter set of conditions, the medical record shows little difference in prevalence between sexes, but the interview shows considerably greater prevalence among women. By and large, the NHIS estimates these conditions as significantly more prevalent among women as well.

As with age, previous research has yielded mixed results on whether men or women have higher agreement with medical records. Again, this pattern may be attributable in part to the specific conditions studied.

Race—The racial composition of the HIES sample allows comparisons only between black people and members of other races. Black persons both under age 65 and age 65 or over in the HIES overreported somewhat more compared with the medical record than did their counterparts of white and other races. However, black people's reports showed more agreement with the medical record than those of white people and people of other races. Overall, the patterns of reporting by condition between races were fairly comparable to those in the NHIS.

Socioeconomic characteristics

Employment status—People not currently employed reported considerably higher numbers of chronic conditions than did the employed in both the age group under 65 years and the group 65 years and over. The unemployed showed slightly higher agreement with the medical record in both age groups, but there was no pattern for overreporting against the medical record.

Income – The total number of conditions per person declined as family income increased in the NHIS; family income may vary with age, affecting the number of conditions per person. Proportionate overreporting against the medical record was higher for those with family incomes under \$30,000, although no particular pattern of agreement between the interview and medical record was apparent by family income.

Education – Agreement between the interview report and medical record did not vary by education. College graduates did overreport noticeably less than those with less education, although the pattern for those with less than a college degree was that those with more education overreported more.

Medical services utilization

Two-week doctor visits – People with doctor visits in the 2-week reference period (according to the medical record) had somewhat more chronic conditions per person than those without such doctor visits in both the age group under 65 years and those 65 and over. Those with 2-week doctor visits showed considerably less overreporting against the medical record and slightly more agreement with the medical record in both age groups. This finding is consistent with that of the HIP study (1). Health assessment – GHA offers a comprehensive medical checkup called a health assessment to its members. People who had had health assessments in the 2 years before the interview date were comparable to those without health assessments in the number of chronic conditions in the medical record. However, people with recent health assessments overreported against the medical record at lower rates and showed somewhat higher agreement with the medical record than persons without recent health assessments.

Thirteen-month hospital stay – As expected, persons with hospital stays within the 13-month reference period had more chronic conditions per person than those without recent hospital stays. Those with 13-month hospital stays overreported against the medical record less in both the age group under 65 years and those 65 years of age and over. However, those persons 65 years and over with 13-month hospital stays had lower rates of agreement with the medical record than those without stays, and the reverse pattern was true for persons under age 65.

Self-perceived health status

Both the interview report and the medical record showed a strong correlation between perceived health status and the number of chronic conditions per person. Persons reporting themselves in excellent health overreported the fewest conditions compared with the medical record but also had a noticeably lower rate of agreement with the medical record. These observations may indicate that persons reporting themselves in excellent health are less likely to report chronic conditions than those reporting very good, good, fair, or poor health.

Number of chronic conditions reported

Tables 13 and 14 compare the reporting of chronic conditions for persons reporting different numbers of conditions included in the interview checklist. The proportion of overreporting increases with the number of conditions reported. However, the Kappa values for persons with four or more conditions are lower than those for persons reporting fewer conditions in both the list and supplementary samples. Persons reporting four or more conditions may be more prone to overreporting than others, or they may tend to report a higher proportion of conditions not likely to be confirmed by the medical record.

Response status

The HIES was not designed as a formal experiment comparing self- and proxy reporting. However, the inclusion of household members in the analytic sample allows ad hoc comparison of responses for adult household members who were present during the interview (and presumably responded for themselves in most cases) and adult household members who were not present, for whom proxy responses were obtained. The final rows of table 14 present totals for adult household members by whether they were present during the interview.

Those not present for the interview had fewer conditions reported than those who were present but also had fewer conditions in the medical record, confirming the observation of Berk, Horgan, and Meyers (8) that persons not present for the interview appeared to be healthier (from the perspective of number of conditions) than those who were present. The Kappa values for the two groups are virtually the same, but persons present for the interview overreported, compared with the medical record, at a higher rate (19 percent) than those not present (5 percent). Household members present for the interview overreported at about the same rate as list-sample persons (21 percent), who were also self-respondents. The number of reports for specific conditions is too small for meaningful analysis at the condition level between the self- and proxy reporters.

Discussion

The HIES was designed to evaluate the reporting of chronic conditions in the NHIS by comparing interview responses to medical records for the same individuals; it is the first such evaluation in nearly 20 years. The major strength of the evaluation is the use of a full study design in which both positive and negative reports from the interview and medical record can be compared for all study subjects. Some additional features that enhance the ability to examine chronic condition reports and focus on demographic subgroups of particular policy interest are oversampling of older persons and persons with recent health care visits and the selection of an HMO with a large minority membership.

The study population comprised HMO members interviewed about themselves; with a moderate additional effort, interview and medical record data on household members were obtained, which replicated the findings and permitted some analysis of proxy reporting. HIES methods and procedures followed those of the NHIS as closely as possible, so that HIES findings could be used to help evaluate the NHIS.

The research described here from the HIES has supported previous studies' observations that survey interviews and medical records often provide very different pictures of the prevalence of chronic conditions in a population. The HIES design and analysis have notassumed the medical record to be a "gold standard" with regard to the presence of chronic conditions but rather have focused on interpreting the differences between the two data sources. Some of these differences are artifacts of the procedural differences in acquiring and interpreting reports from the two sources, but others are inherent in the definitions, manifestations, and need for professional medical care of the conditions studied. Regardless of the reason for the differences, their existence has ascertained the accuracy of survey-based prevalence estimates of chronic conditions.

It is helpful to classify chronic conditions in several ways. For the first group of conditions, consider those that require a physician's diagnosis to identify and are likely to require ongoing medical care. Among the conditions studied, the following may be considered in this group: diabetes, most heart conditions, high blood pressure, and asthma. Two conditions not included in this list are cataracts, which do require a physician's diagnosis but do not require ongoing care, and hardening of the arteries, which meets the criteria but may be subsumed in a more immediate condition.

Once diagnosed, the presence of these conditions is likely to be noted in the medical record within a 3-year period. (Medical records examined in the HIES covered the 3 years prior to the date of the interview.) These conditions are also all considered "chronic by definition" by NHIS coding rules; that is, ever having the condition counts as having it at the time of the interview. For these conditions, the medical record may be considered as near a "gold standard" as is possible to find. Each of these conditions (with the exception of heart murmurs, a special case among heart conditions) was underreported by the HIES interview against the medical record, from a low among list-sample persons of 4 percent underreport for hypertension to a high of 48 percent underreport for "other selected diseases of the heart," while most other conditions were apparently overreported. Diabetes, asthma, high blood pressure, and ischemic heart disease also had the highest rates of agreement among all conditions studied, with Kappa values among list-sample persons ranging from 0.55 for asthma to 0.82 for diabetes. Thus, one may conclude that interview reports of these conditions are likely to be accurate, but that their prevalence may be underestimated by survey data. The problem of underestimation may be particularly problematic for heart disease, where individuals with more than one condition (according to the medical record) often reported fewer conditions in the interview.

The other conditions apparently underreported by HIES respondents were cataracts and dermatitis. Although the medical record may have overstated the prevalence of cataracts (counting some that were surgically removed before the "past year"), it is likely that cataracts are underreported by survey respondents. Many notations of "beginning cataracts" or "early cataracts" were noted in the records; these cases may not be salient enough for respondents to remember or may not have even been mentioned by the provider discovering them. Dermatitis is a condition for which chronicity is difficult to determine from the medical record—the apparent HIES underreport likely does not indicate a corresponding underreport from the NHIS.

At the other end of the spectrum from the first group of conditions are those that can only be diagnosed by patient report: Constipation and tinnitus from the list studied here meet this criterion. Both were significantly overreported by HIES list-sample persons, and both had very low rates of agreement with the medical record. For these conditions, the medical record reports shed almost no light on the accuracy of interview-based prevalence estimates. However, they do suggest that many people do not report these conditions to their physicians, so that medical records would underestimate prevalence.

Another group of conditions is those that may be salient to the persons suffering from them but that may not require ongoing treatment and thus may not be in the medical record. These include orthopedic impairment, visual and hearing impairment, migraine headache, varicose veins, allergic rhinitis, and chronic sinusitis. These conditions were substantially overreported in HIES interviews, but, with the exception of visual and hearing impairments, all had substantial numbers of type C mismatches (medical record report only) as well-more type C mismatches than type A matches (reported in both interview and medical record). The presence of impairment is a subjective determination, whether by a provider or an individual; for other conditions in this group, some selfdiagnosis probably occurs. The extent to which such selfdiagnosis would conform to a physician's opinion cannot be determined from the data, but undoubtedly some interview reports for conditions in this group (other than impairment) are false positives. Overall, medical records provide a different picture of prevalence for this group of conditions than do interviews and the rates from medical record data would likely be considerably lower.

Some conditions studied are less well defined than others from the household respondents' perspective and from a clinical perspective. These issues were discussed in the context of the "loose match" that grouped clinically equivalent conditions. Some interview reports of arthritis, although technically "false positives," appear to match clinically equivalent conditions in the medical record. The extent to which other reports of arthritis may reflect more generalized joint pain could not be determined. Circulatory conditions are a special case of definitional problems from a respondent's perspective. The current research has provided some evidence that people with several heart or other circulatory conditions tend to group them under one heading. The loose-match analysis found evidence of this for heart conditions; it may be true for the larger family of circulatory conditions as well. That is, persons with heart disease may report "high blood pressure" as the global condition that encompasses all their circulatory problems.

Potentially the most interesting of the HIES design features with regard to its effect on study findings is the universal access to health care and the emphasis on preventive care in an HMO setting. (An HMO population was selected for the HIES because an HMO is one of the few health care settings in which a full-design record check is feasible; it includes a complete set of provider records.) Evidence from our analysis and previous research indicates that people who get medical care are better able to report the presence of chronic conditions. This is true for the first group of conditions described earlier because a physician's diagnosis is required for a person to know that he or she has the condition. Among the general population, many of whom have less access to medical care than the study sample, what would be the effect on reporting of chronic conditions and thus on prevalence rates? It may be that the conditions underreported in the HIES would be more underreported in a national sample-both because of people who have not had a diagnosis and because of people who have not sought medical care after receiving a diagnosis. The former would not know they had the condition, and the latter might forget or deny its existence. Conversely, selfdiagnosed conditions might be more overreported among the general population than in the HMO study sample, as persons with limited access to care might have less chance to have their diagnoses refuted.

Finally, proxy effects seem to be present in the reporting of chronic conditions. Some of the differences between the list sample and household members are consistent with differential reporting by proxies. Generally, with the exception of embarrassing or stigmatizing conditions, one would expect estimates based on proxy reports to be lower than those based on self-reports. Overall, interviewderived prevalence for household members, some of whom were reported by proxies, was closer to that from medical records than it was for list-sample persons, who were all self-respondents. The comparison of self-responders and persons with proxy reports among household members indicated that proxy reports included considerably less overreporting, but agreement with the medical record was about the same for the two groups within the supplementary sample. The net effect of proxy reports on NHIS prevalence estimates is difficult to determine from the analysis described here.

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household members, by selected characteristics

Table 1. Number an	nd percent of persons in H	lealth Interview Evaluation ana	lytic samples, b	y selected characteristics
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Person characteristic	List number	Sample percent	Household number	Member percent	Combined number	Sample percent	U.S. population percent
Age	······································					· · · · · · · · · · · · · · · · · · ·	
Under 18 years	0	0.0	285	40.5	285	16.7	00.0
18–44 years	309	30.7	173	24.6	482		26.3
45–64 years	373	37.1	138		-	28.2	42.8
65–74 years	193	19.2		19.6	511	29.9	18.9
75 years and over	130	19.2	71	10.1	264	15.5	7.3
	150	12.9	36	5.1	166	9.7	4.7
Sex and age							
Female:							
65 years and over	179	17.8	63	9.0	242	14.2	7.0
Under 1 year-64 years	366	36.4	330	46.9	696	40.7	44.5
Male:							
65 years and over	144	14.3	44	6.3	188	11.0	5.0
Under 1 year-64 years	316	31.4	266	37.8	582	34.1	43.5
				0.10	002	04.1	40.0
Race and age							
Black:							
65 years and over	156	15.5	37	5.3	193	11.3	1.0
Under 1 year–64 years	518	51.5	452	64.3	970	56.8	11.3
White or other:							
65 years and over	167	16.6	70	10.0	237	13.9	11.0
Under 1 year–64 years	164	16.3	144	20.5	308	18.0	76.7
Employment and age							
Employed:							
65 years and over	71	7.1	23	3.3	94	5.5	1.6
18–64 years	595	59.3	244	34.8	839	49.2	46.6
Unemployed:	000	00.0	67 7	04.0	009	49.2	40.0
65 years and over	251	25.0	84	12.0	335	19.6	10.4
18–64 years	86	8.6	66	9.4	152	8.9	15.2
		0.0	00	0.4	10L	0.5	15.2
Income ¹							
\$0-\$19,999	148	17.1	32	4.9	180	11.8	27.6
\$20,000-\$29,999	119	13.8	51	7.8	170	11.2	23.3
\$30,000-\$49,999	263	30.4	198	30.3	461	30.3	(1)
\$50,000 and over	335	38.7	373	57.0	708	46.6	32.9
Education ²							
Less than high school	167	16.7	69	16.6	236	16.7	24.4
High school graduate	307	30.7	138	33.2	445	31.4	38.7
Some college	204	20.4	81	19.5	285	20.1	17.1
College graduate	321	32.1	128	30.8	285 449		
	021	02.1	120	50.6	443	31.7	19.9

SOURCES: U.S. Bureau of the Census, Statistical Abstract of the United States: 1989 (109th edition). Washington, D.C., 1990.

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1990 (NCHS) unpublished data and (32). ¹For U.S. population, categories are \$0-\$19,999, \$20,000-\$34,999, \$35,000 and over.

²Persons 18 years of age and over; for U.S. population, persons 25 years and over.

Table 2. Prevalence of selected chronic conditions in persons 18-44 years of age from National Health Interview Survey estimates and
from Health Interview Evaluation Survey household reports, by condition

Condition name and NHIS recode number	NHIS prevalence	HIES prevalence	Number of overreports per 100 persons, HIES compared with NHIS	Percent overreports by HIES compared with NHIS
All conditions	925.8	1,302.9	377.1	40.7
Arthritis	48.9	62.2	13.3	27.3
Dermatitis	36.0	31.1	-4.9	13.6
Blindness or other visual impairment	27.2	18.7	-8.5	31.4
Deafness or other hearing impairment	47.8	41.5	6.3	-13.2
Deformity or orthopedic impairment	138.3	114.1	-24.2	-17.5
Tinnitus	14.4	20.7	6.3	44.1
Cataracts	3.5	4.1	0.6	18.6
Constipation	11.9	37.3	25.4	213.8
Diabetes	10.7	37.3	26.6	249.0
Migraine headache 406	57.2	64.3	7.1	12.4
Heart disease	36.1	89.2	53.1	147.1
Ischemic heart disease	4.1	2.1	-2.0	49.4
Heart rhvthm disorders	25.3	49.8	24.5	96.8
Tachycardia or rapid heartbeat	5.3	4.1	-1.2	-21.7
Heart murmurs	17.1	37.3	20.2	118.4
Other heart rhythm disorders	2.9	8.3	5.4	186.2
Other selected diseases of heart	6.7	37.3	30.6	457.4
High blood pressure	56.0	186.7	130.7	233.4
Hardening of the arteries	0.1	2.1	2.0	1,974.7
Varicose veins, lower extremities	24.8	27.0	2.2	8.8
Hemorrhoids	57.2	83.0	25.8	45.1
Chronic bronchitis	44.5	43.6	-0.9	2.1
Asthma	41.3	45.6	4.3	10.5
Allergic rhinitis without asthma 603	108.8	209.5	100.7	92.6
Chronic sinusitis	161.1	184.6	23.5	14.6

NOTE: NHIS is National Health Interview Survey and HIES is Health Interview Evaluation Survey.

Table 3. Prevalence of selected chronic conditions in persons 45–64 years of age from National Health Interview Survey estimates and
from Health Interview Evaluation Survey household reports, by condition

Condition name and NHIS recode number	NHIS prevalence	HIES prevalence	Number of overreports per 100 persons, HIES compared with NHIS	Percent overreports by HIES compared with NHIS
All conditions	1,657.8	2,099.8	442.0	26.7
Arthritis	253.8	254.4	0.6	0.2
Dermatitis	30.6	54.8	24.2	79.1
Blindness or other visual impairment 201	45.1	35.2	-9.9	-21.9
Deafness or other hearing impairment 203	127.7	97.8	-29.9	-23.4
Deformity or orthopedic impairment	155.5	148.7	-6.8	-4.4
Tinnitus	45.8	37.2	-8.6	-18.8
Cataracts	16.1	35.2	19.1	118.8
Constipation	20.9	31.3	10.4	49.8
Diabetes	58.2	135.0	76.8	132.0
Migraine headache 406	51.2	41.1	-10.1	-19.7
Heart disease	118.9	199.6	80.7	67.9
Ischemic heart disease	54.5	72.4	17.9	32.9
Heart rhythm disorders	40.1	97.8	57.7	144.0
Tachycardia or rapid heartbeat	14.9	35.2	20.3	136.4
Heart murmurs	16.4	45.0	28.6	174.4
Other heart rhythm disorders	8.8	17.6	8.8	100.1
Other selected diseases of heart	24.3	29.4	5.1	20.8
High blood pressure	229.1	434.4	205.3	89.6
Hardening of the arteries	16.1	15.7	0.4	-2.8
Varicose veins, lower extremities	57.8	93.9	36.1	62.5
Hemorrhoids 514	74.9	88.1	13.2	17.6
Chronic bronchitis	53.7	37.2	-16.5	-30.8
Asthma 602	41.5	39.1	-2.4	-5.7
Allergic rhinitis without asthma	87.4	119.4	32.0	36.6
Chronic sinusitis	173.5	201.6	28.1	16.2

NOTE: NHIS is National Health Interview Survey and HIES is Health Interview Evaluation Survey.

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Table 4. Prevalence of selected chronic conditions in persons 65–74 years of age from National Health Interview Survey estimates and from Health Interview Evaluation Survey household reports, by condition

Condition name and NHIS recode numbers	NHIS prevalence	HIES prevalence	Number of overreports per 100 persons, HIES compared with NHIS	Percent overreports by HIES compared with NHIS
All conditions	2,393.4	2,734.8	341.4	14.3
Arthritis	437.3	473.5	36.2	8.3
Dermatitis	33.5	45.5	12.0	35.7
Blindness or other visual impairment	69.3	79.5	10.2	14.8
Deafness or other hearing impairment	239.4	212.1	-27.3	-11.4
Deformity or orthopedic impairment	141.4	140.2	-1.2	0.9
Tinnitus	76.4	75.8	-0.6	-0.8
Cataracts	107.4	132.6	25.2	23.4
Constipation	42.2	53.0	10.8	25.7
Diabetes	89.7	140.2	50.5	56.2
Migraine headache 406	29.8	26.5	-3.3	11.0
Heart disease	231.6	359.8	128.2	55.4
Ischemic heart disease	112.7	132.6	19.9	17.6
Heart rhythm disorders	63.8	132.6	68.8	107.8
Tachycardia or rapid heartbeat	19.5	56.8	37.3	191.4
Heart murmurs	19.2	45.5	26.3	136.7
Other heart rhythm disorders	25.1	30.3	5.2	20.7
Other selected diseases of heart	55.1	75.8	20.7	37.5
High blood pressure	383.8	503.8	120.0	31.3
Hardening of the arteries	28.9	22.7	-6.2	21.4
Varicose veins, lower extremities	72.6	75.8	3.2	4.3
Hemorrhoids	77.4	83.3	5.9	7.7
Chronic bronchitis	54.2	22.7	31.5	-58.1
Asthma 602	57.3	45.5	-11.8	-20.7
Allergic rhinitis without asthma 603	69.4	98.5	29.1	41.9
Chronic sinusitis	151.8	162.9	11.1	7.3

NOTE: NHIS is National Health Interview Survey and and HIES is Health Interview Evaluation Survey.

Table 5. Prevalence of selected chronic conditions in persons 75 years of age and over from National Health Interview Survey estimates
and from Health Interview Evaluation Survey household reports, by condition

Condition name and NHIS recode number	NHIS prevalence	HIES prevalence	Number of overreports per 100 persons, HIES compared with NHIS	Percent overreports by HIES compared with NHIS
All conditions	2,986.5	3,319.3	332.8	11.1
Arthritis	554.5	475.9	78.6	-14.2
Dermatitis	32.9	78.3	45.4	138.0
Blindness or other visual impairment 201	101.7	96.4	-5.3	-5.2
Deafness or other hearing impairment	360.3	433.7	73.4	20.4
Deformity or orthopedic impairment	177.0	247.0	70.0	39.5
Tinnitus	68.9	144.6	75.7	109.8
Cataracts 241	234.3	265.1	30.8	13.1
Constipation	92.2	90.4	-1.8	-2.0
Diabetes	85.7	108.4	22.7	26.5
Migraine headache 406	11.8	18.1	6.3	53.2
Heart disease	353.0	373.5	20.5	5.8
Ischemic heart disease	173.0	132.5	-40.5	-23.4
Heart rhythm disorders	89.1	144.6	55.5	62.3
Tachycardia or rapid heartbeat	28.1	54.2	26.1	92.9
Heart murmurs	31.1	42.2	11.1	35.6
Other heart rhythm disorders	29.9	48.2	18.3	61.2
Other selected diseases of heart	90.9	108.4	17.5	19.3
High blood pressure	375.6	403.6	28.0	7.5
Hardening of the arteries	73.3	60.2	-13.1	-17.8
Varicose veins, lower extremities	86.6	90.4	3.8	4.3
Hemorrhoids	57.5	108.4	50.9	88.6
Chronic bronchitis	57.6	54.2	-3.4	-5.9
Asthma 602	42.3	12.0	-30.3	-71.5
Allergic rhinitis without asthma	65.5	78.3	12.8	19.6
Chronic sinusitis	155.8	168.7	12.9	8.3

NOTE: NHIS Is National Health Interview Survey and HIES is Health Interview Evaluation Survey.

Table 6. Comparison of chronic condition reports for list-sample persons from Health Interview Evaluation Survey interviews and medical records and Kappa values, by condition

	NHIS chronic	onic Matching status				HIES ⁵ prevalance according to –		Overreport by interview compared with medical record		
Condition name	condition recode number	Positive match ¹	False positive ²	False negative ³	Negative match ⁴	Interview	Medical record	Net	Percent	Kappa value
All conditions		1,055	1,325	906	19,829	2,368.2	1,951.2	416.9	21.4	0.433
Arthritis	101	141	155	73	636	294.5	212.9	81.6	38.3	0.406
Dermatitis	113	23	33	82	867	55.7	104.5	48.8	-46.7	0.230
impairment	201	12	44	6	943	55.7	17.9	37.8	211.1	0.305
impairment	203	53	102	22	828	154.2	74.6	79.6	106.7	0.401
impairment	228	39	127	72	767	165.2	110.4	54.7	49.5	0.172
Tinnitus	240	7	49	9	940	55.7	15.9	39.8	250.0	0.174
Cataracts	241	56	27	71	851	82.6	126.4	-43.8	-34.6	0.482
Constipation	314	6	44	27	928	49.8	32.8	16.9	51.5	0.109
Diabetes	403	118	3	40	844	120.4	157.2	-36.8	-23.4	0.822
Migraine headache	406	14	35	16	940	48.8	29.9	18.9	63.3	0.330
Heart disease						251.7	350.2	-98.5	-28.1	
Ischemic heart disease	502	63	14	52	876	76.6	114.4	-37.8	-33.0	0.622
Heart rhythm disorders						109.5	110.4	-1.0	-0.9	
Tachycardia or rapid heartbeat	503	15	23	23	944	37.8	37.8	0.0	0.0	0.371
Heart murmurs	504	4	43	8	950	46.8	11.9	34,8	291.7	0.119
Other heart rhythm disorders Other selected diseases of the	505	7	18	54	926	24.9	60.7	-35.8	59.0	0.132
heart	507	40	26	86	853	65.7	125.4	-59.7	-47.6	0.362
High blood pressure	508	346	59	75	525	403.0	418.9	-15.9	3.8	0.725
Hardening of the arteries	510	1	18	13	973	18.9	13.9	5.0	35.7	0.045
Varicose veins, lower extremities	13	10	70	14	911	79.6	23.9	55.7	233.3	0.162
Hemorrhoids	514	26	64	41	874	89.6	66.7	22.9	34.3	0.276
Chronic bronchitis	601	5	40	31	929	44.8	35.8	9.0	25.0	0.087
Asthma	602	25	14	24	942	38.8	48.8	-10.0	-20.4	0.549
Allergic rhinitis without asthma	603	18	132	28	827	149.3	45.8	103.5	226.1	0.122
Chronic sinusitis	605	26	185	39	755	210.0	64.7	145.3	224.6	0.099

¹Positive match means that both the interview and medical report were positive.

 $^2\ensuremath{\mathsf{False}}$ positive means that the interview was positive but the medical record negative.

³False negative means that the interview was negative but the medical record positive.

⁴Negative match means that both the interview and medical record were negative.

Table 7. Comparison of chronic condition reports for household members from Health Interview Evaluation Survey interviews and medical records, and Kappa values, by condition

	NHIS chronic	Matching status				HIES ⁵ prevalance according to-		Overreport by interview compared with medical record		
Condition name	condition recode number	Positive match ¹	False positive ²	False negative ³	Negative match ⁴	Interview	Medical record	Net	Percent	Kappa value
All conditions		295	412	393	15,069	1,005.7	978.7	27.0	2.8	0.397
Arthritis	101	34	34	28	607	96.7	88.2	8.5	9.7	0.475
Dermatitis	113	11	10	74	608	29.9	120.9	-91.0	-75.3	0.168
impalrment	201	1	8	3	691	12.8	5.7	7.1	125.0	0.147
Impairment	203	17	31	3	652	68.3	28.4	39.8	140.0	0.479
impairment	228	8	39	36	620	66.9	62.6	4.3	6.8	0.119
Tinnitus	240	4	13	2	684	24.2	8.5	15.6	183.3	0.339
Cataracts	241	10	6	27	660	22.8	52.6	29.9	56.8	0.357
Constipation	314	4	12	12	675	22.8	22.8	0.0	0.0	0.233
Diabetes	403	19	2	11	671	29.9	42.7	-12.8	-30.0	0.736
Migraine headache	406	4	12	4	683	22.8	11.4	11.4	100.0	0.323
Heart disease	• • •					78.2	108.1	-29.9	-27.6	• • •
Ischemic heart disease	502	13	5	9	676	25.6	31.3	-5.7	-18.2	0.640
Heart rhythm disorders						39.8	35.6	4.3	12.0	
Tachycardia or rapid heartbeat	503	2	5	7	689	10.0	12.8	-2.8	-22.2	0.242
Heart murmurs	504	0	17	4	682	24.2	5.7	18.5	325.0	-0.009
Other heart rhythm disorders Other selected diseases of the	505	1	3	11	688	5.7	17.1	-11.4	-66.7	0.117
heart	507	5	4	24	670	12.8	41.3	-28.4	-69.0	0.248
High blood pressure	508	85	22	31	565	152.2	165.0	-12.8	-7.8	0.718
Hardening of the arteries	510	1	5	1	696	8.5	2.8	5.7	200.0	0.247
Varicose veins, lower extremities	513	2	14	6	681	22.8	11.4	11.4	100.0	0.154
Hemorrholds	514	10	27	13	653	52.6	32.7	19.9	60.9	0.305
Chronic bronchitis	601	3	18	13	669	29.9	22.8	7.1	31.3	0.140
Asthma	602	32	11	30	630	61.2	88.2	-27.0	-30.6	0.579
Allergic rhinitis without asthma	603	14	65	21	603	112.4	49.8	62.6	125.7	0.190
Chronic sinusitis	605	15	49	23	616	91.0	54.1	37.0	68.4	0.243

¹Positive match means that both the interview and medical report were positive.

²False positive means that the interview was positive but the medical record negative.

³False negative means that the interview was negative but the medical record positive.

⁴Negative match means that both the interview and medical record were negative.

Table 8. Comparison of chronic condition reports for list-sample persons from Health Interview Evaluation Survey interviews and medical records sorted by Kappa values, by condition

	NHIS chronic	ic Matching status				HIES ⁵ prevalance according to—		Overreport by interview compared with medical record			
Condition name	condition recode number	Positive match ¹	False positive ²	False negative ³	Negative match ⁴	Interview	Medical record	Net	Percent	Kappa value	
All conditions		1,055	1,325	906	19,829	2,368.2	1,951.2	416.92	21.4	0.433	
Diabetes	403	118	3	40	844	120.4	157.2	-36.82	-23.4	0.822	
High blood pressure	508	346	59	75	525	403.0	418.9	-15.92	-3.8	0.725	
Ischemic heart disease	502	63	14	52	876	76.6	114.4	-37.81	-33.0	0.622	
Asthma	602	25	14	24	942	38.8	48.8	-9.95	-20.4	0.549	
Cataracts.	241	56	27	71	851	82.6	126.4	-43.78	-34.6	0.482	
Arthritis Deafness or other hearing	101	141	155	73	636	294.5	212.9	81.59	38.3	0.406	
impairment	203	53	102	22	828	154.2	74.6	79.60	106.7	0.401	
Tachycardia or rapid heartbeat Other selected diseases of the	503	15	23	23	944	37.8	37.8	0.00	0.0	0.371	
heart	507	40	26	86	853	65.7	125.4	-59.70	-47.6	0.362	
Migraine headache Blindness or other visual	406	14	35	16	940	48.8	29.9	18.91	63.3	0.330	
impairment	201	12	44	6	943	55.7	17.9	37.81	211.1	0.305	
Hemorrhoids	514	26	64	41	874	89.6	66.7	22.89	34.3	0.276	
Dermatitis	113	23	33	82	867	55.7	104.5	-48.76	-46.7	0.230	
Tinnitus	240	7	49	9	940	55.7	15.9	39.80	250.0	0.174	
impairment	228	39	127	72	767	165.2	110.4	54.73	49.5	0.172	
Varicose veins, lower extremities	513	10	70	14	911	79.6	23.9	55.72	233.3	0.162	
Other heart rhythm disorders	505	7	18	54	926	24.9	60.7	-35.82	59.0	0.132	
Allergic rhinitis without asthma	603	18	132	28	827	149.3	45.8	103.48	226.1	0.122	
Heart murmurs	504	4	43	8	950	46.8	11.9	34.83	291.7	0.119	
Constipation	314	6	44	27	928	49.8	32.8	16.92	51.5	0.109	
Chronic sinusitis	605	26	185	39	755	210.0	64.7	145.27	224.6	0.099	
Chronic bronchitis	601	5	40	31	929	44.8	35.8	8.96	25.0	0.087	
Hardening of the arteries	510	1	18	13	973	18.9	13.9	4.98	35.7	0.045	

¹Positive match means that both the interview and medical report were positive.

²False positive means that the interview was positive but the medical record negative.

³False negative means that the interview was negative but the medical record positive.

⁴Negative match means that both the interview and medical record were negative.

Table 9. Comparison of chronic condition reports for household members from Health Interview Evaluation Survey interviews and medical records, sorted by Kappa values, by condition

Condition name	NHIS chronic	Matching status			HIES ⁵ prevalance according to –		Overreport by interview compared with medical record			
	condition recode number	Positive match ¹	False positive ²	False negative ³	Negative match ⁴	Interview	Medical record	Net	Percent	Kappa value
All conditions	•••	295	412	393	15,069	1,005.7	978.7	27.0	2.8	0.397
Diabetes	403	19	2	11	671	29.9	42.7	-12.8	30.0	0.736
High blood pressure	508	85	22	31	565	152.2	165.0	-12.8	-7.8	0.718
Ischemic heart disease	502	13	5	9	676	25.6	31.3	-5.7	-18.2	0.640
Asthma	602	32	11	30	630	61.2	88.2	27.0	-30.6	0.579
Deafness or other hearing				•••		01.2	00.2	27.0	-00.0	0.573
impairment	203	17	31	3	652	68.3	28.4	39.8	140.0	0.479
Arthritis	101	34	34	28	607	96.7	88.2	8.5	9.7	0.475
Cataracts	241	10	6	27	660	22.8	52.6	-29.9	-56.8	0.357
Tinnitus	240	4	13	2	684	24.2	8.5	15.6	183.3	0.339
Migraine headache	406	4	12	4	683	22.8	11.4	11.4	100.0	0.323
Hemorrhoids	514	10	27	13	653	52.6	32.7	19.9	60.9	0.305
Other selected diseases of the							0411	1010	00.0	0.000
heart	507	5	4	24	670	12.8	41.3	-28.4	69.0	0.248
Hardening of the arteries	510	1	5	1	696	8.5	2.8	5.7	200.0	0.240
Chronic sinusitis	605	15	49	23	616	91.0	54.1	37.0	68.4	0.243
Tachycardia or rapid heartbeat	503	2	5	7	689	10.0	12.8	-2.8	-22.2	0.242
Constipation	314	4	12	12	675	22.8	22.8	0.0	0.0	0.233
Allergic rhinitis without asthma	603	14	65	21	603	112.4	49.8	62.6	125.7	0.190
Dermatitis	113	11	10	74	608	29.9	120.9	-91.0	-75.3	0.168
Varicose veins, lower extremities	513	2	14	6	681	22.8	11.4	11.4	100.0	0.154
Blindness or other visual								• • • •		0.104
Impairment	201	1	8	3	691	12.8	5.7	7.1	125.0	0.147
Chronic bronchitis	601	3	18	13	669	29.9	22.8	7.1	31.3	0.140
Deformity or orthopedic										
Impairment	228	8	39	36	620	66.9	62.6	4.3	6.8	0.119
Other heart rhythm disorders	505	1	3	11	688	5.7	17.1	-11.4	-66.7	0.117
Heart murmurs	504	0	17	4	682	24.2	5.7	18.5	325.0	-0.009

¹Positive match means that both the interview and medical report were positive.

²False positive means that the interview was positive but the medical record negative. ³False negative means that the interview was negative but the medical record positive.

⁴Negative match means that both the interview and medical record were negative.

Table 10. Percent of matching positive reports for selected conditions in three studies, by condition

	Kaise	r Permanente s	tudy ¹	Health	Insurance Plan	study ²	Health Interview Evaluation Survey			
	Percent postive reports in-		#	Percent positive reports in –			Percent positive reports in—			
Condition name	Records matched by interview	Interview matched by records	Net over- report	Records matched by interview	Interview matched by records	Net over- report	Records matched by intervlew	Interview matched by records	Net over- report	
Arthritis and chronic rheumatism	68.5	51.3	33.7	33.2	33.2	26.4	65.9	47.6	38.3	
Chronic skin diseases	34.5	75.9	-54.5	19.5	19.5	54.5	21.9	41.1	-46.7	
Severe or other visual impairment	72.0	57.3	25.6	33.3	33.3	15.3	66.7	21.4	211.1	
Hearing impairment	72.0	35.0	106.0	41.2	41.2	83.9	70.7	34.2	106.7	
Deformity or orthopedic impairment	57.8	47.3	22.3	33.4	33.4	25.1	35.1	23.5	49.5	
Diabetes	80.7	98.6	18.2	61.7	61.7	11.6	74.7	97.5	-23.4	
Headache and migraine, chronic	62.2	47.1	32.2	14.9	14.9	-10.8	46.7	28.6	63.3	
Diseases of the heart. NEC	79.4	77.1	2.9	60.5	60.5	7.5	36.6	51.0	-28.1	
Hypertension, NEC	81.1	64.6	25.6	45.8	45.8	0.7	82.2	85.4	-3.8	
conditions	39.4	27.1	45.5	• • •	• • •		³ 7.1	³ 5.3	³ 35.7	
Varicose veins	48.1	47.6	1.2	42.3	42.3	135.0	41.7	12.5	233.3	
Hemorrhoids	66.4	45.3	46.6	38.2	38.2	93.9	38.8	28.9	34.3	
Chronic bronchitis	79.2	31.1	154.2	65.0	65.0	306.3	13.9	11.1	25.0	
Asthma	69.2	49.1	41.0	76.2	76.2	57.1	51.0	64.1	20.4	
Allergic rhinitis without asthma	73.2	52.6	39.0	(1)	(4)	(4)	39.1	12.0	226.1	
Chronic sinusitis	100.0	20.9	378.9	48.4	48.4	160.2	40.0	12.3	224.6	

¹Balamuth (1), Harlow and Linet (17). ²Madow (2) (3), Harlow and Linet (17). ³Includes only arteriosclerosis.

⁴Combined with asthma.

NOTE: NEC is not elsewhere classified.

Table 11. Prevalence of heart conditions in list-sample persons from the Health Interview Evaluation Survey, by source of information
and condition

	Pe	erson-level prevalent	ce	Condition-level prevalence				
Condition	Interview report	Medical repord	Net difference	Interview report	Medical record	Net difference		
Heart disease	251.7	349.3	-27.9	264.7	471.6	-43.9		
Heart disease (without heart murmurs)	205.0	337.4	-39.2	217.9	459.7	-52.6		
Ischemic heart disease	76.6	114.4	-33.0	88.6	177.1	50.0		
Heart rhythm disorders	109.5	109.5	0.0	109.5	125.4	-12.7		
Tachycardia or rapid heartbeat	37.8	36.9	2.6	37.8	41.8	-9.5		
Heart murmurs	46.8	11.9	291.7	46.8	11.9	291.7		
Other heart rhythm disorders	24.9	60.7	-59.0	24.9	71.6	65.3		
Other selected diseases of heart	65.7	125.4	-47.6	66.7	169.2	-60.6		

Table 12. Number of conditions and Kappa values for two studies and the Health Interview Evaluation Survey, by type of match and condition
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		NHIS ¹	recodes				Loose i	match 1 ²				Loose r	natch 2 ³		
Positive Condition match	Positive match	False positive	False negative	Negative match	Kappa value	Positive match	False positive	False negative	Negative match	Kappa value	Positive match	False positive	False negative	Negative match	Kappa value
Arthritis	141	155	73	636	0.404	167	132	70	636	0.486	168	134	93	610	0.439
Dermatitis	23	33	82	867	0.232	35	23	80	867	0.358					
Hardening of the arteries	1	18	13	972 .	0.045	18	7	8	972	0.686	69	11	56	869	0.632
Heart conditions						152	58	89	706	0.580	139	36	96	734	0.598
Ischemic heart disease	63	14	52	876	0.622										
Heart rhythm disorders						42	62	57	844	0.348	34	28	55	888	0.407
Tachycardia or rapid heartbeat	15	23	23	944	0.371				-						0.407
Heart murmurs	4	43	8	950	0.119			• • •	•••	•••	• • •	•••	•••	•••	•••
Other rhythm disorders	7	18	54	926	0.132		•••	•••	•••	•••	• • •	•••	• • •	•••	• • •
Other heart diseases	40	26	86	853	0.362	•••	•••	•••	•••	•••	•••	•••	• • •	•••	•••
Upper respiratory problems						57	254	48	646	0.141	65		•••		
Allergic rhinitis	18	132	28	827	0.122		234	+0	040	0.141	65	250	50	640	0.164
Chronic sinusitis	26	185	39	755	0.122	• • •	• • •	•••	•••	•••	• • •	•••	• • •	• • •	• • •
	20	185	39	100	0.101	• • •	•••	•••	•••	• • •	• • •	•••	• • •	•••	• • •

¹NHIS is National Health Interview Survey.

²Loose match 1 applies the expanded match criteria only to mismatch types "false positive" and "false negative." For heart and upper respiratory conditions, loose match 1 is the result of combining NHIS recodes.

³Loose match 2 applies the expanded match criteria to negative matches as well as mismatches. For upper respiratory conditions, loose match 2 adds two ICD-9-CM codes not in either NHIS recode. For heart conditions, loose match 2 drops heart murmurs from the combined categories.

Table 13. Number of conditions, number and percent of overreports, and Kappa values from Health Interview Evaluation Survey
responses and medical records for list-sample persons, by selected characteristics

		Conditions	per person	Interviev		
Person characteristic	Number of persons	By HIES ¹ interview	By medical record	Net overreport	Percent overreport	Kappa value
Age						
Inder 45 years	309	1.60	0.98	0.62	63.6	0.348
5–64 years	373	2.30	1.85	0.45	24.3	0.464
5–74 years	193	2.95	2.63	0.33	12.4	0.466
5 years and over	130	3.53	3.56	-0.03	-0.9	0.409
Sex and age						
emale:						
65 years and over	179	3.37	3.07	0.30	9.8	0.434
18-64 years	366	2.23	1.48	0.74	50.1	0.420
ale:						
65 years and over	144	2.96	2.92	0.03	1.2	0.450
18–64 years	316	1.70	1.42	0.28	19.6	0.43
Race and age						
lack:	150	0.07	0.07	0.00		0.47
65 years and over	156	3.37	3.07	0.30 0.54	9.8 37.6	0.474 0.433
18–64 years	518	1.96	1.43	0.54	37.6	0.43
/hite or other: 65 years and over	167	3.01	2.94	0.07	2,4	0.408
18-64 years	164	2.05	1.55	0.50	32.3	0.400
-	104	2.00	1.00	0.00	02.0	01-101
Employment status and age						
mployed: 65 years and over	71	2.66	2.69	-0.03	-1.0	0.42
18-64 years	595	1.91	1.38	0.53	38.2	0.41
nemployed:						
65 years and over	251	3.35	3.10	0.24	7.8	0.44
18-64 years	86	2.50	1.98	0.52	26.5	0.47
Income				-		
0–\$19,999	148	3.07	2.46	0.61	25.0	0.434
20,000-\$29,999	119	2.61	2.02	0.60	29.6	0.423
30,000\$49,999	263	2.34	1.96	0.38	19.6	0.45
50,000 and over	335	2.15	1.73	0.42	24.1	0.43
Education						
ess than high school	167	2.75	2.31	0.44	19.2	0.44
ligh school graduate	307	2.21	1.77	0.45	25.2	0.436
Some college	204	2.44	1.76	0.68	38.3	0.434
College graduate	321	2.25	2.02	0.23	11.4	0.434
Whether 2-week doctor visit and age						
-week doctor visit:						
65 years and over	170	2.87	3.07	-0.20	-6.5	0.45
18-64 years	280	2.18	1.71	0.47	27.6	0.44
lo doctor visit:	100				~~ ~	0.40
65 years and over	153 402	3.54 1.85	2.93 1.28	0.61 0.57	20.8 44.3	0.43 ⁻ 0.409
Whether 13-month hospital stay and age patient stay in past 13 months:						
65 years and over.	108	3.37	3.52	-0.15	-4,2	-0.39
1864 years	138	2.35	1.83	0.52	28.6	0.45
o inpatient stay in past 13 months:						
65 years and over	215	3.09	2.74	0.35	12.7	0.46
18–64 years	544	1.89	1.36	0.53	38.9	0.41
Whether health assessment past 2 years and age						
ealth assessment past 2 years:						
65 years and over	134	3.00	3.01	-0.01	-0.5	0.46
Under 1 year-64 years	246	1.97	1.55	0.42	27.3	0.43
o health assessment past 2 years:	/ * -					÷
65 years and over	189	3.32	2.99	0.32	10.8	0.42
Under 1 year–64 years	436	1.99	1.40	0.59	41.8	0.420

 Table 13. Number of conditions, number and percent of overreports, and Kappa values from Health Interview Evaluation Survey

 responses and medical records for list-sample persons, by selected characteristics—Con.

		Conditions	per person	Interview		
Person characteristic	Number of persons	By HIES ¹ interview	By medical record	Net overreport	Percent overreport	Kappa value
Self-perceived health status						
Excellent	203	1.41	1.31	0.10	7.5	0.395
Very good	293	2.13	1.65	0.48	29.1	0.432
Good	296	2.62	2.11	0.51	24.4	0.445
Fair or poor	201	3.31	2.80	0.51	18.1	0.446
Number of chronic conditions						
None	139	0.00	0.81	-0.81	100.0	0.000
One	235	1.00	1.34	-0.34	-25.6	0.412
Two	248	2.00	1.74	0.26	14.8	0.483
Three	160	3.00	2.26	0.74	33.0	0.447
Four or more	223	5.25	3.32	1.93	58.0	0.405

Table 14. Number of conditions, number and percent of overreports, and Kappa values from Health Interview Evaluation Survey	
responses and medical records for household members, by selected characteristics	

				·····			
		Conditions	s per person	Interview	overreport		
Person characteristic	Number of persons	By HIES interview	By medical record	Net overreport	Percent overreport	Kappa value	
Age							
0–17 years	285	0.40	0.59	0.19	-32.3	0.345	
18–44 years	173	0.77	0.53	0.25	47.3	0.348	
45-64 years	138	1.56	1.52	0.04	2.4	0.401	
6574 years	71	2.21	1.82	0.39	21.7	0.483	
75 years and over	36	2.56	2.69	-0.14	-5.2	0.344	
Sex and age							
Female:							
65 years and over	63	2.13	2.05	0.08	3.9	0.398	
Under 1 year–64 years	330	0.86	0.86	0.00	0.0	0.378	
65 years and over	44	2.61	2.20	0.41	18.6	0.468	
Under 1 year–64 years.	266	0.67	0.70	-0.02	-3.2	0.373	
Race and age							
Black:	07	0.00	4 70	0.50	00.0	0.505	
65 years and over	37 452	2.38 0.81	1.78 0.81	0.59 0.00	33.3 0.3	0.505 0.355	
Under 1 year–64 years	402	0.01	0.01	-0.00	-0.0	0.000	
65 years and over	70	2.30	2.29	0.01	0.6	0.393	
Under 1 year-64 years	144	0.68	0.72	-0.03	-4.9	0.452	
Employment status and age							
Employed:				- /-			
65 years and over	23	2.09	1.96	0.13	6.7	0.380	
18–64 years	244	1.00	0.89	0.11	12.4	0.385	
Unemployed:	••		0.45		44.0	0.444	
65 years and over	84 66	2.39 1.56	2.15 1.24	0.24 0.32	11.0 25.6	0.441 0.388	
18–64 years	00	1.50	1.24	0.52	20.0	0.000	
Income							
\$0–\$19,999	32	1.72	1.25	0.47	37.5	0.296	
\$20,000-\$29,999	51	1.16	1.06	0.10	9.3	0.380	
\$30,000-\$49,999	198	0.97	1.05	-0.08	-7.2	0.431 0.384	
\$50,000 and over	373	0.95	0.91	0.04	4.4	0.004	
Education ¹							
Less than high school	69	2.04	1.49	0.55	36.9	0.401	
High school graduate	138	1.17	0.97	0.20	20.1	0.366	
Some college	81	1.26	1.12	0.14	12.1	0.451	
College graduate	128	1.49	1.53	0.04	-2.6	0.420	
Whether 2-week doctor visit and age							
2-week doctor visit:			0.04		44.0	0.400	
65 years and over	26	2.50	2.81	-0.31	-11.0	0.433	
Under 1 year–64 years	77	1.25	1.34	-0.09	-6.8	0.380	
No doctor visit: 65 year and over	81	2.27	1.89	0.38	20.3	0.428	
Under 1 year-64 years	519	0.71	0.70	0.00	0.3	-0.377	
Whether 13-month hospital stay and age							
Inpatient stay in past 13 months:							
65 years and over.	11	3.55	3.45	0.09	2.6	0.351	
Under 1 year–64 years	42	1.50	1.57	-0.07	-4.5	0.364	
No inpatient stay in past 13 months:					_		
65 years and over	96 554	2.19 0.72	1.96 0.73	0.23 0.01	11.7 0.7	0.441 0.376	
		v., <u>-</u>	0.10	0.01		5.675	
Whether health assessment past 2 years and age							
Health assessment past 2 years: 65 years and over	52	2.38	2.54	-0.15	-6.1	0.506	
Under 1 year–64 years.	117	0.91	0.92	0.01	-0.9	0.377	
No health assessment past 2 years:		/					
65 years and over.	55	2.27	1.71	0.56	33.0	0.341	
Under 1 year–64 years.	479	0.74	0.54	0.20	36.5	0.445	

¹Persons 18 years of age and over only.

 Table 14. Number of conditions, number and percent of overreports, and Kappa values from Health Interview Evaluation Survey responses and medical records for household members, by selected characteristics – Con.

		Conditions	s per person	Interview		
Person characteristic	Number of persons	By HIES interview	By medical record	Net overreport	Percent overreport	Kappa value
Self-perceived health status						
Excellent	274	0.53	0.55	0.02	-4.0	0.330
Very good	210 159	0.86 1.37	0.92 1.26	-0.07 0.11	-7.2 8.5	0.390
Good	56	2.96	2.57	0.39	8.5 15.3	0.393 0.449
Number of chronic conditions						
None	337	0.00	0.45	-0.45	100.0	0.000
One	181	1.00	1.04	0.04	-3.7	0.460
Two	104	2.00	1.38	0.63	45.5	0.406
Three	39	3.00	2.64	0.36	13.6	0.467
Four or more	42	4.88	2.62	2.26	86.4	0.379
Response status						
Adult present for interview	245	1.69	1.42	0.27	18.9	0.411
Adult not present for interview	183	1.03	0.98	0.05	5.0	0.404

Appendixes

Contents

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Appendix I Health Interview Evaluation Survey Questionnaire

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GO TO	HOUSEHOLD	COMPOSITI	ON PAGE				Ma	nth	Date	B	eginning time	Ending time	Com- pleted Mark (X)
1. What is number	the telephone	Area code/nu	umber		12. Interview obse	rved?	1			P T	a.m. p.m.	a.m. p.m.	
None		[]]]			1 □ Yes 2 [Эмо	2			P	a.m. p.m.	a.m. p.m.	
3a. Intervie	wer's name	·	Code	b. Languag	e of interview					Р	a.m.	a.m.	
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	ns who owns or rents this home. Enter n					Last name	
b. What are the nam	es of all other persons living or staying he	re? Enter names in columns.		," enter			Sex 101 201
c. I have listed (read	<u>d names</u>). Have I missed :		names in Yes	columns No	2.	Relationship REFERENCE PERSON	
	mail children?				3.	Date of birth Month Date	Year
🔰 — anyone who US	earders, or persons you employ who live h BUALLY lives here but is now away from h	ome				HOSP. WORK RD	2-WK. D
	a hospital?				C1		
d. Do all of the pers	ons you have named usually live here?	🗋 Yes (2)	·	·		Number 2 Wb 2 No	Number
Probe if necessary		No (APPLY HOUSEHC RULES. Delete nonhol	usehold i	members	. C2		$\overline{}$
Does — — usually	y live somewhere else?	by an ''X'' from 1—C	2 and en	ter reason.	, [LA TRA IDV TINJ. TO	LTRI HSTCON
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	tionship to <u>(reference person</u>)?					LA TIRA TIDV TINJ.TO	LTRI HSTCON
3. What is date	of birth? (Enter date and age and mark se	x.)					<u> </u>
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		<u></u>	····		A3	All persons 65 and over	. (E)
A3 Refer to ages	of all related HH mambers.					Other (4)	10/
4a. Are any of the pe duty with the arr	rsons in this family now on full-time ac	tive Yes		[] N. (7)	2.5	C. S.	
b. Who is this?			_ ~	□ No (5)	[- 22
	Delete column number(s) by an	"X" from 1-C2.					
c. Anyone else?		□ Yes (Reask 45 and c) 	□ No			·
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This survey is be	ing conducted to collect information or disability, visits to doctors, illness in th	the nation's health. I will	ask abo	out			· ·
nospitalizacions,	HOSPITAL PRO		related	items.	_		
6a. Since (13-month	hospital date) a year ago, was —— a pati		HT?		68.	1 □ Yes 2 □ No (Mark "HOSP." box	. THEN NPI
b. How many differ	ent times did —— stay in any hospital o	warnight or longer since					
(13-month hospita	al date) a year ago?				ь.	Number of times 7	Make entry in 'HOSP.'' box 'HEN NP)
		······					
Ask for each child 7a. Was — born in					78.	1 - Yes 2 - No (NP)	
Ask for mother an				· – – – – ·			
	d this hospitalization in the number you	i gave me for — — ?			Ь.	│	SP.'' box)
FOOTNOTES	<u></u>					I	
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		Page 2			<u> </u>		

·					Old age		Old age
	2	3			4	5	
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		Old age			
A. HOUSEHOLD COMPOSITION PAGE	1.	T First name Mid. init. Age			
a. 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 name in REFERENCE PERSON column.		Last name Sex			
b. What are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter		1 🗆 M 2 🗆 F			
c. I have listed (read names). Have I missed:	1 i	Relationship REFERENCE PERSON			
- any babies or small children?	3.	Date of birth Month Date lYear			
- anyone who USUALLY lives here but is now away from home		HOSP. WORK RD 2-WK. DV			
traveling or in a hospital?	C1	00 None 1 Wa 1 Yes 00 Non			
d. Do all of the persons you have named usually live here? 🛛 Yes (2)		Number 2 Wb 2 No Number			
Probe if necessary:	C2				
by an "X" from 1-C2 and enter reason.) Does usually live somewhere else?					
Ask for all persons beginning with column 2:	1				
2. What is — — relationship to <u>(reference person</u>)?	ļ				
 What is — date of birth? (Enter date and age and mark sex.) 	1				
REFERENCE PERIODS	ļ	TA TRA DV TINJ. TCELTRI HISTCOM			
2-WEEK PERIOD					
		LA IRA IDV TINJ. ICLURI HSICON			
12-MONTH DATE					
13-MONTH HOSPITAL DATE		\\			
A2 ASK CONDITION LISTS 1,2, and 3.		LA TRA IDV TINJ. TCLLTRI HSTCON			
	Ļ				
A3 Refer to ages of all related HH members.	A3	All persons 65 and over (5)			
B. LIMITATION OF ACTIVITIES PAGE	 				
	B1	1 18-69/11			
B1 Refer to age.	<u> </u>	2 Other (NP)			
 What was — — doing MOST OF THE PAST 12 MONTHS; working at a job or business, keeping house, going to school, or something else? 	1.	1 Working (2) 2 Keeping house (3)			
Priority if 2 or more activities reported: (1) Spent the most time doing; (2) Considers the most important.		3 Going to school (5) 4 Something else (5)			
2a. Does any impairment or health problem NOW keep — — from working at a job or business?	2=.	1 🗌 Yes (7) 🗍 No			
b. Is —— limited in the kind OR amount of work —— can do because of any impairment or health problem?	ь.	2 🗋 Yes (7) 3 🗋 No (6)			
3a. Does any impairment or health problem NOW keep —— from doing any housework at all?	3a.	4 🗆 Yes (4) 🗍 No			
b. Is — — limited in the kind OR amount of housework — — can do because of any impairment or health problem?	ь.	5 (1 Yes (4) 6 (1 No (5)			
4a. What (other) condition causes this? Ask if mury or operation: When did [the (injury) occur?/—— have the operation?]	48.	(Enter condition in C2, THEN 4b)			
Ask if operation over 3 months ago. For what condition did — — have the operation?	.	1 Old age (Mark "Old age" box,			
If pregnancy delivery or 0 – 3 months injury or operation – Reask question 3 where limitation reported, saying: Except for – – <u>(condition</u>),? OB reask dive		t Old age (Mark "Old age" box, THEN 4c)			
OR reask 4b/c. b. Besides (<u>condition</u>] is there any other condition that causes this limitation?	ь.	b. Yes (Reask 4a and b)			
		□ No (4d)			
c. Is this limitation caused by any (other) specific condition?	c.	Yes (Reask 4a and b)			
Mark box if only one condition.	d.	Only 1 condition			
d. Which of these conditions would you say is the MAIN cause of this limitation?		Main cause			
5a. Does any impairment or health problem keep —— from working at a job or business?	5a.	1 🛛 Yes (7) 🗌 No			
b. Is limited in the kind OR amount of work could do because of any impairment or health problem?	<u>ь.</u>				
B2 Refer to questions 3a and 3b	B2	1 🗋 ''Yes'' in 3a or 3b (NP) 2 🗍 Other (6)			
6a. Is — — limited in ANY WAY in any activities because of an impairment or health problem?	6a.				
b. In what way is — — limited? Record limitation, not condition.	Б.	+			
		Limitation			
7a. What (other) condition causes this? Ask if injury or operation. When did <u>[the [injury</u>] occur?/ —— have the operation?]	78.				
Ask if operation over 3 months ago For what condition did — — have the operation? If pregnancy delivery or $0 - 3$ months injury or operation –		1 Old age (Mark "Old age" box, THEN 7c)			
Reask question 2 5, or 6 where limitation reported, saying. Except for — — <u>(condition</u>),? OR reask 7b c.					
b. Besides (<u>condition</u>) is there any other condition that causes this limitation?	Ъ.	Yes (Reask 7a and b)			
c. Is this limitation caused by any (other) specific condition?	с.				
	1 .	Ves (Reask 7a and b)			
Mark box if only one condition.	d.	Only 1 condition			
d. Which of these conditions would you say is the MAIN cause of this limitation?	L	Main cause			

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		Пою	age .			Old age				Ok	age		Qs biO
1.	First name	2 Mid. init.	Age	First name	3	d. init. Age	-	First name	4	Mid. init.	Age	First name	5 Mid. init. Age
	Last name		Sex	Last name		Sex	4	Last name			· _	Last name	
_			1 🗆 M 2 🗆 F			Sex 1 🗌 2 🗌 1	И				Sex 1 ☐ M 2 ☐ F		Sex 1
2.	Relationship Date of birth			Relationship Date of birth			2.	Relationship				Relationship	
	Month Date	Year		Month [Date	Year	3.	Date of birth Month	Date	Year		Date of birth Month Date	Year
	HOSP. WORK		VK. DV		ORK RD			HOSP.	WORK		WK. DV	HOSP. WOR	K RD 2-WK.
C1	00 None 1 Wa		I None				101	00 🗌 None	1 Wa 1 2 Wb 2				a 1 Yes 00 N b 2 No
	Nulliber		Imber	Number		Numbe	·	Number	20110 2		lumber	Number 2019	B 2LI NO Numi
C2	775		\sum				C2				$\overline{\ }$		
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ł	תון־עמן־ זאג די זא.	U.T ICLITAIHS	TCOND.		<u>ס</u> ן ד. נארך ס	ETRIHS ICON	2	EA	. נאק עס	CLUTRIHS	- ICOND.	TA T TRA T 10V1	INJ. TOLITRIHS TOO
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						1 1 1 1	, ,		IDV NJ. 	CLLTRIHS	COND.L		
6 4							1		•			Ī	
B 1	1 18-69 (1) 2 0ther (NP)		B1	1 🗆 18- 2 🗆 Othe			B1	1 🗌 18-0			B1		
1.	1 Working (2)		1.	1 🗆 Wor			1.	2 🗌 Other 1 🗍 Worki			1.	2 Other (N	
	2 C Keeping hou 3 Going to sch			2 🗆 Keej	ping house (ng to school			2 🗌 Keepi	ing house (3 to school (1.	2 C Keeping	house (3)
	4 Something e	lse (5)		4 🗆 Som	ething else (thing else (3 Going to 4 Somethin	
2a.	1 🗌 Yes (7)		2.	1 🗆 Yes	(7)	□ No	28.	1 🛛 Yes (7) [2a.	1 🗌 Yes (7)	No No
<u>ь.</u>	2 Yes (7)	3 🗆 No (6)	Ь.	~		□ No (6)	ь.	2 🗌 Yes (7) 3[] No (6)	ь.	2 🗌 Yes (7)	3 🗌 No (6)
3a.	4 🗆 Yes (4)	□ No 	- 3.	4 🗆 Yes	(4) [□ No 	3a.	4 🗆 Yes (4	4) [] No	3a.	4 🗆 Yes (4)	□ No
b.	5 Yes (4)	6 🗆 No (5)	- b.	5 🗆 Yes	(4) 6[🗆 No (5)	b .	5 🗌 Yes (4	¢) 6[] No (5)	ь.	5 🛛 Yes (4)	6 🗌 No <i>(5)</i>
4a.	(Enter condition in	C2, THEN 4b)	42.	(Enter con	ndition in C2,	THEN 4b)	4a.	(Enter cond	lition in C2,	THEN 4b)	4.	(Enter conditio	n in C2, THEN 4b)
	1 Old age (Mari THEN 4c)	k ''Old age'' bo	×,		ige (Mark ''C N 4c)	lid age'' box,			e (Mark ''O	ld age" bo	x,	1 Old age (i	Mark ''Oid age'' box,
									4c) 			THEN 4c	
ь.	🗌 Yes (Reask 4)	and b)	Ь.		(Reask 4a an: 4d)	d b)	b.	□ Yes (R □ No (4c	leask 4a and	(Б)	b.	☐ Yes (Rea:	sk 4a and b)
c.	Ves (Reask 44	and b)	-	Ves (Reask 4a and	 d b)	 c.					□ No (4d)	
				<u>_</u>				No		·			
d.	Only 1 condition	on	d.	Onty	1 condition		d.	Only 1	condition		d.	Only 1 co	ndition
ja .	Main caus		5a.		Asin cause		_		ain cause				n cause
ь.		3 🗆 No		1 🛛 Yes (No No	5a. b.	1 🛛 Yes (7		No	5a.	1 - Yes (7)	<u>_</u> No
2	1 🗆 "Yes" in 3a or		B2		// 3L. ''in 3a or 3b		B2	2 Yes (7)			в. B2	2 Yes (7)	3 🗌 No
	2 🗆 Other (6)			2 🗌 Other	(6)			2 🗌 Other (2 Other (6)	a or au (NP)
а. b.	1 🗆 Yes	2 🗌 No (NP)	6a.	1 🛛 Yes	2	No (NP)	6a.	1 🛛 Yes	2	No (NP)	6a.	1 🛛 Yes	2 🗌 No (NP)
J.	Limitation	<u> </u>	b.		imitation		Ь.		mitation		b.		itation
	(Enter condition in C	2 THEN 751	7.				78.						
					lition in C2, 1 e (Mark ''Ok ' 7c)		/=.	(Enter condit			7a.		in C2, THEN 7b)
	THEN 7c)			THEN	7c)	-		1 Old age THEN 3	7c)			THEN 7c)	lark ''Old age'' box,
5	Yes (Reask 7a)		ь.				·						
	No (7d)	ena o)	.	□ Yes (Я	leask 7a and d)	b)	ь.	☐ Yes (Re ☐ No (7d)	ask 7a and	ь)	b.	☐ Yes (Reas	k 7a and b)
	Yes (Reask 7a	and b)	c.		leask 7a and	ы	c.		ask 7a and	— — — — b)	c.	Yes (Reas	 k 7a and b)
- -			·	<u>□</u> №			· -	<u>No</u>				<u>□</u> No	
•	Only 1 condition		d.	□Only 1	condition		d.	Only 1 c	ondition		d.	Only 1 con	dition
	Main cause Evaluation) (2-1-90)			M	ain cause			Mai	n cause			Main	C11180

			🗌 Old age
	A. HOUSEHOLD COMPOSITION PAGE		1 First name Mid. init. Age
1a.Wh one	at are the names of all persons living or staying here? Start with the name of the person or of the persons who owns or rents this home. Enter name in REFERENCE PERSON column.		
b. Wh	at are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter names in columns		1 🛛 N 2 🗌 F
c.lha	ve listed (<u>read names</u>). Have I missed: Yes No	í	Relationship REFERENCE PERSON
8	ny babies or small children?	3.	Date of birth Month Date I Year
— a	nyone who USUALLY lives here but is now away from home	-	HOSP. WORK RD 2-WK. DV
	raveling or in a hospital?	C1	00 None 1 Wa 1 Yes 00 Non
	all of the persons you have named usually live here? 🗌 Yes (2)		Number 2 Wb 2 No Number
	be if necessary:	C2	
	by an "X" from 1 – C2 and enter reason.) by usually live somewhere else?		
	for all persons beginning with column 2:		
2. Wh	at is — — relationship to (reference person)?		
3. Wh	at is — — date of birth? (Enter date and age and mark sex.)		
	REFERENCE PERIODS		דאד - דָאד יו דער דעון, דכונזאו אזיסיע ואססקאו גער די דער
	2-WEEK PERIOD		
A1			
	12-MONTH DATE		
	13-MONTH HOSPITAL DATE		
A2	ASK CONDITION LISTS 1,2, and 3.		
		Γ	
	B. LIMITATION OF ACTIVITIES PAGE, Continued	B3	
B 3	Refer to age.	ЪJ	0 Under 5 (10) 2 18-69 (NP) 1 5-17 (11) 3 70 and over (8)
8. W	hat was —— doing MOST OF THE PAST 12 MONTHS; working at a job or business, keeping use, going to school, or something else?	8.	1 Working 2 Keeping house
	iority if 2 or more activities reported: (1) Spent the most time doing; (2) Considers the most important.	1	3 Going to school 4 Something else
9a.B	cause of any impairment or health problem, does — — need the help of other persons with	9a	• 1 🗆 Yes (13) 🔲 No
b. B	— personal care needs, such as eating, bathing, dressing, or getting around this home? cause of any impairment or health problem, does — need the help of other persons in handling	- _Б	2 Yes (13) 3 No (12)
g	 routine needs, such as everyday household chores, doing necessary business, shopping, or titing around for other purposes? 		
	able to take part AT ALL in the usual kinds of play activities done by most children age?	10a	
0	limited in the kind OR amount of play activities can do because of any impairment health problem?	Ь	1 🗆 Yes (13) 2 🗖 No (12)
11a. D	ces any impairment or health problem NO;W keep — — from attending school?	11a	• 1 □Yes (13) □No
	pes —— attend a special school or special classes pecause of any impairment or health problem?	Т	• 2 □ Yes (13) □ No
	oes — — need to attend a special school or special classes because of any impairment or saith problem?	- ē	3 🛛 Yes (13) 🔹 No
_	limited in school attendance because of health?	- d	+
12a. 1s	limited in ANY WAY in any activities because of an impairment or health problem?	12a	1 🗆 Yes 2 🗆 No (NP)
ь. <u>і</u> п	what way is limited? Record limitation, not condition.	- _Б	
			Limitation
	hat (other) condition causes this?	13a	(Enter condition in C2, THEN 13b)
Α	sk if injury or operation: When did [the <u>(injury</u>) occur?/— have the operation?] sk if operation over 3 months ago: For what condition did — – have the operation? pregnancy/delivery or 0—3 months injury or operation — Reask question where limitation reported, saying: Except for — — (condition),?		1 □Old age (Mark "Old age" box, THEN 13c)
h B	OR reask 13b/c	- - Б	Yes (Reask 13a and b)
_		<u> </u>	No (13d)
c. la	this limitation caused by any (other) specific condition?		Yes (Reask 13a and b) No
	ark box if only one condition. hich of these conditions would you say is the MAIN cause of this limitation?	d	Only 1 condition
u. 11	men of these conditions would you say is the infine cause of the infine ton.		Main cause
FOOT	IOTES	4	

	Old age	Old age		Old age	Old age
<u>1</u> .	2 First name Mid. init. Age	3 First name Mid. init. Age	1 1.	First name Mid. init. Age	5 First name Mid. init. Acc
					~ge
	1 🗆 N 2 🗆 F	Last name Sex 1 🗌 N 2 🗌 F		Last name Sex	
2.		Relationship	2.	Relationship	Relationship
3.	Date of birth Month Date Year	Date of birth Month Date Year	3.	Date of birth Month Date Year	Date of birth Month Date Year
	HOSP. WORK RD 2-WK. DV			HOSP. WORK RD 2-WK D	
C1		00 None 1 Wa 1 Yes 00 Non 2 Wb 2 No	° C1		
		Number 2C WB 2C No Number		Number 2000 200 No Number	Number 2 Wb 2 No Number
C2		נאד - ודאד דסע דואז. וכנ נדאדאי וכסאני	C2		
[•	LA IRA IDV INJ. IČLITRIHŠ IČON	
1					
	דגאון אזאד און אראד און				
	רגא - דאא - וסע ווען וכנעדאואט דכסאס. יייייין וייייט ווען ויייט		·	LA TRAT TOV TINJ. TOL CTRITIS TOON	אנא - דאא וסען זאש דכנוזהואז דכסאם
			1		
	עם - זאד - וסערווען. הכונדהואז הכסאס.	דא - IRA דסע דעוד לנוחד און די דמד דאק - דא דער		LA - IRA TOV INJ. TOLETRIHS ICON	עמיד האת האשר הכנגאואז האין איש האון איש האון איש
			-		
ĺ	LA - TRA - IDV וואן. וכונדהואה דכסאם.	TA TRA TOV TINJ. TOLETRIHS ICOND			
Ļ			Ļ		
B3		0 Under 5 (10) 2 18–69 (NP)	B 3	0 Under 5 (10) 2 18-69 (NP)	0 Under 5 (10) 2 18-69 (NP)
	1 5 - 17 (11) 3 70 and over (8)	1 517 (11) 3 70 and over (8)		1 5-17 (11) 3 70 and over (8)	1 □ 5-17 (11) 3 □ 70 and over (8)
8.	1 🗆 Working 2 🗆 Keeping house	1 Working 2 Keeping house	8.	1 Working	1 🔲 Working
	3 Going to school 4 Something else	3 Going to school		2 L Keeping house 3 Going to school	2 🔲 Keeping house 3 🔲 Going to school
9a.		4 └── Something else	9a.	4	4 Something else
					1 🛛 Yes (13) 🗌 No
	2 🛛 Yes (13) 3 🗌 No (12)	2 🗍 Yes (13) 3 🗌 No (12)		2 🗌 Yes (13) 3 🗌 No (12)	2 🗌 Yes (13) 3 🗌 No (12)
10a.	□Yes 0 □ No (13)	Yes 0 No (13)	10a.	□ Yes 0 □ No (13)	☐ Yes 0 ☐ No (13)
Ē.	1 🛛 Yes (13) 2 🗋 No (12)	1 🗌 Yes (13) 2 🗌 No (12)	Ъ.	1 🗍 Yes (13) 2 🗍 No (12)	1 Yes (13) 2 No (12)
11a.	1 ☐ Yes (13) ☐ No	1 🗌 Yes (13) 🗌 No	11a.	1 🗌 Yes (13) 🗌 No	1 🗌 Yes (13) 🗌 No
⁻ Б.	2 🛛 Yes (13) 🔹 No	2 🛛 Yes (13) 🗌 No	ь.	2 Yes (13) No	2 Yes (13)
- ē.					2 U Yes (73) U No
- ā.	4 □ Yes (13) 5 □ No		d.	3 ∐ Yes (13) ∐ No	3 ∐ Yes (13) ∐ No
12a.		4 Yes (13) 5 No	12a.	4 🗌 Yes (13) 5 🗌 No	4 🗌 Yes (13) 5 🗌 No
- <u>-</u>	1 🗌 Yes 2 🗌 No <i>(NP)</i>	1 🗌 Yes 2 🗌 No (<i>NP</i>)	ь.	1 🛛 Yes 2 🗍 No (<i>NP</i>)	1 Yes 2 No (NP)
	Limitation		D .		
13a.	(Enter condition in C2, THEN 13b)	Limitation (Enter condition in C2, THEN 13b)	13a.	Limitation (Enter condition in C2, THEN 13b)	Limitation
		_			(Enter condition in C2, THEN 13b)
	1 Old age (Mark "Old age" box, THEN 13c)	1 Old age (Mark ''Old age'' box, THEN 13c)		1 Old age (Mark ''Old age'' box, THEN 13c)	1 Old age (Mark "Old age" box, THEN 13c)
- <u>.</u>	Yes (Reask 13a and b)	Yes (Reask 13a and b)			
	□ No (13d)	No (13d)		└ Yes (Reask 13a and b) □ No (13d)	☐ Yes (Reask 13a and b) ☐ No (13d)
с.	└── Yes (Reask 13a and b) └── No	☐ Yes (Reask 13a and b) ☐ No	c.	☐ Yes (Reask 13a and b) ☐ No	Yes (Reask 13a and b)
d.	Only 1 condition	Only 1 condition	d.	Only 1 condition	Only 1 condition
	Main cause	Main cause		Main naving	
юот	NOTES			Main cause	Main cause

A. HOUSEHOLD COMPOSITION PAGE 1 1. What at the mame of all particular with home. Enter name in REFERENCE PERSON column. Image: Mail. Inf. Age 1. What at the mame of all points over over this the home. Enter name in Column. Image: Mail. Inf. Age 1. Invol listed (gead name). How over over this the home. Enter names in Column. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 1. Invol listed (gead name). How one show over from home. Image: Mail. Inf. Age 2. Weak is a percent you have named usually live her? Image: Mail. Inf. Age 2. Weak is a metron beginning with column 2: Image: Mail					Old age
one of the persons who owns or rents this homs. Enter name in REFERENCE PERSOK column. It at name				P*1	1
b. What are the names of all other persons living or staying here? Error names in columns. Immes - columns a. Insert listed (read names): Have Initsed: Immes - columns a. wy bale so or small children? Immes - columns a. wy bale so or small children? Immes - columns a. wy bale so or small children? Immes - columns a. wy bale so or small children? Immes - columns a. wy bale so or small children? Immes - columns d. Do all of the persons you have named usually live here? Iws (2) Probe II necessary: Immes - columns Does usually live somewhere size? Ask for all persons beginning with column 2: 2. What is elationship to (reference person?)? Immes - column recolumn 3. What is elationship to (reference person?)? Immes - column recolumn 4.1 Immes - column Immes - column 1.2-WEEK PERIOD Immes - column Immes - column 1.3-MONTH HOSPITAL DATE Immes - column Immes - column 1.4 Tata - fav' mod - fact in fireform 1.4 Tata - fav' mod - fact in fireform 2WEEK PERIOD Immes - column 1.1 Immes - column Immes - column 1.			'	rirst name	Mid. Init. Age
c. I have listed (cond named). Have I missed:	ь Wh	at are the names of all other namena living or staving have? Enter names in columns		Last name	1 ⊡ M
any babies or small children? d. Do all of the persons you have named usually live here? Probe if necessary: Does usually live somewhere else? Ask for all parsons beginning with column 2: 2. Whet is date of birth? (Enter date and age and mark sex.) REFERENCE PERIODS 2. Week PERIOD 1. Ask conduction the operation? B. LIMITATION OF ACTIVITIES PAGE, Continued B4 Refer to age. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. 16. Beause of any impairment or health problem, does need the help of other persons handling or "The operation? 17. What ic base of any impairment or health problem, does need the help of other persons handling or "The operation? 16. Whick or dered or persons? 17. The operation? 17. What ic operation or the operation? 18. Limitation caused by any (there operation?) Ask if operation caused by any (there operation?) Ask if operation caused by any (there operation?) Ack if operation caused by any (there) specific condition? 18. It is limitation? 19. Whet is a condition would you say is the MAIN cause of this limitation? 4. Whick of the condition would you say is the MAIN cause of this limitation? 4. Whick of the operation. 4. Whet is one operation. 4. Whet is one operation. 6. Desties of any inpairment or heating problem, does need the limitation? 6. Desties of		names in columns	2.	Relationship	2 F
 any lodgers, boarders, or perform you employ who live here? any construction SUBALT View here have have more home any construction and the height of the persons you have named usually live here? any construction and the persons you have named usually live here? be if accessary: construction and accessary: construction a			3.	Date of birth	
training of n a hospital?	- a	ny lodgers, boarders, or persons you employ who live here?			
d. Do all of the persons you have named usually live here? IVes [2] Probe if necessary: IVes [2] Does usually live somewhere else? IVes [2] Ask for all persons beginning with column 2: IVes [2] What = - date of birth? (Enter date and age and mark sax.) IVes [2] IVes [2] IVes [2] What = - date of birth? (Enter date and age and mark sax.) IVes [2] IVes [2] IVes [2]	t	raveling or in a hospital?	0.1		
d. Do all of the persons you have named usually live here? \[\begin{tabular}{ \begin{tabular}{ll limes} &	- a	nyone else staying here?			
Probe if nacessary: BUES. Deter annousehold members by an "X" from 1–C2 and enter reason.) C2 Ask for all persons beginning with column 2: IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) C2 Ask for all persons beginning with column 2: IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) 3. What is class of birth? (Enter date and age and mark sex.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) A1 REFERENCE PERIODS IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) B2 REFERENCE PERIODS IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) IX = maximum 1000 members by an "X" from 1–C2 and enter reason.) B4 Refer to age. IX = maximum 1000 members by an addition of the second from the sec	d. Do			Number 1	Number
Does usually live somewhere else? Ask for all persons beginning with column 2: Ask for all persons beginning with column 2: 2. What is relationship to <i>inference parson</i> ?? 3. What is relationship to <i>inference parson</i> ?? 4.1 12-MONTH DATE 13-MONTH HOSPITAL DATE 12-MONTH DATE 13-MONTH HOSPITAL DATE 14- Tax ToV THU. [cttministicmin] 15- 95 (60) 12-MONTH OATE 14- Tax ToV THU. [cttministicmin] 15- 95 (60) 14- Tax ToV THU. [cttministicmin] 15- 95 (60) 16- Tax ToV THU. [cttministicmin] 16- 5-95 (60) 17- Tax ToV THU. [cttministicmin] 16- 5-95 (60) 17- Tax ToV THU. [cttministicmin] 18- 5-95 (60) 19- 5-95 (60) 10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	Pro	be if necessary: RULES. Delete nonhousehold members	C2		
2. What is relationship to (reference parson)? 3. What is date of birth? (Enter date and age and mark sex.) REFERENCE PERIODS 1 2-WEEK PERIOD 12-MONTH DATE 13-MONTH HOSPITAL DATE A1 12-MONTH DATE 13-MONTH HOSPITAL DATE A2 Ask CONDITION LISTS 1,2, and 3. B4 Refer to age. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. 14a. Because of any impairment or health problem, does need the help of other persons with personal care needs, such as excipted box. 15a. Because of any impairment or health problem, does need the help of other persons with in personal care needs, such as excipted box. 15b. Because of any impairment or health problem, does need the help of other persons with in personal care needs there were ask. b 2 Ves 3 □ No (NP) 3 No (NP) 3 No (NP) 3 No (NP) 3 No (NP) 4 Observation of multing input or person in handling person in handling - Totil needs, such as excipted box markes the operstion? Ask	Do				
3. What is date of birth? [Enter date and age and mark sex.] REFERENCE PERIODS 2.WEEK PERIOD 12.MONTH DATE 13.MONTH HOSPITAL DATE A1 13.MONTH HOSPITAL DATE 14. DATE 15. WINT HOSPITAL DATE B4 Refer to age. B5 Refer to age. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. 14a. Because of any impairment or health problem, does meed the help of other persons with personal care needs, such as easing, bathing, dressing, or getting around this forme? 14a. 1 □ Ves. (14) 15b. What (other) condition causes this? 15b. What (other) condition causes this? 15b. What (other) condition is propord. saving: two the operation?] Ask if operation 14 where limitation repords, saving: two the operation?] Ask if operation 14 where limitation repords, saving: two the operation?] Ask if operation 14 where limitation repords, saving: two the operation?] Ask if operation 14 where limitation repords, saving: two the operation?] Ask if operation 14 where limitation repords, saving: two the operation? 11 □ Condition if the (loging) occur?! have the operation?] Ask if operation 14 where li	Ask	for all persons beginning with column 2:]		
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A1 2-WEEK PERIOD 12-MONTH DATE 13-MONTH DATE 13-MONTH HOSPITAL DATE 14-1 13-MONTH HOSPITAL DATE 14-1 A2 Ask CONDITION LISTS 1,2, and 3. B. LIMITATION OF ACTIVITIES PAGE, Continued 1-1 B4 Refer to age. B5 Refer to age. B5 Refer to age. B5	3. Wh	at is — — date of birth? (Enter date and age and mark sex.)			┷┶┶┶┶
A1 2-WEEK PERIOD 12-MONTH DATE 13-MONTH HOSPITAL DATE 13-MONTH HOSPITAL DATE IA TRA DV THJ. PCTRI HSTORM A2 Ask CONDITION LISTS 1,2, and 3. B4 Refer to age. B5 Refer to age. B5 Refer to age. B5 Point Thread of the problem, does need the help of other persons with personal care needs, such as eating, bathing, dressing, or getting around this tome? 14 a. Because of any impairment or health problem, does need the help of other persons in handling getting around for other purpose? 15 a. Because of any impairment or health problem, does need the help of other persons in handling getting around for other purpose? 15 a. What (other) or Oot age: When did (the (injury) occur?/ have the operation?) Ask if injury or operation when di (the (injury) occur?/ have the operation?) Ask if operation tow or 3 months age: For what condition dage: Mark "Old age" box. THEN 15b) 10 014 age (Mark "Old age" box. THEN 15b) 10 014 age (Mark "Old age" box. THEN 15b) 10 014 age (Mark "Old age" box. The other operation? Ask if injury or operation? D- or anonth sing: Con what condition did have the operation? Ask if operation tow of 3 months age: For what condition did have the operation? Do the age (Mark "Old age" box. THEN 15b) 10 014 age (Mark "Old age" box. The age (Mark "Old a		REFERENCE PERIODS			/ แกระเราสาเราการ เพรา
12-MONTH DATE 13-MONTH HOSPITAL DATE A2 ASK CONDITION LISTS 1,2, and 3. B. LIMITATION OF ACTIVITIES PAGE, Continued B4 Refer to age. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B6 B7 B6 B7 B8 B8 B9		2-WEEK PERIOD			
12-MONTH DATE 13-MONTH HOSPITAL DATE A2 ASK CONDITION LISTS 1,2, and 3. B. LIMITATION OF ACTIVITIES PAGE, Continued B4 Refer to age. B5 Refer to age. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B6	A1				
A2 ASK CONDITION LISTS 1,2, and 3. IA THA DV TINJ Tellfill Helicity B. LIMITATION OF ACTIVITIES PAGE, Continued IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		12-MONTH DATE	.]		TINJ. I CLETRI HSTCON
A2 ASK CONDITION LISTS 1,2, and 3. IA THA DV TINJ Tellfill Helicity B. LIMITATION OF ACTIVITIES PAGE, Continued IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		13-MONTH HOSPITAL DATE		<u> </u>	<u></u>
B. LIMITATION OF ACTIVITIES PAGE, Continued B4 Refer to age. B5 Refer to age. B5 Refer to 'Old age'' and ''LA'' boxes. Mark first appropriate box. B6 Image: Description of the second secon			$\left\{ \right\}$		TINJ. TOLLTRI HISTOON
B4 Refer to age. B4 0 Under 5 (NP) 1 = 5-59 (B5) 3 = 70 and over (NP) B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5 "Old age" in and "LA" boxes. Mark first appropriate box. 14a. Because of any impairment or health problem, does — need the help of other persons with — personal care needs, such as exting, bathing, dressing, or getting around this home? 14a. 1 Yes (15) No 15a. What (other) condition causes this? As if injury or operation: When did the (injury) occur?/- — have the operation?] Ask if operation over 3 months ago: For what condition did — have the operation? 15a. If order 154/bc. Ichter institution reported, saying: Except for — (condition),? DR reask 15b/c. D. Besides (condition) is there any other condition that causes this limitation? C. is this limitation caused by any (other) specific condition? C. Mark box if only one condition. C. Mark box if only one condition. MAIN cause of this limitation?	AZ	ASK CONDITION LISTS 1,2, and 3.			
B4 Refer to age. B4 0 Under 5 (NP) 1 = 5-59 (B5) 3 = 70 and over (NP) B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5 "Old age" in and "LA" boxes. Mark first appropriate box. 14a. Because of any impairment or health problem, does — need the help of other persons with — personal care needs, such as exting, bathing, dressing, or getting around this home? 14a. 1 Yes (15) No 15a. What (other) condition causes this? As if injury or operation: When did the (injury) occur?/- — have the operation?] Ask if operation over 3 months ago: For what condition did — have the operation? 15a. If order 154/bc. Ichter institution reported, saying: Except for — (condition),? DR reask 15b/c. D. Besides (condition) is there any other condition that causes this limitation? C. is this limitation caused by any (other) specific condition? C. Mark box if only one condition. C. Mark box if only one condition. MAIN cause of this limitation?		D LIMITATION OF ACTIVITIES DAGE Continued			
B4 Refer to age. 1 5-53 (BS) 3 10		B. LIMITATION OF ACTIVITIES FAGE, Continued	R4		
B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. B5	B4	Refer to age.			i) 3 🗌 70 and
B5 Refer to "Old age" and "LA" boxes. Mark first appropriate box. □ □ ther (NP) 14a. Because of any impairment or health problem, does need the help of other persons with - personal care needs, such as eating, bathing, dressing, or getting around this home? 14a. 1 □ Yes (15) □ No 15a. What (other) condition causes this? Ask if operation over 3 months ago: For what condition did have the operation? 16 personal condition in C2. THEN 15b) 17 Old age (Mark "Old age" box, THEN 15b) 18 Desides (condition) is there any other condition that causes this limitation? 19 Old age (Mark "Old age" box, THEN 15b) 10 Old age (Mark "Old age" box, THEN 15b) 10 Old age (Mark "Old age" box, THEN 15b) 11 Old age (Mark "Old age" box, THEN 15c) 12 Ves (Resex 15s and b) 14 Old age (Mark "Old age" box, THEN 15c) 10 Old age (Mark "Old age" box, THEN 15c) 11 Old age (Mark "Old age" box, THEN 15c) 12 Ves (Resex 15s and b) 14 Old age (Mark "Old age" box, THEN 15c) 14 Old age (Mark "Old age" box, THEN 15c) 14 Old age (Mark "Old age" box, THEN 15c) 15 Old age (Mark "Old age" box, THEN 15c) 12 Old age (Mark "Old age" box, THEN 15c) 14 Old age (Resex 15s and b) 15c) 15c) 15c) 15c) 15c) 15c) 15c) 16 Old age (Resex 15s and b) 18 No 19 Old age (Resex 15s and b) 18 No 18 No 19 Old age (Resex 15s and b) 18 No 18 No 19 Old age (Resex 15s and b) 10 No 10 No				<u> </u>	
14a. Because of any impairment or health problem, does — need the help of other persons with — — personal care needs, such as eating, bathing, dressing, or getting around this home? 14a. 1 yes (15) No 14a. Because of any impairment or health problem, does — — need the help of other persons in handling — — routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes? 14a. 1 yes (15) No 15a. What tother) condition causes this? Ask if injury or operation: When did (the (injury) occur?/— have the operation?] Ask if operation over 3 months ago: For what condition did — have the operation? If pregnancy/delivery or 0 — 3 months injury or operation — Reask question 14 where limitation reported, saying: Except for — — (condition),? OR reask 15b/c. b. 10 dage (Mark "Old age" box, THEN 15c) b. Besides (condition) 14 where limitation reported, saying: Except for — — (condition),? OR reask 15b/c. b. 15a. Here any other condition that causes this limitation? b. Besides (condition) 14 where limitation reported, saying: Except for — — (condition),? OR reask 15b/c. b. 1 ves (Reask 15a and b) No (15d) c. Is this limitation caused by any (other) specific condition? c. 1 ves (Reask 15a and b) No (15d) No d. Which of these conditions would you say is the MAIN cause of this limitation? d. 1 only 1 condition <td>B5</td> <td>Refer to ''Old age'' and ''LA'' boxes. Mark first appropriate box.</td> <td>B5</td> <td></td> <td></td>	B 5	Refer to ''Old age'' and ''LA'' boxes. Mark first appropriate box.	B 5		
	20				
If under 18, skip to next person; otherwise ask: b. Because of any impairment or health problem, does — need the help of other persons in handling — routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes? b. 2 □ Yes 3 □ No (NP) 15a. What (other) condition causes this? Ask if injury or operation: When did [the (injury) occur?/— have the operation?] Ask if operation over 3 months ago: For what condition did — have the operation?] Ask if operation 14 where limitation reported, saying: Except for — (condition),? OR reask 15b/c. b. Besides (condition) is there any other condition that causes this limitation? Mark box if only one condition. d. Which of these conditions would you say is the MAIN cause of this limitation? Main cause b. □ Yes (Reask 15a and b) □ Only 1 condition Main cause			14a.	1 🗆 Yes (15)	□n₀
routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes? 15a. What [other] condition causes this? Ask if injury or operation: When did [the (injury) occur?/ have the operation?] 15a. (Enter condition in C2, THEN 15b) Ask if operation over 3 months ago: For what condition did have the operation? 15a. (Enter condition in C2, THEN 15b) Ask if operation over 3 months ago: For what condition did have the operation? 1 Old age (Mark "Old age" box, THEN 15c) Ask if operation 14 where limitation reported, saying: Except for (condition),? 0 0 Besides (condition) is there any other condition that causes this limitation? b. Uses (Reesk 15a and b) No (15d) Ves (Reesk 15a and b) No (15d) C. Is this limitation caused by any (other) specific condition? C. Ves (Reesk 15a and b) Mark box if only one condition. Main cause of this limitation? d. Main cause Main cause	Īf	under 18, skip to next person; otherwise ask:	¯ Ē.	f	
15a. What (other) condition causes this? Ask if injury or operation: When did [the (injury) occur?/ have the operation?] Ask if operation over 3 months ago: For what condition did have the operation? If pregnacy/delivery or 0 - 3 months injury or operation - Reask question 14 where limitation reported, saying: Except for (condition),? OR reask 15b/c. 15a. (Enter condition in C2, THEN 15b) b. Besides (condition) is there any other condition that causes this limitation? b. Uves (Reask 15a and b) DNo (15d) C. Is this limitation caused by any (other) specific condition? C. Mark box if only one condition. d. Which of these conditions would you say is the MAIN cause of this limitation? d. Ionly 1 condition	-	– routine needs, such as everyday household chores, doing necessary business, shopping, or		2 🗆 Yes	3 🗆 No (NP)
Ask if injury or operation: When did [the [injury] occur?/ have the operation?] Image: Ask if operation over 3 months ago: For what condition did have the operation? Image: Image: Ask if operation over 3 months injury or operation have the operation? Image: Image: Image: Ask if operation over 3 months injury or operation have the operation? Image: Image: Image: Ask if operation in C2, THEN 15b) If pregnacy/delivery or 0 - 3 months injury or operation Reask question 14 where limitation reported, saying: Except for (condition),? Image: Image: Image: Ask if Solution in C2, THEN 15b) Image:			15a	<u> </u>	
If pregnancy/delivery or 0-3 months injury or operation - Reask question 14 where limitation reported, saying: Except for (condition),? 1 I Old age (Mark "Old age" box, THEN 15c; OR reask 15b/c. D. Besides (condition) is there any other condition that causes this limitation? b. I I Old age (Mark "Old age" box, THEN 15c; b. Besides (condition) is there any other condition that causes this limitation? b. I I Old age (Mark "Old age" box, THEN 15c; c. Is this limitation caused by any (other) specific condition? I I Old age (Mark "Old age" box, THEN 15c; I I I Old age (Mark "Old age" box, THEN 15c; Mark box if only one condition. I I I Old age (Mark "Old age" box, THEN 15c; I I I I I I I I I I I I I I I I I I I				(Enter condition	
OR reask 15b/c. b. Besides (condition) is there any other condition that causes this limitation? b. [] Yes (Reask 15a and b) b. Besides (condition) is there any other condition that causes this limitation? c. Is this limitation caused by any (other) specific condition? c. [] Yes (Reask 15a and b) c. Is this limitation caused by any (other) specific condition? c. [] Yes (Reask 15a and b)] No Mark box if only one condition. d. [] Only 1 condition d. Which of these conditions would you say is the MAIN cause of this limitation? Main cause		pregnancy/delivery or 0–3 months injury or operation –		1 Uld age (N THEN 15c	fark ''Old age'' box, ?
c. Is this limitation caused by any (other) specific condition? □ No (15d) □ No Mark box if only one condition. □ No d. Which of these conditions would you say is the MAIN cause of this limitation? □ Only 1 condition		OR reask 15b/c.	 	+	
c. Is this limitation caused by any (other) specific condition? Mark box if only one condition. d. Which of these conditions would you say is the MAIN cause of this limitation? Main cause Main cause	b. Be	sides (<u>condition</u>) is there any other condition that causes this limitation?	Ь.		k 15a and b)
Mark box if only one condition. d. Which of these conditions would you say is the MAIN cause of this limitation? d. Main cause Main cause	c. is	this limitation caused by any (other) specific condition?	- ī.	+	
d. Which of these conditions would you say is the MAIN cause of this limitation?			ļ		
			d.	Only 1 cor	dition
			1		
	FOOTN	OTES	I	1Ma	in cause

	Did age	Old age	Old age
	2	3	4 5
1.	First name Mid. init. Age	First name Mid. ınit. Age	1. First name Mid. ınit. Age First name Mid. inut. Age
_	1 🗆 M 2 🗆 F	1 🗆 M 2 🗆 F	
2.	Relationship	Relationship	2. Relationship Relationship
3.	Date of birth Month Date Year	Date of birth Month Date Year	3. Date of birth Date Year Month Date Year
C1	HOSP. WORK RD 2-WK. DV 00 None 1 Wa 1 Yes 00 None Number 2 Wb 2 No Number	HOSP. WORK RD 2-WK. DV 00□ None 1□ Wa 1□ Yes 00□ None 1□ Wa 2□ Wb 2□ No Number	HOSP. WORK RD 2-WK. DV HOSP WORK RD 2-WK. D 00 None 1 Was 10 Yes 00 None 1 Was 10 Yes 00 None Number 2 Wb 2 No Number 1 Yes 00 None
C2	דע - דאם בעור און איז - דעור און איז - דער	נאן דא קאד קער געון עסך אר דאר דער דער דער דער דער דער דער דער דער דע	C2 נא - וָאָה דָסע וואן. קכונדאוא דְכַסאט נא - דָרָא - דָרָא ווּאַן דָכַנונדאוא דְכַסא
	ער - אדי	דא" - ואק דער דאק דער דא דער דער דער דער דער דע דאר דער דער דער דער דער דער דער דער דער דע	נה - די אד - די נאר - די אד - די
	דע - אע - אע - אטוי - אטר - ומרגעואז - דער. 	נה - האה דטי דעו כננדאדונ פסאס	נאר - דאר דעד זאז. קכננדווא וכסאט נא - דאג - זאן דער
	מאסק באוהדנוק - געורעם - אח	לאסטק צאקאדע כו באק - באק - באק - בא	CA- TRA- TOV TINJ. TCLETRTHS TCONDLA TRA TOVI INJ. TCLETRIHS TCON
B4	0 Under 5 (NP) 2 60 – 69 (14) 1 5 – 59 (85) 3 70 and over (NP)	0 □ Under 5 (NP) 2 □ 60~69 (14) 1 □ 5 - 59 (B5) 3 □ 70 and over (NP)	B4 0 □ Under 5 (NP) 2 □ 60 - 69 (14) 1 □ 5 - 59 (B5) 3 □ 70 and over (NP) 0 □ Under 5 (NP) 2 □ 60 - 69 (14) 1 □ 5 - 59 (B5) 3 □ 70 and over (NP)
B5	"Old age" box marked (14) Entry in "LA" box (14) Other (NP)	"Old ege" box marked (14) Entry in "LA" box (14) Other (NP)	B5 "'Old age" box marked (14) "'Old age" box marked (14) Entry in "LA" box (14) Entry in "LA" box (14) Other (NP) Other (NP)
14a.	1 🗆 Yes <i>(15)</i> 🗌 No	1 □ Yes (15) □ No 1	14a. 1 □ Yes (15) □ No 1 □ Yes (15) □ No
b.	2 🗌 Yes 3 🗋 No <i>(NP)</i>	2 🗆 Yes 3 🗖 No (NP)	b. 2 □ Yes 3 □ No (NP) 2 □ Yes 3 □ No (NP)
15a.	(Enter condition in C2, THEN 15b) 1	(Enter condition in C2, THEN 15b)	15a. (Enter condition in C2, THEN 15b) (Enter condition in C2, THEN 15b) 1 □ Old age (Mark "Old age" box, 1 □ Old age (Mark "Old age" box,
b.	Yes (Reask 15a and b)	THEN 15c) ☐ Yes (Reask 15a and b) ☐ No (15a)	THEN 15c) THEN 15c) b. ☐ Yes (Reask 15a and b) ☐ Yes (Reask 15a and b) ☐ No. (15c) ☐ No. (15c)
Ċ.	□ No (15d) □ Yes (Reask 15a and b) □ No	☐ No (15d) ☐ Yes (Reask 15a and b) ☐ No	C. ☐ Yes (Reask 15a and b) ☐ Yes (Reask 15a and b) ☐ Yes (Reask 15a and b) ☐ No
d.	Only 1 condition	Only 1 condition	d. Only 1 condition Only 1 condition
	Main cause	Main cause	Main cause Main cause

FOOTNOTES

FORM HIS-1 (Evaluation) (2-1-90)

										-	Old age	
4 - 1944	A. HOUSEHOLD COMPOSITION		- 6 41-				1.	First n	ame	1	d. init. Age	
	at are the names of all persons living or staying here? Start with of the persons who owns or rents this home. Enter name in REFE								ast name Sex			
	at are the names of all other persons living or staying here? Enter na	mes in col	umns.	names ir	, '' enter n columns		2.	Relatio	onship		2 P	
	ive listed (<u>read names</u>). Have I missed: Iny babies or small children?			Yes	No □		з.		FENCE P	ate	h.	
— a	ny lodgers, boarders, or persons you employ who live here?							Monti	ט _ו י ו		lYear	
	nyone who USUALLY lives here but is now away from home raveling or in a hospital?						~	HOS		RK RD		
a	nyone else staying here?	•••••	• • • •				C1	00[]1		Wa 1	es	
d. Do	all of the persons you have named usually live here?	• •						Num	ber 2L		Number	
Pro		APPLY HO S. Delete				P	C2				$\overline{}$	
	by ar	n ''X'' fror	n 1 C	2 and en	nter reaso	n.)		۲ <u>۳</u> –	ĨRĂ ŢĬ	5v" TINJ. T	CELTRI HSTCON	
	for all persons beginning with column 2:							┣───	<u> </u>	<u> </u>	<u> </u>	
	at is — — relationship to (reference person)?									5.7" 5053 7		
3. Wh	at is — — date of birth? (Enter date and age and mark sex.)						j .					
	REFERENCE PERIODS											
								۲ ۴ -	TRA TI	อี∨ี Tinj.ī เ เ	CLITRI HSICON	
			. 			<u> </u>	_11					
A1	12-MONTH DATE								CLITRI HISTCON			
								ļ				
	13-MONTH HOSPITAL DATE							\backslash				
A2	ASK CONDITION LISTS 1,2, and 3.							Ĩ.		סער דעם. 1 ו 1 ו	CLITRI HISTCON	
	D. RESTRICTED ACTIVITY PAGE PERSON 1	D2		er to 2b a	<i>and 3b.</i> s in 2b or	3h //	ຄາ					
На	nd calendar,	1			re days i			(5)				
	ne next questions refer to the 2 weeks outlined in red on that calendar, ginning Monday, (<u>date</u>), and ending this past Sunday (<u>dat</u> e).}									missed f		
					ass or inj			a mor	9 11811 1		e uay	
D1	Refer to age.		00□	None						No of days		
	□ Under 5 (4) □ 5 – 17 (3) □ 18 and over (1)	Refer to 2b, 3b, and 4b.										
bu	RING THOSE 2 WEEKS, did — — work at any time at a job or siness not counting work around the house? (Include unpaid rk in the family (farm/business).)	6a. (N	ot cou	unting t	he day(s	mis		rom wa rom sci bed),		
	1 ☐ Yes (<i>Mark ''Wa'' box, THEN 2</i>) 2 ☐ No					during those 2 weeks that —— cut Ily does because of illness or injury?						
b. Ev	en though —— did not work during those 2 weeks, did ——		_	Yes	•		•		o⊡No (i			
	ve a job or business?									rom wor		
0. D.	1 [] Yes (Mark "Wb" box, THEN 2) 2 [] No (4)				inting th			(8	and) in I			
za. Du or	ring those 2 weeks, did — — miss any time from a job business because of illness or injury?				od, how i of the day					d — — cut down for njury?		
	□Yes 00 □ No (4)			None					No of c	ut down da	iys	
b. Du	ring that 2-week period, how many days did —— miss more	·		None								
tha	n half of the day from — — job or business because of less or injury?	D 2	I _	er to 2—								
		D3			s in 2 – 6 re days i					RD, THEN	17)	
	No. of work-loss days	Re	fer to	2b, 3b,	4b, and 6	5b.		·	r miss work			
	00 None (4) (4)	7a. W	hat (o	ther) co	ndition	caus	ed –		miss s	chool	during thos	
	ring those 2 weeks, did —— miss any time from school because illness or injury?		-							t down	2 weeks?	
	□Yes 00□No (4)	(E	nter co	ondition	in C2, Tł	HEN J	(6)		_ •			
b. Du	ring that 2-week period, how many days did — — miss more	b. Di	d any	other c	ondition	cau	s e —		miss w miss s	chool	during that period?	
	in half of the day from school because of illness or injury?		ı. 1	Yes (Re	eask 7a a	nd hl				t down .	herron	
	No of school-loss days	FOOTN										
	00 🗆 None	10011	0123									
4a. Du	ing those 2 weeks, did —— stay in bed because of illness or injury?											
	□Yes ∞□No (6)											
	ring that 2-week period, how many days did —— stay in bed more n half of the day because of illnass or injury?	1										
	No. of had down	ĺ										
	00 None (6)	ļ										

		Old age				Old age				0	01d age					
	2	Mid. init. Age		3					4							
1.	First name	First name Mid. init. Age					First name		Mid. init	Age	First name		Mid. init. Age			
	Last name	Sex 1 🗌 M	Last name			Sex 1 🗌 M		Last name			Sex 1 🗌 M	Last name		Sex 1 🗌 M		
2.	Relationship	2□F	Relationship			2 🗆 F	2.	Relationship		2 🗌 F	Relationshi	lationship				
3.	Date of birth Month Date	Year	Date of birth Month	Date	Ye	ar	3.	Date of birth Month	Date	Ye	ar	Date of birt Month	h Date	Year		
		RD 2-WK. DV		WORK	RD	2-WK. DV		HOSP.	WORK		2-WK, DV	HOSP.	WORK	RD 2-WK. DV		
C1	00 None 1 Wa 1	Yes 00 None		1 🗆 Wa	1 Ves		C1	00 🗌 None	1□Wa	1 🗌 Yes		00 🗌 None	1 🗆 Wa 1 🗋	Yes 00 Non		
	Number 20Wb 2	No Number	Number	2□wь	2 🗌 N 0	Number		Number	2 🗆 Wb	2 🗆 No	Number	Number	2 🗆 Wb 2	No Number		
C2											$\overline{}$					
	נאון־עסן־ אאן - און.	CLUTRIHS COND.	TA TRA	נאון עסן	-1 CL LTF	าหรั เธอกิ	C2	CA RA-	זאה עסד.		מאסק פא		. נאו דעם י	CLITRIHS TON		
				<u>i. </u>	<u>_</u>	ĹĹ						╞╌└╌		<u>Li</u>		
(נמון־עסן־ און – אר.	רכונזקאא דכסאס.		נאון עסן		מאסק פאק.		CA	און ⊽סך.	Γ. Τ΄) ĈĹ (TR) T	מאססק זא	LTA - TRA	דעה דעמיי.	CELTRIHS TOND		
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	ראון־עסן־ אַזין דער. ו ו ו ו				I CLLTR	HS ICOND.								CULTRIHS COND		
	עאון־עסן־ אַאַד דאָד. ו	TCLTTRIHS TCOND.	TA RA	נאיך ייסך ו ו	. דין דג דד ו	โลสอรา ซิหา เ]	EA - 1 HA- I	אדן עסך. ו ו	ד, ד'ן דע בדאקד ו ו	מאססק פא י	LA TRA	דעאון עפוך. י	CLITRIHS COND		
	<u></u>		l	<u> </u>	_ L	<u> </u>			╧				11.,			
		ICLITRINS TOOND		נֿאון יסן		THE ICOND.				I. TI CL (TRI)	יישיים איי	LATIRA	 געז וֹעסי	CELTRI HS T COND		
Ļ							[
	D. RESTRICT	ED ACTIVIT	SON 2	D	/ _	<i>to 2b an</i> o days ir	<i>d 3b.</i> n 2b or 3l	b <i>(6)</i>								
	Hand calendar.					days in 2										
	{The next questions i beginning Monday, (alendar,		On how many of the (<u>number in 2b or 3</u> b) days missed from [work/school] did $$ stay in bed more than half of the day												
	Refer to age.			because o		s or inju	ry?									
D	1 (│ □ Under 5 <i>(4)</i>	□ 5-17 <i>(</i> 3	,							No. of day	/S					
1a.	DURING THOSE 2	ob or	Refer to 2b, 3b, and 4b. Ga. (Not counting the day(s) [missed from work] Ga. (Not counting the day(s) [missed from school]),													
	business not count work in the family	paid	6a.	(Not coun	ting the	day(s)		ed from) in bed	school),						
	1 🗆 Yes <i>(Mark '</i>								weeks that e of illness							
ь.	Even though			ΠY	es		-	₀₀□N	o (D3)							
	have a job or busin						L						d from wo			
<u> </u>		'Wb'' box, THE		No (4)			Б.	(Again, no	n count	ing me c	1ay(s)	(and)	d from sci in bed	100l),		
28.	During those 2 wee or business becaus	eks, did — — mi e of illness or i	ss any time njury?	from a	i job			During tha more than					did — — cu or injury?	t down for		
	□ Yes	00 🗋 No (4)						00 🗆 N		•			of cut-down d	lays		
	During that 2-week					ore			to 2-6.							
	than half of the day iliness or injury?	from — — job c	or businéss	becau	se of		D			n 2—6 (N	fark ''No	" in RD, 1	HEN NP)			
		No. of work-loss	days									rk ''Yes''	in RD, THE	N 7)		
ļ	00 🗆 None (4)	L	(4)					Refer to 2b	o, 3b, 4b	, and 6b.			s work	during those		
	During those 2 week	s, did —— miss	any time fr	om sch	ool bec	ause	7a.	What (oth	er) conc	lition ca	used	- to (or)	stay in bed cut down	2 weeks?		
	of illness or injury?							(Enter cond	dition in	C2, THEI	N 7b)	L (01)	cut uown .	4		
.	□ Yes	00 □ No (4)					_						s work	during that		
	During that 2-week than half of the day						b.	Did any ot	her con	dition ca	tusa — -	- to (or)	stay in bed	period?		
								1 □ Ye	es (Reas	k 7a and	ь)	2 🗆 N				
	00 🗆 None	No. of school-los:	s days			Ī	F001	NOTES								
		······································														
4a.	During those 2 weeks	, did — — stay in	bed becaus	e of illne	ss or in	jury?										
ł	🗆 Yes	00 🗆 No <i>(6)</i>														
	During that 2-week p				y in be	d more										
	than half of the day i															
		No. of bed days														
	00 🗆 None (6)	L	(D2)													

A. HOUSEHOLD COMPOSITION		1.	First name	Mid. init. Age					
1a. What are the names of all persons living or staying here? Start with one of the persons who owns or rents this home. Enter name in REF		Last name							
b. What are the names of all other persons living or staying here? Enter n	2.	Relationship	Sex 1 2						
c. I have listed (<u>read names</u>). Have I missed:	3.	DECENCIÓN DER	SON						
— any babies or small children?	 .	Date of birth Month Date	e ⁱ Year í						
 anyone who USUALLY lives here but is now away from home 		-	HOSP. WORK	(RD 2-WK. D					
traveling or in a hospital?	C1	00 None 1 W	a 1 Yes 00 No						
d. Do all of the persons you have named usually live here?		Number 2 W	b 2 No Numbe						
Probe if necessary:	C2								
by a by a by a by a by a by a by a by a		LAT TRA TIDV	TINJ. TOLLTRI HSTO						
Ask for all persons beginning with column 2:	1	<u>i</u>	<u> </u>						
 What is — relationship to (reference person)? 				רכנעדהו האסו. דכנעדה					
3. What is — — date of birth? (Enter date and age and mark sex.)	<u> </u>	1							
REFERENCE PERIODS		┥							
	······	1		TINJ. TOLITRI HSTOO					
2-WEEK PERIOD				<u> </u>					
A1		1		IINJ. I CLITRI HISTOO					
		1							
13-MONTH HOSPITAL DATE		ļ		×					
A2 ASK CONDITION LISTS 1,2, and 3.				TINJ. TCLITRI HSTCO					
D. RESTRICTED ACTIVITY PAGE PERSON 3	D2 Refer to 2b and 3b.	6)							
Hand calendar.	1 or more days in 2b		(5)	_					
{The next questions refer to the 2 weeks outlined in red on that calendar, beginning Monday, <u>(date</u>) and ending this past Sunday <u>(date</u>).}	5. On how many of the <u>(numbe</u> [work/school] did —— stay	r in 21	<u>b or 3b)</u> days mi	ssed from					
Refer to age.	because of illness or injury?		i mure man nai	it of the day					
D1	00 🗆 None	None							
Under 5 (4) 5-17 (3) 18 and over (1)	Refer to 2b, 3b, and 4b.								
 DURING THOSE 2 WEEKS, did — work at any time at a job or business not counting work around the house? (Include unpaid work in the family [farm/business].) 	6a. (Not counting the day(s)	[missed from work missed from school), (and) in bed							
1 ☐ Yes (Mark ''Wa'' box, THEN 2) 2 ☐ No	Was there any (OTHER) time down on the things —— usua								
b. Even though — — did not work during those 2 weeks, did — —	□Yes	•	00□No (D3)						
have a job or business?			missed from						
1	b. (Again, not counting the da	y(s)	missed from (and) in bec	m school), d					
2a. During those 2 weeks, did — — miss any time from a job or business because of illness or injury?	During that period, how many more than half of the day bec								
□Yes 00 □ No (4)		ause	No. of cut-	-					
b. During that 2-week period, how many days did miss more	00 🗆 None								
than half of the day from — — job or business because of illness or injury?	Refer to $2-6$. D3 \Box No days in $2-6$ (Mai		<i></i>	· · - ·					
	D3 ONO days in 2-6 (Mai								
00 □ None (4) (4)	Refer to 2b, 3b, 4b, and 6b.		r miss wori						
	7a. What (other) condition caus	ed	miss scho	ol during the					
3a. During those 2 weeks, did — — miss any time from school because of illness or injury?			(or) stay in (or) cut do						
□Yes 00 □ No (4)	(Enter condition in C2, THEN)	— —		·					
b. During that 2-week period, how many days did miss more	b. Did any other condition cau	sa	- to for a tour is	ol during that					
than half of the day from school because of illness or injury?			(or) stay ir (or) cut do						
No. of school-loss days	1 □Yes (Reask 7a and b) 2□No								
00 🗆 None	FOOTNOTES								
4a. During those 2 weeks, did stay in bed because of Hiness or injury?	4								
rat weaks and a weaks, and we stay in Ded because of kiness of injury?									
□Yes 00 □No (6)									
b. During that 2-week period, how many days did —— stay in bed more	1								
than half of the day because of illness or injury?									
No. of bed days	1								
00 None (6) (D2)]								
ORM HIS-1 (Evaluation) (2 1-90)				<u> </u>					

	Old age									00	l age	 -				o	ld age							
	2							3								4		_			5			
1.	First na	ame			Mid. Ini	t. Age	First name Mid. init. Age						1.	First	name		Mid. init	Age	First n	ame	Mid. init. Age			
1	Last na	me				Sex 1 🗌 M	Last n	ame				Sex 1 🗌 M]	Last	name			Sex 1 🗌 M	Last na	ame			Se 1[М
2.	Relation	nship				2 🗍 F	Relatio	onship	2 🗆 F			2 [_] F	2.	Relationsh				2 🗆 F	Relationship				2	F
3.	Date of Month	Date of birth Nonth Date Year			Date o	fbirth	Date		Year		3.	Date Mon	ate of birth		Ye		Date of Month	f birth	Date	 \	Year			
			1				Month		<u> </u>				<u> </u>			Date		2-WK, DV			l 			K. DV
C1				+		-WK. DV D None					100	NK. DV	C1		None			00 🗌 None			WORK			None
	Numb			MIL 0 1 1 1		Number	Num			2 [] No		umber		-NI	umber	20Wb		Number	Numl		⊡wь :		Nu	mber
				~				·····		<u> </u>						~								
C2	. <u>.</u>	ĨRĂ -	`ı6īv⊤iı	ÑJ.	โตโลส์	IS TOOND.	TA -	- BA	ה עסה	NJ רו מנו	วิณีษร		C2		BA	วั∩⊽ ภีกวั	Î Î CL ÎTRÎÎ	AS TOOND		Ē RĀ —	נאו געם		∛ิ⊮ีS⊺ั	COND
		i 											1		1						1			
						\backslash						$\overline{\ }$												\mathbf{i}
	18 -	<u>Γ</u> π⊼ − !	ין־עסן י	NJ.	CLITRI	רסאס" ואיז ד ו	TA -	ĨŘA ↓	רך עדם ד 	ידע, בעא ן ן	TRIHS				- 1 RA-	אה עסך י	ו דרכע נדרק ו		LA	RA I	נאו דעם		ត្ ព នក្	COND
		<u> </u>	المنهما		<u> </u>	-						$\overline{\ }$	1					1		<u> </u>			-1. <u></u> 1,	$\overline{\ }$
	18	TRA -	וֹבַּעַםוֹ	NJ.	(CL'T'R)	IS TOOND	τα	TRA-	ון עסך	אסין פרנ	ĨĸĨĦŠ	<u>arosi</u> 1				אוֹן ⊽סד	I. TI CL LTRII	anosi zr	LA	ra -	נאז דעס		η HS Τ	COND
		<u> </u>					┣─		<u> </u>			4	{				_ <u>_</u> i					_ <u></u>	<u>i – i</u>	
	- مد – ·	īrā -	ור־עסו	ю	TCLTTRI	IS TOOND.	TA	(BA	ור ייסד	זין דו דו.	™ิ _ค ัНS	נמסטן ז				נאדן ⊽םך	(, ''') CL (TRjî	HE TOOND		RĀ	נאון⊽ס	ה הכווו	ฤหัธ⊺	COND
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	LA	TRA -		ŇJ.	CLITRI	IS ICOND.	τ <u>κ</u> –	IRA I		UD. TICLI !	TRIHS เ	COND.		EA-			T CL CTRI	IS COND			נאז וֹעס' י		ŧ́н́́́́́я́́́́л́́́́я́́́́л́́́́л́́́́́́л́́́́́́́	COND
-		DEG	TPL	<u>ст</u> і					DE	PSON	 	ī	D		Refer	to 2b an	d 3b.			<u> </u>				
	D. RESTRICTED ACTIVITY PAGE PERSON 4											υ.	2			n 2b or 3 davs in 2		(5)						
	Hand calendar. {The next questions refer to the 2 weeks outlined in red on that calendar,										ndar,	1 or more days in 2b or 3b (5) 5. On how many of the (number in 2b or 3b) days missed from										i		
	beginn	ling N	londa	Y, <u>(</u> 0	<u>(ate</u>) an	d ending	this p	ast Si	inday_	(date).}					vork/school] did — — stay in bed more than half of the day acause of illness or injury?									i
D		efer t	o age.											oo□ None No. of days Refer to 2b, 3b, and 4b.										
		Ur	der 5	(4)		5—17 (3)		18 an	d over	(1)													
1a.	DURI	NGT	HOS	E 2 1	WEEK	S, did - rk arou	- WC	ork at	any t	ime at a	a job	or	6a.	(Na	t coun	ting the	dav(s)		sed fro),		
						usiness		1104	ao: (n	ICIUMO	unpe					-	•	(and	l) in be	ed]		4	
	1	□Ye	s (Ma	rk "	'Wa'' E	ox, THE	N 2)	2 🗆	No					dov	s there vn on ti	he thing	'HER) tin s — — us	ually do	es bec	e 2 w ause	of illne	ss or in	jury?	•
ь.	Even t					work du	ring t	hose	2 wee	oks, did	I <u>—</u> —	•	☐ Yes 00 ☐ No (<i>D3</i>)											
		_				iox, THE	AI 21	•□	No (4			1	ь.	{Aa	ain. no	ot count	ing the	dav(s)			from v]),
						1 m							[(and) in bed [During that period, how many (OTHER) days did — _ cut down fo											
20.		.				ness or	· · · · · · · · · · · · · · · · · · ·		8 1100	1 4 100				Dur moi	ing tha re than	half of t	, how m the day t	any (OT) ecause	HER) d of illne	lays d B\$\$ Or	id —— injury?	cut do	wn fo)r
	I	ΠYe	S		<u>∽o</u> []	No (4)							No. of cut-down days											
						i, how n						re	Refer to 2–6.											
	than h illness				trom	job	or bus	sines	s beça	ause of			D3 D3 (Mark ''No'' in RD, THEN NP) D or more days in 2-6 (Mark ''No'' in RD, THEN NP)											
					No. o	f work-los	s days	1											ark "Y	'es'' in	RD, TI	-IEN 7)		
ļ	00	🗆 No	ne (4)				(4)									o, and 6b		1	miss miss	work school]	rina t	hose
					s, did	mis	s any 1	time f	rom s	chool b	ecau	158	7a.	Wh	at (oth	er) con	dition ca	used	- 10	(or) st	tay in be	ad 2 v	vaeks	
	of illne	88 01	injur	y?										(En	ter con	dition in	C2, THE	N 7b)	-					
ļ	l	□Ye	s		00 🗆	No (4)								~ •					1	miss	work school]	ring t	
Ь.	During	y that	2-w	eek dav	period	l, how n ichool b	nany c	lays (did —	— miss	mor	' 0	b.	Did	any of	ther cor	dition c	ause	— to	(or) st	tay in b ut dowi	ed per	riod?	
		un o		,											۱DY	es (Reas	sk 7a and	(Б)						
Ì	-	_			No o	school-lo	ss days						FOO	TNO	TES									
	ool	□ No	ne		L																			
4a.	During	those	2 we	eks,	, did —	— stay ir	bed b	ecau	e of il	iness or	inju	ry?												
		∐Ye				No (6)																		
						how ma e of illne				stay in t	n bed	nore												
	۰ - ۲		ne <i>(6</i> ,		No. of	bed days		(D2)	,															
L					·			102)							_									
FORM H	S t (Evalua	tion112	1-90)									Dec	e 13											

I I ł

,)Id age		
-	Wh	at are the names		HOLD COMPOSITION or staying here? Start wit		a of th				1.	First na	me		Aid. init	Age
a.				his home. Enter name in RE							Last na				
ь.	Wha	at are the names o	of all other persons li	iving or staying here? Enter r	ames in c	olumns.	If "Yee	," enter	1						Sex 10M
c.	l ha	ve listed (read na	mes). Have I missed	1:			names in Yes	n columns		2.	Relatio REFER	nship IENCE	PERSON		
		•								3.	Date of Month	fhìrth	Date	Yea	r
	— a	nyone who USUA	LLY lives here but is	employ who live here? now away from home						<u> </u>	HOSI	P. W		i 10 2	WK. DV
										C1	00 🗆 N	lone 1] Wa 1	Yes 0	
d.	Do	all of the persons	- s you have named u	sually live here? 🔲 Ye	s (2)		L	_	5	ļ	Numb	per 2	⊐wь ₂⊑	No -	Number
	Pro	be if necessary:	-		(APPLY H LES. Dele					C2	I				$\overline{}$
			e somewhere else?	by	an ''X'' fr					02	LA -	IRA -	DV TINJ	TCLITR	HISTCOND
\vdash			ginning with column							1		.i			<u> </u>
		•	ship to (reference p									TRA -	נאוז דעקן	. TCI TR	HISTCOND
3.	Wh	at is —— date of	birth? (Enter date an	·					1		<u> </u>		1		
-		<u> </u>				1									
		2-WEEK PERIO								1		IRA I	נאוז "עסו ו ו ו ו	. I CL LTR 1	IHSICOND
A	1	2-WEEK PENIO													$\overline{}$
^	•	12-MONTH DA	TE								LA -	ÎRA	נאון עם	CLLTR	HSTCOND.
		13-MONTH HO	SPITAL DATE									<u>i</u>	ii_	<u>.</u>	i-i-
-				<u></u>						{	LA -	ĪRA -	נאוד יעסו	Î CL LTR	I HISTCOND.
A	2	ASK CONDITIO	N LISTS 1,2, and 3.									1			<u> </u>
	1	D. RESTRICTI	ED ACTIVITY PA	AGE PERSON 5	_ D2		er to 2b a No days	and 3b. s in 2b o:	r 3b (6)					
		nd calendar.					·	re days i							
			eter to the 2 weeks of <u>late</u>) and ending this p	utlined in red on that calendar past Sunday <u>(date</u>).}									nissed half of t		
		Refer to age.		<u> </u>	-	_		ss or in	jury?						
D	1	Under 5 (4)	🗆 5 17 <i>(3)</i>	□ 18 and over (1)			None						No. of day	/5	
18.	DU	RING THOSE 2	WEEKS, did wa	ork at any time at a job or	1		2b, 3b,				sed fr				
	bus		ing work around the	house? (Include unpaid	6a. (Not cou	unting t	he day(:	2)		sed fr d) in b		hool),	
		1 □ Yes (Mark "	'Wa'' box, THEN 2)	2 🗆 N o		Vas the lown on	re any (C the thi	DTHER)	time usua	durin Ilv do	g thos	e 2 we	eks that of illness	or ink	:ut urv?
Ь.	Eve		d not work during t	hose 2 weeks, did	1	_	Yes					□No		•	
		ve a job or busine											from wo		
		1 🗆 Yes (Mark "	'Wb'' box, THEN 2)	2 🗆 No (4)	_ Б. (Again,	not cou	inting th	ne da	y(s)		issed nd) in	from sc bed	hool),
2a.			ks, did — — miss an e of illness or injury					od, how of the da					id — — cı iniwy?	ut dow	n for
		□ Yes	∞□No (4)		1	_			,		01 11.11		cut-down	days	
ь.	Du	ring that 2-week	period, how many	days did —— miss more	- 		None					L			
		in half of the day less or injury?	from — — job or bu	siness because of	D3		er to 2— No dav:	6. s in 2—6	6 (Ma	rk ''N	o'' in F	D. TH	IEN NP)		
Í			No. of work-loss days	1									RD, THE	N 7)	
		00 🗋 None (4)		(4)	1 '	Refer to	2b, 3b,	4b, and	6b.		Г	miss	work school	. [ng those
3a.	Du	ring those 2 week	s, did —— miss any	time from school because	- 7a. \	Vhat (o	ther) ca	ndition	caus	sed –		(or) s1	ay in bed ut down	2 wi	ng mose seks?
	of i	liness or injury?				Enter co	ondition	in C2, T	HEN	7b)				-	_
		Yes	00 □ No (4)								1	miss	work school] duri	ng that
b.				days did — — miss more se of illness or injury?	b. 1	Did any	other c	onditio	n cau	0#		(or) s1	ay in bed ut down	peri	
				_		1 🗆	Yes (Re	eask 7a a	and b,)	2	۵No			
		∞⊡None	No. of school-loss days		FOOT	NOTES									
4a.	Dur	ring those 2 weeks	, did stay in bed l	because of illness or injury?											
		□Yes	00 🗆 No <i>(6)</i>		1										
"	 Der			ys did — — stay in bed more	-										
"			because of illness or												
1			No. of bed days	1	1										
		oo 🗆 None <i>(6)</i>		(D2)											
FORME	41S-1 (I	Evaluation) (2-1-90)			Page 14										

			Old age
1	A. HOUSEHOLD COMPOSITION PAGE	11.	Tirst name Mid. init. Age
	at are the names of all persons living or staying here? Start with the name of the person or of the persons who owns or rents this home. <i>Enter name in</i> REFERENCE PERSON <i>column.</i>		
b. Wh	at are the names of all other persons living or staying here? Enter names in columns. If "Yes," enter		Last name Sex 1 🗌 N
c. I ha	ve listed (read names). Have I missed:	2.	
	ve listed <u>(read names</u>). Have i missed: Yes No	3.	Date of birth Month Date Year
a	ny lodgers, boarders, or persons you employ who live here?		
	nyone who USUALLY lives here but is now away from home raveling or in a hospital?		HOSP WORK RD 2-WK. DV
— a	nyone else staying here?		
d. Do	all of the persons you have named usually live here?	$\left - \right $	Number 20 WB 20 No Number
Pro	be if necessary:	C2	
Doe	by an "X" from 1 – C2 and enter reason.)		LA TRA ÎDV ÎINJ. ÎCLÎTRI HSICON
Ask	for all persons beginning with column 2:		
2. Wh	at is —— relationship to <u>(reference person</u>)?		LA TIRA TIDV TINJ ICLITRI HISTOON
3. Wh	at is —— date of birth? (Enter date and age and mark sex.)		
	REFERENCE PERIODS		\
A1	2-WEEK PERIOD		
~ 1	12-MONTH DATE		LA TRA IDV TINJ. TOLTRI HSTOON
	13-MONTH HOSPITAL DATE		
A2	ASK CONDITION LISTS 1,2, and 3.		
	E. 2-WEEK DOCTOR VISITS PROBE PAGE		
	ad to respondent(s): ese next questions are about health care received during the 2 weeks outlined in red on that calendar.		
		E1	Under 14 (16)
E1	Refer to age.		14 and over (1a)
of	ring those 2 weeks, how many times did — — see or talk to a medical doctor? {Include all types doctors, such as dermatologists, psychiatrists, and ophthalmologists, as well as general	1a. and	00 🗆 None
pr	ictitioners and osteopaths.} (Do not count times while an overnight patient in a hospital.)	Ь.	(NP)
	ring those 2 weeks, how many times did anyone see or talk to a medical doctor about — —? o not count times while an overnight patient in a hospital.)		Number of times
he	usides the time(s) you just told me about) During those 2 weeks, did anyons in the family receive alth care at home or go to a doctor's office, clinic, hospital or some other place? Include care		
	m a nurse or anyone working with or for a medical doctor. Do not count times while an ernight patient in a hospital.		
L W	The second	2b.	
D. WI			
c. An	yone else?		
	k for each person with "DR Visit" in 2b:	d.	
a. Ho	w many times did —— receive this care during that period?	ļ	Number of times
ge	sides the time(s) you already told me about) During those 2 weeks, did anyone in the family t any medical advice, prescriptions or test results over the PHONE from a doctor, nurse, or		
an	yone working with or for a medical doctor?		
ь. Wi	o was the phone call about? Mark "Phone call" box in person's column.	ЗЬ.	Phone call
c.Ŵ	re there any calls about anyone else?		
	k for each person with "Phone call" in 3b:		
d. Ho	w many telephone calls were made about ——?		Number of calls
E2	Add numbers in 1, 2d, and 3d for each person. Record total number of visits and calls in "2-WK. DV" bo	ox in it	em C1.
OOTN	DTES		

		<u></u>	i age	Old age								age				
		2			3	3				4	,			5		
1.	First name	Mid. init.	Age	First name		Mid. i	nit. Age	1.	First name		Mid. init.	Age	First name		Mid. init. Age	
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3.	Date of birth Month	Date Year		Date of bir Month	h Date	Ye	ar	3.	Date of birth Month	Date	Yea	r	Date of birth Month	Date	Year	
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A. HOUSEHOLD COMPOSITION PAGE 1a. 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 name in REFERENCE PERSON column. 1. First name b. What are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter names in columns. c. I have listed (read names). Have I missed: Yes	
one of the persons who owns or rents this home. Enter name in REFERENCE PERSON column. b. What are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter names in columns If "Yee," enter names in columns If "Set Persons in c	Mid. init. Age
b. What are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter names in columns	
a These Nated (rand names) Nevel missed:	Sex 1 🗌 1 2 🗌
- any babies or small children?	te Year
- any lodgers, boarders, or persons you employ who live here?	
traveling or in a hospital?	
d. Do all of the persons you have named usually live here? Ves (2)	Wb 2 No Number
Probe if necessary: Probe if necessary: Base and an analysis of the second se	V TINJ. TOLLTRI HSTOOM
Doss — - usually live somewhere elsel	
Ask for all persons beginning with column 2: 2. What is relationship to (reference person)?	
3. What is date of birth? (Enter date and age and mark sex.)	V TINJ. I CLITRI HISTOON
REFERENCE PERIODS	
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A1 12-MONTH DATE	V TINJ. I CLITRI HSTON
A2 ASK CONDITION LISTS 1,2, and 3.	V TINJ, TCLETRI HISTCON
F. 2-WEEK DOCTOR VISITS PAGE DR VISIT 1	
Refer to C1, "2-WK. DV" box. PERSON NUMBER	<u>R</u>
F1 Refer to age. F1 Under 14 (1b)	
	777 Last week
or doctor's assistant about?	388 🗌 Week before
Ask after last DR visit column for this person: c. Were there any other visits or calls for during that period? Make necessary correction to 2-Wk. DV box in C1.	
or somewhere else, or was this a telephone call?	3 Phone call to GHA (b) 4 Phone call some.
If telephone call: Was this call to GHA or somewhere else?	where else (c)
b. Which GHA medical center was that?	(3)
c. Where was that? Record full name of place.	
	Hospital: 08 0 P clinic
04 🛄 Co or Ind clinic	09 Emergency room
06 🗆 Lab	11 Lab 12 Overnight patient (Next doctor visit)
	88 Other (Specify)
07 Other <i>Specify</i> Z	K if M D (3c)
Ask 3b if under 14.	
Ask 3b if under 14. 3a. Did — – actually talk to a medical doctor?	K who was seen (4)
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? 3a. and 1 Yes (3d) 8 Di	K who was seen (4)
Ask 3b if under 14. 3a. 1 Yes (3d) 8 Did 3a. Did — — actually talk to a medical doctor? and 1 Yes (3d) 8 Did b. Did anyone actually talk to a medical doctor about — — ? 2 No (3d) 9 Did	(4) 99 🗌 DK (4)
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about ? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist?	(4) 99 DK (4)
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? a. Is that doctor a general practitioner or a specialist? f. What kind of specialist?	
Ask 3b if under 14. 3a. 1 Yes (3d) 8 Did 3a. Did — — actually talk to a medical doctor? and 1 Yes (3d) 8 Did b. Did anyone actually talk to a medical doctor about — — ? b. 2 No (3c) 9 Did c. What type of medical person or assistant was talked to? c. d. 1 GP (4i) 2 Spec d. What was the doctor's name? d. . 1 GP (4i) 2 Spec . f. What kind of specialist? f. . 1 GP (4i) 2 Spec . Ask 4b if under 14. Ask 4b if under 14. <	
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about ? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/(entry in 3c]) on (date in 1)? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/(entry in 3c]) about on (date in 1)?	
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did anyone see or talk to the [doctor/(entry in 3c)] on (date in 1)? Mark first appropriate box. b. For what condition found as a result of the [test(s)/examination]?	(41 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) (45 (45 No
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on [date in 1]? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/[entry in 3c]] about on [date in 1]? Mark first appropriate box. c. Was a condition found as a result of the [test[s]/examination]? d. Was this [test/examination] because of a specific condition had?	
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on [date in 1]? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/[entry in 3c]] about on [date in 1]? Mark first appropriate box. c. Was a condition found as a result of the [test[s]/examination]? d. Was this [test/examination] because of a specific condition had?	(4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (HEN 4g) ∩ (4c) No (4g) No (4g) (Item C2.
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on [date in 1]? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/[entry in 3c]] about on [date in 1]? Mark first appropriate box. c. Was a condition found as a result of the [test(s)/examination]? d. Was this [test/examination] because of a specific condition had? e. During the past 2 weeks was sick because of her pregnancy? f. What was the matter? g. During this [visit/cali] was the [doctor/[entry in 3c]] talked to about any (other) condition?	
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on (date in 1)? Mark first appropriate box. c. Was a condition found as a result of the [test(s)/examination]? d. Was this [test/examination] because of a specific condition had? e. During the past 2 weeks was sick because of her pregnancy? f. What was the matter?	(4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 14EN 4g) ∩ (4c) ∩ (4c) ∩ (4c) ∩ (4g) ∩ (4g
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on (date in 1)? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/[entry in 3c]] about on (date in 1)? Mark first appropriate box. c. Was a condition found as a result of the [test(s)/examination]? d. Was this [test/examination] because of a specific condition had? e. During the past 2 weeks was sick because of her pregnancy? f. What was the matter? g. During this [visit/call] was the [doctor/[entry in 3c]] talked to about any (other) condition? h. What was the condition?	(4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 14EN 4g) No (4g) No (4g) No (4g) No (5) (Item C2. THEN 4g.
Ask 3b if under 14. 3a. Did — - actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about — -? c. What type of medical person or assistant was talked to? d. What was the doctor's name? a. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did — see or talk to the [doctor/[entry in 3c]] on (date in 1)? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/(entry in 3c]] about — on (date in 1)? Mark first appropriate box. c. Was a condition found as a result of the [test(s)/examination]? d. Was this [test/examination] because of a specific condition — had? g. During the past 2 weeks was — — sick because of her pregnancy? f. What was the matter? g. During this [visit/cali] was the [doctor/(entry in 3c]] talked to about any (other) condition? h. What was the condition? b. What was the name of the surgery or operation during this visit, including bone settings and stitchest 5a. Did — - have any kind of surgery or operation? If name of operation not known,	(4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 14EN 4g) No (4g) No (4g) No (4g) No (5) (Item C2. THEN 4g.
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? 3a. dight actually talk to a medical doctor? 3a. dight actually talk to a medical doctor? 3a. dight actually talk to a medical doctor about ? 5. Did anyone actually talk to a medical doctor about ? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor about ? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 5. Did anyone actually talk to a medical doctor? 6. Did anyone actually talk to the [doctor/(entry in 3c)] on (date in 1)? Mark first appropriate box. 6. Did anyone actual to the [doctor/(entry in 3c)] about on (date in 1)? 6. Did anyone actual to the [tasts)/examination]? 6. Did anyone actual to the [tasts)/examination]? 7. Di	(41 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 1 (4c) (HEN 4g) 1 Yes 2 No (6) 1 Yes 2 No (6)
Ask 3b if under 14. 3a. Did actually talk to a medical doctor? b. Did anyone actually talk to a medical doctor about? c. What type of medical person or assistant was talked to? d. What was the doctor's name? e. Is that doctor a general practitioner or a specialist? f. What kind of specialist? Ask 4b if under 14. 4a. For what condition did see or talk to the [doctor/[entry in 3c]] on [date in 1]? Mark first appropriate box. b. For what condition did anyone see or talk to the [doctor/[entry in 3c]] about on [date in 1]? Mark first appropriate box. c. Was this [test/examination] because of a specific condition had? e. During the past 2 weeks was sick because of her pregnancy? f. What was the matter? g. During this [visit/call] was the [doctor/(entry in 3c]] talked to about any (other) condition? h. What was the condition? Mark box if ''Telephone'' in 2. 5a. Did have any kind of surgery or operation during this visit, including bone settings and stitchest b. What was the name of the surgery or operation? If name of operation not known,	(4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) 99 DK (4) (HEN 4g) ∩ (4g) No (4g) No (4g) (Item C2, THEN 4g) 1 _ Yes 2 _ No (6)

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	Old age	Old age							
	2	3	4		5				
1.	First name Mid. Init. Age First name	Mid. init. Age	1. First name	Mid. init. Age	First name	Mid. init. Age			
	Last name Sex Last name	Sex 1 🗌 M	Last name	Sex 1 🗌 M	Last name	Sex 1 🗌 M			
	2□F	2 F	2. Relationship	2 🗆 F	Relationship	2 🗌 F			
2. 3.	Relationship Relationship Date of birth Date of birth		2 Date of hirth		Date of birth				
	Month Date Year Month	Date Year	Month Date	lYear I	Month Date	Year			
	HOSP. WORK RD 2-WK. DV HOSP.	WORK RD 2-WK. DV		RD 2-WK. D		RD 2-WK. DV			
C1				1 🖵 Yes		_)Yes (
	Number 2 WB 2 No Number Number	2 WB 2 NO Number	Number 200 WB	Number		Number			
C2			C2						
		TOV TINJ. TI CL LTRIHS ICOND.				COND			
				!!~!~	<mark>↓ · · · · · · · · · · · · · · · · · · ·</mark>	<u></u>			
		ראוך עםך נאוך עםך.	נדא די דאן דער דא.	ר. דו פו נדוקרא די דכטאו		דכונוזקואז ד כטאס			
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		דעאוך עיסך". געאוך עיסן דו כו. נדוון איז דעסן די דער. געאון איז געאון געאון גער גער גער גער גער גער גער גער גער גער		J. ICLLTRIHS ICON	נאז ויעסיד אגד דאג. געוז גערייק אגד דאגד.				
	visit 2	DR VISIT 3	<u>1</u>	DR VISIT 4		······································			
	RSON NUMBER	PERSON NUMBER	L	PERSON					
F1	Under 14 (1b)	F1 Under 14 (1b)			der 14 <i>(1b)</i> and over <i>(1a)</i>				
1a.	(7777 Last week	1a. (.	7777 🗆 Last week	1a.		veek			
and b.	Month Date OR 8888 Week before		8888 Week before	and Month	th Date OR { 7777 Last week 8888 Week before				
c.	1 Yes (Reask 1a or b and c)	C. 1 Yes (Reask 1a or b 2 No (Ask 2-6 for e.			s (Reask 1a or b and c) (Ask 2-6 for each visit)				
2a.	2 No (Ask 2-6 for each visit) 1 GHA Med. Center (b) 3 Phone call to GHA (b)	2a. 1 GHA Med. Center	b) 3 Phone call to GHA (b)	2a. 1 GH	IA Med. Center (b) 3 Pho				
	2 Somewhere else (c) 4 Phone call some- where else (c)	2 Somewhere else (a	1 GHA Med. Center (b) 3 Phone call to GHA (b) 2a. 1 GHA Med. Center (b) 3 Phone call some- where else (c) 2 Somewhere else (c) 4 Phone call some- where else (c) 2 Somewhere else (c) 4 Phone call some- where else (c)						
ь.		b.		b.		(3)			
c.	(J)	c.		c.					
	Not in hospital:	d. Not in hospital:	Hospital:		hospital: Hospital				
d.	02 Home 08 0.P. clinic 03 Doctor's office 09 Emergency room	02 Home 03 Doctor's office	08 0.P. clinic 09 Emergency room		ctor's office 09 🗌 Emer	gency room			
	04 Co. or Ind. clinic 10 Doctor's office	04 Co. or Ind. clinic 05 Other clinic	10 Doctor's office	05 🗌 01					
	05 Other clinic 11 □ Lab 06 □ Lab 12 ○ Vernight patient (Next Acctor visit) 07 □ Other (Specify) = 8B □ Other (Specify) =	06 Lab 07 Other (Specify)	12 Overnight patient (Next doctor visit) 88 Other (Specify)	06 🗌 La 07 🗌 0t	b 12 ☐ Over her (Specify) ¥ 88 ☐ Othe	night patient t doctor visit) r (Specify) 🙀			
	88LJ Other (Specify)	¥	88 U Other (Specify)		► 88 🗆 Othe	i (Specity) 🖌			
3a.	1 Yes (3d) 8 DK if M.D. (3c)	3a. 1 Yes (3d) 8	DK if M.D. (3c)	3a. 1	es (3d) 8 DK if M D. (3d				
and b.	2 🗆 No (3c) 9 🗆 DK who was seen (4)	and	DK who was seen (4)		o (3c) 9 DK who was s	een (4)			
c.	(4) 99 DK (4)	c.	(4) 99 🗌 DK (4)	c.) 99 🗆 DK (4)			
- d.	ээ 🗆 с с с с с с с с с с с с с с с с с с	d.	99 🗆 DK	d.		_ 99 🗆 DK			
e.	1 GP (4) 2 Specialist (31) 9 DK (4)		pecialist (3f) 9 DK (4)		P (4) _ 2	9 DK (4)			
f.	ээ 🗆 Ок	f	99 DK	f.		_ 99 DK			
4a. and	1 Condition (Item C2, THEN 4g) 2 Pregnancy (4e)	4a. 1 Condition (item C. and 2 Pregnancy (4e)	2, THEN 4g)	and 2 🗌 Pi	ondition (Item C2, THEN 4g) regnancy (4e)				
b.	3 Test(s) or examination (4c)	b. 3 Test(s) or examina			est(s) or examination (4c)				
c.		8 ☐ Other (Specify) - C. ☐ Yes (4h)	(4g) _ 	¯ c. – – – <u>–</u> – – – – – – – – – – – – – – –	ther (Specify) – es (4h)No	(4g)			
d. 1	Yes (4h)QNo (4g)	d. Yes (4h)	No (4g)	[d.]Dy	es (4h) No (4g) es DNo (4g)				
e. f.	YesNo (4g) (ltem C2, 	● - <u>□</u> Yes	litem C2.	- " - <u>"</u>	53 No (4g)	(item C2, THEN 4g)			
g.	THEN 4g)	g.	THEN 4g)	- † g. G ,	es No (5)	Inc/(4g)			
h.	Pregnancy (46) (item C2.	h. Pregnancy (4e)		h.	regnancy (4e)	(item C2,			
5a.		5a. 0 Telephone in 2 //	THEN 4g)	5a. 0 T	elephone in 2 (Next 1 🗌 Ye	THEN 4g) s 2 🗌 No (6)			
	Dr. visit)	Dr. visit)			or, visit)				
Ь.	(1)	b. (1)		b. (1) (2)					
Ē.	Yes (Reask 5b and c)	C. Yes (Reask 5b an	dc) 🗌 No	c.	es (Reask 5b and c)	<u> Пио</u>			
6.	City/County/	6. City/County	/	6. City/Co	unty/				
FORM	State/ZIP Code/	State/ZiP Code	/	State/2					

			Old age
A. HOUSEHOLD COMPOSITION PAGE		11.	First name Mid. inrt. Age
1a. What are the names of all persons living or staying here? Start with the name of the person one of the persons who owns or rents this home. Enter name in REFERENCE PERSON colur		''	
b. What are the names of all other persons living or staying here? Enter names in columns. If "Yes,			Last name Sex
c. I have listed (<u>read names</u>). Have I missed: Yes	columns No	2.	Relationship
- any bables or small children?		3.	Date of birth Month Date Year
— any lodgers, boarders, or persons you employ who live here?			HOSP. WORK RD 2-WK. DV
traveling or in a hospital?		C1	
d. Do all of the persons you have named usually live here?	LI		Number 2 Wb 2 No Number
Probe if necessary:		C2	<u> </u>
Does — usually live somewhere else?		02	LA - TRA - DV - TINJ. TCLLTRI HSTCON
Ask for all persons beginning with column 2:		1	+++++++++++++++++++++++++++++++++++
2. What is — – relationship to <u>(reference person</u>)?			
3. What is — — date of birth? (Enter date and age and mark sex.)		1	
REFERENCE PERIODS		1	\\
2-WEEK PERIOD	•	1	
A1			
A I 12-MONTH DATE			LA TRA DV INJ. ICLITI HSTCON
13-MONTH HOSPITAL DATE			
	<u></u>	-	LA TRA IDV TINJ, TELLTRI HISTEON
A2 ASK CONDITION LISTS 1,2, and 3.			
G. HEALTH INDICATOR PAGE 1a. During the 2-week period outlined in red on that calendar, has anyone in the family had an	n iniury		
from an accident or other cause that you have not yet told me about? \Box Yes \Box No (2)			
b. Who was this? Mark "Injury" box in person's column.		ī.	
c. What was —— injury?		 c.	+
Enter injury(ies) in person's column.			
d. Did anyone have any other injuries during that period?			
□Yes (Reask 1b, c, and d) □No			
Ask for each injury in 1c:			Yes (Enter injury in C2, THEN 1e for next injury)
 As a result of the <u>(injury in 1c)</u> did [——/anyone] see or talk to a medical doctor or assistant (about ——) or did —— cut down on —— usual activities for more than half of a day? 	τ		No (1e for next injury)
 During the past 12 months, {that is, since (12-month date) a year ago} ABOUT how many of illness or injury keep — — in bed more than half of the day? (Include days while an overnig) 		2.	000 None
in a hospital.)			No. of days
3a. During the past 12 months, ABOUT how many times did [/anyone] see or talk to a me doctor or assistant (about)? (Do not count doctors seen while an overnight patient in		3a.	000 None (3b) 000 Only when overnight
hospital.) (Include the (<u>number in 2-WK DV box</u>) visit(s) you already told me about.)			patient in hospital (NP)
			No. of visits
b. About how long has it been since [/anyone] last saw or talked to a medical doctor or a	assistant	Ъ.	1 Interview week (Reask 3b)
(about — —)? Include doctors seen while a patient in a hospital.			2 Less than 1 yr <i>(Reask 3a)</i> 3 1 yr., less than 2 yrs.
		Ì	4 2 yrs., less than 5 yrs.
			5 ☐ 5 yrs. or more o ☐ Never
 Would you say — — health in general is excellent, very good, good, fair, or poor? 		4.	
-, Thoma you say nearch in general is excention, your good, good, nan, or poor			1 Excellent 4 Fair 2 Very good 5 Poor
			3 Good
Mark box if under 18.		5a.	Under 18 (NP)
5a. About how tall is —— without shoes?			Feet Inches
b. About how much does —— weigh without shoes?		ь.	+
EQUINQUES			Pounds
FOOTNOTES			

		C		age	Old age									ld age				
		2					3					4				5		
1.	First name	Mid	. init.		First nar		Mi	d. init.			First name		Mid. ini		First name	M	id. init. Ag Sev	
	Last name		·	Sex 1 □ M 2 □ F	Last nan	ne			Sex 1 🗌 M 2 🗌 F		Last name			Sex 1 ☐ M 2 ☐ F	Last name		10]м]г_
2.	Relationship				Relation	-					Relationship				Relationship			
3.	Date of birth Month	Date I	Year		Date of I Month	birth Da		Year		3.	Date of birth Month	Date		ar	Date of birth Month	Date	Year	
		ORK RD	1	/K. DV							HOSP.	WORK		2-WK. DV	HOSP.	WORK R		None
C1		□Wa 1□Ye □Wb 2□No	5					res		C1	Number	1□Wa 2□Wb	1 Yes 2 No	Number	Number		Yes	nber
	Number 2		Nu	mber	Numbe	r	<u> </u>	<u> </u>	Number		Number	L		Number	NUMBER			
C2	50 (g)			$\overline{}$					$\overline{\ }$	C2				$\overline{\ }$				$\overline{\ }$
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1b.	la	y] Injury				1Ь.		ury				jury		
 c.										- c.					t			
		Injury					Injury				<u> </u>	In	jury			Injury		
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•.		Enter injury in C r next injury)	— — — С2, ТНІ			Yes (Ent 1e for n	er injury ir	с <i>2,</i> т		•.	C Ye	s (Enter in	– – – – njury in C2 injury)			es (Enter injury	in C2, THE	= =N
		r next injury) e for next injury				1e for ni No (1e f							injury) ext injury)			e for next injur o (1e for next i		
2.	000 None				000	None				2.	000 🗆 No	ne			000 N	one		
		No.	. of day	15				of days					No. of da	iys	1	No	. of days	
3a.	000 None] None <i>(3</i>				3a.	000 No	ne (3h)			000 N	ope (3b)		
	000 Only	when overnight	۲)			Only wh		ht)			000 00		overnight)	0000	nly when over atient in hospit	night	
	patie	nt in hospital	}	(NP)		parienti	позрна	2	(NP)		pa		арна	(NP)		ationt in noapit	" }	(NP)
	No. 0	of visits	.)			No. of v	sits	_ ,			No	o. of visits	;	,	N	o. of visits		
b.		view week (Rea				Interview				ь.			eek (Reasl			terview week		
		than 1 yr. <i>(Reas</i> less than 2 yrs				Less tha 1 yr., les			i)		· -		yr. <i>(Reask</i> an 2 yrs.	3a)		ess than 1 yr. <i>(</i> yr., less than 2		
		, less than 5 yr	'S .		4⊑	2 yrs., le	ss than 5					rs., less t/ rs. or mo/	than 5 yrs.			yrs., less than yrs. or more	5 yrs.	
	5 5 yrs] 5 yrs. or] Never	more						18		0 N			
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4.	1 Exce					Excellen		Fair		4.	1 🗆 Ex		4 🗆 Fa				Fair	
	2 Very 3 Good		Poor] Very go] Good	od 5L] Poor	•		2 U Ve 3 Go	ry good Iod	5 🗆 Pa	100	2 ∐ V 3 ∐ G		s 🗆 Poor	
5a.		r 18 (NP)			<u> </u>] Under 1				5a.		der 18 (A	(P)		<u> </u>	nder 18 (NP)		
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ь.		Pound	İs				Pou	nds		"			Pounds		<u> </u>	P	ounds	
FOO	TNOTES																	
1																		

	A	HOUSEHOLD COMPOSITIC							-	Old age
1a.W	hat are the names of all pers	ons living or staying here? Start w or rents this home. Enter name in R	lith the ne	ne of th	e perso	nor	1.	First name	1 Mid. in	nit. Age
		persons living or staying here? Ente						Last name		Sex 1 🗆 M
			i names m ç	olumno.		a," enter n columns	2.	Relationship		2 🗆 F
	ave listed (<u>read names</u>). Have any bables or small children?				Yes	No □	3.	REFERENCE PER		
-	any lodgers, boarders, or pers	ons you employ who live here?	••••••					Month	Ye	ar
1	traveling or in a hospital?	ere but is now away from home						HOSP. WORK		2-WK. DV
-	anyone else staying here?	••••••••••••••••••••••••	••••••	••••			Cl		'a 1 🗆 Yes	
d. Do	all of the persons you have i		'es (2)					Number 2LIW	b 2 No	Number
Pro	obe if necessary:	R	o (APPLY H ULES. Delei	e nonhoi	usehold	members	C2			
Do	es —— usually live somewh	ere else?	y an ''X'' fri	om 1—C.	2 and en	ter reason.)		1	TINJ TOLLT	RIHSTCOND
As	k for all persons beginning with	n column 2:				·····	-	l		<u> </u>
	nat is —— relationship to <u>(ref</u>						1	L		
	nat is —— date of birth? (Ente		· ••				1		TINJ. TOULT	RIHSICOND
		REFERENCE PERIODS	····.				4			<u> </u>
		AEFERENCE FERIODS	·				-		TINJ. TOLLT	RI HISTCOND.
	2-WEEK PERIOD							<u>_</u>		┶ᢏ
A1	12-MONTH DATE									
									TINJ. TOLLT	I HSICOND.
	13-MONTH HOSPITAL DA	TE								<u> </u>
A2									TINJ. TOLLT	
~~	ASK CONDITION LISTS 1,2	, and 3.							1 1	
	· · · · · · · · · · · · · · · · · · ·	H. COND	ITION L	STS						
	nd to respondent:									
NO YOI	w i am going to read you sev I have mentioned it before.	eral lists of medical conditions. T	'ell me if a	nyone in	the far	nily has eac	ch con	ndition I read, e	ven if	
	1. Does anyone in the fam	nily {read names} NOW HAVE		1						
	If "Yes," ask 1b and 1c.	nity {read names} NOW HAVE		i fa	amily h	8ve —		KONTHS, did a	nyone in t	he
	b. Who is this?				f '' Yes ,' Yho wa	′ ask 3b and	3c.			
1	c. Does anyone else NOW	/ have —	3	1			T 12 N	AONTHS, did a	nvone	
	1 .	r in appropriate person's column.			ise hav	b —				
	A. PERMANENT	E. Any other trouble	-					n appropriate per		<u>mn.</u>
	stiffness or any deformity of the	hearing with one or both ears?			amage alves?	d heart		I. FREQUE constipu		
	foot, leg, or back?		_		achyca					· - +
	8. PERMANENT	- F. Tinnitus or ringing in			apid he	art? 	_	J. Diabeter	87	
	stiffness or any deformity of the	the ears?		C. A	heart i	nurmur?		F		
	fingers, hand, or		11	D. A	ny othe	er heart	- † - ·	K. Migraine	•?	
	armr	G. Blindness in one or both eyes?			rouble?			L. Bronchit	lie?	
	C. Any condition caused		-	E. V	aricose	veins?				
	by an accident or injury which	H. Cataracts?		F. H	emorrh	oids or	- †	M. Asthma	•	
	happened more than three months ago?			'-	iles?			<u>}</u>		· - +
		I. Any other trouble seeing with one or		G. A	rthritis f rheum	or any kinc atism?	1	N. Hay feve	r?	
	D. Deafness in one or both ears?	both eyes EVEN when wearing				is or any		<u>+</u>		-+
		glasses?	. L	ot	ther ski	n trouble?		O. Sinus tro	ouble?	
	0 - 11		FOOT	OTES						
	2a. Has anyone in the famil If "Yee," ask 2b and 2c.	y EVER HAD —								
	b. Who was this?									
2	c. Has anyone else EVER h	nad —								
	Enter condition and letter	in appropriate person's column.								
ŀ										
	A. Hardening of the arteries or	D.Hypertension, sometimes called								
	arteriosclerosis?	high blood pressure?								
ŗ		1	11							
	B. Congenital heart	E. Angina pectoris?								
	disease?	F. A myocardial								
F		infarction?								
	C. Coronary heart									
	disease?	G. Any other heart attack?								
AM HIS-1 (Evi	Huation) (2-1-90)		109.22			···				

						Old age
	A. HOUSEHOLD COMPOSITION PAGE		1.	First nam	1	lid. init. Age
1a. V 0	hat are the names of all persons living or staying here? Start with the name of the person or e of the persons who owns or rents this home. Enter name in REFERENCE PERSON column.		"	Last nam		
ь. И	hat are the names of all other persons living or staying here? Enter names in columns. If "Yes," enter names in columns]	2.	Relations		Sex 1 🗆 M 2 🗆 F
	ave listed (<u>read names</u>). Have I missed:	1	3.	REFERE Date of b	NCE PERSON	
	any babies or small children?		.	Month	Date	Year
-	anyone who USUALLY lives here but is now away from home traveling or in a hospital?			HOSP.		D 2-WK. DV
_	anyone else staying here?	J	CI	00 L.] Noi		No
	b all of the persons you have named usually live here? Do all of the persons you have named usually live here? Do (APPLY HOUSEHOLD MEMBERSH NUM CO. Do house here here here here here here here he			Number	, 20,00,00	Number
	obe if necessary: by an "X" from 1 – C2 and enter reas		C2	1	RĀ ⊤เDīvī Tinīj.	TCELTRI HSTCON
	bes — — usually live somewhere else?		1	¦		<u> </u>
	sk for all persons beginning with column 2: hat is — — relationship to (reference person)?					<u> </u>
	hat is — date of birth? (Enter date and age and mark sex.)		1		RA IDV IINJ	TCULTRI HSTCON
	REFERENCE PERIODS		1			\backslash
			1	LA T		TCULTRI HSTCONO
	2-WEEK PERIOD					<u> </u>
A 1	12-MONTH DATE					TCLITRI HSTCON
						L L
	13-MONTH HOSPITAL DATE		-	L 7		TCLITRI HSTCON
A2	ASK CONDITION LISTS 1,2, and 3.	1				
_	J. HOSPITAL PAGE	HOS	PITAL	STAY 1		
1.	Refer to C1, "HOSP." box.	1.	PEF	RSON	NUMBER.	
2.	/ou said earlier that —— was a patient in the hospital since (<u>13-month hospital date</u>) a year igo. On what date did —— enter the hospital ([the last time/the time before that])?		Mont	h	Date	Year
	Record each entry date in a separate Hospital Stay column.	2.				19
з.	low many nights was — — in the hospital?	3.	0000	None	(Next HS)	
				N	ights	
4.	For what condition did — — enter the hospital?	4.	1		ai delivery)	
••	For delivery ask: • For newborn ask: • For initial "No condition" ask: Was this a normal delivery? Was the baby normal at birth? Why did — — enter the hospital?			Norm	al at birth (5)	
	If "No," ask: If "No," ask: What was the matter? What was the matter? What was the matter? What was the results of the tests?			Cond		
	If no results, ask: Why were the tests performed?					
		J1		refere	ast one night in 2 ance period (Ente 2, THEN 5)	-week r condition
J	Refer to questions 2, 3, and 2-week reference period.			_	ghts in 2-week ref	erence period (5)
5a.	Did — — have any kind of surgery or operation during this stay in the hospital,	5a.		Yes		2 🗌 No (6)
	ncluding bone settings and stitches?					
b.	Nhat was the name of the surgery or operation? If name of operation not known, describe what was done.	Ь.	(1)			
			(2)			
			(3)			
c.	Was there any other surgery or operation during this stay?	c.		🗌 Yes ((Reask 5b and c)	□ No
6.	What is the name and address of this hospital?	6.	Nam	8		
			Numi	ber and sti	reet	
			City	or County		State
				,		
F00	NOTES					
FORM HI	1 (Evaluation) (2 1 90) Page 24					

•

,		Ook	d age	,	Old age												
	2					3				4				5		_	
1.	First name	Mid. init.		First name Last name		Mid. init		1.	First name Last name		Mid. II	nit. Age Sex	First name		Mid. init		
	Luat Humo		Sex 1 ☐ M 2 ☐ F	Luot namo			Sex 1 ☐ M 2 ☐ F					Sex 1 M 2 F				Sex 1 🗌 M 2 🗌 F	
2.	Relationship			Relationshi				2.	Relationship				Relationship				
3.	Date of birth Month Date	RD 2-1	WK. DV	Date of birt Month HOSP.	h Date		-WK. DV	3.	Date of birth Month HOSP	Date	RD	(ear	Date of birth Month HOSP,	Date	Ye RD 2	ar 2-WK, DV	
C1	HUSP. WORK 00 None 1 Wa 2 Wb			00 None	ı⊡w		o None Number	C1	00 None	1 UWa 2 UWb	1 🗌 Ye:				Yes C	0 None	
C2			$\overline{}$				$\overline{}$	C2				$\overline{}$				$\overline{}$	
		J. TCLTTRIHS	5 TCOND.			INJ. I CLUTAJI I I				נאון עםן. 				j70√i170J. I I I			
	תון־עזי= זאגד און־עיםן באדן באד ו ו ו	J. T TCLITRIH?	S TCOND.		TDV T	1013 1 CL LTRTH	סאססן פו			נאז לס <u>ן.</u> ו	המנח 	ан 5 тооод тана	L'A - TRA -	דעאון ⊽סרן. ו		IS T COND.	
	גאיך עפון דאד	ו ופרבדאוואנ	S TOOND.		<u>ד מסד</u>	INTJ. TI CL LTRIT				נאק עסד.		סאסטן יצווו	LA - TRA -	נאון עסי.		IS T COND	
			<														
	נאד "זאד" און דער ו					INJ. TI CL LTRI H								DV INJ. 1. 1			
ļ	LA TRA 10V N. 		S TCOND.			ÎNJ. I CLUTRIH 1 1 1 1				<u>T</u> DV ∏NJ. ! ! ! !		THE TOND		10 V 11 NJ. 	TCLTRIF I I I I	IS T COND	
HOS	PITAL STAY 2				HOSPI	TAL STAY 3					HOSI	PITAL STA	Y4,				
1.	PERSON NUI					PERSON		BER		-	1.	PERSO	N NUME	ER			
	Month Dat	e	Year		м	lonth	Date		Year			Month	Date Year				
2.			1	9	2.				1:)	2.				19		
3.	0000 None (Next h	5)			3.	0000 🗆 None					3.		ne <i>(Next HS)</i> Nights				
4.	1 Normal delive 2 Normal at bir 3 No condition Condition 7				4.	1 🗌 Norma 2 🗌 Norma 3 🗌 No co 🗌 Condi	al at birth ndition		5)		4.	2 🗌 No 3 🗌 No	irmal delivery irmal at birth condition indition 7	(5)			
J1	At least one n reference peri in C2, THEN				J1	ın C2,	THEN 5)		week condition		J1		least one nigh erence period C2, THEN 5)				
5a.	→ No nights in 2	-week refere		d (5) ⊐No (6)	5a.	⊥ No nig 	hts in 2-w	eek ref	erence period	(5) No (6)	5a.	No 1 □ Ye	nights in 2-wi	ek referen 		(5) No (6)	
 b.	(1)				 b.						 b.						
	(2)					(2)						(2)					
 c.				+													
6.	Ves (Reask 5)	and c)		No	6. N	Yes (R	leask 5b a	nd c)		No	6.	L Ye Name	s (Reask 5b an	d c)		No	
Ŭ.	Number and street				•.	umber and stre	et					Number and	street		<u></u>		
	City or County	<u></u>	Stat	e	Cr	ty or County			State			City or Coun	ty		State		
FOO	TNOTES			I						<u> </u>	<u> </u>						

					Cid age
		OLD COMPOSITION		11.	First name Mid. init. Age
1a. W	/hat are the names of all persons living o ne of the persons who owns or rents this	r staying here? Start with home. Enter name in REFE	the name of the person or ERENCE PERSON column.	'.	
b. W	hat are the names of all other persons livin	ig or staying here? Enter na	mes in columns. If "Yes," enter names in columns		Last name Sex 1 I M 1 2 J F
i	have listed <u>(read names</u>). Have I missed:		Yes No	2.	Relationship REFERENCE PERSON
	any babies or small children?			3.	Date of birth Month Date Year
	anyone who USUALLY lives here but is no	ow away from home			HOSP. WORK RD 2-WK. DV
_	traveling or in a hospital?			C1	
d. D	o all of the persons you have named usu	ally live here? 🗌 Yes	(2)		Number 2 Wb 2 No Number
		🗆 No (/	APPLY HOUSEHOLD MEMBERSHIP ES. Delete nonhousehold members	C2	
	robe if necessary: oes — — usually live somewhere else?		n ''X'' from 1—C2 and enter reason.)		LA TRA TIDV TINJ. TOLITRI HSTOOND
	sk for all persons beginning with column 2:			-	
	hat is — relationship to (reference pers				
	hat is — — date of birth? (Enter date and a			1	
				-	
	n	EPERENCE PERIOD3		-	
	2-WEEK PERIOD			_	
 A 1	12-MONTH DATE				LA TRA IDV TINJ. I CLITRI HSICOND
				-	
	13-MONTH HOSPITAL DATE				
A2	ASK CONDITION LISTS 1,2, and 3.				LA TRA IDV TINJ. I CLITRI HSICOND
	CONDITION 1	PERSON NO.	Ask 3a if there is an impairmer	nt (refe	er to Card CP2) or any of the
	iame of condition	PERSON NO.	following entries in 3b—f:	•	
				nage wth	Palsy Paralysis
٨	fark ''2-wk. ref. pd.'' box without asking if	"DV" or "HS"		norrha iction	ige Rupture Sore(ness)
	/hen did [/anyone] last see or talk to	a doctor or assistant	Boll Infi	amma	tion Stiff(ness)
ł	bout $$ (condition)?	yrs., less than 5 yrs.		ıralgia ıritis	Tumor Ulcer
1	$\Box 2-wk, ref, pd. \qquad 6 \Box 5$	yrs. or more	Cyst Pai	n	Varicose veins Wesk(ness)
	U Over 2 weeks, less than o mos.	r. seen, DK when	-		TTVAK((1938)
		r, never seen } (3b)	g. What part of the body is affe	cted	?(Specify)
3a.(Earlier you told me about — — <u>(condition</u>)) Did	the doctor or assistant	Show the following detail:		(Opecny)
	all the <u>(condition)</u> by a more technical or spec Yes 2 No				skull, scalp, face
	sk 3b if ''Yes'' in 3a, otherwise transcribe o	condition name from	- Side		left or right
i	em 1 without asking:				inner or outer; left, right, or both
b. V	Vhat did he or she call it?	(Specify)			elbow, lower or wrist; left, right, or both
	Color Blindness (NC) 2 Cancer (3)	e)	Leg hip,	upper,	a hand or fingers only; left, right, or both knee, lower, or ankle; left, right, or both
3	Normal pregnancy, normal delivery, vasectomy (5) 8 □ Other (3c)	-	Foot	tire fo	ot, arch, or toes only; left, right, or both
c. V	What was the cause of —— (condition in 3)	b)? (Specify)		al org	ans, ask 3h if there are any of the
		•	following entries in 3b—f:	orenes	•
-					• <u>b—g)</u> is affected by the [infection/
	flark box if accident or injury. 0				e, bone, or some other part?
	□ Yes (5) 2 □ No		(0:6-1		
7	sk 3e if the condition name in 3b includes a	ny of the following words:	- (Specify) Ask if there are any of the follo	wina	entries in 3b-f
		Problem	1	rowth	
	sthma Cyst Growth 1	Rupture Trouble	4. Is this [tumor/cyst/growth]	malig	nant or benign?
		lumor Jicer	1 🗋 Malignant 2 🗌 Be	nign	9 □ DK
	the third of for data is of the 113		a. When was (condition	in 3b/	
0.1	Vhat kind of (<u>condition in 3b</u>) is it?	(Specify)	5 first noticed?		2 Over 2 weeks to 3 months 3 Over 3 months to 1 year
	sk 3f only if allergy or stroke in 3b—e:		b. When did — — <u>(name of in</u>)	iury in	4 Over 1 year to 5 years
f.ł	low does the [allergy/stroke] NOW affec	t — —? (Specify) ⊋	Ask probes as necessary:		5 🛄 Over 5 years
-			(Was it on or since (first date	of 2-1	week ref. period)
			or was it before that date?)		
	or Stroke, fill remainder of this condition pa	ae for the first present	(Was it less than 3 months o (Was it less than 1 year or m		÷
6	ffect. Enter in item C2 and complete a separ ach additional present effect.		(Was it less than 5 years or r		
ľ			1		

·				Old age				d age						Old age						
Ļ	First		2	inte i		3				1	4				5					
1.	Last			init. Age Sex	First name		Mid. init.	Age Sex	1 ^{1.}	First name		Mid. init.		First name Last name		Mid. init.	Age Sex			
			_	1 🗆 M 2 🗆 F	1					Last name			Sex 1 I M 2 I F	Last hame						
2.		onship			Relationship				2.	Relationship				Relationship						
3.	Mont			ar	Date of birth Month	Date	Year		3.	Date of birth Month	Date	lYea I	r	Date of birth Month	Date	Yea	ır			
C1	но: 00		K RD Val⊡Yes Vbl2⊡No		9 00 □ None	_	Yes 00	WK. DV	C1		WORK 1□Wa 2□Wb				WORK	Yes 0	-WK. DV D None			
C2	Num	Der		Number	Number			lumber		Number	120.00		Number	Number 2		- 0/1	Number			
1 - 1	1	TRA LOV	TINJ. TOLUT I I I I			TOV TINJ." I I I I	ĈL [TA] HS 		C2		<u>_I V IINJ</u> . I I	- CL CTR H 			זען זע <u>ן</u> .		STCOND			
	1x -	ĨŔ Ă ^{−−}¦O V [−] _]INJ." CLTT 	THE TOND		דאק עסק. 1 ו 1 ו	I CL LTRI HS				<u>,</u> 10 <u>7</u> , 1 1 1 1	TICL (TRIH	ד דכסאס	LA - TRA - 1	דערן ווען ו ו	CCLTRIHI I I I I	ST COND			
	ι κ	אזן דאק ו ו ו ו	11NJ.T 7CLTT 1 1	THE TOND.		נאוך עלם. 1 ו 1	I CL LTRI HS		1		<u>ד</u> מק ⊽α <u>ק</u> 1 1	TI CL LTRIH:	т голь		זעזן זעד. ן	CELTRI HI	ST COND			
	18 -	ĨŔĂ [—] เð∨ 	זואט. זכנעזו ו ו ו ו	קאז דכסאס.	TA TRA	דארד עסד 1 ו 1 ו	I CL LTRIHS	алол .			Tati Vot. 1 1 1 1	T ČL LTR TH	билоті т ———————————————————————————————————	LĀ [RĀ] ! !	דאס, דעס, דעס, דעס, דעס, דעס, דעס, דעס, דע		ST COND.			
		TRA IDV		THS TOND.		Тоў Тілі, — 	I CL LTATHS I I I I				ТО <mark>Т INJ</mark> 	TICLETRITIS I I I I			DVI INJ. I		бибо та			
K	1 1		"RD" box Al	ND more tha	In 1 condition i	n C2 <i>(6</i>)			13.	told me ab	out?			the same ac	cident ye	ou airea	dy			
6a.	Duri (cond	ng the 2 w lition) cau	eeks outi se — — to	ined in re cut dowr	d on that c n on the thi	alendar, o ngs — — u	did — — Jsually d	ioes?			cord conditi Ident questi	on page nu ons first c	mber wh ompleted	ere	(NC)					
ь.		Yes		<u>D</u> N	o (K2)					 ☐ Yes (Record condition page number where accident questions first completed.) → Page No. 										
	than	half of th	e day?	•	•				14.											
-		None (K2)			ays	-4 !:				1 ☐ At home (inside house) 2 ☐ At home (adjacent premises) 3 ☐ Street and binbway (includes roadway and public sidewalk)										
/ .					y days did - e of this co		n bea to	r		2 ○ At notifie registering premises/ 3 □ Street and highway (includes roadway and public sidewalk) 4 □ Farm										
	00	None		D	ays					5 Industria 6 School (i	il place (incl includes pre	udes prem emises)	ises)							
	Durin		weeks, ha	w many c	lays did —- iness becau			on?		7 Place of 8 Other <i>(S</i>)		and sports,	except at	t school						
	00	None		D	ays					Mark box if			Under 1							
9.	Durir	f age 5—1 Ig those 2 of the day	weeks, h	ow many pol becau	/ days did - ise of this (—— miss r condition	more th				, 		No — — — —							
	00	None		Di	ays					Was — — it 2 Yes (16)	l		No		•	•				
K2		Condition			ource (10) In C2 as sourc	e (K4)			c.	Was — — at 3□ Yes	work at -	job o 4 🗌	r busine	ss when the	accident	happen	ed?			
	Abou	t how mar	y days sin	ce (<u>12-m</u>	onth date) a	year ago, l				Was a car, i in any way?	?									
	while	an overni				e nakt (ivi	-iuu u aa	y a	ь.	1 Yes Was more :				ed?						
11		None	oenitel!	Da	ays - <u>(condition</u>	10 2613				1 Yes Was [it/eith		2	No							
	_	ever n]Yes		2 ⊡ No	- <u>ICONDITION</u>	11 30/1			C.	Was [it/eith	ner one] i	moving 2 🗌 I		ime?						
КЗ		Missing ex Other (12)	tremity or org							At the time What kind	of injury	ccident		art of the b	ody was	hurt?				
12a. I	_	— — still ł Yes <i>(K4)</i>	ave this c	ondition	?					Anything e					(ind of inju					
b. I			n complet		l or is it une	der contre	517			•										
	2	Cured		Other /																
c. /	Abou		y did — —		condition		was cur	(K4) ed?	Ь.	Ask if box 3 What part of How is — — Is — — affe	of the bo - (part of	dy is aff body) af	ected r fected							
			-		$\frac{1}{20}$		_				art(s) of bo		mayr	Pre	sent effect	s **				
d, 1	_	i s conditi Yes	-	t at any ti	me during t	he past 12	2 month	\$?]			
К4	. ı⊏	Not an accide First accide Other (13)			14)				•	* Enter part * If multiple same as 3t	present e	effects, e	nter in	for 3g. C2 each one parate cond	e that is n lition pag	ot the e for it.				

L

I

	A. HOUSEHOLD COMPOSITION			First name	1 Mid. init. 7
ia.Wha	It are the names of all persons living or staying here? Start with of the persons who owns or rents this home. Enter name in REFE	the name of the person or RENCE PERSON column.	[First name Last name	S
b. Wha	t are the names of all other persons living or staying here? Enter na	mes in columns. If " Yes ," enter names in columns	2.	Relationsh	ip
	ve listed (<u>read names</u>). Have I missed:	Yes No	i	REFEREN Date of bin	CE PERSON
ar	ny babies or small children?			Month	Date Year
ar	nyone who USUALLY lives here but is now away from home			HOSP.	WORK RD 2-W
tr: — ar	aveling or in a hospital?		C1	00 🗌 Non	
	all of the persons you have named usually live here? 👘 🗌 Yes	(2)		Number	
		APPLY HOUSEHOLD MEMBERSHIP ES. Delete nonhousehold members	C2		
	by ar by ar	n ''X'' from 1—C2 and enter reason.)		TA TR	
	for all persons beginning with column 2:			-	lll
	at is —— relationship to (reference person)?				ส - เอง- าเกม. โดเปาต ค
3. Wha	at is — — date of birth? (Enter date and age and mark sex.)			<u>.</u>	
	REFERENCE PERIODS			LA TH	A TIDV TINJ. TOULTRIH
	2-WEEK PERIOD				
A1					
~ 1	12-MONTH DATE			LA IF	
	13-MONTH HOSPITAL DATE		[[_]	i
		<u>., 1997 - 1</u> 97	1		
A2	ASK CONDITION LISTS 1,2, and 3.	Ask 3g if there is an impairmen	t (refe	to Carr	I I I I
4 11-	CONDITION 2 PERSON NO	following entries in 3b—f:			
i. Mar		Abscess Dar Ache (except head or ear) Gro	nage wth		Paisy Paralysis
Mar	rk ''2-wk. ref. pd.'' box without asking if ''DV'' or ''HS''	Bleeding (except menstrual) Her	iorrha ction	-	Rupture Sore(ness)
in C	2 as source. en did [— —/anyone] last see or talk to a doctor or assistant	Boil Infl	mma	tion	Stiff(ness)
abo	out (<u>condition</u>)?		raigia ritis		Tumor Vicer
	Interview week (<i>Reask 2</i>) 5 □ 2 yrs., less than 5 yrs. 2-wk, ref. pd. 6 □ 5 yrs. or more	Cyst Pai			Varicose veins Weak(ness)
2 🗌	Over 2 weeks, less than 6 mos. 7 U Dr. seen, DK when	-]			
	6 mos., less than 1 yr. 8 □ DK if Dr. seen } / (3b) 1 yr., less than 2 yrs. 9 □ Dr. never seen } / (3b)	g. What part of the body is affe	ctedi	?	Checifie
3a. (Ear	rlier you told me about — — (condition)) Did the doctor or assistant	- Show the following detail:			Specify
cail	the (<u>condition</u>) by a more technical or specific name? Yes 2 🗌 No 9 🗍 DK	Head			
		Back/spine/vertebrae			left o
	k 3b if ''Yes'' in 3a, otherwise transcribe condition name from n 1 without asking:	Ear			
b. Wh	at did he or she call it?	Arm shoulder, u	pper,	elbow, lov	ver or wrist; left, right, o
	Color Blindness (NC) 2 Cancer (3e)	Hand			
3 🗆	Normal pregnancy, 4 Old age (NC) normal delivery, 5 8 Other (3c)	Foot			
~ W-	vasectomy) at was the cause of — — (<u>condition in 3b</u>)? (Specify) ₇	Except for eyes, ears, or interr	aloro	ans, ask	3h if there are any of
~			a. e. g		
	······	following entries in 3b—f:			
		following entries in 3b—f: Infection Sore S	prenes		ffected by the linfe
Mai	rk box if accident or injury. 0 🗌 Accident/injury (5)	following entries in 3b—f:	orenes / in 31	<u>bg</u>)is a	
Mai d. Did		following entries in 3b—f: Infection Sore Si h. What part of the (<u>part of bod</u> sore/soreness] — the skin, n	orenes / in 31	<u>bg</u>)is a	
 Mai d. Did	rk box if accident or injury. o 🗌 Accident/injury (5) I the (<u>condition in 3b</u>) result from an accident or injury?	following entries in 3b—f: Infection Sore So h. What part of the (<u>part of bod</u> sore/soreness] — the skin, n (Specify)	/ in 31 nuscl	<u>b g</u>) is a e, bone,	or some other part
d. Did 1	rk box if accident or injury. the (condition in 3b) result from an accident or injury? Yes (5) k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem	following entries in 3b-f: Infection Sore Sore h. What part of the (<u>part of bod</u> sore/soreness] — the skin, n (Specify) Ask if there are any of the follow	/ in 31 nuscl	<u>b g</u>) is a e, bone,	or some other part
d. Did 1 <i>Ask</i> Ailn Ast	rk box if accident or injury. 0 Accident/injury (5) I the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mia Condition Diseoter Rupture hma Cyst Growth Trouble	following entries in 3b-f: Infection Sore Sore h. What part of the (<u>part of bod</u> sore/soreness] — the skin, m (Specify) Ask if there are any of the folk Tumor Cyst G 4. Is this [tumor/cyst/growth]	v in 31 nuscl owing rowth malig	<u>b g</u>) is a e, bone, entries i nant or	or some other part n 3b—f: benign?
d. Did 1	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident (injury (5) b the (<u>condition in 3b</u>) result from an accident or injury? b (3c) 2 No c (3c	following entries in 3b-f: Infection Sore Sore • What part of the (<u>part of bod</u> sore/soreness] - the skin, m (Specify) Ask if there are any of the folk Tumor Cyst G	v in 31 nuscl owing rowth malig	<u>b g</u>) is a e, bone, entries i nant or	or some other part
d. Did 1 1 Ask Ain Ane Asti Bed	rk box if accident or injury. o Accident/injury (5) I the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: nent Cancer Disease Problem Ima Condition Disorder Rupture hma Cyst Growth Trouble ack Defect Messles Tumor Ulcer	following entries in 3b-f: Infection Sore So h. What part of the (part of bod sore/soreness] — the skin, m (Specify) Ask if there are any of the folk Tumor Cyst G 4. Is this [tumor/cyst/growth] 1	vin <u>31</u> nuscl owing rowth malig	<u>b-g</u>) is a e, bone, entries in mant or	or some other part n 3b−f: benign? □ □ bK 1 □ 2.wk. ref. pd.
d. Did 1 1 Ask Ain Ane Asti Bed	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident (injury (5) b the (<u>condition in 3b</u>) result from an accident or injury? b (3c) 2 No c (3c	following entries in 3b-f: Infection Sore Sore h. What part of the (part of bod sore/soreness] - the skin, m (Specify) Ask if there are any of the follow Tumor Cyst G 4. Is this [tumor/cyst/growth] 1 Malignant 2 Be 6. When was (condition first noticed?	orenes <u>/ in 31</u> nuscl nuscl nowing nowth malig nign	<u>b-g</u>) is a e, bone, entries in pant or (<u>3f)</u>	or some other part <i>a 3b−f:</i> benign? <i>a</i> □ DK 1 □ 2-wk. ref. pd. 2 □ Over 2 weeks to 3
Asta Asta Bad e. Wh	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mis Condition Disorder Rupture hms Cyst Growth Trouble ack Defect Messies Tumor Ulcar mat kind of (<u>condition in 3b</u>) is it? (Specify) k 3f only if allergy or stroke in 3b-e:	following entries in 3b-f: Infection Sore Sore h. What part of the (part of bod sore/soreness] - the skin, m (Specify) Ask if there are any of the follow Tumor Cyst G 4. Is this [tumor/cyst/growth] 1 [] Malignant 2 [] Bec a. When was (condition	orenes <u>/ in 31</u> nuscl nuscl nowing nowth malig nign	<u>b-g</u>) is a e, bone, entries in pant or (<u>3f)</u>	or some other part a 3b-f: benign? DK 1 2-wk. ref. pd. 2 0ver 2 weeks to 3 3 0ver 3 months to 1 4 0ver 1 year to 5 ye
Asta Asta Bad e. Wh	rk box if accident or injury. I the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mile Condition Disorder Rupture hma Cyst Growth Trouble ack Defect Messles Tumor Ulcer mat kind of (<u>condition in 3b</u>) is it? (Specify)	following entries in 3b-f: Infection Sore So h. What part of the (part of bod sore/soreness] - the skin, m (Specify) Ask if there are any of the follow Tumor Cyst G 4. Is this [tumor/cyst/growth] 1 □ Malignant 2 □ Be 5 [a. When was (condition first noticed? b. When did (name of in	orenes <u>/ in 31</u> nuscl nuscl nowing nowth malig nign	<u>b-g</u>) is a e, bone, entries in pant or (<u>3f)</u>	or some other part a 3b-f: benign? DDK 1 2-wk. ref. pd. 2 0ver 3 months to 1
Main d. Did 1 Ask Alin Ano Asti Asti Bad	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mis Condition Disorder Rupture hms Cyst Growth Trouble ack Defect Messies Tumor Ulcar mat kind of (<u>condition in 3b</u>) is it? (Specify) k 3f only if allergy or stroke in 3b-e:	following entries in 3b-f: Infection Sore So h. What part of the (<u>part of bod</u> sore/soreness] — the skin, m (Specify)	v in 31 nuscl wwing rowth malig in 3b in 3b	<u>b - g</u>) is a e, bone, entries in (nant or (3f) <u>3</u>)7	or some other part a 3b-f: benign? box 1 2-wk. ref. pd. 2 Over 2 weeks to 3: 3 Over 3 wonths to 1 4 Over 1 year to 5 ye 5 Over 5 years
Maa Maa d. Did 1 1 Ask Ask Ask Bad e. Wh	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mis Condition Disorder Rupture hms Cyst Growth Trouble ack Defect Messies Tumor Ulcar mat kind of (<u>condition in 3b</u>) is it? (Specify) k 3f only if allergy or stroke in 3b-e:	following entries in 3b-f: Infection Sore So h. What part of the (<u>part of bod</u> sore/soreness] — the skin, m (Specify)	vin <u>31</u> nuscl wing rowth malig in <u>3b</u> , in <u>3b</u> , of <u>2-</u>	(<u>36</u>) week ref	or some other part a 3b-f: benign? bbb 1 2-wk. ref. pd. 2 Over 2 weeks to 3: 3 Over 3 months to 1 4 Over 1 year to 5 ye 5 Over 5 years <i>period</i>
d. Did 1 1 Ask Ain Ane Ast Bed e. Wh f. Ho	rk box if accident or injury. a the (<u>condition in 3b</u>) result from an accident or injury? Yes (5) 2 No k 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem mis Condition Disorder Rupture hms Cyst Growth Trouble ack Defect Messies Tumor Ulcar mat kind of (<u>condition in 3b</u>) is it? (Specify) k 3f only if allergy or stroke in 3b-e:	following entries in 3b-f: Infection Sore So h. What part of the (<u>part of bod</u> sore/soreness] — the skin, m (Specify)	vin <u>31</u> vin	(36) week ref	or some other part a 3b-f: benign? benign? DK 1 2-wk. ref. pd. 2 Over 2 weeks to 3: 3 Over 3 months to 1 4 Over 1 year to 5 years 5 Over 5 years period] 3 months =go?)

	Old age						d age			Old age
	2 3				4				<u> </u>	
1.	First name Mid. init. Age First name Mid. init. Age		1. F	irst name		Mid. init.	-	First name		Mid. init. Age
	Sex Lest name Sex 1 □ M 1 2 □ F 2 □		Ľ	ast name			Sex 1 🗌 M 2 🗍 F	Last name		Sex 1 🗌 M 2 🗌 F
2.	Relationship Relationship	2		Relationship			<u></u>	Relationship		
3.	Date of birth Month Date Year Month Date Year	3	3. C	Date of birth Month	Date	Yea	ar	Date of birth Month	Date	l Year I
C1	HOSP. WORK RD 2-WK DV HOSP. WORK RD 2-WK D 00 None 1 1 Wa 1 1 Yes 00 None 00 None 1 Wa 1 Yes 00 N		:1	HOSP.			0 None	HOSP.		RD 2-WK. DV
CI	Number 2 Wb 2 No Number Number Number Number Number Number Number Number	_ ~		Number	20Wb		Number	Number	2 Wb 2	
C2		c	:2				$\overline{}$			
		vo.	Ē	A IRA		J. TJ CL LTRI H	GUIDT E		נאז דעס <u>ד.</u>	CULTRINS COND
			F	·		<u>-</u> L	~		_ <u>_</u>	
	סט, צאוזאזעד כעמודעסד האד - אד במאודעדעד באוזאדעד באון איידעד א אייד א די אדי - אד	ND.		A 18A	נאק עסך ו ו	ז. דן כנ נדאן א ו	מאס בקיים. 	LTA - TRA -	רואזן⊽סן. וואַן,	CULTRINS TOOD
		$\overline{}$	ſ				$\overline{\ }$			
	סס, פאראדעסן דעאר עסך האזן דאד (מעסס, פאראדעסן דעאר עסן און דאז (געאר אדעס) פאראדעסן דאד אין אין אין אין אין אין אין אין אין אין	¥D.			נאוק ⊽סק ו ו	J	OND T T	LA TRA	-[10√] TNJ. 	TCLTLATIANS TOOND.
	יססן פאוזאדנט ו־.נאוד יסרן ־.אד (מאטסוי פאוזאדנטקן ־.נאוד עםן ־.אד באדן - אני איז איז איז איז איז איז איז איז איז איז	¥5.	C	.a	TOT TOU 	J. TI CL LTRI H	IS TONO		-1007110J. 1 1 ⊥ 1	TOLITRIHS TOND
} [
			ľ							I CELTRIN'S TOOND.
ĸ	Refer to RD and C2. 1	13		s this (<u>con</u> old me ab		<u>1 3</u> b) the r	esult of	the same a	accident y	ou aiready
	B □ Other (K2) During the 2 weeks outlined in red on that calendar, did	-	•	🗌 Yes (Re	cord cond	lition page r stions first	umber wh completed	nere	(NC)	1
	(condition) cause — — to cut down on the things — — usually does	17			•			Pa	ge No.	
Ь.	During that period, how many days did — — cut down for more than half of the day?	14		N <u>h</u> ere did			appen?	····		<u> </u>
	00 None (K2) Days			1 🛄 At home 2 🔲 At home						
7.	During those 2 weeks, how many days did —— stay in bed for more than half of the day because of this condition?			3 Street a 4 Farm	nd highwa	ay (includes	roadway	and public sid	dewalk)	
	00 None Days			5 🗌 Industria 6 🔲 School (mises)			
8.	Ask if "Wa/Wb" box marked in C1: During those 2 weeks, how many days did — — miss more than			7 Place of B Other (S			s, except a	at school		
	half of the day from — — job or business because of this condition?			Mark box in	funder	18	Under	18 (16)		
	Ask if age 5–17:	-15	ia. V		inder 1	8 when t		dent happ	ened?	
9.	During those 2 weeks, how many days did —— miss more than half of the day from school because of this condition?					rmed Fo	rces wh	en the ac	cident haj	
	00 None Days			20 Yes (16) Nas — — at			No or busine	ess when t	he acciden	t happened?
K	2 Condition has "CL LTR" in C2 as source (10)		3	3 Yes		4] No			
10.	About how many days since (<u>12-month date</u>) a year ago, has this condition kept —— in bed more than half of the day? (Include days	16	jı	n any way	?	2			INVOIVED II	n the accident
	while an overnight patient in a hospital.)	ļ	ь. V	Vas more	than o	ne vehici	e involv			
11.	000_None Days Was — — ever hospitalized for — — (<u>condition in 3</u> b)?	- ,		Vas [it/eit		22		time?		
<u> </u>	1 Yes 2 No	- 17		Yes	of the		No	part of the	bodywa	e hurt?
K :			V	What kind	of inju			part of the	bouy wa	\$ nurtr
12a.	Does still have this condition?		Ĺ		Part(s) of	f body *			Kind of In	jury
ь.	Is this condition completely cured or is it under control?	-1	ļ							
ſ	2 □ Cured 8 □ Other (Specify) 7 3 □ Under control (K4)(K.	IJ		sk if box 3	3 4 00	 5 marked				
c.	About how long did — – have this condition before it was cured	-	Ь. Ў Н	Vhat part low is	of the l	body is a of body) a	ffected	17		
	000 Less than 1 month OR {1 Onths Number {2 Years		Г Г	s — — affe	Part(s) of		er way?		Present offe	cts **
d.	Was this condition present at any time during the past 12 months? 1 Ures 2 No		ļ			·				
	0 Not an accident/injury (NC)	1_		Enter	• of h = -1			c fo- 2-		
K4	1 First accident/injury for this person (14) 8 Other (13)		**	Enter par	e preser	nt effects	, enter ir	C2 each o	one that is	not the
L				same as 3	o or C2	and com	piete a s	separate co	mation pa	iye ior it.

		······································									
	A. HOUSEHOLD COMPOSITION		1.	First name Mid. init. Age							
1a.W on	hat are the names of all persons living or staying here? Start with a of the persons who owns or rents this home. Enter name in REFE	the name of the person or RENCE PERSON column.	1.	Last name Sex							
	hat are the names of all other persons living or staying here? Enter nai ave listed (read names). Have I missed:	mes in columns. If "Yes," enter names in columns Yes No		1 □ N 2 □ F Relationship REFERENCE PERSON							
_	any babies or small children?		3.	Date of birth Month Date Year							
	any lodgers, boarders, or persons you employ who live here? anyone who USUALLY lives here but is now away from home traveling or in a hospital?		C1								
	all of the persons you have named usually live here? 🛛 🗌 Yes	(2)		Number 2 Wb 2 No Number							
Pro	obe if necessary: RULE	APPLY HOUSEHOLD MEMBERSHIP ES. Delete nonhousehold members n ''X'' from 1 – C2 and enter reason.)	C2								
Do	bes — — usually live somewhere else?										
	k for all persons beginning with column 2:										
	hat is — — relationship to <u>(reference person</u>)? hat is — — date of birth? (Enter date and age and mark sex.)										
	REFERENCE PERIODS										
	2-WEEK PERIOD										
A1	12-MONTH DATE										
	13-MONTH HOSPITAL DATE										
A2	ASK CONDITION LISTS 1,2, and 3.										
	CONDITION 3 PERSON NO	Ask 3g if there is an impairmen following entries in 3b—f:	t (refe	er to Card CP2) or any of the							
1. Na	ame of condition	Abscess Dam	-	Palay							
	ark ''2-wk. ref. pd.'' box without asking if ''DV'' or ''HS''	Ache (except head or ear) Grou Bleeding (except menstrual) Herr	wth Iorrh a	Paralysis Ige Rupture							
in	C2 as source.		ction mmai	Sore(ness) tion Stiff(ness)							
2. W	hen did [——/anyone] last see or talk to a doctor or assistant bout —— (condition)?	Cancer Neu	ralgia	Tumor							
_	Interview week (Reask 2) 5 2 yrs., less than 5 yrs.	Cramps (except menstrual) Neu Cyst Pair		Uicer Varicose veins							
	2-wk. ref. pd. 6 5 yrs. or more		•	Weak(ness)							
	Cover 2 weeks, less than o mos.										
	1 yr., less than 2 yrs. 9 □ Dr. never seen } (3b)	g. What part of the body is affe	ctedi	(Specify)							
3a.(Ea	arlier you told me about — — (<u>conditio</u> n)) Did the doctor or assistant Il the (<i>condition</i>) by a more technical or specific name?	Show the following detail:	ving detail:								
] Yes 2 □ No 9 □ DK			skull, scalp, face							
Ā	sk 3b if ''Yes'' in 3a, otherwise transcribe condition name from	Back/spine/vertebrae									
	m 1 without asking:			inner or outer; left, right, or both							
b. W	hat did he or she call it? (Specify)			elbow, lower or wrist; left, right, or both							
	☐ Color Blindness (NC) 2 □ Cancer (3e) ☐ Normal pregnancy, normal delivery, 4 □ Old age (NC) normal delivery, (5)	Leg hip, u	pper,	a hand or fingers only; left, right, or both knee, lower, or ankle; left, right, or both ot, arch, or toes only; left, right, or both							
c.Ŵ	vasectomy) hat was the cause of $$ (condition in 3b)? (Specify) $\frac{1}{y}$	following entries in 3b—f:	-	ans, ask 3h if there are any of the							
			renes								
d. Di	ark box if accident or injury. 0 🗋 Accident/injury (5) id the (<u>condition in 3</u> b) result from an accident or injury? Yes (5) 2 🗌 No	(Specify)		b—g) is affected by the [infection, e, bone, or some other part?							
Ā	sk 3e if the condition name in 3b includes any of the following words:	Ask if there are any of the follo	wing	entries in 3b—f:							
	iment Cancer Disease Problem Iemia Condition Disorder Rupture		owth								
As	thma Cyst Growth Trouble tack Defect Messies Tumor	4. Is this [tumor/cyst/growth] r	nalig	nant or benign?							
Ba		1 🗋 Malignant 2 🗋 Ber	nign	9 □ DK							
e. W	hat kind of (<u>condition in 3b</u>) is it?(Specify)	5 a. When was —— (condition)	in 3b,	/ <u>/3f)</u> 1 2 -wk. ref. pd. 2 Over 2 weeks to 3 months							
	sk 3f only if allergy or stroke in 3b—e:	b. When did —— (name of inj	ury in								
T. H	ow does the [allergy/stroke] NOW affect — —? (Specify) ₇	Ask probes as necessary:	of 2	5 🗆 Over 5 years							
_		(Was it on or since <u>(first date</u> or was it before that date?)									
Fo	or Stroke, fill remainder of this condition page for the first present fect. Enter in item C2 and complete a separate condition page for	(Was it less than 3 months o (Was it less than 1 year or m	ore ti	han 1 year ago?)							
et 68	rect. Enter in item C2 and complete a separate condition page for ach additional present effect.	(Was it less than 5 years or n	nore	than 5 years ago?)							

<u> </u>							Old age	age 🗌 Old age					Old age					
1.	First name		2 Mid.	init. Age	First na		3 Mid.	inta K.	4 1. First name Mid init Area Sites name					5				
	Last name			Sex	Last na					٦.			Mid. init.	- ge	First name		Mid. ir	
				1 🗌 I 2 🗌 I	M			Sex 1 2			Last name			Sex 1 I M 2 I F	Last name			Sex 1 0 M 2 0 F
2.	Relationshi				Relation					2.	Relationship				Relationship	>		_ <u>12 U r</u>
	Month	Date	Y	Bar	Date of Month	Dirth Date	Y	ear		3.	Date of birth Month	Date	lYea I	r	Date of birth Month	Date	۲¦	ear
	HOSP.	WORK	RD	2-WK. D	/ HOSF e 00 □ No			2-WK. 1			HOSP.	WORK		-WK. DV		WORK	RD	2-WK. D
C1	Number	1∐Wa 2⊡Wb	1 🗌 Yes 2 🗌 No	Number	Numbe		1 1 Yes			21	00 None	1□Wa 2□Wb			00 🗌 None	1 🗌 Wa 1 2 🗌 Wb 2		00 Non
								Numb	er		Number			Number	Number			Number
C2			וודניסו "נו	THE TODA		RA 10V 11				2								$\overline{\ }$
									ND.			10V (INJ, 		S ICOND		ŢDVŢĪŅJ.	CLITR	HSTCON
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			1					1 1 1 1	ND.			דאק ⊽סך. י	CL (TR) H	10005 1	L'A - TAA -	עמון⊽סן. י	CLITR	HS T COND
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	1.7 - TRA-	דודי∨סו.)." [CLTTR	∏HS TCOND I I	ה – – אז ^ר . !	אוד עסד הא !!	13. CL [176 !	THS CON	ND.			דאדן עסד. ו ו	TICL CTRITIS	ONDOI 7		עאזן⊽סדן ווון		HS T COND
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	זאק – זגד !	רעון עסן. !	I	IHS TOOND	TA1	ארך עדם די האו ו נ	וס דין לכע נידא ו	הססק "פאק ו ו	15.			נאק עסד. ו	T CL CTRTHS	аио л і т	LTA - TRTA -	נאו דעם ד.	CLETRI	HS T COND
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F	LA TRA		. ICLITR	INS TOOND			J CL CTR	HS ICON	10.	ļ	TA TRAT	ĪDV ĪĪNJ.	CL LTRIHS	TCOND.		נאז (עם ו	TCLTTR)	נער די געד ד געד
<u> </u>	Refer to	RD and C	2.	<u>i</u>	<u> i</u>	<u> i i </u>	<u> i </u>	<u>i i</u>	<u> </u>						<u> </u>			<u> </u>
K 1	K1 1 'Yes'' in ''RD'' box AND more than 1 condition in C2 (6) 8 Other (K2)								13.		s this (<u>conc</u> old me abo	dition in 3 out?	b) the rea	ult of t	he same a	ccident y	ou aire	ady
6a. 1	. During the 2 weeks outlined in red on that calendar, did — (condition) cause — — to cut down on the things — — usually d										Yes (Reco accio		on page nui ons first co	mber whe	ere 🛶	(NC;		
				LIN	o (K2)				1			•			Pag	e No.		
D. 1	During the	nt period of the d	d, how i ny?	many da	ys did	– cut do	wn for r	nore	14.		Where did t	the accid	dent han	nen?				
	00 🗆 Non				ays					1	At home {	(Inside hou	se)					
7. I	During the more than	half of	eks, he the day	ow many becaus	/ days di e of this	d — — sta conditior	y in bed 17	for	1	3	Street and	d highway i	(includes ro	adway a	nd public side	walk)		
	00 🗆 None				ays					5	Industrial	place (inclu	des premi	ses)				
8. C	Ask if "Wa/ During tho	Wb'' bo	x marke	d in C1:	ave did .	- mise :		_	1	7	i School (in Place of re	ecreation a	mises) nd sports, e	except at	school			
h	alf of the	day fron	n — — ja	b or bus	iness bed	ause of th	nis condi	ition?		8	Other (Spi	ecify) ¥						
	00 🗌 None			D	ays					N	lark box if u	Inder 18	. 🗆	Inder 1	8 (16)			
9. C	Ask if age t During the alf of the	se 2 wa	eks, ho	w many	days di	d — — mia	s more :	than	154	1	∕as — — un □ Yes (16)	IGer 18 v	when the		ent happe	ned?		
	00 🗌 None		m scno			s conditie	on?		Ь	. W	/as — — in □ Yes (16)	the Arm		es whe	n the acci	dent hap	pened	
К2	Conc	lition has '	CL LTR"	in C2 as so	urce (10)	·			6		as at w			-	s when the	accident	bappe	
		lition does	not have	"CL LTR"	in C2 as so					3	L Yes		4 🗆 N	0				- 1
- C(bout how ondition k	ebt	in hed r	nore the	n helf of	a year age the day? (o, has thi Include (is days		IU	as a car, tr any way?							
	hile an ov	ernight							ь.	. W	Yes As more th	nan one	2 <u>N</u> vehicle i	o <u>(17)</u> nvolve	 d?			
	as ev	er hosp	italized	Da	ys (conditi	on in 3b)?				1[w	∃ _{Yes} as [it/oithe		_ <u>2 🗆 N</u>	o				
	1 Ves	-	2[] No						1[] Yes		2 🗆 N	D				
К3	Missir	ng extremi <i>(12)</i>	ty or orga	n <i>(K4)</i>					17a.	A	t the time of hat kind of	of the ac f injury y	cident w	vhat pa	rt of the b	ody was	hurt?	
2a. Do	005 — S				•					Ar	nything els	ie?						
b. Is	 b. Is this condition completely cured or is it under control? 									\vdash	Par	rt(s) of boo	uy •		K	ind of inju	iry	
	2 Cured		8 E	Other (S	pecify) 🚽					-								
c. ĀH	3 Under	control (K	4) i = = = =	we this	Condition	-		(K4)		As	k if box 3,	4, or 5 m	arked in	 Q.5:				
	000 Less th					Months	t Was CL	ired?	ь.	Ho	hat part of wis — — (the bod part of b	y is affe odv) affe	cted no cted?	ow?			
_				Numbe] Years					—— affect Per	t(s) of bod		way?	Pres	ent effect		
d. Wa	s this con 1 □ Yes	dition p	resent a 2 [it any tin No	te during	the past	12 mont	hs?										{
	0 🗆 Not an	accident/i	njury (NC	, ,														
(4	1 First ac B Other (cident/inju	iry for this	s person (1	4)				•	* E * H	nter part of multiple pr	f body in resent of	same de	tail as fo	or 3g.	that is -		
A HIS-1 (E	valuation) (2-1-9									Sa	multiple pr me as 3b o	or C2 and	l complet	e a sep	arate cond	ition pag	ot the e for it.	

I

I.

	Old age
A. HOUSEHOLD COMPOSITION	
1a. What are the names of all persons living or staying here? Start with one of the persons who owns or rents this home. Enter name in REFE	RENCE PERSON column.
b. What are the names of all other persons living or staying here? Enter na	mes in columns. If "Yee," enter names in columns 2, Relationship
c. I have listed (<u>read names</u>). Have I missed:	Yes No REFERENCE PERSON
— any babies or small children? any lodgers, boarders, or persons you employ who live here?	Month Date Year
- anyone who USUALLY lives here but is now away from home	HOSP, WORK RD 2-WK. DV
traveling or in a hospital?	
d. Do all of the persons you have named usually live here?	(2) Number 2 Wb 2 No Number
	APPLY HOUSEHOLD MEMBERSHIP S. Delete nonhousehold members
	TX" from 1-C2 and enter reason.)
Ask for all persons beginning with column 2:	
 What is relationship to (reference person)? 	
3. What is — — date of birth? (Enter date and age and mark sex.)	
REFERENCE PERIODS	
2-WEEK PERIOD	
A1 12-MONTH DATE	
13-MONTH HOSPITAL DATE	
A2 ASK CONDITION LISTS 1,2, and 3.	
CONDITION 4 PERSON NO	Ask 3g if there is an impairment (refer to Card CP2) or any of the following entries in $3b-f$:
1. Name of condition	Abscess Damage Palsy
	Ache (except head or ear) Growth Paralysis Bleeding (except menstrual) Hemorrhage Rupture
Mark ''2-wk. ref. pd.'' box without asking if ''DV'' or ''HS'' in C2 as source.	Blood clot Infection Sore(ness)
 When did [/anyone] last see or talk to a doctor or assistant about (condition)? 	Boil Inflammation Stiff(ness) Cancer Neuralgia Tumor
o [] (hterview week (<i>Reask 2</i>) 5 [] 2 yrs., less than 5 yrs.	Cramps (except menstrual) Neuritia Ulcer
1 2-wk. ref. pd. 6 5 yrs. or more	Cyst Pain Varicose veins Weak(ness)
2 □ Over 2 weeks, less than 6 mos. 7 □ Dr. seen, DK when 3 □ 6 mos., less than 1 yr. 8 □ DK lif Dr. seen }	
4 I 1 yr., less then 2 yr. 9 I Dr. never seen { (3b)	g. What part of the body is affected?
3a. (Earlier you told me about (<u>condition</u>)) Did the doctor or assistant	(Specify) Show the following detail:
call the (<u>condition</u>) by a more technical or specific name? 1 🗌 Yes 2 🗌 No 9 🗍 DK	Head
Ask 3b if "Yes" in 3a, otherwise transcribe condition name from	Side
item 1 without asking:	Ear
b. What did he or she call it?(Specify)	Arm
1 Color Blindness (NC) 2 Cancer (3e)	Hand entire hand or fingers only; left, right, or both Leg hip, upper, knee, lower, or ankle; left, right, or both
3 Normal pregnancy, normal delivery, (5) B D Other (3c)	Foot foot entire foot, arch, or toes only; left, right, or both
c. What was the cause of (condition in 3b)? (Specify)	Except for eyes, ears, or internal organs, ask 3h if there are any of the
	following entries in 3b-f:
	Infection Sore Soreness
Mark box if accident or injury. o 🗆 Accident/injury (5) d. Did the (condition in 3b) result from an accident or injury?	h. What part of the (<u>part of body in 3b-g</u>) is affected by the [infection/ sore/soreness] — the skin, muscle, bone, or some other part?
1 Yes (5) 2 No	(Created)
Ask 3e if the condition name in 3b includes any of the following words	(Specify)
Aliment Cancer Disease Problem	Ask if there are any of the following entries in 3b—f: Tumor Cyst Growth
Anemia Condition Disorder Rupture Asthma Cyst Growth Trouble	4. Is this [tumor/cyst/growth] malignant or benign?
Attack Defect Measles Tumor Bed Ulcer	1 🗆 Malignant 2 🗋 Benign 9 🗍 D.K.
	a. When was (condition in 3b/3f) 1 2-wk. ref. pd.
e. What kind of (<u>condition in 3b</u>) is it?(Specify)	5 first noticed? 2 Over 2 weeks to 3 months
Ask 3f only if allergy or stroke in 3b-e:	b. When did — — (name of injury in 3b)? 3 Over 3 months to 1 year 4 Over 1 year to 5 years
f. How does the [allergy/stroke] NOW affect? (Specify)	5 🗌 Over 5 years
	Ask probes as necessary:
	(Was it on or since (first date of 2-week ref. period) or was it before that date?)
	(Was it less than 3 months or more than 3 months ago?)
For Stroke, fill remainder of this condition page for the first present	(Was it less than 1 year or more than 1 year ago?)
effect. Enter in item C2 and complete a separate condition page for each additional present effect.	(Was it less than 5 years or more than 5 years ago?)

—		Old age	Old age		Old age				
-	2		3			4			5
1.	First name Mid	d. init. Age First name	Mid. init. Age	1.	First name	Mid. ir	it. Age	First name	Mid. mit. Age
	Last name	Sex Last name	Sex 1	м	Last name		Sex 1 🗆 M	Last name	Sex 1 🛛 M
2.	Relationship	2 🗍 F	2 🗌	F			2 🗆 F		2 C F
3.	Date of birth	Date of birt		2.	Relationship			Relationship	
1.		Year Month	n Date Year	3.	Date of birth Month	Date	ear	Date of birth Month Date	Year
	HOSP. WORK RD	2-WK. DV HOSP.	WORK RD 2-WK. D	ov 👘	HOSP.	WORK RD	2-WK. DV	HOSP. WORK	RD 2-WK. DV
C1		-		Dine C1	00 None				1 Yes 00 None
	Number 2 Wb 2 No	Number Number	2 Wb 2 No Numbe	n	Number	2 Wb 2 No	Number		2 No Number
C2									
		TRIHS TOND. LA - TRA	ר. זססן געוך עים, געור געור געור יים,	C2					U. TOLLIRIHS TOOND
									IJ. CLLTRIHS (COND.
	דוסק הנאון עסן האאק היאדן ו ו ו ו	TRIHS TOONO. TA - TRA	דססק "פאקאדם. די געאון עסק	15.	EA RA	דאז ⊽סד. דעז ססד	ממסק פוד	וון עסן האד - הא	UT TOUTHINS TOOND.
1	······		<u> </u>	-					
	דוא הנאורעפור אאר ה אר דוא הנאורעפור אאר ה אר		ראוך עסך		0				
				10.			HS ICOND.	עד דעס די דאם יייו די איז דער די ארו	J. TCLITRIHS TOND.
				7		·			
	דוזן הנתוך עמן האת האד	TRIHS TOOND. TA- IRA-	ראוד למיד. כו נדאדא ז'כסד די מיד	<u>5</u> .	CA	דאד, דערד ערד	HS TONO	רא דער דא דא די דא דער דער דער דער דער דער דער דער דער דער	J. TCLTHINS TOND.
		<u> </u>		_					
			\				\backslash		
		TRIHS ICOND. LA IRA	TOV TINJ. TOL TRIHS ICON	D.			HS ICOND.	LĀ TRĀ IDVIR.	ד דכונוזקואה ד כסאס.
	Refer to RD and C2.	<u></u>	<u>_!!</u>		I		1		
K	1 (1 □ "Yes" in "RD" box / B □ Other (K2)	AND more than 1 condition i	n C2 <i>(6)</i>	13.	is this (<u>cond</u> told me abo	<u>dition in 3</u> b) the out?	result of t	the same accident	t you aiready
6.	During the 2 weeks out	tlined in red on that o	alendar, did — —	-	Ves (Reco	ord condition page	number wh	ere	
	(condition) cause te	D cut down on the thi	ings — — usually does	2		dent questions firs	completed.	Page No. (A	<i>iC)</i>
ь.	During that period, how		cut down for more	-					
1	than half of the day?			14.	Where did t	the accident h	appen?		
	00 None (K2)	Days			2 At home ((adjacent premises			
1 .	During those 2 weeks, more than half of the d	how many days did - ay because of this co	stay in bed for andition?		3 Street and 4 Farm	d highway (include	s roadway a	ind public sidewalk)	
	00 None	Days		ļ	5 Industrial	place (includes pre	mises)		
	Ask if "Wa/Wh" hox mar	ked in C1.		-		ncludes premises) ecreation and sport	e excent at	school	
8.	During those 2 weeks, h half of the day from ——	ow many days did lob or business becau	- miss more than use of this condition?		8 Other (Sp	ecify) Z	3, CACOPI 61	361001	1
	- 00 🗆 None								
	Ask if age 5-17:	Days		15a.	Mark box if u Was — — un	under 18. L 1der 18 when [.]	Under 1 The accid	8 (16) ent happened?	
9.	During those 2 weeks,	how many days did -	miss more than	1	1 Yes (16)		No	•	
	half of the day from sch	ion pecause of this (conditionr	ь.	Was — — in 2 Yes (16)	the Armed Fo	rces whe	in the accident h	appened?
		Days	······································	- c. 1		_		s when the accide	
K2	Condition has "CL LTI	R" in C2 as source (10) ve "CL LTR" in C2 as sourc	e (KA)		3 Yes	4 C] No		minepheneur
10.	About how many days si	nce (12-month date) a	vear ago, has this	16a.	Was a car, tr in any way?	ruck, bus, or of	her moto	r vehicle involved	in the accident
1	condition kept — — in be while an overnight paties	d more than haif of th	e day? (Include days		1 Yes		No (17)		
	000 None	•		b. 1	Was more ti	han one vehic	e involve	nd?	
11.	Was — — ever hospitaliz	Days	in 3b)?		1 Yes		No		
	1 Yes	2 No	<u></u>		Vas Lit/eithe 1 Yes	er one] moving	j at the t i No	me?	
K3	Missing extremity or o	rgan <i>(K4)</i>	·	17a. /	At the time o	of the acciden	t what pa	art of the body w	as hurt?
	Other (12)	a		1	What kind o Anything els	f injury was it	?	•	
149, 1	1 Yes (K4)	Condition?		Ī		rt(s) of body *		Kind of i	njury
b. I	s this condition comple	tely cured or is it und	ler control?			·······			
	2 Cured	8 Other (Specify) 7							
	3 Under control (K4)	· · · · · · · · · · · · · · · · · · ·	(K4)		Ask if box 3.	4, or 5 marked	 in Q.5:		
c. /	About how long did — —			Ь. ¥	What nart of	the body is a (part of body) a	factad n	ow?	
	000 Less than 1 month	$OR \frac{1}{Number} \begin{cases} 1 \\ 2 \\ 1 \end{cases}$	Months Years	ļį	s affect	ted in any oth	or way?		
d. V	Vas this condition presen	It at any time during #		╏┝	Par	rt(s) of body *		Present effe	ects **
			haer is mourust	╏╴┟					
	0 Not an accident/injury (NC)	· · · · · · · · · · · · · · · · · · ·		- 10 mm				
К4						of body in same		for 3g. 2 each one that is	Bot the
0.0014					same as 3b (or C2 and com	plete a se	parate condition p	age for it.
unm Hi5•1	(Evaluation) (2-1-90)		Bag						

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A. HOUSEHOLD COMPOSITION	
1a. What are the names of all persons living or staying here? Start with one of the persons who owns or rents this home. Enter name in REF	ERENCE PERSON column.
b. What are the names of all other persons living or staying here? Enter n	ames in columns. If "Yee," enter names in columns 2. Belationship
c. I have listed (<u>read names</u>). Have I missed:	Yes No 3 Date of birth
any babies or small children?	
 anyone who USUALLY lives here but is now away from home 	HOSP. WORK RD 2-WK. DV
traveling or in a hospital?	
d. Do all of the persons you have named usually live here?	Number 2 Wb 2 No Number
🗌 No	(APPLY HOUSEHOLD MEMBERSHIP
Probe if necessary: by a	LES. Delete nonhousehold members an "X" from 1–C2 and enter reason.) בה – הה – הס – הס – הס – הס – הס – הס –
Does — — usually live somewhere else?	
Ask for all persons beginning with column 2:	
2. What is —— relationship to (reference person)?	
3. What is —— date of birth? (Enter date and age and mark sex.)	
REFERENCE PERIODS	עד - אד - זען - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון - דעון
2-WEEK PERIOD	
A1	
12-MONTH DATE	
13-MONTH HOSPITAL DATE	
A2 ASK CONDITION LISTS 1.2, and 3.	ער אד דוסע דנגוד אד דוסע דנג די דער דוסע דנגוד דוסע דנגוד די דער דוסע דנגוד די דערידידי דערידידידידידידידידידידידידידידידידידידי
CONDITION 5 PERSON NO.	Ask 3g if there is an impairment (refer to Card CP2) or any of the
1. Name of condition	二 following entries in 3b—f: Abscess Damage Palay
	Ache (except head or ear) Growth Paralysis
Mark "2-wk. ref. pd." box without asking if "DV" or "HS"	Bleeding (except menstrual) Hemorrhage Rupture Blood clot Infection Sore(ness)
in C2 as source. 2. When did [——/anyone] last see or talk to a doctor or assistant	Boil Inflammation Stiff(ness)
about (condition)?	Cancer Neuraigia Tumor Crampe (except menetruei) Neuritis Ulcer
0 Interview week (<i>Reask 2</i>) 5 2 yrs., less than 5 yrs. 6 5 5 yrs. or more	Cramps (except menstruel) Neuritis Ulcer Cyst Pain Varicose veins
1 2-wk. ref. pd. 7 Dr. seen, DK when 7 Dr. seen, DK when	Weak(ness)
3 🗌 6 mos., less than 1 yr. 8 🔲 DK if Dr. seen 🔪 (3b)	g. What part of the body is affected?
4 I 1 yr., less than 2 yrs. 9 I Dr. never seen J 3a. (Earlier you told me about (condition)) Did the doctor or assistant	(Specify)
call the (<u>condition</u>) by a more technical or specific name?	Show the following detail. Head
1 🗋 Yes 2 🗌 No 9 🗍 DK	Back/spine/vertebrae Back/spine/vertebrae
Ask 3b if "Yes" in 3a, otherwise transcribe condition name from	Side left or right Ear inner or outer; left, right, or both
item 1 without asking: b. What did he or she call it?	Eye left, right, or both
(Specify)	Arm shoulder, upper, elbow, lower or wrist; left, right, or both Hand entire hand or fingers only; left, right, or both
1 Color Blindness (NC) 2 Cancer (3e) 3 Normal pregnancy.) 4 Old age (NC)	Leg
normal delivery, (5) 8 C Other (3c)	
c. What was the cause of (condition in 3b)? (Specify)	Except for eyes, ears, or internal organs, ask 3h if there are any of the following entries in 3b—f:
	infection Sore Soreness
	h. What part of the (part of body in 3b-g) is affected by the [infection/
Mark box if accident or injury. o 🗆 Accident/injury (5) d. Did the (<u>condition in 3b</u>) result from an accident or injury?	sore/soreness] — the skin, muscle, bone, or some other part?
1 Yes (5) 2 No	(Specify)
Ask 3e if the condition name in 3b includes any of the following words	
Aliment Cancer Disease Problem	Tumor Cyst Growth
Anemia Condition Disorder Rupture Asthma Cyst Growth Trouble	4. Is this [tumor/cyst/growth] malignant or benign?
Attack Defect Measles Tumor Bad Uicer	1 Malignant 2 Benign 9 DK
	a. When was (condition in 3b/3f) 1 2-wk. ref. pd.
e. What kind of (<u>condition in 3b</u>) is it?(Specify)	5 first noticed? 2 Over 2 weeks to 3 months
Ask 3f only if allergy or stroke in 3b-e:	b. When did (name of injury in 3b)? 4 Over 1 year to 5 years
f. How does the [allergy/stroke] NOW affect? (Specify)	5 🗋 Over 5 years
	Ask probes as necessary: (Was it on or since (first date of 2-week ref. period)
	or was it before that date?)
	(Was it less than 3 months or more than 3 months ago?)
For Stroke, fill remainder of this condition page for the first present effect. Enter in item C2 and complete a separate condition page for	(Was it less than 1 year or more than 1 year ago?)
each additional present effect.	(Was it less than 5 years or more than 5 years ago?)

·								Old age	☐ Old age						Old age		
_	First name	2	Mid. init.	Age	First name	3	Mid. ir	it. Age	1 1.	First name	4	lid. init.	A	First name	5	Mid. init.	
	Last name			Sex	Last name			Sex		Last name			Age Sex 1 ∐ M	Last name			Age Sex 1 🗌 M
2.	Relationshi			2 🗆 F	Relationshi	<u> </u>		2 🗌 F	2.	Relationship			2 🗌 F	Relationship			2 🗌 F
3.	Date of birt Month		Year		Date of birt				3.	Date of birth				Date of birth			
	HOSP.			WK. DV	Month HOSP.	Date WORK	RD	2-WK. DV	ļ	Month	Date	Yea		Month	Date	Yea	
C1	00 None	10Wa 10		None					- C1	HOSP.			WK. DV				
	Number	2□wb 2[lumber	Number	20Wb		Number	.	Number	2 Wb 2		Number		20wb 20	1	Number
C2				$\overline{}$				$\overline{}$	C2								
	L A - T RA	- נאון־עסן.	CLITRIHS	סאססך 5.	TA- RA	נאר עסך		HE ICOND			קד .נאק עסך	CL CTRIFIS			נאו דעם.	CLITRIN	STONE
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	L A — ȚRA	-נאון־עסן.	CLETRINS	TCOND.		נאר עסד.	CL LTR	ממסק שא		CA	זך גאון עסך	CL CTRITHS	סאססק ד	LA TRA T	10 vī inj.	TCC LTR H	STI COND
			i	-					-			1	Ļ		1		
	LA - TRA	ראון־∨סן−.	ICLITRIHS	TCONO.		נאון עסך.	CL ETR	מאססן צא	1	[A	ר. דאק ספך	SL ETRITIS	מאססו ז		ער דער דער דער	T CE LT TRI HT	ST COND
╞	!			<u> </u>						i			<u> </u>		1		
╞╴╞	L A — TRA		าการเป็น	TONO		ראה עניד			1	CA	זר. כאק ססך	S CTOTLE			7677 (10 m m m		
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				ICOND.	LA IRA			IS ICOND.				LITRIHS	COND.		<u>ד</u> נאון דעד.		S T COND
К1	Refer to RD and C2. 1 U ''Yes'' in ''RD'' box AND more than 1 condition in C2 (6)								13.		dition in 3b)	the re	sult of 1	the same ac	cident yo	ou airea	dy
	B Other (K2) • During the 2 weeks outlined in red on that calendar, did									told me ab	cord condition	page nu	mber wh	ere			
		cause			on the th					acci	ident question	s first co	ompleted	.) — Page	(NC) No.		
	During th	at period,			ys did	cut dow	vn for m	ore –									
1		of the day	y7	-					14.	1 At home	the accide (inside house)) -	open?				
		ose 2 wee		many	days did			for			adjacent prei nd highway (in		oadway a	and public side	walk)		
'			he day b	ecaus	e of this c	ondition	?			4 Farm	I place (include	es premi	ises)				
	00 Noi	wb" box	marked i		ays	· · · · ·				6 School (i	includes premi recreation and	ises)		tschool			
8. 1	During the	se 2 weel	ks, how i	many d	lays did — iness beca					8 Other (S		opurus,	except a	bundor			
	00 🗆 Nor	•	•		iys					Mark box it	funder 18.		Under 1	8 (16)			
	Ask if age	5-17:							15a.	Was u	inder 18 wi		e accid		ned?		
9.	During th half of the	ose 2 wae a day fron	n school	/ many becau	days did se of this		n? n?	han	ь.		n the Arme			an the acci	 dent hap		· ?
	00 🗌 Nor	18		Da	iys				_	2 Yes (16)) 		No				
К2		dition has "			ource (10) In C2 as sour	-e (KA)			с.	3 Yes	work at			ss when the	accident	t napper	1601
	About hov	v many da	ys since	(12-ma	onth date) a	year ago		\$		Was a car, i in any way	truck, bus, ?	or oth	er moto	or vehicle in	volved in	the ac	cident
		kept — — i vernight p			n half of th pital.)	le day? (l	nciude (aays		1 Ves	than one v						
	000 Nor			Da							tnan one v her one] m						
11. 1	•N as	•			- (<u>conditio</u>	<u>n in 3</u> b) ?			c.	Was [it/eitl	her one] m			ime?			
КЗ		sing extremi		No (K4)						At the time	of the acc			art of the l	ody was	s hurt?	
	0 🗆 Oth	er (12) still have			,			[What kind Anything e	of injury w sise?	/as it?					
	1 🗌 Yes			No	•					F	Part(s) of bod	y •			Kind of inj	ury	
b. I	b. Is this condition completely cured or is it under control?									·							
	2 □Cured 8 □ Other (Specify) 7 3 □ Under control (K4) •. About how long did — – have this condition before it was cure							(K4)		Ack #	3, 4, or 5 ma						
c. /							t was c	ured?	b. '	What part (of the body of the body (part of bo	y is aff	ected I				
	coo Les:	than 1 mon	th OR	Numb	{1 [2 [2 [2 [2 [2 [2 [2 [2 [2 [2 [2 [2 [2	Months Years			r	ls — — affe	cted in any	y othe	way?				
d. V	Vas this c	ondition p	resent at	t any ti	me during		12 mon	ths?		P	art(s) of bod	y •		Pre	sent effec		
			2 🗆					[
К4	1 🔲 First	an accident/i accident/inji			14)			ľ			t of body in present eff				e that is -	not the	
	8 Othe										b or C2 and						
ORM HIS-	(Evaluation) (2	1.90)						Page	DE								

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Page 35

		Did age
	A. HOUSEHOLD COMPOSITION	Alid Leta Area
1a.Wh one	at are the names of all persons living or staying here? Start with of the persons who owns or rents this home. Enter name in REFE	RENCE PERSON column.
b. Wh	at are the names of all other persons living or staying here? Enter na	
	ve listed (<u>read names</u>). Have I missed:	Yes No 2 Data of high
- 8	ny babies or small children?	····· Date Year
— a	nyone who USUALLY lives here but is now away from home	HOSP. WORK RD 2-WK. DV
	raveling or in a hospital?	
		Number 2 Wb 2 No Number
d. Do		
	be if fielessary. by ar	5. Delete nonhousehold members "X" from 1-C2 and enter reason.)
	es — — usually live somewhere else?	
	c for all persons beginning with column 2:	
	at is — — relationship to <u>(reference person</u>)? at is — — date of birth? (Enter date and age and mark sex.)	
3. Wn		
	REFERENCE PERIODS	
	2-WEEK PERIOD	
A1		
	12-MONTH DATE	
	13-MONTH HOSPITAL DATE	
A2	ASK CONDITION LISTS 1,2, and 3.	
	CONDITION 6 PERSON NO.	Ask 3g if there is an impairment (refer to Card CP2) or any of the
1. Na	me of condition	following entries in 3b—f: Abscess Demage Palsy
. با		Ache (except head or ear) Growth Paralysis
Ма	rk ''2-wk. ref. pd.'' box without asking if ''DV'' or ''HS''	Bleeding (except menstrual) Hemorrhage Rupture Blood clot Infection Sore(ness)
	C2 as source. Then did [/anyone] last see or talk to a doctor or assistant	Boll Inflammation Stiff(ness)
	but $$ (<u>condition</u>)?	Cancer Neuralgia Tumor
٦٥	Interview week (Reask 2) 5 □ 2 yrs., less than 5 yrs. 0 out out out 6 □ 5 yrs. or more	Cramps (except menstrual) Neuritis Uicer Cyst Pain Varicose veins
	2-wk. ref. pd. 6 🗆 5 yrs. or more 2 weeks, less than 6 mos. 7 🗆 Dr. seen, DK when	Week(ness)
3 🗌	6 mos., less than 1 yr. 8 DK if Dr. seen (3b)	
	1 yr., less than 2 yrs. 9 Li Dr. never seen)	g. What part of the body is affected?
	rlier you told me about — — <u>(conditio</u> n)) Did the doctor or assistant the (c <u>ondition</u>) by a more technical or specific name?	Show the following detail:
1]Yes 2 ☐ No 9 🗆 DK	Back/spine/vertebrae
As	k 3b if ''Yes'' in 3a, otherwise transcribe condition name from	Side
	m 1 without asking:	Eye
b. Wr	nat did he or she call it?(Specify)	Arm
_	Color Blindness (NC) 2 □ Cancer (3e) Normal pregnancy. 4 □ Old age (NC)	Leg
عا	I Normal pregnancy, normal delivery, vasectomy (5) 8 □ Other (3c)	Foot Foot
c. Wł	nat was the cause of —— (condition in 3b)? (Specify)	Except for eyes, ears, or internal organs, ask 3h if there are any of the
	······································	following entries in 3b—f: Infection Sore Soreness
		h. What part of the (part of body in $3b-g$) is affected by the [infection]
	rk box if accident or injury. 0 🗆 Accident/injury (5)	sore/soreness] — the skin, muscle, bone, or some other part?
	i the <u>(condition in 3</u> b) result from an accident or injury? } Yes (5) 2 □ No	
	k 3e if the condition name in 3b includes any of the following words:	(Specify)
	nent Cancer Disease Problem	Ask if there are any of the following entries in 3b—f:
Ane	mia Condition Disorder Rupture	Tumor Cyst Growth 4. Is this [tumor/cyst/growth] malignant or benign?
Att	ack Defect Measies Tumor	1 Malignant 2 Benign 9 DK
Bac	Uicer	
e.Wł	at kind of (condition in 3b) is it?	a. When was — — (<u>condition in 3b/3f</u>) 1 [] 2-wk. ref. pd.
	(Specify)	5 3 Over 3 months to 1 year
	k 3f only if allergy or stroke in 3b—e:	b. When did —— (name of injury in 3b)? 4 [] Over 1 year to 5 years
t. Ho	w does the [allergy/stroke] NOW affect — —? (Specify) 🥳	5 🗌 Over 5 years Ask probes as necessary:
—		(Was it on or since (first date of 2-week ref. period)
		or was it before that date?)
		(Was it less than 3 months or more than 3 months ago?)
	r Stroke, fill remainder of this condition page for the first present ect. Enter in item C2 and complete a separate condition page for	(Was it less than 1 year or more than 1 year ago?) (Was it less than 5 years or more than 5 years ago?)
	ch additional present effect.	(ands it less than o years or more than o years agor)

		Old age	Old age		Old age					Old age	
	2		3				4			5	
1.	First name N	did. init. Age	First name	Mid. init. Age	1.	First name	Mid. init	· Age	First name	Mid	l. init. Age
	Last name	Sex 1 🗌 M 2 🗍 F	Last name	Sex 1 🗌 2 🗌 8		Last name		Sex 1 🗌 M 2 🗌 F	Last name		Sex 1 🗌 M 2 🗍 F
2.	Relationship		Relationship		2,	Relationship			Relationship		
3.	Date of birth Month Date	Year	Date of birth Month Date	Year	3.	Date of birth Month	Date Ye		Date of birth Month	Date	Year
C1			HOSP. WORK	RD 2-WK. D	-	HOSP.		2-WK. DV 00 🗌 None			- <u> </u>
Ŭ.	Number 2 Wb 2		Number 2 Wb			Number	20Wb 20 No	Number		2 Wb 2 N	
C2					C2			~		·····	
62	ק	CLITRIHS ICOND.					ואדן עסן (INJ. דוכע ביין דעס) 	HS TOND		TOVTINJ. TCL	TTRIHS TOOND
	<u></u>		·		7	[7		<u> </u>	1
	זן דנאון־עיפן דאקן די אד ו נ ו ו	CLITRIHS COND.	דאד דם ד דאם און דער. און עם ד או	רססק כונדאק איבר קיכסא. ו ו ו	5.	EA	ראדן VTD, CLITR ו ו ו ו ו	מאססק זא נ	LTA ∏RTA !		TURIHS TOND.
								$\overline{}$		<u></u> ,	
	ה הנאוך עמיך אאך האר	CLETRINS TOOND.	דאר עסך "RA" לסע	J. TI CL LTRIHS ICON	<u>6.</u>	CA1 RA-	ראק עסך דער דער די די די די די די די די די די די די די	מאססן פא	L'A - TRA -	דער דער דער דינער דינער די	נזהן אז דכסאם.
	iii	<u>i_</u>		<u> </u>	-	<u> </u>		<u> </u>	i	ii	<u>i_</u>
	ה דנאוד∨סוד אאך ד אר	CLTTRIHS TOOND.	TA - IRA - סקר און עני	J. TI CLETRIHS ICON	5		דעד, דעד ערך TDV דערן דערן, דערן	מאססן צו	LA TRA-	ידעאון אסרי	TITATI HIS T COND.
					_	<u> </u>		<u> </u>			
					7		TOV TINJ. TICLETRI				
								15 [COND. 1			
K	Refer to RD and C2.	ox AND more than	1 condition in C2 (6)		13.		dition in 3b) the r	esult of	the same a	ccident you	aiready
	8 _] Other (K2)	4	Told me ab	out? cord condition page I	number wh	ere					
6a.	During the 2 weeks ((<u>condition</u>) cause	 to cut down 	on the things —-	r, did — — — usually does	·	acci	ident questions first	completed	· — _	(NC) je No.	
ь.	During that period, h			wn for more	·						
	than half of the day?				14.		the accident ha	appen?			
<u> </u>	00 None (K2) During those 2 week		sys		4	2 At home	i (adjacent premises) nd highway (include:				
1.	more than half of the	a day because	of this condition	n?		4 🔲 Farm				ewaik)	
	00 None	Da	9YS			6 School (Il place (includes pre Includes premises)				
8.	Ask if "Wa/Wb" box m During those 2 weeks	, how many d	ays did — — miss	more than		7 Place of 8 Other (S	recreation and sport pecify) 😽	s, except a	t school		
l	half of the day from –	- — job or busi	iness because of t	his condition?							
ļ		Da	1YS	<u></u>	15a.	Mark box if Was — — u	f <i>under 18.</i> L Inder 18 when 1] Under the acci		ened?	
9.	Ask if age 5–17: During those 2 week half of the day from :					1 Yes (16,]No			
		Da		0	Ь.	Was in 2 Yes (16)	n the Armed Fo	rces wh ∃No	en the acc	ident happe	mød?
-					c.	Was at	work at job	or busine	ess when th	e accident h	appened?
K :	Condition does no	t have "CL LTR" i	n C2 as source (K4)		16a.		truck, bus, or of		or vehicle i	nvolved in th	a accident
10.	About how many days condition kept in	bed more that	n half of the day?	io, has this (Include days		in any way	2	No (17)			
	while an overnight pa	•	-		ь.	Was more	than one vehic	le involv			
11.	000 None Was — — ever hospit	Da		?	- c.	1 Yes_	her one] movin	No	time?		
	1 Yes	2 🗌 No				1 Ves	2	No			
K	B Missing extremity	or organ <i>(K4)</i>			17a.	What kind	e of the accider of injury was it		part of the	body was h	urt?
12a.	Does —— still have t	his condition	7	·	1	Anything of	else? Part(s) of body *			Kind of injury	
١.	1 Yes (K4)		[·'	Pari(s) or body						
D.	2 Cured	atroir				{					
ĺ	3 Under control (K4) About how long did	(K4)			3, 4, or 5 marked						
с.	About how long did				Ь.	What part How is	of the body is a - (part of body) - cted in any oth	affected	now? ?		
	000 Less than 1 month	OR Numb	Der { 1 Months 2 Years				ected in any oth Part(s) of body *	er way?		resent effects	
d.	Was this condition pro										
<u> </u>	0 Not an accident/inj	urγ <i>(NC)</i>			1—	* Enter	t of herein in an	dete:	e for 2c		
K4			(14)		1.	* If multiple	t of body in same present effects	, enter ir	C2 each o		
	8LJ Other (13)					same as 3b or C2 and complete a separate condition page for it.					for it.

I

							[old age		
	A. HOUSEHOLD COMPOSITION				11.	First name	1	init. Age		
	hat are the names of all persons living or staying here? Start with a of the persons who owns or rents this home. Enter name in REF			'.						
b. Wh	at are the names of all other persons living or staying here? Enter na	me	s in columns. If "Yes," enter	1	ł	Last name	•	бех 1∐М		
	· · · ·		names in columns		2.	Relations	nip NCE PERSON	2 [] F		
	ave listed (<u>read names</u>). Have I missed: any babies or small children?		Yes No	{	3.	Date of bin Month	rth.	Year		
	ny lodgers, boarders, or persons you employ who live here?						<u>_</u> i			
1	nnyone who USUALLY lives here but is now away from home raveling or in a hospital?				C1	HOSP.	WORK RD	2-WK. DV		
	nnyone else staying here?			J				S		
d. Do	all of the persons you have named usually live here?		LY HOUSEHOLD MEMBERSH	IP		Number		Number		
Pro	be if necessary:	Delete nonhousehold member	s	C2	1					
Do	es —— usually live somewhere else?		,,,,,		LA TR		TTRIHSICON			
As	c for all persons beginning with column 2:									
	at is —— relationship to <u>(reference person)?</u>				1	LA TR	א די דע דואס. זכנ	LTRI HSTCOND		
3. Wh	at is — — date of birth? (Enter date and age and mark sex.)					i		<u> </u>		
	REFERENCE PERIODS]					
	2-WEEK PERIOD									
A1					1	[
	12-MONTH DATE							TTRI HSTCOND		
	13-MONTH HOSPITAL DATE					<u> </u>		<u> </u>		
					{		Ā ĪDV TINJ. TCI	LTRI HSTCOND		
A2	ASK CONDITION LISTS 1,2, and 3.									
	CONDITION 7 PERSON NO		Ask 3g if there is an impai following entries in 3b—f:		t (refe	er to Card	CP2) or any of	the		
1. Na	me of condition	l	Abscess	Dam	age	F	Palsy			
	rk ''2-wk, ref. pd.'' box without asking if ''DV'' or ''HS''		Ache (except head or ear) Bleeding (except menstrual)	Grov	wth Iorrha		Peralysis Rupture			
	C2 as source.		Blood clot	Infe	ction	8	lore(ness)			
2. Wi ab	en did [——/anyone] last see or talk to a doctor or assistant but —— (<u>condition</u>)?		Boil Cancer		immat raigia		itiff(ness) Tumor			
	Interview week (Reesk 2) 5 2 yrs., less than 5 yrs. 0 with and 6 5 yrs. or more		Cramps (except menstrual) Cyst	Neu Pair			Jicer /aricose veins			
_	2-wk. ref. pd. 6 ⊔ 5 yrs. or more Over 2 weeks, less than 6 mos. 7 □ Dr. seen, DK when		-,		•		Veak(ness)			
3 🖸	6 mos., less than 1 yr. 1 yr., less than 2 yrs. 9 Dr. never seen 3 (3b)	Ι.	. What part of the body is		oted?	,				
	rlier you told me about — — (condition)) Did the doctor or assistant	ľ					(Specify)			
cai	the (<u>condition)</u> by a more technical or specific name?		Show the following detail:	il: skuil, scalp,						
1	Yes 2 🗌 No 9 🗌 DK		Back/spine/vertebrae				upper, mic	idie, lawer		
	x 3b if ''Yes'' in 3a, otherwise transcribe condition name from n 1 without asking:		Side							
	at did he or she call it?		Eyeshouk							
1[(Specify) Color Blindness (NC) 2 Cencer (3a)		Hand		entire	hand or fir	ngers only; left, rig	ht, or both		
	Normal pregnancy, 4 Old age (NC)	l	Leg							
	normal delivery, } (5) 8 🗆 Other (3c)									
c.Wh	at was the cause of —— (condition in 3b)? (Specify) $_{\overrightarrow{V}}$		Except for eyes, ears, or ir following entries in 3b—f:		al orga	ans, ask 3	3h if there are ar	ny of the		
_			Infection Sore	S o	reness	;				
Ma	rk box if accident or injury. o 🗆 Accident/injury (5)	h	 What part of the (part of sore/soreness] — the ski 							
_	the (<u>condition in 3</u> b) result from an accident or injury? Yes (5) 2			,		,				
			(Specify)					<u> </u>		
	x 3e if the condition name in 3b includes any of the following words: ment Cancer Disease Problem		Ask if there are any of the Tumor Cyst		wing e owth	entries in	3bf:			
Ane Ast		4.	is this [tumor/cyst/grow			ant or b	enian?			
Att: Bad				 Ben	-	_	⊐рк			
		—	a. When was — — (condi	tion !	0.25/	261	1 🗆 2-wk. ref. pd.			
e.Wh	at kind of (<u>condition in 3b</u>) is it?(Specify)	5	first noticed?	uon li	1 30/3	- :	2 🔲 Over 2 weeks			
Asl	: 3f only if ellergy or stroke in 3b-e:		b. When did (name of	of inju	ıry in		3 🗆 Over 3 months 4 🗆 Over 1 year to			
	w does the [allergy/stroke] NOW affect? (Specify) 🔀						5 Over 5 years	- 100.0		
			Ask probes as necessary: (Was it on or since (first of	late 4	of 9-14	leek ref	period)			
			or was it before that date		<u></u>	<u></u>				
			(Was it less than 3 mont							
effe	Stroke, fill remainder of this condition page for the first present ct. Enter in item C2 and complete a separate condition page for		(Was it less than 1 year of (Was it less than 5 years			-	-			
eac	h additional present effect.	ars or more than 5 years ago?}								

h										age	·			Old age
	2			3				4	Ļ			5		
1.	First name	Mid. init. Age Fi	irst name	Mid. init.	Age	1.	First name		Mid. init.	Age	First name		Mid. in	it. Age
	Last name	Sex Li	ast name	•	Sex		Last name			Sex 1 □ M	Last name			Sex 1 🗌 M
					1 🗆 M 2 🗆 F					1 ∐ M 2 ∐ F				
2.	Relationship	R	lelationship			2.	Relationship				Relationship	-		
3.	Date of birth Month Date	Year D	late of birth Nonth Date	e Year		3.	Date of birth Month	Date	Yea		Date of birth Month	Date	١Y	ear
	HOSP. WORK	RD 2-WK, DV	HOSP. WORI	K RD 2-1	WK. DV		HOSP.	WORK		WK. DV			(
C1					None	C1	00 None					WORK	RD	2-WK. DV
	Number 2 Wb 2		Number 20w		lumber	01	Number	2⊡wa		Number	1 P	1 □ Wa 1[2 □ Wb 2[
					umber		Number	L		umber	Number			Number
C2					$\overline{}$	C2	1			$\overline{}$		11.0000		$\overline{}$
1		CLITATHS COND. TA	A RA DV	ואֹס. דין כו נדאן אפ	מוססק פ	·	LA - RA-	נאון עפן	C TOL LTRINS	סאסק ד.	LA TIRA	UDVI INJ.	T CL LTR	HS TOND
	i i <u>i</u>	<u> </u>		<u> i i </u>	<u>-</u>	-	i			<u> </u>				_ <u> </u>
		N				1								
	נאון־עסן־ אאך די ז. יַנַאון עסן־	CLTTRINS COND. TA	הַעסק דּתּק − א ו ו ו	INJ. TI CLITATHS I I	TCOND.		LA IRA	דמדן ⊽םך ו ו	: ี i CL เรียงหรื	מאססק ד. ו	ĹĨĂ [—] ŢĦĨĂ —	ן זאַד. ו	CLIR	HS T COND
		<u></u>	<u> </u>	l,.l	<u>-</u>	í	<u> </u>	1 1			· · · · ·	<u>i i</u>	ii	—i—
		TOLETATHS TOOND. TA		INTLED OF LEASTING		1		דאה סמל	פערמידו ויה רי				TOTAL	
					$\overline{\ }$	1						·		
	נאון־עסן־ אאן – גא	CLETRINS TOOND. TA		אקאקאס. דו מנייקאס	СИОЭТ Т		CA- TIRA	נמה עסר] CL LTR; HS	מאססק ד	LTA TRA	ן זֿסע"ן זאַ ד .	(CCLTR)	אסט ד או
1					<u> </u>	1	1		_ <u></u>	! 		I I Il		
					\mathbf{i}	í	}			\mathbf{i}				\sim
		CUTRINS TOND. TA		NJ. I CLITRIHS	. סאסק		LA	נאון עמן.		מאססי -		DV NJ.	CLIRI	TS T COND.
h		<u>i i i l</u>	iii	<u>i i</u>	<u>.</u>	ļ								
K1	Refer to RD and C2.	box AND more than 1	condition in C2 (6	,			is this (<u>con</u>		<u>3</u> b) the rea	ult of t	he same ac	cident y	ou aire	ady
	8 Other (K2)						told me ab							-
6a.	During the 2 weeks (<u>condition</u>) cause —	outlined in red o 	on that calend on the things -	lar, did — — — usually c	ione?		Yes (Rec acci	cord condi ident ques	tion page nu tions first co	mber who mpleted.) —			
	Yes	🗌 No (k									Page	e No.		
Ь.	During that period, than half of the day	how many days	did — — cut d	own for mo		14.						1		
		,.				14.	Where did			penr				
7	00 None (K2) During those 2 wee						2 At home							
·	more than half of t	he day because o	ays dia — — st of this conditio	ay in bea to on?	r		3 Street ar	nd highway	y (includes ro	badway a	nd public side	waik)		
	00 None	Days	1				5 Industria			ses)				
	Ask if ''Wa/Wb'' box	marked in C1:		· · · · · · · · · · · · · · · · · · ·			6 School (i 7 Place of i			except at	school			
8.	During those 2 week naif of the day from	s, how many day	s did — — miss	more than			8 Other (S	^{pecify)} ¥						
	00 🗆 None	•		una conunc	^					·				
		Daγs					Mark box if Was — — u			Jnder 1 accid		ned?		
9. 1	Ask if age 5—17: During those 2 wee	ks, how many da	∎ys did — — m	iss more tha			1 Yes (16)							4
	half of the day from	school because	of this condit	tion?			Was — — ir		med Forc	es whe	n the acci	dent hap	pened	
	00 None	Days					2 Yes (16) Was — at			lo				
K2		LLTR" in C2 as sourc					Was — — at 3⊡ Yes	work at	job or 4 🗆 ۸	busines	ss when the	accident	happe	ned?
	Condition does n	ot have "CL LTR" in C					Was a car, 1	ruck bi			z vehicle in	volved in	the or	oident
6	bout how many day ondition kept —— in	n bed more than h	alf of the day?	go, has this ' (include da		1	in any way?							
· ·	vhile an overnight p	atient in a hospita	al.)		Ì	ь ч	1 Yes			lo (17)				
	000 None	Days					1 Yes	stati UN			nu (
11. V	Vas — — ever hospi	talized for (c	condition in 3b)	?			Was [it/eith	ier one]			 ime?			
	1 Yes	2 🗌 No					1 🗌 Yes		2 🗌 N	lo				
КЗ	Other (12)	or organ (K4)			1	7a. /	At the time What kind	of the a	ccident v	what p	art of the b	ody was	hurt?	
12a. D	loes — — still have	this condition?					Anything e							
	1 Yes (K4)				ľ	Ĺ	P	art(s) of b	ody *			Kind of inju	ury .	
b. la	this condition con	npletely cured or	is it under co	ntrol?		ļ								
	2 Cured	8 Other (Spec	cify) 🙀			F	·							
-	3 Under control (K4)						Ask if box 3,							·
c. A							Nhat part o	of the bo	odv is affe	octed n	iow?			
	000 Less than 1 mont	OR	{ 1 🗆 Months 2 🗌 Years	;		i	low is — — s — — affe	cted in a	ny other	way?				
						F	P	art(s) of b	ody *		Pre	sent effect	ts **	
a. W	as this condition pr	esent at any time 2 🗌 No	during the pas	at 12 months	17									
	T		·											
К4	0 Not an accident/i	njury (NC) ury for this person (14,	1)				Enter part	of body	in same d	etail as	for 3g.			
•••	8 Other (13)	,				**	If multiple same as 3b	present	effects, ei	nter in (C2 each on	e that is n	ot the	,
ORM HIS-1	Evaluation) (2-1-90)				Page							- non hag		·

<u></u>		-	Old age
	A. HOUSEHOLD COMPOSITION PAGE	1.	.T First name Mid. init. Age
1a.Wi	at are the names of all persons living or staying here? Start with the name of the person or a of the persons who owns or rents this home. <i>Enter name in</i> REFERENCE PERSON <i>column</i> .	1.	
ь. Wł	at are the names of all other persons living or staying here? Enter names in columns. If "Yes," enter names in columns	2	Last name Sex 1 M N 2 F Relationship
}	ve listed (<u>read names</u>). Have I missed:	1	REFERENCE PERSON Date of binth Month Date Year
	ny babies or small children?	0.	Month Date Year
	nyone who USUALLY lives here but is now away from home raveling or in a hospital?		HOSP. WORK RD 2-WK. DV
	nyone else staying here?	C1	
d. Do	all of the persons you have named usually live here? 🛛 Yes (2)	ļ	Number 2 Wb 2 No Number
	be if necessary: I No (APPLY HOUSEHOLD MEMBERSHIP RULES. Delete nonhousehold members	C2	
	by an "X" from 1-C2 and enter reason.) by an "X" from 1-C2 and enter reason.)	62	LA TIRA TIDV TINJ. I CULTRI HISTOOND
ļ	tor all persons beginning with column 2:		├ <u></u> └_ <u>↓</u> _ <u>↓</u> _ <u>↓</u> _ <u>↓</u> _
	at is — relationship to (reference person)?		
	at is — — date of birth? (Enter date and age and mark sex.)		
	REFERENCE PERIODS		
	2-WEEK PERIOD	ł	
A1	12-MONTH DATE	ļ	LA TRA I DV TINJ. I CLITRI HIST COND
	13-MONTH HOSPITAL DATE		
A2	ASK CONDITION LISTS 1,2, and 3.		
	L. DEMOGRAPHIC BACKGROUND PAGE		
		L1	
L1	Refer to age.		5-17 (2)
1a.D	d — — EVER serve on active duty in the Armed Forces of the United States?	1a.	
			2 🗋 No (2)
b. W	hen did —— serve? Vietnam Era (Aug. '64 to April '75) VN	ь.	1 U VN 5 DPVN
	hen did — — serve? Vietnam Era (Aug. '64 to April '75) VN Korean War (June '50 to Jan. '55) KW World War II (Sept. '40 to July '47) WWI		2□KW 8□OS
T	us, if person served in Vietnam and in Korea World War I (April '17 to Nov. '18)WWI		3 □ wwii 9 □ dK 4 □ wwi
m	Other Service (all other periods) OS		
c.W	as —— EVER an active member of a National Guard or military reserve unit?	-c.	Yes 2 No (2) 7 DK (2)
d. W	as ALL of — — active duty service related to National Guard or military reserve training?	 d.	
			1 🗌 Yes 3 🗌 No 9 🗍 DK
2a. W	hat is the highest grade or year of regular school — — has ever attended?	2a.	00 Never attended or kindergarten (NP)
			Elem: 1 2 3 4 5 6 7 8
			High: 9 10 11 12
			College: 1 2 3 4 5 6 +
b. D	d — — finish the <u>(number in 2a</u>) [grade/year]?	ь.	1 🗍 Yes 2 🗌 No
	nd Card R. Ask first alternative for first person; ask second alternative for other persons.		
3a.[Vi Vi	hat is the number of the group or groups which represents —— race?] hat is —— race?	3a.	1 2 3 4 5 ,
	cle all that apply		
2	– Aleut, Eskimo, or American Indian 4 – White – Asian or Pacific Islander 5 – Another group not listed – <i>Specify</i> – Black		·
	k if multiple entries:		(Spacify)
	hich of those groups; that is <u>, (entries in 3a)</u> would you say BEST represents —— race?	ь.	1 2 3 4 5 7
			(Specify)
c.M	ark observed race of respondent(s) only.	-c.	+
			1 🗍 W 2 🗍 B 3 🗍 O
	nd Card O.	4a.	1 🗌 Yes
~ -	e any of those groups —— national origin or ancestry? (Where did —— ancestors come from?)		2 No (NP)
	pase give me the number of the group. cle all that apply.	Ь.	
1 -	- Puerto Rican 5 Chicano		1 2 3 4 5 8 7
3	– Cuban 6 – Other Latin American – Mexican/Mexicano 7 – Other Spanish		, , , , , , , , , , , , , , , , , , , ,
	- Mexican American		

		Old age				ge				0	d age	·		٥	ld age
1.	First name	Mid. Init. Age	First name	3	lid. init. 🗛	ae	1.	First name	4	Mid. init.	Age	First name	5	Mid. init.	Age
	Last name	Sex 1 🗆 M	Last name			ex ⊡ M		Last name	<u> </u>		Sex 1 🗌 M	Last name			Sex 1 🗌 M
2.	Relationship				2		2.	Relationship	<u></u>		2 🗆 F	Relationshi			2 🗆 F
3.	Date of birth Month Date	Year	Date of hirth	Date	Year		3.	Date of birth Month	I _{Date}	Yea		Date of birt Month		Yea	
	HOSP. WORK	RD 2-WK. DV				. DV		HOSP.	WORK		WK. DV				-WK. DV
C1	00 None 1 Wa		1		res	None	C1	00 🗌 None	1□Wa 2□Wb	Tes				Yes	0 Non
	Number 2 Wb	2LIN0 Number	Number	2 0wb 20	No Nur	nber		Number	20.00	2 NO	Number	Number			Number
C2							C2		7077 707					ក្រភាគផ	3007.5
		J. ICLEIRINS ICOND 1 1 1 1 1 1 1 1 1				COND.									
		U.T. JCLIETRIHS JCOND	TA 184	זיד וזאר עמי	មាតមនា	2020			אה עמד.	J. TI CL (TRIF	017057 TEI		דעאון <i>ע</i> סון.	CLITRIN	אד כסאד
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	נגי – זאגי – _ו סע–ווא	U ICLITRIHS TCOND		מיד באה עמז	1. LTRIKS (000		[A RA-		J. TI CL LTRIF		LA TRA		CELTRIN	S T COND
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	עון־עסו־ אזן – גע	יי דכו דו או אי דכסאס		ז ו־־.נאוך ע'מין	CLETRIHS (COND.		CA	TDV TIN.	J. TI CL (TRIF	0/7051 21	L'A - TRA		TCITITA H	S T COND
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		יד וכרנזאואצ וכטאס. סיי וכרנזאואצ		זיד. כאוד עסד	L LTRIHS	COND.		LA	TOV TIN.	ז. רן פו. נזאוד	ופי ובסאס		דעז ועסי <u>ר.</u>	CLITRIH	ST COND
			<u> </u>				1	1			1				<u> </u>
			Į				<u> </u>								
L1	Under 6 (N	P)	Unde	7 (2)			L1	□ 5-1				5-	der 5 <i>(NP)</i> -17 <i>(2</i>)		
1a.	18 and ove	r (1)	18 an	id over (1)			1a.	18 a	nd over (1)		1 🗆 18	and over (1)		
	2 🗆 No (2)		2 No (2	9				2 🗌 No /.	2)			2 🗆 No			
Ь.	1 🛛 VN 2 🗆 KW	5 PVN 8 0 0S	1 U VN 2 U KW	5 5 8	PVN		b.	1 □ VN 2 □ KW		5 PVN 8 0 0S					
	3 U WWII 4 U WWI	9□ ОК						3□ww 4□ww	'n	∍□ок		3□w 4□w	WII 9	□ DK	
с.	☐ Yes 2 □	No (2) 7 □ DK (2)	□ Yes	2 🗆 No <i>(2</i>)	7□ рк	(2)	c.	□ Yes	2 🗆 N	o <i>(2</i>)7 🗆	DK (2)	Ωve	s 2 🗆 No (2) 7 🗆	DK <i>(2)</i>
ā.	1 🛛 Yes 3 🗆	 №	1 🗌 Yes	3 🗆 No	э□ рк		d.	1 🗌 Yes	з 🗆 N	 9 🗆	DK	1 □ Ye	s 3□No	 9 🗆	DK
2a.	00 🗆 Never atter	nded or	00 Neve	r attended or			2a.		er attende	ed or		00 🗆 Ne	ver attended	or	
	kindergarte Elem: 1 2	n <i>(NP)</i> 345678		rgarten <i>(NP)</i> 1234	567	8			ergarten (123	(NP) 456	78		dergarten (Ni 123		78
	High: 9 10		-	9 10 11			ĺ		9 10				9 10 1		
 b.	College:1 2	3456+	·}	1234	56+		ь.	College	.1 2 3	456	+		ge:1 2 3	456	+
	1 🗌 Yes 2 🗖	No	1 🗆 Yes	2 🗆 No				1 🗆 Yes	2 🗆 N	o 		1 🗆 Ye	s 2 🗆 No		
3.	1 2 3 4	5 7	1 2	3 4	⁵ z		3a.	1 2	3 4	5 Z		1 2	3 4	5 7	
5	1 2 3 7	, °7		5 4	°¥				• •	¥			•	* ¥	
	(Spe	cify)		(Specify)					(Spec	cify)			(Specif	<i>v)</i>	
- Ē.	1 2 3 4	5 ¥	1 2	3 4	⁵ 7		Ъ.	1 2	3 4	57		1 2	3 4	5 Z	
	(Spe	cify)		(Specify)					(Spec	cify)			(Specif	<i>v</i>)	
- ē.	10w 20			2 🗆 8	3 🗆 o		c.		2 🗆 B	 3 🗆	 0	 1□w	2 🗍 B	 3 🛛	 0
	·····										-				
4a.	1 🖸 Yes 2 🗍 No (<i>NP</i>)		1 🗌 Yes 2 🗌 No (N	P)			4a.	1 ☐ Yes 2 ☐ No (NP)			1 🗌 Ye 2 🗍 No			
 b.							b.								
	1234	567	1 2	345	67			12	34	56	7	1 2	34	56	7
ORM HIS	1 (Evaluation) (2 1-90)		L			Page	41					L			

) T

			Old age
A. HOUSEHOLD COMPOSITION PAGE	<u> </u>	1. li	First name Mid. init. Age
1a. 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 name in REFERENCE PERSON column.			First name Mild. Init. Age
b. What are the names of all other persons living or staying here? Enter names in columns. If "Yee," enter names in column c. I have listed (read names). Have I missed: Yes — any babies or small children? I	-	2. 3.	l 1 M Relationship REFERENCE PER\$ON Date of birth Month ¦Date [!] Year
			HOSP. WORK RD 2-WK. DV DO None 1 Wa 1 Yes 00 None
d. Do all of the persons you have named usually live here? [] Yes (2) No (APPLY HOUSEHOLD MEMBERS)	HP		Number 2 WB 2 No Number
Probe if necessary: RULES. Delete nonhousehold membe by an "X" from 1—C2 and enter rea: Does —— usually live somewhere else?	ars son.)	22	
Ask for all persons beginning with column 2:		ŀ	
2. What is — – relationship to (reference person)?		ł	רב - זאג די דעי זואז. דכוניהו אזדכטאט
3. What is — — date of birth? (Enter date and age and mark sex.)		ł	
REFERENCE PERIODS			
2-WEEK PERIOD			
A1 12-MONTH DATE			
13-MONTH HOSPITAL DATE			
A2 ASK CONDITION LISTS 1,2, and 3.			
L. DEMOGRAPHIC BACKGROUND PAGE, Continued			
L2 Refer to "Age" and "Wa/Wb" boxes in C1.		L2	0 ☐ Under 18 (<i>NP</i>) 1 ☐ Wa box marked (<i>6a</i>) 2 ☐ Wb box marked (<i>5a</i>) 3 ☐ Neither box marked (<i>5b</i>)
5s.Earlier you said that —— has a job or business but did not work last week or the week before. Was —— looking for work or on layoff from a job during those 2 weeks?		5a.	1 Yes (5c) 2 No (6b)
b. Earlier you said that —— didn't have a job or business last week or the week before. Was —— looking for work or on layoff from a job during those 2 weeks?		ь.	1 Yes 2 No (NP)
c. Which, looking for work or on layoff from a job?	1	с.	1 Looking (6c) 3 Both (6b) 2 Layoff (6b)
6a. Earlier you said that —— worked last week or the week before. Ask 6b.			
b. For whom did — — work? Enter name of company, business, organization, or other employer.		and	Employer INEV (6g)
c. For whom did — — work at — — last full-time job or business lasting 2 consecutive weeks or more? Enter name of company, business, organization, or other employer, or mark "NEV" or "AF" box in person's colu	mn.	c.	
d. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.		d.	Industry
If "AF" in 6b/c, mark "AF" box in person's column without asking. e.What kind of work was — — doing? For example, electrical engineer, stock clerk, typist, farmer.		•.	Occupation AF (NP)
f. What were — — most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.		<u>-</u> f.	Duties
Complete from entries in 6b—f. If not clear, ask: g. Was —		 g.	Class of worker
An employee of a PRIVATE company, business or individual for wages, salary, or commission Self-employed in OWN business, professional practice, or farm? A FEDERAL government employee? F A STATE government employee? S A LOCAL government employee? S Working WITHOUT PAY in family business or farm? W No No No No No No No No No farm? W No No No No	P		20 F 605E 30 S 70WP 40 L 80NEV
FOOTNOTES	_ .		,

Pa	g	e	4	з

	Old age	Old age			Old age		Old age
1.	2 First name Mid. init. Age	3 First name Mid. init. Age	1.	First name	4 Mid. Init. Age	First name	
"	Last name Sex	Last name Sex		Last name		Last name	Mid. init. Age Sex
	1 🗆 M 2 🗆 F	2	<u> </u>		Sex 1 M 2 F		Sex 1 🗌 M 2 🖵 F
2.	Relationship Date of birth	Relationship	2.	Relationship		Relationship	
3.	Month Date Year	Date of birth Month Date Year	3.	Date of birth Month Dat	te Year	Date of birth Month Date	Year
C1	HOSP. WORK RD 2-WK. DV 00 None 1 Wa 1 Yes 00 None			HOSP. WO			RD 2-WK. DV
CI	Number 2 Wb 2 No Number	00 None 1 Wa 1 Yes 00 None 1 Wa 1 Yes 00 None None	101		Wa 1 Yes None	None 1 Wa	
							Number
C2		דר - ודה - דסק - נאון - הנאון - האון - דמון - דמון - דמון - דמון - דמון - דמון - דמון - דמון - דמון - דמון - ד					
						LA IRA IDVINJ	I CLLTRIHS COND
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ļ	אד דאד אוז איז דער דאג דער דאג דער דאג. איז איז איז איז איז איז איז איז איז איז	ערק דאק דאק דער דער דער דער דער דער דער דער דער דער	5.		TNJ. CLETRIHS COND	נאזן דע מין דא איין דארע דע ו ו ו ו	ד הכוודה אשר למאס
				l	· · · · · · · · · · · · · · · · · · ·		<u> </u>
	דא - זאא -יסאיד וכרנדאואא דכסאס	דא דו דו דו דו דא דו דער עם די דא דו דער דעד דער דער דער דער דער דער דער דער	<u>}</u>		דואש. קכו נדוקואבי זכסאס	נא ויעסין הא ד	T TOELTRINS TOOND.
	עמוך ארך דאג און אין דעון עמון ארך דער גערער. געון־עטן־ ארך די גערידער גערער גערער גערער גערער גערער גערער גערער גערער גערער גערער גערער גערער גערער גערער גע	דאד האז דו דער ענד האז דער דער דער דער דער דער דער דער דער דער			דאוז. דוכו נדוקדאבי הכסאט.		
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			5.7		TINJ. TOLETRIHS COND.		TCLITRIHS TCOND.
Γ			1	1	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>	
<u> </u>							
L2	0 Under 18 <i>(NP)</i> 1 Wa box marked <i>(6a)</i>	0 Under 18 <i>(NP)</i> 1 Wa box marked <i>(6a)</i>		0 💭 Under 18 1 🗋 Wa box m		0 Under 18 (NP) 1 Wa box marked	16-1
LZ	2 🛄 Wb box marked (5a) 3 🗍 Neither box marked (5b)	2 Wb box marked (5a) 3 Neither box marked (5b)	L2	2 We box m 3 Neither bo	arked (5a)	2 🗌 Wb box marked	(5a)
Бa.	1 Yes (5c) 2 No (6b)		5a.		_	3 Neither box ma	
-Б.		1 Yes (5c) 2 No (6b)	Б.	1 🗌 Yes (5c)	2 🗆 No <i>(6b)</i>	1 🗌 Yes (5c)	2 🗆 No (6b)
	1 Yes 2 No (NP)	1 Yes 2 No (NP)		1 🗌 Yes	2 🗌 No <i>(NP)</i>	1 🗆 Yes	2 🗆 No <i>(NP)</i>
c.	1 Looking (6c) 3 Both (6b) 2 Layoff (6b)	1 Looking (6c) 3 Both (6b) 2 Layoff (6b)	c.	1 Looking (6 2 Layoff (6b		1 Cooking <i>(6c)</i> 2 CLayoff <i>(6b)</i>	3 🗌 Both <i>(6b)</i>
6b.	Employer	Employer	бь.	Employer		Employer	
and c.	□ NEV (6g) □ AF (6e)	□ NEV (6g) □ AF (6e)	and c.		□ NEV (6g) □ AF (6e)	• • • • •	□ NEV (6g) □ AF (6e)
 d.	Industry	Industry	d.	Industry		Industry	
•.	Occupation AF (NP)	Occupation		Occupation		Occupation	
					🗆 AF (NP)		🗆 AF (NP)
- ē.	Duties	Duties	f.	Duties	h	Duties	
ł							
	_						
ſ	_	Class of worker	[-]	Class of worker	_	Class of worker	
g.	1 □ P 5 □ I 2 □ F 6 □ SE	1□P 5□1 2□F 6□SE	g.	1 🗆 P 2 🗆 F	5 🗌 I 6 🗆 SE	1 🗌 P 2 🗌 F	5 □ I 6 □ SE
	3□S 7□WP 4□L 8□NEV	3 □ S 7 □ WP 4 □ L 8 □ NEV		з⊡s	7 🗌 WP	3 🗆 S	7 🗌 WP
				4 🗆 L	8 🗆 NEV	4 🗆 L	8 🗆 NEV
FOOT	NOTES	······································					

			Old age
	A. HOUSEHOLD COMPOSITION PAGE	1.	First name Mid. init. Age
1a. Wh	at are the names of all persons living or staying here? Start with the name of the person or of the persons who owns or rents this home. Enter name in REFERENCE PERSON column.		
	at are the names of all other persons living or staying here? Enter names in columns. If "Yes," enter names in columns ve listed (read names). Have I missed:		Last name Sex 1 M 1 M 2 F Relationship REFERENCE PERSON
- 4	ny babies or small children?	3.	Date of birth Month Date Year
	ny lodgers, boarders, or persons you employ who live here?		HOSP. WORK RD 2-WK. DV
	raveling or in a hospital?	C1	00 None 1 Wa 1 Yes 00 None
	all of the persons you have named usually live here? 🔲 Yes (2)		Number 2 Wb 2 No Number
	□ No (APPLY HOUSEHOLD MEMBERSHIP	C2	
	be if necessary: HULES. Delete nonnousenola members by an "X" from 1 – C2 and enter reason.)	62	LA - TRA TOV TINJ. TOLLTAI HSTOOND
	for all persons beginning with column 2:		
	at is — relationship to (reference person)?		TA TRA TIDV TINJ. TOLITA HISTOOND.
3. Wh	at is —— date of birth? (Enter date and age and mark sex.)		
	REFERENCE PERIODS		
			LA TRA IDV TINJ. TOLLTRI HSTOOND.
	2-WEEK PERIOD		
A1	12-MONTH DATE		LA TRA IDV TINJ. TOLUTRI HSTOOND.
	13-MONTH HOSPITAL DATE		LA TRA TIDY TINJ. TOUTRI HISTOOND.
A2	ASK CONDITION LISTS 1,2, and 3.		
	L.DEMOGRAPHIC BACKGROUND PAGE, Continued		
	ark box if under 14. If "Married" refer to household composition and mark accordingly. —— now married, widowed, divorced, separated, or has —— never been married?		1 Married — spouse in HH 2 Married — spouse not in HH 3 Widowed 4 Divorcad 5 Separated 6 Never married
Ar ret int Re	is the total combined FAMILY income during the past 12 months — that is, yours, <u>(read names, including</u> <u>ned Forces members living at home</u>) more or less than \$20,000? Include money from jobs, social security, lement income, unemployment payments, public assistance, and so forth. Also include income from erest, dividends, net income from business, farm, or rent, and any other money income received. ad if necessary: Income is important in analyzing the health information we collect. For example, this	8a.	1 \$20,000 or more (Hend Card I) 2 Less then \$20,000 (Hend Cerd J)
50	ormation helps us to learn whether persons in one income group use certain types of medical care rvices or have certain conditions more or less often than those in another group.		
	ad parenthetical phrase if Armed Forces member living at home or if necessary.	b.	00 □ A 10 □ K 20 □ U 01 □ B 11 □ L 21 □ V
l dı	those income groups, which letter best represents the total combined FAMILY income ring the past 12 months (that is, yours, <u>(read names, including Armed Forces members</u>		02 C 12 M 22 W 03 D 13 N 23 X
	ing at home))? Include wages, salaries, and other items we just talked about. ad if necessary: income is important in analyzing the health information we collect. For example,		04 🛛 E 14 🗋 O 24 🗋 Y
i th	ad in facessary: income is important in analyzing the nearly information we construct for example, is information helps us to learn whether persons in one income group use certain types of edical care services or have certain conditions more or less often than those in another group.		05 F 15 P 25 Z 06 G 16 Q 26 ZZ 07 H 17 R 08 I 18 S 09 J 19 T
R	Mark first appropriate box.	Ra.	0 Under 17 1 Present for all questions 2 Present for some questions 3 Not present
	b. Enter person number of respondent.	ь.	Person number(s) of respondent(s)
		L3	
L3	Enter person number of first parent listed or mark box.		Person number of parent
L4	Enter person number of spouse or mark box.	L4	Person number of spouse 00 🗌 None in household
<u></u>	ş		and the second second second second second second second second second second second second second second second
GHA	a. Is currently a member of GHA?	a.	1 🗋 Yes (NP) 2 🗌 No (b)
	b. At any time since October 1988, has been a member of GHA?	b.	1 🗍 Yes 2 🗌 No

	Old age	Old age			Old age		Old age
	2	3			4		5
1.	First name Mid. init. Age	First name Mid. init. Age	1.	First name	Mid. init. Age	First name	Mid. init. Age
	Last name Sex	Last name Sex	-	Last name	Sex	Last name	Sex
	1 🗌 M 2 🗋 F		1		Sex 1 [] 2 []	M	Sex 1 🗌 M 2 🗌 F
2.		Relationship	2.	Relationship		Relationship	<u>12 Li F</u>
3.	Date of birth	Date of birth	3.	Date of birth		Date of birth	
	Month Date Year	Month Date Year		Month	Date Year	Month Date	e Year
	HOSP. WORK RD 2-WK. DV	HOSP. WORK RD 2-WK. D	/	HOSP.	WORK RD 2-WK.	DV HOSP. WOR	K RD 2-WK. DV
C1			• C1	00 None			
1	Number 2 Wb 2 No Number	Number 2 Wb 2 No Number	1	Number		L L.O	
	Number	Number		Number		er Number	Number
C2			C2	1	<u> </u>		$\overline{}$
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SUGGESTED SCRIPT TO INTRODUCE PERMISSION FORMS: As I mentioned earlier, GHA is working with Westat on this study. As part of the data collection, we would like to obtain some additional information from your medical records at GHA. One of the purposes of this study is to see how certain national health statistics would be different if they were made from medical records rather than from interviewing people in households. To do this, we need your written permission. I remind you that any information that would identify you or members of your family will be destroyed after the data collection.

Hand permission form to respondent. If additional GHA members in household, fill out permission forms for them, and arrange to have them signed as well.

			PERSON 1	PERSON 2	PERSON 3		PERSON 4	PERSON 5
PF1	Enter status of permission form for each person	PF1	0 Not Required 1 Signed 2 Not Obtained; Left at Household 3 Refused 4 Other	 0 Not Required 1 Signed 2 Not Obtained; Left at Household 3 Refused 4 Other 	0 Not Required 1 Signed 2 Not Obtained; Left at Household 3 Refused 4 Other	PF1	0 Not Required 1 Signed 2 Not Obtained; Left at Household 3 Refused 4 Other	 0 Not Required 1 Signed 2 Not Obtained; Left at Household 3 Refused 4 Other

Appendix II Health Interview Evaluation Survey abstracting procedures

HEALTH INTERVIEW EVALUATION SURVEY MEDICAL RECORD CODING GUIDELINES

General Coding Rules

Medical coding for the GHA medical records will utilize the <u>Ninth Revision of the</u> <u>International Classification of Diseases</u> and the Modifications and Special Instructions used for the Health Interview Survey in conjunction with guidelines provided by NCHS.

GHA medical records to be coded have been copied in their entirety from October 1988 through the interview date. These records include GHA clinic visits, telephone encounters, referrals to GHA and non-GHA specialists, pathology reports, special procedure reports and hospitalization records.

A Medical Record Coding Face Sheet (Exhibit 1) has been prepared for each respondent reporting a medical condition and is attached to the medical record. Before coding the record, verify that the name and ID numbers on the face sheet match those on the medical record.

Coding of the record will be done in red pencil on the Medical Record Coding Sheet (Exhibit 2). Enter the batch number from the batch sheet. Enter the Westat ID number, medical record number and the GHA subscriber + family number as they appear on the Medical Record Coding Face Sheet.

One encounter section of the form should be completed for each GHA and non-GHA encounter prior to the interview date, including hospital stays.

Alternate Coding Method

This refers to coding encounters within the two-month reference period only, i.e., two months prior to the interview date, and hospital stays occurring within 19 months of the interview date.

Exhibit 1

HEALTH INTERVIEW EVALUATION SURVEY MEDICAL RECORD CODING FACE SHEET March 7, 1991

Exhibit 2
943731 Cod-Shafma April 10, 1991 HEALTH INTERVIEW EVALUATION SURVEY
BATCH _ _ MEDICAL RECORD CODING SHEET
WESTAT ID MEDICAL RECORD # SUBSCRIBER + FAMILY _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
TOTAL ENCOUNTERS: _ _ EACH ENCOUNTER CODED: _
ENCOUNTER: _ _ REASON: _ FORM TYPE: _ _ HA: _
ENCOUNTER/ADM DATE: _ _ - _ -19 _ HOSPITAL DISCH DATE: _ _ - _ -19 _ _
PROVIDER ID NO: 1. _ _ 2. _ _ 3. _ _
NO. DX: _ _ DIAGNOSIS CODE HX
ENCOUNTER: _ REASON: _ FORM TYPE: _ _ HA: _
ENCOUNTER/ADM DATE: _ _ - _ - _ -19 _ HOSPITAL DISCH DATE: _ _ - _ - _ -19 _ _
PROVIDER ID NO: 1. _ _ 2. _ _ 3. _ _
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For this method, an encounter section of the coding sheet would be completed for each encounter within the two-month period preceding the interview date. If there are no encounters during the two-month reference period, the most recent encounter prior to the interview date would be coded.

Any "Health Assessment" or "Initial HA New to MD" on the Adult Medicine form (Exhibit 3) would be coded regardless of date.

All hospital stays, or possible hospital stays, occurring within the 19-month period preceding the date of interview would be coded.

The entire medical record would be reviewed for additional diagnoses or conditions not recorded on the above encounters. These diagnoses would be entered on a supplemental form and coded according to NHIS rules.

Coding Specifications

The first two items on the Medical Record Coding Sheet appear in the first section only and serve as a summary.

- TOTAL ENCOUNTERS -- When the medical record has been coded, enter the total number of encounter sections completed. Zero fill lead box(es) if number is less than three digits. The purpose of this item is to provide an edit check.
- EACH ENCOUNTER CODED -- Enter "0" (No) if the Alternate Coding Method is used. Enter "1" (Yes) if each encounter prior to the interview date is coded.

DEPT. 04 April 1 min Exhibit 3 3/ 4 5 6 8 APPT. STATUS PROVIDERS 05 15 19 Schedu Appt, Length Walk-in $\bigcirc 15 \bigcirc 20$ 30 Tel. (Home) 3 Write-in 2. Min. Other Providers this Prob. Tel. (Office) NUMBER PROB. TITLE/DX STATUS INITIAL NA + 505 NUMBER PROB. TITLE/DX STATUS NUMBER PROB. TITLE/DX STATUS **PROCEDURES & SERVS:** Specialty Consultation New Specialty Consultation-F/U Proctoscopy Inj/Aspir. Bursa/Joint Chemotherapy Inj/Aspir, Body Cavity Cardiology Oncology Pulmonary G.1. Patient + 65 Bronchoscopy Initial HA new to MD Suture/Suture Removal Colonoscopy Health Assessment Other Procedures Upper GI Endoscopy Prob. Workup-Followup Liver Blopsy SMA 9: Cal. Phos. Prot. Electrophoresis Gram stain LÅB QRDERS: BUN Uric Acid Creat. **Hgb-Electrophoresis** Wet mount CBC-Hab. Het. WBC ~ Bill, Alk. phos. GOT T3 T4 Feces occult blood 1 Diff. Elec: Na K CO2 CI. Culture (Source): **Urinalysis-Routine** CSR (Sed. rate) Gluc. Tol. 0 1 2 3 _ _ R Mono test (mono spot) Sickle prep. Lipoprot.: Choi. Trig. Preg test Pap-outside Platelets ŞĠPT RPR Blood group Other Pap smear TSH, NDL Prothrombin PTT EKG **OTHER ORDERS:** Chest Abdomen Other Oroutine marin chal 1981=201 ADULT MEDICINE SUPPLY ITEMS USED (type) No Charge Spena Prescriptions: No Charge Manno 6/51 No Charge 🗌 No Charge EK61978 Ht 5'31/2 Wt 145 /2 B/P 130/80 P 70 69 Sex: M (F) Age Last Pap QWKS QQD.LMP Contraception MD **DISPOSITION:** mos. yrs./or OReturn In OPRN for __ days L wks. L 015 or mins. Referral to: POKC OTel. to/from Patient OTHER PROBLEMS SEEN: permanni lag clean p Prob. # CLINICAL NOTE: neds ASA allucies -Labacco - 0 etak - acass. Surgery - & TTAX2, DHC 13 tetanus - 1985 Vision - 1989 glasses Alental - 1989 Gy Py (last seen (986) ill / hosp none - chonic plephintes - Fx Dankle 1976 - I pap / colposcopy 1979 = Fx @ rebe 1981 - See outside ayN (Scibella) hunds. - DTD -Sac H) Mothert CHIF. Father 95 alive Mother CHF. Father 75 alwe. D gen feel well. WI stable, Junio. Noct bors, no 61 3 K. Procto "long time)." unethe canuncle - ore, pleeds. Back occ feels "Puckly healdly. area numbros Continued

PLEASE USE BALLPOINT PEN AND PRINT FIRMLY. DO NOT WRITE IN GREY BLOCKS

Group Health Association, Inc., Washington, D.C. 20037

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Encounter

This is a serial number identifying the specific encounter. The first section will be 001, the second 002, etc. The number from the last encounter section will be entered in TOTAL ENCOUNTERS when the medical record is completed.

<u>Reason</u>

This refers to the specific reason for coding the encounter.

1 = Encounter within two months of interview date. <u>Alternate method</u>

If the <u>alternate method</u> of coding is used, enter "1" for each encounter, excluding hospital stays, occurring within the two-month reference period. Reference dates are on the Medical Record Coding Face Sheet.

2 = Most recent encounter if none within the two-month reference period. <u>Alternate method</u>.

If the <u>alternate method</u> of coding is used and there are no encounters within the two-month reference period, excluding hospital stays, enter "2" for the encounter with the most recent date. For example, if the interview date is 06/07/90, the two-month reference period is 04/08/90 and there are Adult Medicine encounters dated 06/15/90 and 02/21/90, the visit of 02/21/90 would be entered.

3 = Health Assessment.

It is important to identify all Health Assessments found on the <u>Adult Medicine</u> <u>form only</u>. This might be identified by "HA" in the Prob. Title/Dx and/or checked under Procedures and Services as "Initial HA new to MD" or as "Health Assessment." Health Assessments of other specialties are <u>not</u> included in this code, e.g., OB/GYN HA.

Enter "3" if the record indicates it is an Adult Medicine HA.

4 = Hospital stay within 19 months of interview date.

Hospital stay is defined as an overnight stay in a hospital. This must be documented by a discharge summary or other hospital records. If the only reference to a hospital stay is found on the Hosp. Adm/ER/In and Out Surgery form or other GHA encounter forms, code the GHA form only, <u>not</u> a hospital stay.

Enter "4" if an overnight hospital stay is present.

5 = Possible overnight hospital stay within 19 months of interview date.

This code should only be used if there is documentation of a hospital stay but no discharge date is available and the Hosp. Adm/ER/In and Out Surgery form does not confirm an overnight stay.

Enter "5" if a possible overnight hospital stay is present.

6 = No eligible encounter form.

Enter "6" if there are no eligible encounter forms in the record, i.e., prior to the interview date, stop coding and enter "001" in "Total Encounter" boxes.

7 = Other. Each encounter coded.

This code will identify encounters, excluding Health Assessments, hospital stays and possible hospital stays, when the alternate coding method is <u>not</u> used.

Enter "7" for all other encounters prior to the interview date ignoring the twomonth reference period.

Form Type

ADULT MEDICINE	
ADVICE/PRESCRIPTION	
ALLERGY/IMMUNOLOGY	
ANTICOAGULATION THERAPY	
CONSULTATION/REFERRAL GHA (IN-HOUSE)	
CONTACT LENS FORM	
CONTINUING CARE	
DERMATOLOGY	
EAR, NOSE AND THROAT	
EYE CARE	
HOSPITAL ADM/ER/IN AND OUT SURGERY	
MINOR INJURY UNIT (MIU)	
NEUROLOGY	
NUTRITION	

OBSTETRICAL/GYNECOLOGY	15
ORTHOPEDICŚ	
PATIENT REFERRAL TO CONSULTING SPECIALIST	
(OUTSIDE, NON-GHA)	
PEDIATRICS	
PHYSICAL THERAPY	
PODIATRY	• •
PRIMARY PREVENTION PROGRAM	
RADIOLOGY	
SOCIAL SERVICE	23
SURGERY	
SURGICAL POSTING PATIENT PROFILE	
TELE ENCOUNTER/ADVICE/RX REFILL - EYE	
UROLOGY	
OTHER NON-GHA	

This item refers to the GHA form in the medical record documenting the reason for the visit/encounter. Forms are labeled on the side or at the top. Typed GHA clinical notes should be matched by date to the appropriate form for coding purposes. Clinical notes are not entered as a separate encounter. Enter the correct code from the above list. Zero fill the lead box if needed. Reports from outside specialists should be coded "other non-GHA," "28." If other GHA forms not listed here are encountered, complete a problem sheet so the next available number can be assigned.

Forms to be excluded are laboratory/pathology reports, consent forms, return-towork forms, and encounter forms marked "NS" (no show).

Health Assessment (HA)

This item is important if the alternate coding method is used and serves to identify a Health Assessment when it is an encounter within the two-month reference period or is the most recent encounter prior to the two-month reference period. This item must be completed for all encounters regardless of the coding method used.

Enter "0" (No) if the encounter is not a Health Assessment.

Enter "1" (Yes) if the encounter is a Health Assessment.

Encounter/Admission Date

Enter the month, day and year of the date of the encounter or hospital admission. This date cannot be later than the interview date. If the alternate method is used, this date must be within the two-month reference period unless it is a Health Assessment, a hospital stay or most recent encounter if none within the two-month reference period. For dates which are missing or illegible, assume the records are in chronologic order and use the preceding and subsequent forms in an effort to establish a date. If this is not successful, enter "99" for the missing parts of the date. Fill the leading box with a zero as needed.

Hospital Discharge Date

This item is completed when records of an overnight hospital stay are available. Enter "99" for missing parts of the date. Zero fill the leading box as needed. If the encounter is not a hospital stay, leave the item blank.

Provider ID Number

Enter the provider ID numbers in the order of appearance on the GHA form. For example, if Providers 1 and 2 are blank on the form and 3 is 775, enter 0775 in the third set of coding boxes. The first two sets of coding boxes will be blank. Zero fill lead boxes as needed. If there is no Provider number on the GHA form, enter "9999" in the first set of boxes. For non-GHA encounters, leave the boxes blank.

Diagnosis

The diagnosis will usually be found on the GHA encounter form in the Prob. Title/Dx section. However, it will be necessary to skim the clinical notes for clarification of a diagnosis or to capture additional diagnoses, entering the primary reason(s) for the visit first. Enter the

diagnostic verbiage in the boxes using only one line for each diagnosis to be coded. Use abbreviations to conserve space and time. For operations occurring within one year of the interview date, a diagnosis or condition should be entered.

For hospitalizations, the diagnoses should be on the discharge summary. The contents of the summary should be reviewed for additional diagnoses.

Some encounters will not have a diagnosis or condition mentioned. Refer to the section on <u>Code</u> for recording a diagnosis for these encounters.

<u>Code</u>

Select the appropriate code for the diagnosis by consulting the special instructions used for the Health Interview Survey as well as Vol. 1 and 2 of the Ninth Revision of ICD. Enter the four-digit code in the boxes provided. For diagnoses not requiring a fourth digit, enter "+" in the last box. There should be no blank boxes.

Some encounters will not have a diagnosis, e.g., routine examination on a healthy person or a telephone call requesting a prescription refill. For these encounters, use one of the following codes:

NCO.1 = General checkup or examination
NCO.2 = Tests only
NCO.3 = Immunization only
NCO.4 = Other (specify the reason)

Enter the verbiage in the diagnosis boxes.

Problem Sheets

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The medical coder should complete a Problem Sheet (Exhibit 4) when there is a question regarding the medical record forms or diagnostic codes.

History (Hx)

The intent of this item is to capture significant medical conditions which were present at some time in the past but have been treated and may not be present at the time of the current encounter, e.g., a respondent has a history of prostatectomy due to cancer of the prostate. HIS rules do not permit the use of history, "V," codes so the diagnostic code will be flagged to indicate a "history of" condition. For operations more than one year prior to the interview date and the cause is stated, enter the diagnosis, code and indicate this is a history of the condition.

- 0 = No. Enter "0" if the diagnosis is still present or is an operation within one year of the interview date.
- 1 = Yes. Enter "1" if the diagnosis is stated as a history of the condition and is no longer present.

Record Overflow

If more than one coding sheet is required, continue coding on as many sheets as necessary. For continuation sheets, remember to complete the Batch, Westat ID, Medical Record and Subscriber + Family numbers. Enter "+ + +" in the boxes for Total Encounters and "+" in the box for Each Encounter Coded.

For encounters having more than five diagnoses, enter the overflow in the next encounter secton. The total number of diagnoses is entered in the original section. It is not necessary to repeat any of the encounter identification information. Draw a line through the blank boxes from "ENCOUNTER" through "NO. DX."

Overflow diagnoses for the Alternate Coding Method will be entered on a supplemental coding form.

When the entire medical record has been coded, visually edit your work, making sure encounter numbers are sequenced correctly and all boxes requiring an entry have been completed. Enter the total number of encounters in the first section of page one and staple the forms in the upper left-hand corner.

Exhibit 4

HEALTH	INTERVIEW	EVALUA	TION	SURVEY
GHA	MEDICAL R	ECORD	EFFOF	T
PROBLEM SHEET				

943731

WESTAT ID#:	MEDICAL RECORD #: _ _ _ _			
GHA #: - - -	ENCOUNTER/CONDITION DATE:			
DIAGNOSIS/CONDITION #:				
SENT FROM:	DATE:			
PROBLEM:				
SOLUTION:				
DECISION BY:	DATE:			

Appendix III Loose match recommendations

It was decided to exclude conditions on the medical record for which the "History" indicator was flagged, except those conditions on the "Ever" list (condition list 2). On this list are: Hardening of the arteries or arteriosclerosis; congenital heart disease; coronary heart disease; hypertension/high blood pressure; angina pectoris; myocardial infarction; and any other heart attack. That is, for these conditions on the medical record, those for which a history was indicated will be kept.

Arthritis

Add:

274.0 Gouty arthropathy

274.1 Gouty nephropathy

274.8 Gout with other manifestations

710.2 Sjogrens Disease

717.7 Chondromalacia, knee

720.9 Unspecified inflammatory spondylopathy 720.2 Sacroiliitis, not elsewhere classified

722.9 Disc disorder,*Recode C 105 722.4 Lumbosacral/cervical degeneration, *Recode C 105

722.5 SAME

723.4 Cervical radiculopathy

724.3 Sciatica, *Recode C 104 724.4 Neuritis/radiculitis

Rheumatism

This category was not considered because of the low incidence (N = 1).

Dermatitis

Add:

039.0 Actinomycotic infections, cutaneous 110.4 Dermatophytosis of foot, athlete's foot 110.0 Of scalp and beard 110.1 Of nail 110.2 Of hand 110.3 Of groin and perianal area 110.5 Of the body 110.8 Of other sites 110.9 Of unspecified site

- 111.0 Pityriasis versicolor (tinea)
- 111.9 Dermatomycosis, unspecified (BARN DOOR?)
- 111.8 Dermatomycosis, other (BARN DOOR?)

373.0 Blepharitis

- 373.3 Noninfectious dermatoses of eyelid
- 373.1 Hordeolum and other deep inflammation of eyelid

373.2 Chalazion

- 373.9 Unspecified inflammation of eyelid
- 682.9 Cellulitis and abscess, unspecified site
- 682.0 Face
- 682.2 Trunk
- 682.3 Upper arm and forearm
- 682.4 Hand, except fingers

682.5 Buttock

- 682.6 Legs, except foot
- 682.7 Foot, except toes

686.9 Unspecified local infection of skin and subcutaneous tissue

686.1 Pyogenic granuloma

686.8 Other local infections of skin and subcutaneous tissue

- 696.1 Other psoriasis, *Recode C 112
- 696.3 Pityriasis rosea
- 696.5 Other and unspecified pityriasis

707.9 Chronic ulcer of skin, unspecified site

- 707.0 Decubitus ulcer
- 707.1 Ulcer of lower limbs
- 707.8 Chronic ulcer of other specified sites
- 782.1 Rash and other nonspecific skin eruption

782.2 Localized superficial swelling, mass or lump

782.7 Spontaneous ecchymoses

782.8 Changes in skin texture

Impairments

There is no loose match for impairments, because the loose match is essentially a critique of Recode C, and matching conditions to impairments does not make sense in that context.

Tinnitus

There are no recommendations for a loose match.

Cataracts There are no recommendations for a loose match.

Constipation

There are no recommendations for a loose match.

Diabetes

There are no recommendations for a loose match.

Migraine

No recommendations for a loose match were made.

Heart conditions (ischemic, tachycardia, heart murmurs, other and unspecified rhythm disorders, congenital heart disease, other selected diseases of heart)

There is no loose match, but heart conditions are aggregated as they appear in the NHIS prevalence reports.

Hardening of the arteries 413 Angina pectoris 414 Other forms of chronic ischemic heart disease 437.0 Cerebral atherosclerosis 443.9 Other peripheral vascular disease, unspecified (usually claudication)

Varicose veins of lower extremities

There are no recommendations for a loose match.

Hemorrhoids

There are no recommendations for a loose match.

Hypertension

There are no recommendations for a loose match.

Chronic bronchitis

Chronic obstructive pulmonary disease, 496, is added to the 601 group.

Asthma

There are no recommendations for a loose match.

Allergic rhinitis and chronic sinusitis

There is a general upper respiratory category that includes:

Recode C 603, Allergic rhinitis Recode C 605, Chronic sinusitis 472.0, Chronic rhinitis 472.2, Chronic Nasopharyngitis

Appendix IV Definitions of terms used in this report

AB design-Study design for survey validity check in which population survey is conducted, then records are checked for characteristics elicited from survey.

AC design – Study design for survey validity check in which cases containing characteristics of interest are selected from medical records, then interviews are conducted with those people and data compared; also called a "reverse record check."

Accuracy-Tendency of test measurement to center around the true value.

Bias-Persistent or systematic error.

Condition-level prevalence¹—The number of different conditions within a National Health Interview Survey (NHIS) recode group per 1,000 population, as reported in a survey. More than one condition in the NHIS recode group may be counted per survey participant.

Criterion validity—Measure of correctness of survey responses compared with true values.

False negative—Failure of the survey to report a condition mentioned in the medical record, assuming the medical record to be true.

False positive – A survey report not confirmed by the medical record, assuming the medical record to be true.

Field bias-Systematic error arising from the difference between the information derived from survey respondents and that from verification sources.

Full design – Study design for survey validity check in which population is sampled independently of characteristic of interest, and survey and record information are obtained and compared for each sampled element.

Household member ¹-A person living in the same household as a list-sample person, for whom data were collected in the Health Interview Evaluation Survey (HIES) interview and from Group Health Association (GHA) medical records.

Kappa statistic -A statistic measuring agreement between two sources of classification of the same phenomenon; the Kappa statistic is superior to "percent agreement" because the former takes into account the likelihood of chance agreement.

List-sample personⁱ - A person selected from GHA records to participate in the HIES.

Net overreport ¹—The net difference between prevalence derived from two sources; specifically, the rate derived from the HIES interview minus the rate derived from GHA records.

NHIS recode group-Groups of chronic conditions aggregated from codes assigned according to the NHIS

modifications to the International Classification of Diseases, Ninth Revision, Clinical Modification; Recode C is the aggregation used for producing prevalence estimates of chronic conditions from the NHIS.

Nonresponse – The failure of a unit or units to respond to a survey entirely (unit nonresponse) or to particular items on a survey (item nonresponse).

Nonsampling error—Difference between a survey estimate and the true value not due to sample design; includes response, processing, and interpretation errors.

Percent overreport ¹—The relative difference between prevalence derived from two sources; specifically, the rate derived from the HIES interview divided by the rate derived from GHA records.

*Person-level prevalence*¹—The number of persons per 1,000 population having one or more conditions in a particular NHIS recode group, as reported in a survey.

Reliability—Tendency of repeated measurements on the same sample to yield the same result, providing consistent answers in comparable situations and without random errors.

Response error—Errors, not due to sampling, introduced during the course of data collection because of such things as interviewing, enumerating, and counting or measuring problems.

Sensitivity—True positive rate or proportion of cases known to be positive (confirmed by medical record), for which a positive household response is obtained.

Specificity – True negative rate or proportion of cases known to be negative (absent from medical record), for which negative household responses are obtained.

Type A match ¹—Match of positive response by household interview and medical record, a "positive match."

Type B mismatch 1 -Mismatch caused by positive household response on a specific item and negative or no medical record notation for the same item, an apparent "false positive."

Type C mismatch ¹—Mismatch caused by negative or no household response to a specific condition and a positive medical record notation for the same condition, an apparent "false negative."

Type D match ¹-Match of negative response by household interview for specific item and no medical record notation for that item, a "negative match."

Validity—Tendency of responses to a survey question to correspond to what the question is intended to measure.

¹Term defined specifically for this study.

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