HRS | HEALTH AND RETIREMENT STUDY
A Longitudinal Study of Health, Retirement, and Aging
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# *Documentation of Chronic Disease Measures in the Health and Retirement Study (HRS/AHEAD)*

# Documentation Report


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## I. Integrating Health with Social, Economic and Employment Domains in the HRS

The aging process is accompanied by a decline in physical health. Declines in physical health are often associated with functional impairment, disability, and mortality. Due to the occurrence of certain degenerative changes (e.g., decline in organ function and the decline in the regulation of body systems) as well as the increase in incidence of certain diseases, many older people end up suffering from more than one health condition at the same time. Experiencing multiple disease conditions concurrently is referred to in the medical and epidemiological literature as co-morbidity. Diagnosis and treatment is complex, as the detection of one condition may be affected by the presence or absence of another. For example, in an individual with both cardiovascular disease and arthritis, heart disease symptoms may go unnoticed as a result of the limited physical activity due to arthritis.

One of the core objectives of the HRS is to examine the role of health in the retirement decision (Juster and Suzman, 1995) and the relation between health, economic behavior, and status in the later part of life (Wallace and Herzog, 1995). Health and patterns of health conditions among older people have economic implications, including potential effects on employment, activity patterns, and health service utilization. Many econometric studies have generally confirmed the significance of health in retirement behavior (e.g., Chirikos, 1993; Quinn & Burkhauser, 1990). An important goal of HRS is to understand the factors that maintain employment in the face of changing health status. Additional research is needed to understand when health is involved as a factor in the retirement decisions as well as how retirement affects health status and health over time.

The HRS health measures were designed to capture the respondents' health and functional status and health care service utilization as fully as possible, realizing the constraints of survey time and resources available and to be maximally responsive to the major study hypotheses and goals. The HRS data that have been collected over the past decade permit the longitudinal and long-term examination of how changes in health interact with economic, social, and psychological factors among older Americans.

## II. Inventory of Measures and Cross-Wave Comparisons

In the HRS, health was conceptualized as multidimensional, with a general emphasis on physical and mental (including cognitive) domains. Physical health was viewed as multiaxial (Cote, 1982), attempting to capture as many axes as possible, including both subjective and objective assessments. This allows the analyst to apply various conceptual frameworks of personal interest. General health measures in HRS include: 1) self-rated overall health status and recent changes in overall health, 2) the presence of common chronic medical conditions and follow-up questions concerning treatments, 3) important symptoms and syndromes, 4) functional status measures, 5) health behaviors, including smoking, drinking, and exercise, 6) utilization of general health services, selected medical treatments and social services, and 7) and physiological performance measures in subsamples of respondents in 1992 and 2004 waves. (In 1992, we assessed hand-grip strength and maximum peak expiratory flow rate, and in 2004 assessed hand grip strength, maximum peak expiratory flow rate, and asked respondents to perform a timed walk).

Some methods for assessing health (e.g., pathology or other medical records) are not available. Given the self-report survey method that is used to obtain data in the HRS combined with the very

limited amount of time for asking questions of respondents, we do a reasonably comprehensive job of assessing health.

The focus of this report is on numbers 1 and 2 in the list above: overall health status and chronic medical conditions measures in all waves of the core HRS/AHEAD through 2002. For detail pertaining to measures of physical functioning, cognitive functioning, and affective functioning, please refer to other user guides prepared by the HRS Health Working Group available online on the HRS website at: http://hrsonline.isr.umich.edu/docs/sho_refs.php?hfyle=index&xtyp=3

*A. Overall Health Status*

Overall health status was measured across all waves as follows:

*Would you say your health is excellent, very good, good, fair, or poor?*

In addition, a question was asked to ascertain recent changes in overall health. In HRS92, this question asked respondents about their health compared with one year ago. In subsequent waves, respondents were asked about their health compared to two years ago/since the prior wave.

*Compared with your health when we talked with you in PREVIOUS WAVE MONTH/ YEAR would you say that your health is better now, about the same, or worse?*)

*B. Chronic Disease Conditions*

The health conditions measures in HRS ask respondents to report on lifetime histories of a modest number of illnesses and conditions that are very important to older persons and account for much of the morbidity and mortality among older persons in western societies. These conditions include:

a. Hypertension (high blood pressure)
b. Diabetes mellitus
c. Cancer (various types at all bodily sites, except minor skin cancers)
d. Chronic lung disease (often including emphysema, but not asthma)
e. Coronary heart disease
f. Congestive heart failure
g. Stroke (cerebrovascular disease)
h. Arthritis (a collection of heterogeneous diseases and musculo-skeletal pain syndromes; in general older populations, most is due to degenerative joint disease that comes with age and is all but universal)
i. Psychiatric problems (in general, not further defined or categorized, with the exception of major depression, depressive symptoms, and dementia)

If a respondent reported any of the target conditions, additional disease-specific information was collected to determine whether the respondent was currently being treated for that condition, and if so, the type of treatment and/or intensity of care that was used and whether it was perceived to impair various physical functions. This was done to derive additional indicators of condition recency, activity severity, and treatment intensity. We queried the date of onset for a few conditions (e.g., cancer, heart attack, stroke).

Comments regarding some specific health conditions:

*Coronary Heart Disease*

The category of "heart disease" represents a diverse set of conditions of varying in severity, from transient chest pain that triggered a doctor visit but is no longer evident or treated, to experiencing an actual "acute cardiac event" such as a myocardial infarction that required invasive diagnostic tests and surgical intervention. Even in the latter case, modern procedures for the acute treatment and subsequent rehabilitation means many people with a history of acute episode are able to function quite normally for years after their event.

The lead-in question includes references to heart attack, coronary heart disease, angina, congestive heart failure, and other heart problems; this lead-in question about heart conditions and specific follow-up questions about heart attack and angina remain the same across all waves of HRS and AHEAD. This series of questions can be used for categorization of specific features of heart problems in a prospective fashion. However, retrospective life-time prevalence can only be established for heart problems in general, not for its components of heart attack and angina.

*Congestive Heart Failure*

In early waves of HRS, respondents were asked whether they feel weak or short of breath as a result of CHF. This question was discontinued in later waves and replaced with a question about hospitalization for CHF. Since congestive heart failure questions are asked as follow-up questions within the heart disease section of the survey, questions about congestive heart failure are only asked of respondents who reported that they have a heart condition, and who are taking medication and have seen a doctor in the last two years.

*Arthritis*

Arthritis is a collection of heterogeneous diseases and musculo-skeletal pain syndromes – in general, in older populations, most arthritis is due to degenerative joint disease and is all but universal in populations of this age range.

The lead-in question asks about whether the respondent has or a doctor told the respondent that he/she has arthritis (i.e., self-diagnosis is accepted). In 2004, new questions were added to clarify the type of arthritis. The user should consult the codebook and questionnaires for exact new questions when the 2004 materials are available.

*Cancer*

Questions about cancer pertain to any type of cancer except minor skin cancer. In the first two waves of HRS (1992 and 1994) the follow-up questions about cancer were asked concerning the only or most recent cancer as well as the second most recent cancer. In later waves the follow-up questions were only asked once about cancer in general (and presumably about only the first or most recent cancer).

*Psychiatric Conditions*

Psychiatric conditions were defined as a general grouping of psychiatric morbidity, not further defined or categorized, with the exception of major depression and depressive symptoms.

The lead-in question asks whether the respondent has emotional, nervous, or psychiatric problems or has been told by a doctor that he/she has such problems. This question is consistent across waves, with the exception of 1992. In 1992, the lead-in question asks whether the respondent has been told by a doctor that he/she has such problems and is followed by a separate question as to whether the respondent has experiences any such problems in the last year. In all subsequent waves, this is asked in one question. Two follow-up questions about current psychiatric or psychological treatment and current medications are consistent across waves.

*C. Cross-Wave Comparisons*

Two features have not changed across waves of HRS and AHEAD. First, the same chronic conditions were assessed throughout the waves of HRS and AHEAD. Second, lead-in questions about each condition (i.e., "Has a doctor told you ...?") remain the same.

However, a few discontinuities between waves have been introduced, and the data user needs to be informed of these cross-wave changes when assessing health over time in the HRS. First, follow-up questions are asked from any respondent who reports ever having had a particular condition in HRS 92. In HRS 94, only respondents who report a new or incident condition since the prior HRS interview are being asked the follow-up questions; respondents who reported the condition in HRS 92 (this information is preloaded into HRS 94) are asked no questions about this presumably established or prevalent condition. An exception is made for cancer, stroke and heart disease in HRS 94; follow-up questions are asked about established cases of these three conditions. In HRS 96, several changes were made to this structure: (a) follow-up questions were asked about established as well as incident conditions. (b) Respondents with an established disease were reminded of having reported the condition during the past interview. Some respondents disputed their previous report and were treated like respondents without the condition (i.e., they were not asked any follow-up questions about that particular condition). (c) A few screen questions were introduced for previously reported conditions in order to identify old, inactive conditions. No follow-up questions were asked about old, inactive conditions.

In HRS 96 some of the follow-up questions were modified and extended. Details concerning which follow-up questions have been asked across waves can be obtained by reviewing the measures in Appendix 1.

In HRS 2002, HRS interviews conducted with a different reporter compared to the prior wave were treated like new respondents in an effort to not reveal confidential information about a respondent's health status. (Examples of a "different reporter" compared to the prior wave include a proxy reporter in 2002 when a self-respondent completed the interview in 2000, or a different individual serving as a proxy in 2002 compared to 2000 even though both interviews were conducted by proxy)

In order to track established conditions and capture new onsets, information from previous waves has to be used. This can be done by carrying forward data from a prior wave and using the preload variables. Preload variables are created using data from the prior wave and affect the flow of the questionnaire, including which questions are asked of respondents, or which versions of questions are asked of respondents. With regard to the health conditions questions, the preload variables for each of the chronic health conditions affect whether respondents are asked the "incident" version of the

question (e.g., "Since we last talked to you in (previous wave interview month/year), has a doctor told you that you have…") or a confirmation statement (e.g., "Our records from your last interview (previous wave interview month/year), show that you have had…). The user should note that the preload variables are only based on data obtained during the prior wave and do not carry forward prevalence information from the baseline interview.

With regard to question wording, there are some places where the question wording differed slightly across waves, particularly before AHEAD and HRS were merged into the same study in 1998. An example is with arthritis in the baseline wave of AHEAD (1993) compared to subsequent waves. In 1993, respondents were asked: "During the last 12 months, have you seen a doctor specifically for arthritis or rheumatism?" In other waves of AHEAD as well as HRS, the question was "(Since we last talked to you,) have you had or has a doctor told you that you have arthritis or rheumatism?"

Another change across waves occurred with follow-up questions concerning cancer. Specifically, in 1998 respondents with cancer were asked "Are you now receiving treatment for your cancer" whereas in later waves they were asked about treatment received during the last two years/since their last interview.

Although the question wording generally remained consistent across waves, there are some circumstances when the skip patterns changed slightly and some respondents were no longer asked the same questions. We strongly encourage data users to consult the questionnaires (that describe the branchpoints or skip patterns in the survey) and codebooks for detailed documentation, particularly related to survey skip patterns.

In all waves prior to 2002, the health status section of the survey was designated as Section B. However, starting with the 2002 interview (which was conducted using different software for the CAPI/CATI survey instrument), the health status section is section C of the survey.

*D. Core vs. Exit Interview*

The HRS core is survey conducted among living respondents. This includes a survey among self-respondents, as well as proxy respondents (when a living respondent is not able to participate due to cognitive limitations or available for other reasons). Once an HRS respondent has died, we conduct an "exit" interview with a proxy respondent to tell us about the period of time prior to the respondent's death. The purpose of this report is to provide users with documentation concerning the chronic health conditions measures in the core study, although it is important to note that only a subset of the chronic health conditions are assessed in the exit survey. Whereas the core survey asks about hypertension, diabetes, cancer, lung disease, heart disease, stroke, arthritis, and psychiatric conditions, the exit survey includes questions about cancer, lung disease, heart disease, and stroke. For details concerning the wording of questions and follow-up question sequence in the exit interview, please refer to the questionnaires and codebooks available on the HRS website.

## III. Origin of Health Conditions Measures

Health measures in the HRS were developed by the original Health Working Group, which was chaired by Bob Wallace, coordinated by Regula Herzog, and included John Bound, Mary Grace Kovar, Jersey Liang, Willard Manning, Willard Rodgers, Frank Sloan, and John Ware at the time the first

wave of HRS was developed. This group consulted many prior health surveys and scientists with relevant expertise to develop the Wave 1 HRS health measures.

In the HRS, health was conceptualized as multidimensional, with a general emphasis on physical and mental (including cognitive) domains. Physical health was viewed as multiaxial (Cote, 1982), attempting to capture as many axes as possible, including both subjective and objective assessments. This allows the analyst to apply various conceptual frameworks of personal interest. General health measure categories include: 1) self-rated overall health status and recent changes in overall health, 2) the presence of common chronic medical conditions and follow-up questions concerning treatments, 3) important symptoms and syndromes, 4) function status measures, 5) previously established important hygienic behaviors (e.g., exercise and alcohol and tobacco use) 6) utilization of general health services, selected medical treatments and social support services, and 7) two physiological performance measures in 1992 (hand-grip strength and maximum peak expiratory flow rate in an experimental sub-sample) and three physiological performance measures in 2004 also among a subsample of respondents (hand grip strength, maximum peak expiratory flow rate, and a timed walk).

These dimensions are consistent with other comprehensive health assessment instruments. For example, the comprehensive and well-evaluated Sickness Impact Profile (Bergner, Bobbitt, Carter, & Gilson, 1981; Williams, 1994) contains questions on physical, cognitive, emotional, and social functioning. The thoroughly evaluated SF-36, derived from the Medical Outcomes Study (McHorney, Ware, and Raczek, 1993; Stewart & Ware, 1992; Wright, 1994) includes most of these categories as well as items on symptoms and overall self-ratings of health. Although the choice and format of specific questions vary from one measure to the next, most available health assessment tools, including the HRS, are derived from a similar conceptual and measurement tradition. According to that tradition, health is viewed as a multidimensional concept that includes social, behavioral, and psychological dimensions and health perceptions, in addition to medical pathophysiology and clinical phenomenology.

A general issue faced when formulating HRS health measures was whether to employ individual items or item sets from diverse sources or to use multidimensional instruments already in existence. Each approach has strengths and weaknesses. The use of existing instruments, such as the SF-36, the Sickness Impact Profile, the Cornell Medical Index, or many available disease-specific health instruments would give the benefit of prior experience and information on the measurement properties, and would allow comparison with many studies and cross-references with various national or local studies. However, there were some issues that made adaptation of questions from these existing instruments problematic and undesirable. For example, many of these measures have different goals from the health measures of the HRS and are quite long. (Given the breadth of topics assessed in the HRS, time to assess health status is quite limited.) In addition, these measures paid more attention to the more severe end of the health and function spectrum than desired. HRS investigators felt that these other measures did not adequately address various health domains (such as diseases or health care utilization). Lastly, they didn't seem to fit the function and purpose of the longitudinal HRS because they did not discriminate well with regard to small variations in health or functional status postulated to relate to work performance. In addition, these other measures did not include recently described, promising items, and importantly, don't have nationally referent data, whereas HRS was able to adapt items from existing national surveys like the NHANES and the NHIS.

The process of designing and designating items and scales for inclusion was complex and iterative. There was extensive literature review and scientific consultation to be certain that the menu for item selection was broad and modern. Where raw data on selected items were available from previous surveys, analyses were conducted to assess reliability and construct validity, reduce redundancy, and evaluate desired associations with other variables. The three survey pretests resulted in alterations of initial selection and wording. Several criteria were used in designing or otherwise specifying health items, although it was clearly not possible to meet all criteria at all times:

- High quality measures that can provide maximally valid and reliable information for the HRS
- Proven items and instruments from the scientific literature, counterbalanced by the need to create new items responsive to modern hypotheses and conceptualizations of health and its interrelationship with work
- Items and instruments that are at least in part represented in other recent national surveys in order to compare and contrast findings
- Measures that can be administered repeatedly and be sensitive to subtle changes in health status
- Measures that are appropriate for persons of various cultural and socioeconomic backgrounds
- Measures that re adaptable for the telephone administration of HRS, necessitating that items are simple and well-understood, with short response scales that can be used without visual aids
- Level of item difficulty that is suitable for participants with high or low functional status

The health conditions included in the HRS (hypertension (high blood pressure), diabetes mellitus, cancer, chronic lung disease, coronary heart disease, congestive heart failure, stroke, arthritis, and psychiatric conditions) were chosen because they have characteristic patterns or preventability and health service needs and predictable functional outcomes and prognoses. Furthermore, they often form the administrative basis for disability designation. With constraints on interview length, the HRS focused on a subset of conditions that have public health significance —diseases that are most prevalent among middle-aged and elderly persons and/or which are most likely to result in work disability. In addition, these conditions are major causes of morbidity and mortality among older persons. By tracking these conditions across multiple waves, research investigators can monitor these conditions for their impact on disability, job mobility, job loss, retirement behavior, and mortality. It is also important to note that there is an open-ended question in which respondents can report other important but more rare health conditions. The specific wording of this question is: “Are there any medical diseases or conditions that are important to your health now, that we have not talked about?”

In addition, past research on retirement and health suggested several considerations for framing the HRS health measures:

*A. Linked vs. Independent Health Assessment*

Linked vs. independent health assessment pertains to whether respondents’ attributions of the impact of health conditions and problems. Although existing econometric studies have generally confirmed the significance of health in retirement behavior, the magnitude of the effect varies (for

reviews see Chirikos, 1993; Quinn & Burkhauser, 1990). One reason may relate to the health measures used. For example, self attribution of work limitation or retirement to health factors may suggest a stronger role for health status than independently measured disease and disability factors which are then analytically linked to retirement behavior. Which type of measure yields the more accurate effect has been a matter of considerable debate. The former approach may produce overstated effects because they allow for easy rationalization (Anderson & Burkhauser, 1984; 1985; Bound, 1991; Myers, 1982), but the latter approach may produce understated effects because it assesses aspects of health that are not directly relevant to the work setting at hand. Although the HRS includes both types of measures, many are independent rather than linked. This is because the endogeneity of the problem is difficult to assess, since health problems, particularly among elders, are multi-causal and can lead to multiple outcomes.

*B. Global vs. Specific Health Measures*

Most prior research on health and retirement emphasized global measures of health; research that examined the effect of specific conditions or symptoms (Bartel and Taubman, 1979; Burkhauser, Butler, & Mitchell, 1986; Mitchell & Anderson, 1989) typically did not include comprehensive health measurement. In an attempt to address this deficiency, the HRS health measurement includes a good range of specific illnesses, functions, and symptoms.

*C. Objective vs. Self-Reported and Subjective Health Measures*

An issue permeating research on the effect of health in the retirement decision relates to the self-reported or subjective nature of many of the health measures in this research, and the assumption that more objective health measures would provide better estimates of prevalence because they are not as affected by the possibly biased or unreliable reporting of individuals. Opponents of this assumption point to the respectable correlation between self-reported health status and assessments provided by health care professionals (e.g., Ferraro, 1980; La Rue, Bank, Jarvik, & Hetland, 1979; Maddox & Douglas, 1973).

A number of studies have been undertaken to compare self-reports of chronic health conditions with medical records, medical provider surveys, and results of physical examinations (e.g.,Burgess, Martel, & Wyman, 1971; Bush, Miller, Golden, & Hale, 1989; Colditz, Martin, Stampfer, Willett, Sampson, & Rosner, 1986; Kehoe, Wu, Leske, & Chylack, 1994; Kriegsman, Penninx, van Eijk, Boeke, & Deeg, 1996). In general, these studies have found acceptable levels of agreement between self-report measures of chronic diseases and more “objective” measures, such as medical records. However, prior studies have found that the correspondence between self-reports and medical records seems to vary depending on the condition and respondent characteristics. For example, agreement is higher for well-defined diagnoses such as diabetes (Lampe, Walker, Lennon, Whincup, & Ebrahim, 1999), and among well-educated respondents with a level of socioeconomic status (Bush et al., 989; Colditz et al., 1986). Respondents are more likely to report conditions that are salient, whether it is because the conditions are important to them and/or because they are currently receiving treatment for the condition. Studies that have examined the validity of self-reported heart conditions have found that respondents may be prone to mis-classify or under-report specific diagnoses (e.g., acute myocardial infarction, angina, etc.) and that self-reports have more validity when heart disease is defined more broadly (Lampe et al., 1999; O’Donnell, Glynn, Field, Averback, Satterfied, Friesenger, Taylor, & Hennekens, 1999). Beckett, Weinstein, Goldman, & Yu-Hsuan (2000) examined the reliability of reports of chronic conditions in longitudinal surveys. They found that among respondents who reported a particular condition during an interview, the likelihood that the same condition was

acknowledged in the subsequent wave differed by health condition. Specifically, they found that reliability of self-reports across waves was higher for hypertension and diabetes than for arthritis or stroke.

The view of the HRS Health Working Group is that subjective perceptions of health have independent value because they capture knowledge and interpretations not reflected in more objective indicators. The retirement decision is in part an individual decision, and subjective perceptions — regardless of whether they are accurate reflections of objective indicators— are likely to play a role in this decision. Thus, HRS contains several subjective measures as well as more objective health measures in assessing specific disease conditions, symptoms, and function. There are many advantages to using self-reported measures of chronic disease conditions compared to field or clinical studies. For example, there is an opportunity to collect information on a large, representative sample at a relatively low cost. There are a number of important health issues that can only be assessed via self report, including questions about symptoms and pain. A number of these types of questions are included in the HRS.

In an effort to reduce subjectivity while still using a self-report methodology, the HRS investigators designed the chronic health conditions questions such that respondents are asked to report health conditions *where a doctor has told them that they have a particular condition.* This is in lieu of just asking the respondent whether they have a particular condition. In addition, this is consistent with methods used in other studies and intended to encourage respondents to only report conditions that have been diagnosed by a medical doctor rather than include anything based on a self-diagnosis.

To the extent that respondents don't have any or adequate healthcare, conditions may not be diagnosed. This would result in an underestimate of condition prevalence regardless of self-report or obtaining information from medical records. One way the HRS addresses this issue is by asking general questions regarding health status and change, as well as symptoms.

The notion of "disease" requires some elaboration. Ideally for classification purposes, it would be useful to have all conditions fall into unique, well-defined categories in which the cause, degree of anatomic and physiological disruption, functional impact and outcomes are known. Unfortunately, that is the exception rather than the rule. Even modern medical practices often cannot fully define the nature of even those diseases that appear to be homogeneous entities, let alone those that are only partially understood and physiologically characterized, or those that are clearly heterogeneous syndromes. Syndromes are collections of signs (observable health abnormalities) and symptoms (patient perceptions) such as back pain, skin rash, limping, headache or chronic fatigue. The less well-defined a clinical "entity" is, the more it is likely to be a heterogeneous mixture of conditions, with greater variation in clinical behavior and outcomes. The basic progress in medical knowledge has been to take apparently homogeneous medical "conditions," such as kidney failure, and distinguish within them categorically separate conditions out of them. The greater the homogeneity of the category, the easier it is to predict clinical behavior and outcomes.

## IV. Special Methodological Issues

*A. Age eligibility for the HRS Study*

The desire of the HRS surveys to collect information on both spouses of a married couple has lead to two mutually exclusive groups –those age-eligible for the survey, and those who are spouses of an age-eligible respondent but are not age-eligible themselves. The initial wave of HRS sampled households with at least one individual born between 1931 and 1941 and also interviewed the spouse when that individual was married, regardless of the spouse's birth year. Therefore, some households contain two respondents who are age-eligible while some contain only one age-eligible respondent.

It is important to note that these not-age-eligible respondents are not a random sample representative of their age cohort. Rather than being chosen at random, they were sampled because they were married to an age-eligible person. In the HRS, not-age-eligible respondents born before 1931 (therefore older than the HRS cohort) tend to be the male husbands of age- eligible female respondents. Those not-age-eligible respondents born in 1942 or later (therefore younger than the HRS cohort) tend to be female (the wives of HRS-age-eligible male respondents). Including these not-age-eligible respondents in an analysis can lead to biases. Therefore, the researcher must be careful to account for this conditionally selected group. Excluding these individuals is recommended. Hence, only age-eligible respondents are included in the tabulations that appear in this paper. See Table 1 for sample sizes of age-eligible respondents at each wave and for definitions of age eligibility at each wave.

**Table 1. Age-Eligibility Across Waves of HRS and AHEAD**

| | 1992 | 1993 | 1994 | 1996 | 1995 | 1998 | 2000 | 2002 |
|---|---|---|---|---|---|---|---|---|
| **Wave** | HRS 1 | AHEAD 1 | HRS 2 | HRS 3 | AHEAD 2 | HRS 98 | HRS 2000 | HRS 2002 |
| Definition | Born between 1931 & 1941 | Born in 1923 or before | Born between 1931 & 1941 | Born between 1931 & 1941 | Born in 1923 or before | Born in 1947 or before | Born in 1947 or before | Born in 1947 or before |
| **N** | 9772 | 7443 | 8974 | 8469 | 6296 | 20449 | 18616 | 17211 |

This includes all self- and proxy respondents, except for n=177 proxy respondents in 1994 who were interviewed because the original respondent was deceased by the time the 1994 interview was conducted. After 1994, a separate exit interview was conducted among proxy respondents in cases where the original respondent was deceased at the time of the interview.

The age-eligible sample in the first three waves of HRS and the age-eligible sample in Wave 2 of AHEAD do not overlap; HRS respondents were age 51-61 in 1992 (54-64 in 1995), and AHEAD respondents were age 70 or older in 1995. In 1998, the HRS and AHEAD studies were merged into one study. In addition, two new cohorts were added: (1) respondents born between 1942 and 1947

(called the War Babies cohort), to add a younger group to the study since the youngest of the original age-eligible HRS respondents were 57 in 1998; (2) respondents born between 1924 and 1930 (called Children of the Depression Age; CODA), to fill in the gap in age between HRS and AHEAD respondents. Additional details about the study design can be found online at the following location: http://hrsonline.isr.umich.edu/intro/sho_intro.php?hfyle=uinfo

*B. Discrepancy Reports*

Starting with AHEAD 1995 and HRS 1996, respondents with an established disease were reminded of having reported the condition during the past interview. Some respondents disputed their previous report and were treated like respondents without the condition (i.e., they were not asked any follow-up questions about that particular condition). In HRS 1998, this same methodology was continued, and respondents who voluntarily disputed the prior wave record were coded separately from those who either had the disease or did not have the disease.

In HRS 2000 and 2002, more information about the nature of the discrepancy was coded. Specifically, this wave was the first to take into account whether the respondent disputes the prior wave record but now reports having the condition or disputes the prior wave record and does not have the condition. In general, HRS has found that among the discrepancy reports, many respondents report that they no longer have the condition, particularly hypertension and arthritis, which may be controlled or alleviated through behavioral modifications (diet, exercise) as well as medications/supplements. Other respondents have indicated that their condition was mis-diagnosed and they have since learned that they don't have the condition.

*Handling the Discrepancy:*

How we recommend that users handle these discrepancies will depend on the goal of the analysis. For example, to look at active conditions where self-care or care utilization is an issue, then these inactive conditions may be less important. To examine the cumulative health impact, the reader should be aware that conditions such as diabetes and hypertension never really go away and should be considered as present if once correctly diagnosed. However, it is possible, (as mentioned previously), that the condition may have been misdiagnosed.

In HRS 1996 and 1998 we recommend that the user obtain the preloaded information and combine it with the current wave reports to identify the nature of the discrepancy. In HRS 2000 and 2002 this is a lot easier to handle. Specifically, those with a value of 3 (DISPUTES PREVIOUS WAVE RECORD, BUT NOW HAS CONDITION) could be treated as having the condition and those with a 4 (DISPUTES PREVIOUS WAVE RECORD, DOES NOT HAVE CONDITION) could be treated as not having the condition. We would like to note that these are suggestions and the user is encouraged to adopt the coding strategy that seems most appropriate for his/her research.

## V. Evaluation of Data Quality

*A. Prevalence Across Waves*

Health condition prevalence rates were calculated for the original HRS cohort (i.e., individuals who were between the ages of 51-61 in 1992), the AHEAD cohort (who were age 70 or older in 1993),

and the combined HRS/AHEAD cohorts age 55+ in 1998, 2000, and 2002. These prevalence rates are presented in a series of tables in Appendix A.

*HRS Original Cohort (1992 – 2002)*

Among the original HRS cohort members, prevalence rates generally increase with age, and show expected patterns by age and gender.

*Hypertension* - Hypertension is one of the most prevalent health conditions. Based on the data provided in Table 2, prevalence of hypertension increases with age by more than 12% between 1992 and 2002. In addition, prevalence is significantly higher among non-Hispanic Blacks compared to the other racial/ethnic groups.

*Diabetes* - According to Table 3, diabetes prevalence increases from 9.9% in 1992 to 17.2% in 2002, indicating a significant increase in prevalence with age. Diabetes is more common among Blacks and Hispanics compared to White and non-Hispanic individuals.

*Cancer* - Table 4 presents results of cancer prevalence in the original HRS cohort. Cancer is more common among women compared to men, particularly in earlier waves. Cancer prevalence ranged from 5.6% in 1992 to 12% in 2002.

*Lung Disease* - With regard to lung disease (Table 5), there is a slight increase in prevalence over time, from 8.2% to 10.2%.

*Heart disease* - Heart disease prevalence (see Table 6) increases significantly (from 12.6% to 21.7%) between 1992 and 2002 among original HRS cohort individuals. Men are more likely than women in this cohort to have heart disease.

*Stroke* - In comparison to other chronic health conditions, prevalence of stroke was fairly low (ranging from 2.6% in 1992 to 4.6% in 2002; see Table 7). Non-Hispanic Blacks are more likely to report having had a stroke compared to individuals in other racial/ethnic groups.

*Arthritis* - Arthritis, in addition to hypertension, is one of the most prevalent health conditions among older adults and among the conditions included in the HRS. For example, arthritis prevalence rates in 2002 (presented in Table 8) range from 37% in 1992 to 59.5% in 2002. Arthritis is more common among women compared to men, is higher among non-Hispanic Blacks with regard to other racial/ethnic groups, and arthritis prevalence increases with age.

*Psychiatric conditions* - Table 9 presents results of psychiatric condition/problem prevalence. Overall rates increased over time from 10.9% in 1992 to 14.8% in 2002. Women became more likely to have a psychiatric problem than men, and Hispanic individuals are more likely than those in other racial/ethnic groups to have a psychiatric problem.

*Overall Health Status* - HRS respondents were asked to rate their overall health status (using a 5-point scale ranging from excellent, very good, good, fair, and poor). Prevalence of those who rated their health as fair or poor are presented in Table 10. Hispanics are most likely to rate their health as being

fair or poor. In addition, Black respondents are twice as likely to rate low health compared with non-Hispanic Whites.

*AHEAD Original Cohort (1993 – 2002)*

Health condition prevalence among the original AHEAD respondents is presented in Tables 11 through 19. In general, the same pattern of findings exists for AHEAD respondents compared to the original HRS cohort. However, prevalence is higher among the AHEAD respondents for all conditions except psychiatric/psychological problems.

*Hypertension* - Hypertension is one of the most prevalent health conditions. Based on the data provided in Table 11, prevalence of hypertension increases with age by about 12% between 1993 and 2002. In addition, prevalence is significantly higher among non-Hispanic Blacks compared to the other racial/ethnic groups.

*Diabetes* - According to Table 12, diabetes prevalence increases from 12.4% in 1993 to 16.4% in 2002. Diabetes is more common among Blacks and Hispanics compared to White and non-Hispanic individuals.

*Cancer* - Table 13 presents results of cancer prevalence in the original AHEAD cohort. Cancer is more common among women compared to men, particularly in earlier waves. Cancer prevalence ranged from 13.9% in 1993 to 20.2% in 2002.

*Lung Disease* – Prevalence of lung disease is shown in Table 14. In 1993 11.9% of AHEAD respondents had chronic lung disease. By 2002, 10.6 % reported having lung disease. Although it appears that the prevalence of lung disease decreased over time among this cohort, this pattern could be explained by selective mortality whereby the more unhealthy respondents died prior to 2002.

*Heart disease* - Heart disease prevalence (see Table 15) increases significantly (from 31.9% to 40.4%) between 1993 and 2002 among original AHEAD cohort individuals. Men are more likely than women in this cohort to have heart disease.

*Stroke* - In comparison to other chronic health conditions, prevalence of stroke was fairly low (ranging from 8.7% in 1993 to 11.4% in 2002; see Table 16). Non-Hispanic Blacks are more likely to report having had a stroke compared to individuals in other racial/ethnic groups.

*Arthritis* - Arthritis, in addition to hypertension, is one of the most prevalent health conditions among older adults and among the conditions included in the HRS/AHEAD. For example, arthritis prevalence rates in 2002 (presented in Table 17) range from 54.1% in 1995 to 71.4% in 2002. Arthritis is more common among women compared to men.

*Psychiatric conditions* - Table 18 presents results of psychiatric condition/problem prevalence. Overall rates increased over time from 10.0% in 1993 to 13.3% in 2002. Women were more likely to have a psychiatric problem than men.

*Overall Health Status* - AHEAD respondents were asked to rate their overall health status (using a 5-point scale ranging from excellent, very good, good, fair, and poor). Prevalence of those who rated their health as fair or poor are presented in Table 19. Hispanics and Non-Hispanic Blacks are most likely to rate their health as being fair or poor. Black respondents are twice as likely to rate low health compared with non-Hispanic Whites.

*HRS/AHEAD (1998 – 2002)*

Tables 20 through 46 show results of prevalence for HRS/AHEAD respondents age 55 and older in 1998, 2000, and 2002. These results include percentages for the total sample as well as results by age, gender, and race. These tables can be compared to tables 47-54 that show health condition prevalence for the National Health Interview Survey (NHIS). More detailed results concerning the HRS vs. NHIS comparison may be found in the next section of this report.

*B. Benchmarking Against Other Surveys*

One way to evaluate the quality of data on chronic health conditions collected in the HRS is to compare prevalence estimates with those obtained from other similar national surveys. We chose the National Health Interview Survey (NHIS) for comparison because it is a well-cited, nationally representative self-report health survey with questions that are very comparable to those asked in the HRS. When the HRS health measures were developed, they were adapted from existing national surveys such as NHANES and NHIS, so the HRS measures are quite comparable.

The main objective of the NHIS is to monitor the health of the United States population through the collection of self-reported data on a broad range of health topics. The NHIS is conducted by the National Center for Health Statistics and is a cross-sectional household interview survey for which a probability sample of the civilian noninstitutionalized population of the United States is interviewed by the U.S. Bureau of the Census regarding the health and other characteristics of each household member. The sample for each year is a stratified, multistage sample, with data collected through face-to-face interviews from about 40,000 households including about 100,000 people. Respondents include all adult members of the sampled household 17 years of age and over who are at home at the time of the interview. Interviews concerning children and adults not at home during the interview are provided by an adult family member (18 years of age and over) residing in the household. Sampling and interviewing are conducted continuously throughout each year. Because of the large sample size, representativeness, and high response rate (96%-98%), the NHIS is regarded as a principal source of information on the health of the noninstitutionalized civilian U.S. population and the data are used to monitor trends in disability and illness and to track progress toward national health objectives.

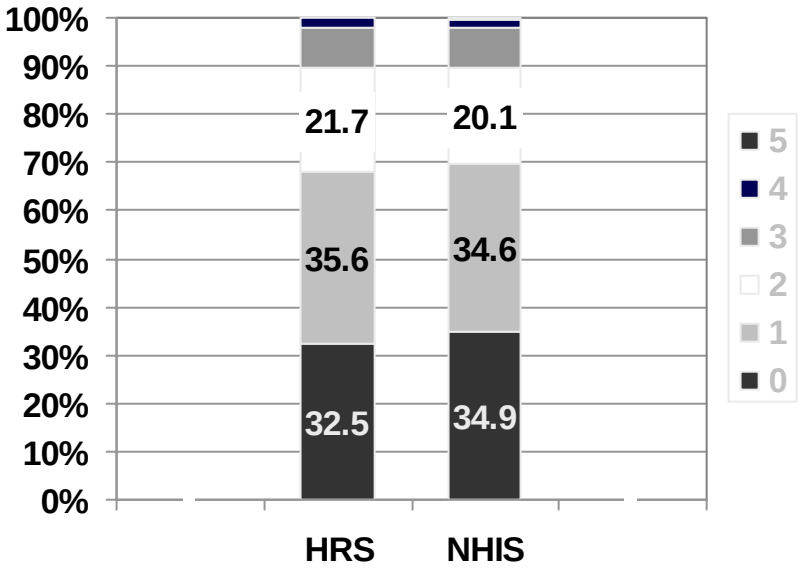
Similar to the HRS, the NHIS asks respondents directly about the presence of specific health conditions as told to them by a doctor including hypertension, heart disease, cancer, diabetes, stroke, and arthritis. The reference period for identifying the presence of the conditions studied is either "ever" or the last 12 months in the NHIS, whereas the corresponding information is either “ever” for new interviews or “since the last interview” for reinterviewed respondents in the HRS. For more information about the NHIS, please see http://www.cdc.gov/nchs/about/major/nhis/hisdesc.htm.

Tables 47 through 54 in Appendix A present prevalence of health conditions among respondents age 55+ in the NHIS in 1998, 2000, and 2002. Tables 55 through 61 compare prevalence estimates obtained in HRS and NHIS. In general, these tables illustrate that there is a high degree of correspondence between prevalence estimates obtained in the two studies, providing evidence of external validity for the chronic health conditions measures in the HRS.

For example, both HRS and NHIS, respondents are asked whether they have ever been told by a doctor that they had hypertension, or high blood pressure. The prevalence estimates and trends are comparable between studies and across waves. For some conditions (e.g., hypertension, diabetes, arthritis, and self-rated health status), a slightly frequency of HRS respondents report having the condition in each wave compared to NHIS respondents. With regard to diabetes, the slightly higher reporting in the HRS may be due to a difference in question wording between the two surveys that may have resulted in more borderline cases being included in the HRS estimate. For example, in the HRS, respondents are asked whether they have diabetes or high blood sugar, whereas in NHIS, the question only includes diabetes and "sugar diabetes." The heart disease lead-in question in the HRS specifically mentions myocardial infarction, angina, coronary heart disease and congestive heart failure. In NHIS this estimate is an aggregation of questions that ask about coronary heart disease, angina, and heart attack separately, plus a catch-all follow-up question about any kind of heart condition or disease other than the ones already mentioned. The prevalence of cancer in HRS is estimated by asking respondents about their history of cancer or malignancies with the exception of minor skin cancers. The NHIS cancer questions ascertain the prevalence of all types of cancer; however, for this analysis, non-melanoma skin cancers and skin cancers of unknown type were removed from the total estimate.

Figure 1 (below) illustrates a comparison of the combined number of health conditions (including hypertension, diabetes, heart disease, cancer, and stroke) among respondents age 55 or older in the HRS and NHIS, respectively, in 2002. When we sum the number of prevalent health conditions we see that the percentage reporting 3 or more health conditions is equivalent across the two studies. The percentage of HRS respondents reporting no conditions is smaller than in the NHIS; however many people use an index measure such as the number of health conditions or comorbidities as a dependent variable in their analyses and overall these would be comparable in both studies.

**Figure 1. Number of Health Conditions Among Adults Age 55+ in 2002 - HRS vs. NHIS**



*C. Previous Research Using the Health Conditions Measures*

A number of published studies have examined health conditions using data from the HRS. A few of these studies are summarized below. A detailed reference list of publications using data from the HRS can be found on the HRS website at http://hrsweb.isr.umich.edu/biblio/index.html.

*Health Disparities*

Smith (1997) used data from the AHEAD study to examine the distribution of wealth among American households with a member at least 70 years old. As in other age groups, wealth is unevenly distributed among Americans aged 70 years and older. The households in the top 10th percentile of wealth distribution have 2,500 times as much wealth as those in the lowest 10th percentile. This wealth inequality is reflected in large racial and ethnic wealth deficits. Such wealth disparities, largely due to income, are the primary reason why older minority households have accumulated so little wealth compared to older White households. The findings confirm that current health status remains a powerful correlate of household wealth and that bequests motives for the elderly are congruent with the extreme wealth disparities

Hayward, Crimmins, Miles, & Yang (2000) used data from the first two waves of HRS to try to detect differences in "life without health problems" between different races to understand differences in mortality rates and quality of life. For example, these researchers examined 1) Do Blacks have a higher risk of acquiring chronic health impairments of all types? and 2) How do differences in social conditions produce differences in the prevalence of fatal chronic diseases among races? The researchers notice that Blacks have a lower chance of surviving to middle age then do Whites. Blacks have a far greater level of morbidity in middle age, as well as, chances in having multiple fatal disease conditions. The author's give possible reasons for their findings, with much of it based on social status and life events.

Blackwell, Hayward, & Crimmins (2001) examined whether childhood health has long-term and enduring consequences for chronic comorbidity. Their results supported the hypothesis that poor childhood health increases morbidity later in life in terms of cancer, lung disease, cardiovascular conditions, and arthritis even after controlling for adult and child socioeconomic status.

Dunlop, Manheim, Song, & Chang (2001) evaluated the prevalence of arthritis and activity limitations that resulted in a physician's visit or a joint replacement not associated with a hip fracture using data from the first wave of the AHEAD study. They concluded that Non-Hispanic black and Hispanic older adults report having arthritis at a higher frequency than non-Hispanic whites. Hispanics reported higher rates of limitations of activities of daily living compared with non-Hispanic whites with a comparable level of disease burden.

Wilson (2002) studied the inter-spousal correlation in health status (ISCIHS) among married couples in later life. Using data from the first wave of the HRS, they found a high correlation in health status between spouses, as well as evidence that the correlation is robust to alternative measures of health status. Their results indicated a high correlation even after controlling for age, education, income, and other socioeconomic and demographic determinants of health status, including behavioral risk factors. They concluded that marriage formation and decision making processes systematically affect health in

later life and that heretofore unidentified risk factors for disease and disability exist at the household level.

Wilson and Waddoups (2002) used data from four waves of the HRS to examine the impact of health status on marital dissolution for couples in late mid-life. They estimated the impact of different spousal health combinations on the probability of marital dissolution (as indicated by separation). They found evidence for what they referred to as the health mismatch hypothesis (marriages in which one partner has substantially better health than the other one are more likely to get divorced than couples who have similar health (whether good or bad)). However, this effect was only found among couples in which both couples report their marriages to be very satisfying. Among other couples, no effect is found. This suggests that health is of minor consequence for already unhappy couples, but health mismatches pose a significant risk of dissolution to happy couples within this age cohort, possibly because of the unexpected nature of poor health at a relatively young age.

*Health Conditions and Cognition*

Fultz, Ofstedal, Herzog, and Wallace (2003) examined the role of cognitive impairment and depressive symptoms on the functional outcomes of stroke and diabetes using data from the AHEAD study. Their results indicated that stroke, diabetes, cognitive impairment, and depressive symptoms each have strong independent effects on physical functioning.

Zelinski, Crimmins, Reynolds, & Seeman (1998) examined whether chronic medical conditions predict cognitive performance among older adults. Stroke, diabetes, and self-ratings of poor health were related to cognitive deficits. They found an interaction with age such that poorer performance on some cognitive tasks are more pronounced in younger old adults with high blood pressure and poor health ratings.

*Costs of Informal Caregiving for Patients with Health Conditions*

Hayman et al. (2001) sought to estimate the cost of informal caregiving for elderly cancer patients. Using data from the AHEAD study and controlling for differences in health and functional status, social support, and sociodemographics, they found a significantly higher rate of the probability of informal caregiving and more hours of care received among those receiving cancer treatment compared with those who did not have cancer or had cancer but were not receiving treatment. Results indicated that the incremental increase in caregiving time translates to an average yearly cost of $1200 per patient. These researchers concluded that informal caregiving costs are substantial and should be considered when estimating the cost of cancer treatment in the elderly.

In a similar study, Langa et al. (2002) studied informal caregiving time and costs among elderly individuals with diabetes. Using data from the AHEAD study, they found that those without diabetes received less informal care than those with diabetes, and those with diabetes who were taking insulin received more care than those with diabetes taking no medication or oral medication. Disabilities related to heart disease, stroke, and visual impairment were important predictors of diabetes-related informal care. The total cost of informal caregiving for elderly individuals with diabetes in the United States was between $3 and $6 billion per year, similar to previous estimates of the annual paid long-term care costs attributable to diabetes. They concluded that diabetes imposes a substantial burden on elderly individuals, their families, and society, both through increased rates of disability and the

significant time that informal caregivers must spend helping address the associated functional limitations.

*Research Regarding specific Health Conditions:*

*Diabetes*

Vijan, Hayward, & Langa (in press) examined the impact of diabetes on workforce participation. Results indicated that Diabetes is a significant predictor of self-rated disability, of not working due to health impairments, and of receiving Social Security Disability or VA disability. Individuals with diabetes also missed more work time than those without the disease. They concluded that diabetes has a profound economic impact in the U.S.

Wray, Blaum, Ofstedal, and Herzog (2004) used data from three waves of the HRS to determine whether diagnosis of diabetes predicted subsequent weight loss among relatively healthy by overweight adults, and whether whether socioeconomic factors affected that relationship. They found that overweight middle-aged adults were more likely to report losing at least 10 pounds if they had diabetes than if they did not, and this relationship was not related to socioeconomic status.

*Arthritis*

Yelin (1995) described the prevalence, incidence, and correlates of work disability among persons with musculoskeletal conditions (e.g., arthritis). Results indicated that individuals with musculoskeletal conditions musculoskeletal conditions have high rates of work disability, but given their level of impairment, are more likely to work than persons without musculoskeletal conditions. Yelin, Sonnebom, and Trupin (2000) sought to estimate the likelihood that persons aged 51 to 61 afflicted by musculoskeletal disorders will receive accommodations from their employers. Using data from the HRS, they found that among those reporting a musculoskeletal problem causing a disability and still employed, not even a fifth had received accommodations. The most common accommodations that employees are given are: an assistant, more breaks in a workday, changes in work schedule, and special equipment. Only those people that had someone assisting them with their work were more likely to be working 2 years later.

*Heart Disease*

Ueda, Shirakawa, & Goko (1997) examined the incidence of heart problems among the elderly in order to examine possible risk factors of heart disease, including hypertension, diabetes, alcohol consumption, smoking status, body mass index (BMI), and physical performance. Bivariate analysis results indicated that hypertension, diabetes, alcohol consumption, and physical performance all related to the incidence of heart problems among the elderly. However, hypertension and alcohol consumption do not show significance in multivariate analyses and therefore their effects as a risk factor on the incidence of heart disease are low. BMI only significantly indicated the risk of the incidence of heart problems in the multiple logistic regression analyses. Both diabetes and physical performance were statistically significant indicators of heart disease in both types of analyses, yet they show different direction of effects when demographic factors are added.

*C. Missing Data*

In general there is only a small amount of missing data on the health conditions measures. "Don't know" and "refused" codes were endorsed very infrequently; less than .01% of the respondents indicated that they didn't know or refused to answer the questions that were asked. As a result, issues regarding missing or incomplete data should not pose a significant problem for researchers using the health conditions data.

## VI. Technicalities

*A. Heart Condition Preload Error*

Please note the following corrections to the heart condition variables in HRS 1998 and 2000. (This information is also posted on the HRS website under "Data Alert.")

*1. 1998 - Correction to F1156 [B7. Heart Condition]*

In the health status respondent-level data file (H98B_R) of the Final Core Data Release Version 1.0, the variable F1156 [B7. HEART CONDITION] has a data error. Specifically, there were a number of AHEAD respondents who reported having heart disease in 1993 or 1995 (and had not disputed the report as of 1995) and were miscoded on the 1998 preload variable for heart disease, F234 (i.e., coded 0 instead of 1 on F234). In a producing a later data release, a new variable was created (F1156A) to flag the cases that were miscoded.

The preload variable is what determines which version of the heart disease question (B7) is asked in the current wave. Those coded 1 on the preload variable are simply asked to confirm the prior report of heart disease: "Our records from your last interview in (date) show that you had a heart problem." Unless the R disputes this, the interviewer keys a value of 1 indicating that R still has heart disease. Those coded 0 on the preload variable were instead asked this version of the question: "Since your last interview in (date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems?" If they said no to this question, then they were coded 5 on F1156 and they were not asked any of the heart condition follow-up questions in 1998 (i.e., B7a – B7q).

To deal with this error, we created a new variable, F1156A, in which the 517 respondents who reported having heart disease in 1993 or 1995 and answered "No" to this question in 1998 were assigned a new value on F1156A (compared to F1156).

The variables used for this recode are D828 (heart disease status in 1995) and F234 (1998 preload for heart disease). Sample SAS code appears below to illustrate how this recode was created. 517 cases were changed from 5 on F1156 to 6 on F1156A. Frequencies before and after the correction are listed below. Note that this recode will result in a slight overestimate of the number and percent of respondents with heart disease in 1998, because if the 517 respondents had been asked to confirm their prior heart disease, some of them may have disputed it.

If you are interested in using the heart condition follow-up questions in any of your analyses, these are our recommendations: it is unlikely that respondents who had heart disease in the past but no incident report between 1995 and 1998 would respond 'yes' to follow-up questions B7d, B7i, B7kb, B7p, and B7q. Thus, respondents with a value of 6 on F1156 can be assigned values of 5 on F1162, F1168, F1171, F1174, and F1175. We do not recommend recoding any of the other follow-up question variables, as it less clear how respondents would have answered those questions.

```
==============================================================================

F1156     B7. HEART CONDITION
          Section: B            Level: Respondent         CAI Reference: Q1156
          Type: Numeric         Width: 1                  Decimals: 0

..............................................................
Corrected   Uncorrected
 (F1156A)     (F1156)

   4307        4307     1. YES
    179         179     3. [VOL] DISPUTES PREVIOUS WAVE RECORD
  16367       16885     5. NO
    518                 6. PRELOAD ERROR: Condition reported at prior wave but
                        said no to new event
     13          13     8. DK (don't know); NA (not ascertained)
                        9. RF (refused)
                     Blank. INAP (Inapplicable): [Q456:CS CONTINUE] IS (5);
                    [Q497:CS2b] IS (A) OR [Q542:CS15C2] IS (A) OR [Q518:CS11a] IS
                    (A)

==============================================================================
```

SAS Code for correcting this error:

```
**************************************************;
** Fixing Heart Disease Variable in HRS 98 Core **;
**************************************************;

***1995 data with HHID PN and D828;
Data Da95;
  set in95.a95b_r;
  keep hhid pn d828;
run;
Proc Sort out=da95;
          by hhid pn;
run;

***1998 preload data with HHID PN and F234;
Data Da98_pr;
  set in98.h98pr_r;
  keep hhid pn f234;
run;
Proc Sort out=da98_1;
          by hhid pn;
run;

***1998 data with HHID PN and F1156;
Data Da98_b;
  set in98.h98b_r;
  keep hhid pn f1156;
```

```
run;
Proc Sort out=da98_2;
          by hhid pn;
run;

***Merge data together using HHID and PN;
***retaining only respondents with data in 1998;
Data All;
  merge da95 da98_1 da98_2 (in=a);
  by hhid pn;
  if a;

  miscode=0;
  if d828 eq 1 and f234 eq 0 then miscode=1;

  F1156R = .;
    if miscode eq 1 and f1156 eq 5 then F1156R = 6;
    else F1156R = F1156;
run;

***Check frequencies after correction;
Proc Freq data=All;
          tables miscode f1156 f1156r miscode*f1156r f1156*f1156R / nocol
norow nopercent missing;
run;
```

*2. 2000 - Correction to G1289 [B7. Heart Condition]*

In the health status respondent-level data file (H00_B) of the Final Core Data Release Version 1.0, variable G1289 [B7. HEART CONDITION] has a data error. This is related to an error in 1998 for F1156. Specifically, there were a number of AHEAD respondents who reported having heart disease in 1993 or 1995 (and had not disputed the report as of 1995), who were miscoded on the 1998 preload variable for heart disease, F234 (i.e., coded 0 instead of 1 on F234). A new variable was created in the 1998 dataset that has a separate code value for respondents who were asked the incorrect question. However, you will need to apply your own changes to the 2000 data.

The heart disease preload variable is what determines which version of the heart disease question (B7) is asked in the current wave. Those coded 1 on the preload variable are simply asked to confirm their prior report of heart disease:

```
Our records from your last interview in (date) show that you had
a heart problem.
```

Unless the R disputes this, the interviewer keys a value of 1 indicating that R still has heart disease.

Those coded 0 on the preload variable are instead asked this version of the question:

```
Since your last interview in (date), has a doctor told you that
you have had a heart attack, have coronary heart disease, angina,
congestive heart failure, or other heart problems?
```

In 1998 if the R said no to this question, s/he was coded 5 on F1156 and asked the incorrect version of the B7 question in 2000 (G1289) as well.

To deal with this error, we recommend that the analyst create a new variable, G1289R, for which the 279 respondents who reported having heart disease in 1993 or 1995 and who answered "No" to G1289 in 2000 are assigned a value of 6. The variables used for this recode are D828 (heart disease status in 1995) and F234 (1998 preload for heart disease). Sample SAS code is provided below. You will want to provide equivalent statements if you are using another statistical software package. 279 cases will change from 5 on G1289 to 6 on G1289R. Frequencies before and after the correction are listed below.

Note that this recode will result in a slight overestimate of the number and percent of respondents with heart disease in 2000, because if the 279 respondents had been asked to confirm their prior heart disease, some of them might have disputed it.

If you are interested in using the heart condition follow-up questions in any of your analyses, these are our recommendations: It is unlikely that respondents who had heart disease in the past but no incident report between 1995 and 1998 would respond "Yes" to follow-up questions B7d, B7i, B7kb, B7p, and B7q. Thus, respondents with a value of 6 on G1289 can be assigned values of 5 on G1295, G1301, G1304, G1307, and G1308). We do not recommend recoding any of the other follow-up question variables, as it less clear how respondents would have answered those questions.

```
==============================================================================
G1289     B7. HEART CONDITION
          Section: B            Level: Respondent      CAI Reference: Q1289
          Type: Numeric         Width: 1               Decimals: 0

.............................................................................
Corrected   Uncorrected

   4375        4375     1. YES
      6           6     3. DISPUTES PREVIOUS WAVE RECORD, BUT NOW HAS CONDITION
    160         160     4. DISPUTES PREVIOUS WAVE RECORD, DOES NOT HAVE CONDITION
  14752       15031     5. NO
    279                 6. PRELOAD ERROR: Condition reported at prior wave but
said no to new event
      4           4     8. DK (don't know); NA (not ascertained)
      4           4     9. RF (refused)
                  Blank.

==============================================================================

****************************************************;
** Fixing Heart Disease Variable in HRS 2000 Core **;
****************************************************;

libname in95 'C:\HRS\1995ahd\core\sas';
libname in98 'C:\HRS\1998hrs\core\sas';
libname in00 'C:\HRS\2000hrs\core\sas';

***1995 data with HHID PN and D828;
Proc Sort data=in95.a95b_r(keep=hhid pn d828)
    out=da95;
    by hhid pn;
run;

***1998 preload data with HHID PN and F234;
```

```
Proc Sort data=in98.h98pr_r(keep=hhid pn f234)
    out=da98_1;
    by hhid pn;
run;

***2000 preload data with HHID PN and G234;
Proc Sort data=in00.h00pr_r(keep=hhid pn g234)
    out=da00_1;
    by hhid pn;
run;

***2000 data with HHID PN and G1289;
Proc Sort data=in00.h00b_r(keep= hhid pn g1289)
    out=da00_2;
    by hhid pn;
run;

***Merge data together using HHID and PN;
Data All;
    merge da95 da98_1 da00_1 da00_2(in=a);
    by hhid pn;
    if a;

    if d828 eq 1 and f234 eq 0 and g1289 eq 5 then g1289r = 6;
    else g1289r = g1289;
run;

***Check frequencies after correction;
Proc Freq data=all;
    tables g1289 g1289r / nocol norow nopercent missing;
run;
```

3. 1998 & 2000 Correction [B7. Heart Condition] as applied when calculating heart disease prevalence in this report.

```
***Fixing heart disease preload problem for AHD Rs in 1998;
***recode n=518 who said no to new event in 1998 as missing;
***carrying missing data option through 2000 (n=279) and 2002 (n=38);

miscode=0;
checkfh=.;
checkgh=.;
checkhh=.;
if D828 eq 1 and F234 eq 0 then miscode=1;
if miscode eq 1 and F1156 eq 5 then checkfh=1;
if miscode eq 1 and F1156 eq 5 then F1156=.;
if checkfh eq 1 and G1289 eq 5 then checkgh=1;
if checkfh eq 1 and G1289 eq 5 then G1289=.;
if checkfh eq 1 and G1289 ne 1 and HC036 eq 5 then checkhh=1;
if checkfh eq 1 and G1289 ne 1 and HC036 eq 5 then HC036=.;

drop miscode checkfh checkgh checkhh;
```

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## APPENDIX A – Condition Prevalence Across Waves

The following tables present the prevalence of chronic disease conditions from 1992 – 2002 for the HRS Original Cohort. The Original cohort includes respondents who were between the ages of 51 and 61 in 1992 (born between 1931 and 1941).

Table 2. Frequency of Hypertension – HRS Original Cohort.

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 37.9 | 8845 | 41.8 | 8468 | 41.7 | 8097 | 44.1 | 7644 | 47.4 | 7339 | 51.5 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 39.2 | 4101 | 42.8 | 3909 | 42.0 | 3734 | 43.8 | 3515 | 47.7 | 3352 | 51.3 |
| Female | 5165 | 36.7 | 4744 | 40.8 | 4559 | 41.4 | 4363 | 44.3 | 4129 | 47.1 | 3981 | 51.7 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 37.9 | 760 | 44.3 | 745 | 42.5 | 715 | 46.2 | 672 | 48.7 | 670 | 55.2 |
| Non-Hispanic White | 6972 | 35.6 | 6408 | 39.2 | 6164 | 39.2 | 5915 | 41.4 | 5589 | 45.0 | 5347 | 49.2 |
| Non-Hispanic Black | 1676 | 56.5 | 1480 | 60.8 | 1380 | 61.9 | 1299 | 65.1 | 1218 | 66.9 | 1156 | 69.9 |
| Non-Hispanic Other | 204 | 38.0 | 175 | 46.8 | 163 | 44.0 | 156 | 46.0 | 153 | 47.5 | 138 | 48.6 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 3. Frequency of Diabetes– HRS Original Cohort.

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 9.9 | 8845 | 11.7 | 8468 | 12.3 | 8097 | 13.4 | 7644 | 14.7 | 7339 | 17.2 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 10.2 | 4101 | 12.4 | 3909 | 13.0 | 3734 | 14.5 | 3515 | 15.8 | 3352 | 18.9 |
| Female | 5165 | 9.6 | 4744 | 11.2 | 4559 | 11.6 | 4363 | 12.5 | 4129 | 13.7 | 3981 | 15.8 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 14.6 | 760 | 18.9 | 745 | 19.1 | 715 | 21.6 | 672 | 23.8 | 670 | 27.7 |
| Non-Hispanic White | 6972 | 8.4 | 6408 | 9.9 | 6164 | 10.4 | 5915 | 11.3 | 5589 | 12.6 | 5347 | 15.1 |
| Non-Hispanic Black | 1676 | 17.6 | 1480 | 21.7 | 1380 | 23.0 | 1299 | 24.7 | 1218 | 25.4 | 1156 | 28.4 |
| Non-Hispanic Other | 204 | 12.6 | 175 | 14.0 | 163 | 13.4 | 156 | 15.8 | 153 | 14.7 | 138 | 16.2 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 4. Frequency of Cancer – HRS Original Cohort.

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 5.6 | 8845 | 6.6 | 8468 | 7.5 | 8097 | 9.1 | 7644 | 10.6 | 7339 | 12.4 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 3.2 | 4101 | 4.1 | 3909 | 5.1 | 3734 | 7.6 | 3515 | 9.0 | 3352 | 11.6 |
| Female | 5165 | 7.7 | 4744 | 8.8 | 4559 | 9.6 | 4363 | 10.4 | 4129 | 12.0 | 3981 | 13.2 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 4.2 | 760 | 5.8 | 745 | 6.1 | 715 | 7.4 | 672 | 8.8 | 670 | 9.8 |
| Non-Hispanic White | 6972 | 5.8 | 6408 | 6.8 | 6164 | 7.8 | 5915 | 9.4 | 5589 | 11.1 | 5347 | 13.1 |
| Non-Hispanic Black | 1676 | 4.6 | 1480 | 5.0 | 1380 | 5.9 | 1299 | 7.1 | 1218 | 8.0 | 1156 | 8.9 |
| Non-Hispanic Other | 204 | 5.3 | 175 | 6.1 | 163 | 8.0 | 156 | 10.9 | 153 | 9.3 | 138 | 9.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 5. Frequency of Lung Disease – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 8.2 | 8845 | 9.9 | 8468 | 9.1 | 8097 | 9.1 | 7644 | 9.1 | 7339 | 10.2 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 7.9 | 4101 | 9.5 | 3909 | 8.6 | 3734 | 8.3 | 3515 | 8.5 | 3352 | 9.4 |
| Female | 5165 | 8.5 | 4744 | 10.2 | 4559 | 9.5 | 4363 | 9.8 | 4129 | 9.7 | 3981 | 11.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 6.7 | 760 | 8.3 | 745 | 6.4 | 715 | 5.7 | 672 | 6.3 | 670 | 7.3 |
| Non-Hispanic White | 6972 | 8.5 | 6408 | 10.1 | 6164 | 9.5 | 5915 | 9.5 | 5589 | 9.5 | 5347 | 10.9 |
| Non-Hispanic Black | 1676 | 6.5 | 1480 | 9.1 | 1380 | 8.2 | 1299 | 8.3 | 1218 | 7.9 | 1156 | 7.6 |
| Non-Hispanic Other | 204 | 7.8 | 175 | 9.5 | 163 | 7.6 | 156 | 9.2 | 153 | 9.0 | 138 | 9.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 6. Frequency of Heart Disease – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 12.6 | 8845 | 15.8 | 8468 | 16.1 | 8097 | 17.3 | 7644 | 18.8 | 7339 | 21.7 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 15.0 | 4101 | 18.5 | 3909 | 18.4 | 3734 | 20.2 | 3515 | 22.6 | 3352 | 25.9 |
| Female | 5165 | 10.5 | 4744 | 13.3 | 4559 | 14.0 | 4363 | 14.8 | 4129 | 15.6 | 3981 | 18.2 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 9.1 | 760 | 13.0 | 745 | 11.5 | 715 | 13.0 | 672 | 14.3 | 670 | 15.1 |
| Non-Hispanic White | 6972 | 12.7 | 6408 | 15.8 | 6164 | 16.4 | 5915 | 17.7 | 5589 | 19.3 | 5347 | 22.4 |
| Non-Hispanic Black | 1676 | 14.1 | 1480 | 17.2 | 1380 | 17.2 | 1299 | 17.8 | 1218 | 18.6 | 1156 | 19.8 |
| Non-Hispanic Other | 204 | 12.6 | 175 | 14.2 | 163 | 14.5 | 156 | 16.7 | 153 | 17.5 | 138 | 25.6 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 7. Frequency of Stroke – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 2.6 | 8845 | 3.0 | 8468 | 3.1 | 8097 | 3.8 | 7644 | 4.4 | 7339 | 4.6 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 3.0 | 4101 | 3.4 | 3909 | 3.3 | 3734 | 4.3 | 3515 | 4.7 | 3352 | 5.0 |
| Female | 5165 | 2.2 | 4744 | 2.8 | 4559 | 2.9 | 4363 | 3.4 | 4129 | 4.0 | 3981 | 4.3 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 3.2 | 760 | 4.4 | 745 | 3.2 | 715 | 2.9 | 672 | 2.3 | 670 | 3.3 |
| Non-Hispanic White | 6972 | 2.3 | 6408 | 2.6 | 6164 | 2.7 | 5915 | 3.5 | 5589 | 4.0 | 5347 | 4.3 |
| Non-Hispanic Black | 1676 | 4.5 | 1480 | 5.5 | 1380 | 5.7 | 1299 | 6.6 | 1218 | 8.3 | 1156 | 8.0 |
| Non-Hispanic Other | 204 | 2.3 | 175 | 3.2 | 163 | 3.8 | 156 | 4.4 | 153 | 5.0 | 138 | 4.2 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 8. Frequency of Arthritis – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 37.4 | 8845 | 44.6 | 8468 | 48.2 | 8097 | 52.5 | 7644 | 56.0 | 7339 | 59.5 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 30.6 | 4101 | 36.8 | 3909 | 40.6 | 3734 | 45.9 | 3515 | 49.0 | 3352 | 52.3 |
| Female | 5165 | 43.6 | 4744 | 51.7 | 4559 | 55.1 | 4363 | 58.3 | 4129 | 62.2 | 3981 | 65.7 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 35.9 | 760 | 44.8 | 745 | 46.1 | 715 | 49.4 | 672 | 55.7 | 670 | 56.7 |
| Non-Hispanic White | 6972 | 37.2 | 6408 | 44.1 | 6164 | 48.0 | 5915 | 52.4 | 5589 | 55.9 | 5347 | 59.7 |
| Non-Hispanic Black | 1676 | 40.9 | 1480 | 49.4 | 1380 | 53.0 | 1299 | 57.9 | 1218 | 60.1 | 1156 | 63.7 |
| Non-Hispanic Other | 204 | 33.4 | 175 | 41.2 | 163 | 42.2 | 156 | 44.3 | 153 | 45.8 | 138 | 46.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 9. Frequency of Psychiatric Conditions – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 9761 | 10.9 | 8845 | 13.9 | 8468 | 13.6 | 8097 | 14.1 | 7644 | 14.2 | 7339 | 14.8 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 8.0 | 4101 | 10.5 | 3909 | 9.8 | 3734 | 10.1 | 3515 | 9.7 | 3352 | 9.6 |
| Female | 5165 | 13.6 | 4744 | 17.0 | 4559 | 17.0 | 4363 | 17.7 | 4129 | 18.2 | 3981 | 19.3 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 15.1 | 760 | 22.4 | 745 | 19.4 | 715 | 18.5 | 672 | 18.8 | 670 | 19.7 |
| Non-Hispanic White | 6972 | 10.7 | 6408 | 13.5 | 6164 | 13.1 | 5915 | 13.8 | 5589 | 14.0 | 5347 | 14.7 |
| Non-Hispanic Black | 1676 | 10.4 | 1480 | 12.7 | 1380 | 13.2 | 1299 | 13.6 | 1218 | 13.6 | 1156 | 13.7 |
| Non-Hispanic Other | 204 | 8.8 | 175 | 10.9 | 163 | 11.6 | 156 | 13.3 | 153 | 12.1 | 138 | 10.7 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 10. Self-Rated Overall Health Status – HRS Original Cohort

| | 1992 | | 1994 | | 1996 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| | | | | | | | | | | | | |
| **Total** | 9761 | 20.1 | 8842 | 20.8 | 8465 | 21.1 | 8093 | 25.9 | 7640 | 23.0 | 7336 | 23.8 |
| **Sex** | | | | | | | | | | | | |
| Male | 4596 | 19.2 | 4098 | 19.7 | 3907 | 20.1 | 3732 | 24.7 | 3512 | 22.5 | 3352 | 23.6 |
| Female | 5165 | 21.0 | 4744 | 21.7 | 4558 | 22.0 | 4361 | 27.0 | 4128 | 23.5 | 3978 | 24.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 903 | 37.0 | 760 | 44.7 | 745 | 42.5 | 715 | 45.5 | 672 | 44.2 | 670 | 45.5 |
| Non-Hispanic White | 6972 | 16.8 | 6406 | 17.0 | 6162 | 17.8 | 5912 | 22.4 | 5585 | 19.4 | 5346 | 20.1 |
| Non-Hispanic Black | 1676 | 35.7 | 1479 | 35.8 | 1380 | 33.5 | 1298 | 41.2 | 1218 | 38.6 | 1154 | 40.5 |
| Non-Hispanic Other | 204 | 21.9 | 175 | 24.2 | 162 | 25.7 | 156 | 26.8 | 153 | 22.9 | 138 | 22.7 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Ns and percentages are based on those who reported being in Fair or Poor Health (on a rating scale of Excellent, Very Good, Good, Fair, or Poor)

Table 11. Frequency of Hypertension – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7435 | 49.1 | 6296 | 51.6 | 5242 | 54.5 | 4337 | 57.4 | 3467 | 61.7 |
| **Sex** | | | | | | | | | | |
| Male | 2906 | 43.6 | 2417 | 46.2 | 1953 | 48.8 | 1567 | 51.1 | 1220 | 55.0 |
| Female | 4529 | 52.9 | 3879 | 55.3 | 3289 | 57.9 | 2770 | 61.2 | 2247 | 65.4 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 50.8 | 341 | 52.1 | 294 | 56.6 | 259 | 60.7 | 201 | 61.7 |
| Non-Hispanic White | 5910 | 47.8 | 5053 | 50.4 | 4202 | 53.2 | 3476 | 56.1 | 2799 | 60.8 |
| Non-Hispanic Black | 1009 | 64.2 | 822 | 65.5 | 679 | 67.5 | 540 | 70.1 | 415 | 73.2 |
| Non-Hispanic Other | 68 | 44.8 | 67 | 45.9 | 67 | 56.6 | 62 | 55.3 | 47 | 62.0 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 12. Frequency of Diabetes – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7438 | 12.4 | 6296 | 13.8 | 5242 | 14.8 | 4337 | 15.1 | 3467 | 16.4 |
| **Sex** | | | | | | | | | | |
| Male | 2906 | 13.6 | 2417 | 14.5 | 1953 | 15.6 | 1567 | 16.7 | 1220 | 17.8 |
| Female | 4532 | 11.7 | 3879 | 13.3 | 3289 | 14.3 | 2770 | 14.1 | 2247 | 15.6 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 417 | 21.4 | 341 | 23.3 | 294 | 25.9 | 259 | 22.5 | 201 | 23.8 |
| Non-Hispanic White | 5913 | 11.1 | 5053 | 12.5 | 4202 | 13.5 | 3476 | 14.1 | 2799 | 15.3 |
| Non-Hispanic Black | 1010 | 22.4 | 822 | 23.9 | 679 | 23.2 | 540 | 22.6 | 415 | 26.9 |
| Non-Hispanic Other | 68 | 15.0 | 67 | 15.7 | 67 | 15.7 | 62 | 15.6 | 47 | 13.1 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 13. Frequency of Cancer – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7440 | 13.9 | 6296 | 16.0 | 5242 | 16.9 | 4337 | 18.2 | 3467 | 20.2 |
| **Sex** | | | | | | | | | | |
| Male | 2908 | 15.4 | 2417 | 18.4 | 1953 | 20.3 | 1567 | 20.8 | 1220 | 25.5 |
| Female | 4532 | 13.0 | 3879 | 14.3 | 3289 | 14.8 | 2770 | 16.7 | 2247 | 17.2 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 9.8 | 341 | 8.5 | 294 | 7.7 | 259 | 9.3 | 201 | 9.1 |
| Non-Hispanic White | 5913 | 14.6 | 5053 | 16.9 | 4202 | 17.7 | 3476 | 19.1 | 2799 | 21.1 |
| Non-Hispanic Black | 1011 | 10.3 | 822 | 11.0 | 679 | 13.7 | 540 | 13.2 | 415 | 16.5 |
| Non-Hispanic Other | 68 | 2.3 | 67 | 3.5 | 67 | 10.9 | 62 | 13.5 | 47 | 10.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 14. Frequency of Lung Disease – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7438 | 11.9 | 6296 | 11.4 | 5242 | 11.8 | 4337 | 11.3 | 3467 | 10.6 |
| **Sex** | | | | | | | | | | |
| Male | 2903 | 14.3 | 2417 | 13.6 | 1953 | 13.6 | 1567 | 13.6 | 1220 | 12.3 |
| Female | 4535 | 10.3 | 3879 | 9.9 | 3289 | 10.7 | 2770 | 9.9 | 2247 | 9.7 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 417 | 9.7 | 341 | 8.2 | 294 | 7.2 | 259 | 9.7 | 201 | 7.6 |
| Non-Hispanic White | 5912 | 12.4 | 5053 | 12.1 | 4202 | 12.6 | 3476 | 11.8 | 2799 | 11.4 |
| Non-Hispanic Black | 1011 | 7.0 | 822 | 5.7 | 679 | 5.5 | 540 | 6.3 | 415 | 4.4 |
| Non-Hispanic Other | 68 | 7.9 | 67 | 5.6 | 67 | 9.7 | 62 | 10.4 | 47 | 6.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 15. Frequency of Heart Disease – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7436 | 31.9 | 6296 | 34.3 | 4771 | 30.6 | 4088 | 35.4 | 3435 | 40.4 |
| **Sex** | | | | | | | | | | |
| Male | 2905 | 36.2 | 2417 | 38.2 | 1738 | 35.7 | 1450 | 41.0 | 1205 | 48.3 |
| Female | 4531 | 29.1 | 3879 | 31.8 | 3033 | 27.6 | 2638 | 32.1 | 2230 | 36.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 24.1 | 341 | 25.9 | 276 | 23.3 | 249 | 24.6 | 199 | 28.5 |
| Non-Hispanic White | 5910 | 32.7 | 5053 | 35.3 | 3804 | 31.7 | 3272 | 36.5 | 2774 | 42.0 |
| Non-Hispanic Black | 1010 | 26.9 | 822 | 27.4 | 629 | 24.1 | 508 | 30.4 | 411 | 33.5 |
| Non-Hispanic Other | 68 | 24.2 | 67 | 27.6 | 62 | 24.0 | 59 | 22.8 | 46 | 15.5 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 16. Frequency of Stroke – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7441 | 8.7 | 6296 | 9.8 | 5242 | 10.5 | 4337 | 10.5 | 3467 | 11.4 |
| **Sex** | | | | | | | | | | |
| Male | 2907 | 9.6 | 2417 | 10.5 | 1953 | 10.8 | 1567 | 11.3 | 1220 | 12.1 |
| Female | 4534 | 8.0 | 3879 | 9.3 | 3289 | 10.3 | 2770 | 10.0 | 2247 | 11.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 7.3 | 341 | 7.5 | 294 | 10.0 | 259 | 9.5 | 201 | 9.5 |
| Non-Hispanic White | 5915 | 8.5 | 5053 | 9.7 | 4202 | 10.5 | 3476 | 10.5 | 2799 | 11.3 |
| Non-Hispanic Black | 1011 | 11.2 | 822 | 11.5 | 679 | 11.2 | 540 | 12.1 | 415 | 14.3 |
| Non-Hispanic Other | 67 | 5.0 | 67 | 6.4 | 67 | 8.2 | 62 | 5.3 | 47 | 9.9 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 17. Frequency of Arthritis – AHEAD Original Cohort

| | 1993[1] | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7437 | 24.7 | 6296 | 54.1 | 5242 | 62.7 | 4337 | 68.4 | 3467 | 71.4 |
| **Sex** | | | | | | | | | | |
| Male | 2904 | 19.6 | 2417 | 46.8 | 1953 | 55.4 | 1567 | 61.8 | 1220 | 65.7 |
| Female | 4533 | 28.2 | 3879 | 59.0 | 3289 | 67.2 | 2770 | 72.4 | 2247 | 74.6 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 42.1 | 341 | 60.4 | 294 | 63.4 | 259 | 67.6 | 201 | 70.0 |
| Non-Hispanic White | 5910 | 22.6 | 5053 | 52.9 | 4202 | 61.9 | 3476 | 67.8 | 2799 | 71.1 |
| Non-Hispanic Black | 1011 | 38.3 | 822 | 64.5 | 679 | 72.0 | 540 | 76.5 | 415 | 77.1 |
| Non-Hispanic Other | 68 | 32.7 | 67 | 54.3 | 67 | 63.0 | 62 | 64.9 | 47 | 65.0 |

Sample Ns are based on unweighted data; proportions are based on weighted data
[1]The arthritis question asked in 1993 was significantly different from the question asked in later waves. Refer to the question concordance in Appendix A for detailed question wording.

Table 18. Frequency of Psychiatric Conditions – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | AHEAD | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7441 | 10.8 | 6296 | 11.5 | 5242 | 13.0 | 4337 | 12.2 | 3467 | 13.3 |
| **Sex** | | | | | | | | | | |
| Male | 2906 | 8.5 | 2417 | 8.3 | 1953 | 9.0 | 1567 | 8.1 | 1220 | 8.0 |
| Female | 4535 | 12.3 | 3879 | 13.7 | 3289 | 15.5 | 2770 | 14.7 | 2247 | 16.3 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 15.7 | 341 | 16.2 | 294 | 19.7 | 259 | 21.2 | 201 | 19.8 |
| Non-Hispanic White | 5915 | 10.6 | 5053 | 11.1 | 4202 | 12.5 | 3476 | 11.5 | 2799 | 13.0 |
| Non-Hispanic Black | 1010 | 10.5 | 822 | 14.3 | 679 | 14.9 | 540 | 15.7 | 415 | 13.2 |
| Non-Hispanic Other | 68 | 9.7 | 67 | 9.5 | 67 | 14.9 | 62 | 12.6 | 47 | 15.2 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 19. Frequency of Overall Self-Rated Health Status – AHEAD Original Cohort

| | 1993 | | 1995 | | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AHEAD | | AHEAD | | AHEAD | | AHEAD | | HRS | |
| | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7437 | 35.5 | 6294 | 34.2 | 5240 | 40.2 | 4335 | 36.4 | 3462 | 37.6 |
| **Sex** | | | | | | | | | | |
| Male | 2907 | 34.7 | 2415 | 33.3 | 1953 | 41.1 | 1567 | 37.3 | 1219 | 37.8 |
| Female | 4530 | 36.0 | 3879 | 34.8 | 3287 | 39.6 | 2768 | 35.8 | 2243 | 37.5 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | |
| Hispanic | 418 | 49.9 | 341 | 43.9 | 294 | 55.7 | 259 | 54.0 | 201 | 51.9 |
| Non-Hispanic White | 5912 | 33.4 | 5051 | 32.5 | 4200 | 38.3 | 3475 | 34.2 | 2794 | 35.9 |
| Non-Hispanic Black | 1011 | 50.0 | 822 | 49.0 | 679 | 52.9 | 540 | 52.8 | 415 | 53.4 |
| Non-Hispanic Other | 66 | 36.3 | 67 | 28.0 | 67 | 47.8 | 61 | 28.8 | 47 | 26.8 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Ns and percentages are based on those who reported being in Fair or Poor Health (on a rating scale of Excellent, Very Good, Good, Fair, or Poor)

Table 20. Frequency of Hypertension – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| **Total** | 18506 | 47.6 | 17628 | 49.0 | 17154 | 51.7 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 40.6 | 6488 | 41.8 | 5927 | 44.4 |
| 65-74 yrs | 5757 | 50.8 | 5782 | 51.5 | 5947 | 54.1 |
| 75-84 yrs | 3855 | 54.4 | 3867 | 56.9 | 3816 | 60.9 |
| 85+ yrs | 1501 | 54.3 | 1491 | 57.4 | 1464 | 60.6 |
| **Sex** | | | | | | |
| Male | 8043 | 45.6 | 7559 | 47.5 | 7280 | 50.2 |
| Female | 10463 | 49.1 | 10069 | 50.1 | 9861 | 53.0 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 45.7 | 1358 | 46.2 | 1332 | 49.8 |
| Non-Hispanic White | 14201 | 46.0 | 13510 | 47.5 | 13003 | 50.2 |
| Non-Hispanic Black | 2563 | 63.2 | 2402 | 64.4 | 2318 | 68.2 |
| Non-Hispanic Other | 334 | 48.8 | 335 | 48.4 | 329 | 51.6 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 21. Frequency of Hypertension - HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 45.6 | 10463 | 49.1 | 7559 | 47.5 | 10069 | 50.1 | 7280 | 50.2 | 9861 | 53.0 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 41.1 | 4068 | 40.0 | 2831 | 43.6 | 3657 | 40.1 | 2509 | 46.1 | 3410 | 42.9 |
| 65-74 yrs | 2664 | 49.5 | 3093 | 51.8 | 2645 | 50.2 | 3137 | 52.6 | 2708 | 52.3 | 3235 | 55.6 |
| 75-84 yrs | 1571 | 49.9 | 2284 | 57.4 | 1598 | 51.7 | 2269 | 60.6 | 1598 | 56.7 | 2217 | 63.8 |
| 85+ yrs | 483 | 42.7 | 1018 | 59.8 | 485 | 49.8 | 1006 | 61.1 | 465 | 49.9 | 999 | 65.9 |

Table 22. Frequency of Hypertension – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 45.6 | 10463 | 49.1 | 7559 | 47.5 | 10069 | 50.1 | 7280 | 50.2 | 9861 | 53.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 42.1 | 780 | 48.6 | 575 | 43.2 | 783 | 48.4 | 564 | 44.1 | 768 | 54.4 |
| Non-Hispanic White | 6277 | 44.9 | 7924 | 46.9 | 5899 | 47.0 | 7611 | 48.0 | 5619 | 49.7 | 7384 | 50.6 |
| Non-Hispanic Black | 989 | 56.3 | 1574 | 67.8 | 916 | 57.2 | 1486 | 69.4 | 873 | 62.2 | 1445 | 72.3 |
| Non-Hispanic Other | 152 | 45.5 | 182 | 51.4 | 150 | 45.2 | 185 | 51.1 | 145 | 42.9 | 184 | 58.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 23. Frequency of Diabetes – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| **Total** | 18506 | 14.0 | 17628 | 14.7 | 17154 | 16.7 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 12.0 | 6488 | 12.5 | 5927 | 14.9 |
| 65-74 yrs | 5757 | 15.9 | 5782 | 16.8 | 5947 | 18.6 |
| 75-84 yrs | 3855 | 15.5 | 3867 | 16.6 | 3816 | 18.8 |
| 85+ yrs | 1501 | 12.3 | 1491 | 12.3 | 1464 | 12.1 |
| **Sex** | | | | | | |
| Male | 8043 | 15.0 | 7559 | 15.8 | 7280 | 18.3 |
| Female | 10463 | 13.2 | 10069 | 13.9 | 9861 | 15.4 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 21.4 | 1358 | 21.2 | 1332 | 25.4 |
| Non-Hispanic White | 14201 | 12.4 | 13510 | 13.2 | 13003 | 14.8 |
| Non-Hispanic Black | 2563 | 23.2 | 2402 | 24.1 | 2318 | 27.1 |
| Non-Hispanic Other | 334 | 15.6 | 335 | 14.9 | 329 | 20.6 |

Table 24. Frequency of Diabetes – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 15.0 | 10463 | 13.2 | 7559 | 15.8 | 10069 | 13.9 | 7280 | 18.3 | 9861 | 15.4 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 12.8 | 4068 | 11.2 | 2831 | 13.2 | 3657 | 12.0 | 2509 | 16.2 | 3410 | 13.8 |
| 65-74 yrs | 2664 | 17.5 | 3093 | 14.5 | 2645 | 18.3 | 3137 | 15.6 | 2708 | 20.7 | 3235 | 16.9 |
| 75-84 yrs | 1571 | 16.1 | 2284 | 15.0 | 1598 | 17.9 | 2269 | 15.7 | 1598 | 20.5 | 2217 | 17.6 |
| 85+ yrs | 483 | 12.9 | 1018 | 12.0 | 485 | 14.9 | 1006 | 10.9 | 465 | 13.7 | 999 | 11.3 |

Table 25. Frequency of Diabetes – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 15.0 | 10463 | 13.2 | 7559 | 15.8 | 10069 | 13.9 | 7280 | 18.3 | 9861 | 15.4 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 21.0 | 780 | 21.8 | 575 | 21.9 | 783 | 20.8 | 564 | 25.1 | 768 | 25.6 |
| Non-Hispanic White | 6277 | 14.0 | 7924 | 11.1 | 5899 | 14.7 | 7611 | 11.9 | 5619 | 16.9 | 7384 | 13.0 |
| Non-Hispanic Black | 989 | 20.1 | 1574 | 25.3 | 916 | 21.6 | 1486 | 25.9 | 873 | 25.6 | 1445 | 28.2 |
| Non-Hispanic Other | 152 | 14.6 | 182 | 16.4 | 150 | 16.1 | 185 | 13.9 | 145 | 22.2 | 184 | 19.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 26. Frequency of Cancer – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| **Total** | 18506 | 11.8 | 17628 | 12.3 | 17154 | 13.4 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 7.8 | 6488 | 8.0 | 5927 | 8.8 |
| 65-74 yrs | 5757 | 12.5 | 5782 | 13.2 | 5947 | 14.3 |
| 75-84 yrs | 3855 | 17.1 | 3867 | 17.8 | 3816 | 19.4 |
| 85+ yrs | 1501 | 16.5 | 1491 | 17.6 | 1464 | 20.5 |
| **Sex** | | | | | | |
| Male | 8043 | 11.6 | 7559 | 11.8 | 7280 | 13.1 |
| Female | 10463 | 11.9 | 10069 | 12.7 | 9861 | 13.6 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 7.2 | 1358 | 7.0 | 1332 | 7.0 |
| Non-Hispanic White | 14201 | 12.5 | 13510 | 13.1 | 13003 | 14.2 |
| Non-Hispanic Black | 2563 | 8.6 | 2402 | 9.2 | 2318 | 10.7 |
| Non-Hispanic Other | 334 | 9.7 | 335 | 9.5 | 329 | 11.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 27. Frequency of Cancer – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 11.6 | 10463 | 11.9 | 7559 | 11.8 | 10069 | 12.7 | 7280 | 13.1 | 9861 | 13.6 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 5.9 | 4068 | 9.5 | 2831 | 6.0 | 3657 | 9.8 | 2509 | 7.0 | 3410 | 10.4 |
| 65-74 yrs | 2664 | 12.9 | 3093 | 12.2 | 2645 | 13.3 | 3137 | 13.2 | 2708 | 14.6 | 3235 | 14.1 |
| 75-84 yrs | 1571 | 20.2 | 2284 | 15.0 | 1598 | 20.4 | 2269 | 16.0 | 1598 | 22.8 | 2217 | 17.1 |
| 85+ yrs | 483 | 21.2 | 1018 | 14.2 | 485 | 20.6 | 1006 | 16.2 | 465 | 24.6 | 999 | 18.5 |

Table 28. Frequency of Cancer – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 11.6 | 10463 | 11.9 | 7559 | 11.8 | 10069 | 12.7 | 7280 | 13.1 | 9861 | 13.6 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 5.5 | 780 | 8.5 | 575 | 5.7 | 783 | 8.0 | 564 | 5.0 | 768 | 8.6 |
| Non-Hispanic White | 6277 | 12.2 | 7924 | 12.8 | 5899 | 12.3 | 7611 | 13.8 | 5619 | 13.8 | 7384 | 14.6 |
| Non-Hispanic Black | 989 | 10.4 | 1574 | 7.3 | 916 | 11.5 | 1486 | 7.6 | 873 | 12.7 | 1445 | 9.4 |
| Non-Hispanic Other | 152 | 12.3 | 182 | 7.7 | 150 | 11.9 | 185 | 7.4 | 145 | 13.7 | 184 | 9.5 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 29. Frequency of Lung Disease – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| | | | | | | |
| **Total** | 18506 | 9.6 | 17628 | 9.4 | 17154 | 9.6 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 7.8 | 6488 | 7.7 | 5927 | 7.9 |
| 65-74 yrs | 5757 | 9.9 | 5782 | 10.0 | 5947 | 10.9 |
| 75-84 yrs | 3855 | 12.1 | 3867 | 11.4 | 3816 | 11.4 |
| 85+ yrs | 1501 | 10.3 | 1491 | 10.7 | 1464 | 9.8 |
| **Sex** | | | | | | |
| Male | 8043 | 9.5 | 7559 | 9.1 | 7280 | 9.2 |
| Female | 10463 | 9.6 | 10069 | 9.6 | 9861 | 10.0 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 5.3 | 1358 | 6.5 | 1332 | 5.9 |
| Non-Hispanic White | 14201 | 10.2 | 13510 | 9.8 | 13003 | 10.2 |
| Non-Hispanic Black | 2563 | 6.8 | 2402 | 7.7 | 2318 | 8.1 |
| Non-Hispanic Other | 334 | 7.6 | 335 | 8.2 | 329 | 7.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 30. Frequency of Lung Disease – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 9.5 | 10463 | 9.6 | 7559 | 9.1 | 10069 | 9.6 | 7280 | 9.2 | 9861 | 10.0 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 6.6 | 4068 | 8.9 | 2831 | 6.6 | 3657 | 8.7 | 2509 | 6.6 | 3410 | 9.0 |
| 65-74 yrs | 2664 | 10.3 | 3093 | 9.5 | 2645 | 9.4 | 3137 | 10.6 | 2708 | 10.7 | 3235 | 11.1 |
| 75-84 yrs | 1571 | 13.7 | 2284 | 11.1 | 1598 | 13.2 | 2269 | 10.1 | 1598 | 12.2 | 2217 | 10.9 |
| 85+ yrs | 483 | 12.3 | 1018 | 9.3 | 485 | 13.4 | 1006 | 9.3 | 465 | 13.0 | 999 | 8.1 |

Table 31. Frequency of Lung Disease – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 9.5 | 10463 | 9.6 | 7559 | 9.1 | 10069 | 9.6 | 7280 | 9.2 | 9861 | 10.0 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 4.4 | 780 | 6.1 | 575 | 6.1 | 783 | 6.8 | 564 | 5.2 | 768 | 6.4 |
| Non-Hispanic White | 6277 | 10.2 | 7924 | 10.2 | 5899 | 9.5 | 7611 | 10.1 | 5619 | 9.8 | 7384 | 10.6 |
| Non-Hispanic Black | 989 | 6.0 | 1574 | 7.3 | 916 | 7.3 | 1486 | 8.0 | 873 | 6.9 | 1445 | 8.9 |
| Non-Hispanic Other | 152 | 7.9 | 182 | 7.4 | 150 | 9.8 | 185 | 6.9 | 145 | 8.8 | 184 | 6.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 32. Frequency of Heart Disease – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| | | | | | | |
| **Total** | 17988 | 22.0 | 17349 | 22.9 | 17116 | 24.0 |
| **Age** | | | | | | |
| 55-64 yrs | 7392 | 14.9 | 6487 | 14.7 | 5927 | 15.1 |
| 65-74 yrs | 5711 | 24.2 | 5764 | 24.4 | 5944 | 24.8 |
| 75-84 yrs | 3510 | 29.1 | 3862 | 32.9 | 3791 | 36.3 |
| 85+ yrs | 1375 | 36.4 | 1416 | 39.3 | 1454 | 41.9 |
| **Sex** | | | | | | |
| Male | 7819 | 25.2 | 7439 | 26.2 | 7564 | 27.0 |
| Female | 10169 | 19.4 | 9910 | 20.3 | 9839 | 21.6 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1364 | 15.5 | 1347 | 17.2 | 1329 | 16.9 |
| Non-Hispanic White | 13763 | 22.6 | 13281 | 23.5 | 12973 | 24.8 |
| Non-Hispanic Black | 2508 | 21.0 | 2367 | 22.3 | 2314 | 22.6 |
| Non-Hispanic Other | 328 | 19.0 | 331 | 20.4 | 328 | 19.5 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 33. Frequency of Heart Disease – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7819 | 25.2 | 10169 | 19.4 | 7439 | 26.2 | 9910 | 20.3 | 7564 | 27.0 | 9839 | 21.6 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 17.6 | 4067 | 12.5 | 2831 | 17.4 | 3656 | 12.2 | 2509 | 17.0 | 3410 | 13.3 |
| 65-74 yrs | 2655 | 28.6 | 3056 | 20.7 | 2644 | 29.1 | 3120 | 20.5 | 2708 | 29.6 | 3232 | 20.7 |
| 75-84 yrs | 1396 | 35.0 | 2114 | 25.2 | 1506 | 38.8 | 2176 | 28.8 | 1586 | 42.3 | 2204 | 32.1 |
| 85+ yrs | 443 | 38.3 | 932 | 35.5 | 458 | 43.0 | 958 | 37.4 | 461 | 46.5 | 993 | 39.6 |

Table 34. Frequency of Heart Disease – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 7819 | 25.2 | 10169 | 19.4 | 7439 | 26.2 | 9910 | 20.3 | 7564 | 27.0 | 9839 | 21.6 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 598 | 17.3 | 766 | 14.1 | 574 | 17.8 | 773 | 16.7 | 564 | 16.0 | 765 | 17.5 |
| Non-Hispanic White | 6077 | 26.3 | 7686 | 19.6 | 5793 | 27.4 | 7488 | 20.4 | 5607 | 28.6 | 7366 | 21.8 |
| Non-Hispanic Black | 973 | 19.9 | 1535 | 21.7 | 905 | 21.9 | 1482 | 22.5 | 870 | 21.0 | 1444 | 23.7 |
| Non-Hispanic Other | 149 | 21.7 | 179 | 16.8 | 148 | 22.9 | 183 | 18.3 | 144 | 20.6 | 184 | 18.7 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 35. Frequency of Stroke – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| **Total** | 18506 | 6.3 | 17628 | 6.1 | 17154 | 6.2 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 3.2 | 6488 | 3.5 | 5927 | 3.7 |
| 65-74 yrs | 5757 | 6.6 | 5782 | 5.9 | 5947 | 5.7 |
| 75-84 yrs | 3855 | 9.6 | 3867 | 10.0 | 3816 | 9.8 |
| 85+ yrs | 1501 | 13.9 | 1491 | 11.6 | 1464 | 14.0 |
| **Sex** | | | | | | |
| Male | 8043 | 6.7 | 7559 | 6.5 | 7280 | 6.5 |
| Female | 10463 | 6.0 | 10069 | 5.8 | 9861 | 5.9 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 5.2 | 1358 | 4.8 | 1332 | 5.1 |
| Non-Hispanic White | 14201 | 6.2 | 13510 | 6.0 | 13003 | 6.0 |
| Non-Hispanic Black | 2563 | 8.3 | 2402 | 9.2 | 2318 | 9.1 |
| Non-Hispanic Other | 334 | 6.1 | 335 | 3.6 | 329 | 4.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 36. Frequency of Stroke – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 6.7 | 10463 | 6.0 | 7559 | 6.5 | 10069 | 5.8 | 7280 | 6.5 | 9861 | 5.9 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 3.6 | 4068 | 2.9 | 2831 | 3.8 | 3657 | 3.3 | 2509 | 3.8 | 3410 | 3.6 |
| 65-74 yrs | 2664 | 7.8 | 3093 | 5.7 | 2645 | 6.7 | 3137 | 5.2 | 2708 | 6.4 | 3235 | 5.0 |
| 75-84 yrs | 1571 | 10.2 | 2284 | 9.2 | 1598 | 11.1 | 2269 | 9.1 | 1598 | 11.7 | 2217 | 8.6 |
| 85+ yrs | 483 | 14.0 | 1018 | 13.8 | 485 | 11.7 | 1006 | 11.5 | 465 | 12.7 | 999 | 14.6 |

Table 37. Frequency of Stroke – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 6.7 | 10463 | 6.0 | 7559 | 6.5 | 10069 | 5.8 | 7280 | 6.5 | 9861 | 5.9 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 5.4 | 780 | 5.1 | 575 | 6.2 | 783 | 3.7 | 564 | 5.1 | 768 | 5.2 |
| Non-Hispanic White | 6277 | 6.5 | 7924 | 5.9 | 5899 | 6.2 | 7611 | 5.7 | 5619 | 6.4 | 7384 | 5.7 |
| Non-Hispanic Black | 989 | 9.8 | 1574 | 7.4 | 916 | 10.6 | 1486 | 8.3 | 873 | 9.6 | 1445 | 8.8 |
| Non-Hispanic Other | 152 | 7.2 | 182 | 5.1 | 150 | 3.3 | 185 | 3.8 | 145 | 3.3 | 184 | 5.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 38. Frequency of Arthritis – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| | | | | | | |
| **Total** | 18506 | 54.3 | 17628 | 56.9 | 17154 | 58.2 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 47.4 | 6488 | 47.4 | 5927 | 48.7 |
| 65-74 yrs | 5757 | 56.2 | 5782 | 60.8 | 5947 | 62.6 |
| 75-84 yrs | 3855 | 61.3 | 3867 | 66.2 | 3816 | 67.8 |
| 85+ yrs | 1501 | 67.4 | 1491 | 69.8 | 1464 | 71.7 |
| **Sex** | | | | | | |
| Male | 8043 | 46.9 | 7559 | 49.1 | 7280 | 50.2 |
| Female | 10463 | 60.2 | 10069 | 63.3 | 9861 | 64.7 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 50.5 | 1358 | 52.9 | 1332 | 53.7 |
| Non-Hispanic White | 14201 | 54.2 | 13510 | 56.8 | 13003 | 58.5 |
| Non-Hispanic Black | 2563 | 59.7 | 2402 | 62.2 | 2318 | 61.7 |
| Non-Hispanic Other | 334 | 49.7 | 335 | 51.8 | 329 | 51.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 39. Frequency of Arthritis – HRS Respondents (55+ Years) Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 46.9 | 10463 | 60.2 | 7559 | 49.1 | 10069 | 63.3 | 7280 | 50.2 | 9861 | 64.7 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 40.2 | 4068 | 53.8 | 2831 | 39.7 | 3657 | 54.4 | 2509 | 40.7 | 3410 | 56.0 |
| 65-74 yrs | 2664 | 49.7 | 3093 | 61.5 | 2645 | 53.3 | 3137 | 67.0 | 2708 | 55.2 | 3235 | 68.9 |
| 75-84 yrs | 1571 | 55.0 | 2284 | 65.6 | 1598 | 60.6 | 2269 | 70.1 | 1598 | 62.2 | 2217 | 71.5 |
| 85+ yrs | 483 | 57.9 | 1018 | 71.9 | 485 | 61.2 | 1006 | 74.1 | 465 | 62.1 | 999 | 76.4 |

Table 40. Frequency of Arthritis – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 46.9 | 10463 | 60.2 | 7559 | 49.1 | 10069 | 63.3 | 7280 | 50.2 | 9861 | 64.7 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 39.6 | 780 | 58.9 | 575 | 41.3 | 783 | 61.7 | 564 | 42.0 | 768 | 63.1 |
| Non-Hispanic White | 6277 | 47.4 | 7924 | 59.7 | 5899 | 49.7 | 7611 | 62.7 | 5619 | 51.1 | 7384 | 64.5 |
| Non-Hispanic Black | 989 | 49.1 | 1574 | 66.8 | 916 | 50.6 | 1486 | 70.2 | 873 | 49.9 | 1445 | 69.9 |
| Non-Hispanic Other | 152 | 43.0 | 182 | 55.2 | 150 | 42.9 | 185 | 59.3 | 145 | 41.6 | 184 | 58.9 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 41. Frequency of Psychiatric Conditions – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| **Total** | 18506 | 13.3 | 17628 | 13.8 | 17154 | 15.0 |
| **Age** | | | | | | |
| 55-64 yrs | 7393 | 14.4 | 6488 | 15.6 | 5927 | 17.1 |
| 65-74 yrs | 5757 | 12.3 | 5782 | 12.7 | 5947 | 13.6 |
| 75-84 yrs | 3855 | 13.0 | 3867 | 12.7 | 3816 | 13.4 |
| 85+ yrs | 1501 | 12.8 | 1491 | 10.9 | 1464 | 13.4 |
| **Sex** | | | | | | |
| Male | 8043 | 9.4 | 7559 | 9.5 | 7280 | 10.3 |
| Female | 10463 | 16.4 | 10069 | 17.2 | 9861 | 18.8 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 17.0 | 1358 | 18.3 | 1332 | 17.5 |
| Non-Hispanic White | 14201 | 13.2 | 13510 | 13.6 | 13003 | 15.1 |
| Non-Hispanic Black | 2563 | 12.5 | 2402 | 12.6 | 2318 | 13.2 |
| Non-Hispanic Other | 334 | 12.1 | 335 | 11.2 | 329 | 15.2 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 42. Frequency of Psychiatric Conditions – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 9.4 | 10463 | 16.4 | 7559 | 9.5 | 10069 | 17.2 | 7280 | 10.3 | 9861 | 18.8 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3325 | 9.9 | 4068 | 18.4 | 2831 | 10.9 | 3657 | 19.9 | 2509 | 11.6 | 3410 | 22.0 |
| 65-74 yrs | 2664 | 9.2 | 3093 | 14.9 | 2645 | 8.4 | 3137 | 16.2 | 2708 | 9.1 | 3235 | 17.2 |
| 75-84 yrs | 1571 | 8.6 | 2284 | 16.0 | 1598 | 8.9 | 2269 | 15.3 | 1598 | 9.6 | 2217 | 16.0 |
| 85+ yrs | 483 | 9.9 | 1018 | 14.1 | 485 | 7.7 | 1006 | 12.5 | 465 | 7.6 | 999 | 16.2 |

Table 43. Frequency of Psychiatric Conditions – HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8043 | 9.4 | 10463 | 16.4 | 7559 | 9.5 | 10069 | 17.2 | 7280 | 10.3 | 9861 | 18.8 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 11.4 | 780 | 21.3 | 575 | 13.9 | 783 | 21.6 | 564 | 10.5 | 768 | 23.1 |
| Non-Hispanic White | 6277 | 9.3 | 7924 | 16.3 | 5899 | 9.3 | 7611 | 17.1 | 5619 | 10.3 | 7384 | 19.0 |
| Non-Hispanic Black | 989 | 9.2 | 1574 | 14.7 | 916 | 9.5 | 1486 | 14.9 | 873 | 10.0 | 1445 | 15.4 |
| Non-Hispanic Other | 152 | 9.8 | 182 | 13.9 | 150 | 6.4 | 185 | 15.2 | 145 | 9.9 | 184 | 19.2 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 44. Frequency of Overall Self-Rated Health Status – HRS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | | HRS | | HRS | |
| | N | % | N | % | N | % |
| | | | | | | |
| **Total** | 18500 | 30.8 | 17621 | 26.4 | 17144 | 26.4 |
| **Age** | | | | | | |
| 55-64 yrs | 7391 | 24.9 | 6485 | 21.4 | 5924 | 21.9 |
| 65-74 yrs | 5755 | 30.3 | 5780 | 25.1 | 5945 | 25.0 |
| 75-84 yrs | 3853 | 38.6 | 3865 | 34.1 | 3814 | 33.2 |
| 85+ yrs | 1501 | 45.4 | 1491 | 39.4 | 1461 | 41.7 |
| **Sex** | | | | | | |
| Male | 8041 | 29.8 | 7556 | 25.1 | 7278 | 25.2 |
| Female | 10459 | 31.5 | 10065 | 27.4 | 9853 | 27.4 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 1383 | 47.6 | 1358 | 43.6 | 1332 | 43.2 |
| Non-Hispanic White | 14196 | 28.0 | 13504 | 23.5 | 12995 | 23.5 |
| Non-Hispanic Black | 2562 | 44.5 | 2402 | 40.4 | 2316 | 40.5 |
| Non-Hispanic Other | 334 | 33.8 | 334 | 27.8 | 329 | 29.5 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Ns and percentages are based on those who reported being in Fair or Poor Health (on a rating scale of Excellent, Very Good, Good, Fair, or Poor)

Table 45. Frequency of Overall Self-Rated Health Status – HRS Respondents (55+ Years) by Age Group and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8041 | 29.8 | 10459 | 31.5 | 7556 | 25.1 | 10065 | 27.4 | 7278 | 25.2 | 9853 | 27.4 |
| **Age** | | | | | | | | | | | | |
| 55-64 yrs | 3324 | 23.3 | 4067 | 26.4 | 2829 | 19.8 | 3656 | 22.8 | 2509 | 20.4 | 3407 | 23.3 |
| 65-74 yrs | 2663 | 30.6 | 3092 | 29.9 | 2644 | 24.6 | 3136 | 25.5 | 2707 | 24.8 | 3234 | 25.2 |
| 75-84 yrs | 1571 | 39.3 | 2282 | 38.1 | 1598 | 35.0 | 2267 | 33.5 | 1598 | 34.3 | 2215 | 32.4 |
| 85+ yrs | 483 | 47.3 | 1018 | 44.5 | 485 | 36.7 | 1006 | 40.8 | 464 | 37.4 | 997 | 43.8 |

Table 46. Frequency of Overall Self-Rated Health Status HRS Respondents (55+ Years) by Race/Ethnicity and Sex

| | 1998 | | | | 2000 | | | | 2002 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| **Total** | 8041 | 29.8 | 10459 | 31.5 | 7556 | 25.1 | 10065 | 27.4 | 7278 | 25.2 | 9853 | 27.4 |
| **Race and Hispanic Ethnicity** | | | | | | | | | | | | |
| Hispanic | 603 | 42.2 | 780 | 51.7 | 575 | 39.5 | 783 | 46.7 | 564 | 37.8 | 768 | 47.4 |
| Non-Hispanic White | 6275 | 27.7 | 7921 | 28.3 | 5896 | 22.6 | 7608 | 24.2 | 5617 | 22.9 | 7378 | 23.9 |
| Non-Hispanic Black | 989 | 44.0 | 1573 | 44.9 | 916 | 39.3 | 1486 | 41.2 | 873 | 36.2 | 1443 | 43.5 |
| Non-Hispanic Other | 152 | 28.9 | 182 | 37.7 | 150 | 25.1 | 184 | 30.1 | 145 | 26.7 | 184 | 31.7 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Ns and percentages are based on those who reported being in Fair or Poor Health (on a rating scale of Excellent, Very Good, Good, Fair, or Poor)

Race and ethnicity information is not available for all respondents. As a result, the sum of Ns across race/ethnic groups does not equal the total N.

Table 47. Frequency of Hypertension – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 45.9 | 10059 | 47.1 | 9837 | 48.7 |
| **Sex** | | | | | | |
| Male | 4074 | 42.5 | 4059 | 44.6 | 3950 | 47.5 |
| Female | 5996 | 48.5 | 6000 | 49.1 | 5887 | 49.6 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 38.7 | 3879 | 39.8 | 3977 | 41.2 |
| 65-74 yrs | 3408 | 48.2 | 3241 | 50.2 | 2967 | 52.9 |
| 75-84 yrs | 2282 | 54.5 | 2305 | 56.0 | 2223 | 56.8 |
| 85+ yrs | 644 | 51.9 | 634 | 51.1 | 670 | 54.8 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 40.5 | 1038 | 42.9 | 1005 | 45.0 |
| Non-Hispanic White | 7718 | 44.5 | 7575 | 45.7 | 7475 | 47.6 |
| Non-Hispanic Black | 1174 | 62.9 | 1232 | 62.5 | 1131 | 62.6 |
| Non-Hispanic Other | 232 | 44.9 | 214 | 50.4 | 226 | 45.8 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 48. Frequency of Diabetes – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 12.2 | 10059 | 13.2 | 9837 | 14.4 |
| **Sex** | | | | | | |
| Male | 4074 | 12.0 | 4059 | 14.6 | 3950 | 16.3 |
| Female | 5996 | 12.4 | 6000 | 12.0 | 5887 | 12.9 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 10.8 | 3879 | 11.2 | 3977 | 12.5 |
| 65-74 yrs | 3408 | 14.0 | 3241 | 15.7 | 2967 | 17.0 |
| 75-84 yrs | 2282 | 13.0 | 2305 | 13.9 | 2223 | 16.2 |
| 85+ yrs | 644 | 8.8 | 634 | 10.3 | 670 | 9.5 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 19.8 | 1038 | 20.6 | 1005 | 21.0 |
| Non-Hispanic White | 7718 | 10.7 | 7575 | 11.5 | 7475 | 13.1 |
| Non-Hispanic Black | 1174 | 19.9 | 1232 | 22.9 | 1131 | 21.8 |
| Non-Hispanic Other | 232 | 15.8 | 214 | 12.9 | 226 | 15.1 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 49. Frequency of Cancer – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 12.4 | 10059 | 13.1 | 9837 | 14.1 |
| **Sex** | | | | | | |
| Male | 4074 | 11.7 | 4059 | 12.7 | 3950 | 14.9 |
| Female | 5996 | 12.9 | 6000 | 13.4 | 5887 | 13.4 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 8.6 | 3879 | 7.8 | 3977 | 8.7 |
| 65-74 yrs | 3408 | 13.7 | 3241 | 13.9 | 2967 | 16.2 |
| 75-84 yrs | 2282 | 16.6 | 2305 | 20.5 | 2223 | 20.5 |
| 85+ yrs | 644 | 17.0 | 634 | 20.5 | 670 | 21.3 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 5.8 | 1038 | 6.8 | 1005 | 6.7 |
| Non-Hispanic White | 7718 | 13.5 | 7575 | 14.1 | 7475 | 15.7 |
| Non-Hispanic Black | 1174 | 8.5 | 1232 | 8.9 | 1131 | 7.9 |
| Non-Hispanic Other | 232 | 4.3 | 214 | 9.2 | 226 | 5.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Does not include non-melanoma skin cancers

Table 50. Frequency of Heart Disease – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 25.8 | 10059 | 24.4 | 9837 | 24.8 |
| **Sex** | | | | | | |
| Male | 4074 | 28.0 | 4059 | 27.5 | 3950 | 28.3 |
| Female | 5996 | 24.1 | 6000 | 21.8 | 5887 | 21.9 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 17.0 | 3879 | 16.2 | 3977 | 17.0 |
| 65-74 yrs | 3408 | 28.2 | 3241 | 26.4 | 2967 | 26.2 |
| 75-84 yrs | 2282 | 35.7 | 2305 | 34.8 | 2223 | 35.0 |
| 85+ yrs | 644 | 41.3 | 634 | 35.3 | 670 | 41.3 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 17.8 | 1038 | 18.0 | 1005 | 17.7 |
| Non-Hispanic White | 7718 | 26.9 | 7575 | 25.4 | 7475 | 26.1 |
| Non-Hispanic Black | 1174 | 23.1 | 1232 | 22.5 | 1131 | 20.4 |
| Non-Hispanic Other | 232 | 21.1 | 214 | 14.6 | 226 | 20.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Includes coronary heart disease, angina, myocardial infarction, and other heart conditions.

Table 51. Frequency of Stroke – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 6.5 | 10059 | 6.2 | 9837 | 6.3 |
| **Sex** | | | | | | |
| Male | 4074 | 7.6 | 4059 | 6.6 | 3950 | 6.7 |
| Female | 5996 | 5.6 | 6000 | 5.8 | 5887 | 6.0 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 3.9 | 3879 | 3.3 | 3977 | 3.4 |
| 65-74 yrs | 3408 | 6.9 | 3241 | 6.5 | 2967 | 6.3 |
| 75-84 yrs | 2282 | 10.2 | 2305 | 10.3 | 2223 | 10.8 |
| 85+ yrs | 644 | 8.9 | 634 | 11.0 | 670 | 12.1 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 5.9 | 1038 | 6.0 | 1005 | 5.3 |
| Non-Hispanic White | 7718 | 6.3 | 7575 | 5.9 | 7475 | 6.3 |
| Non-Hispanic Black | 1174 | 8.8 | 1232 | 9.0 | 1131 | 7.3 |
| Non-Hispanic Other | 232 | 5.4 | 214 | 7.0 | 226 | 5.7 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 52. Frequency of Joint Pain or Aching – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 48.3 | 10059 | 46.8 | 9837 | 44.8 |
| **Sex** | | | | | | |
| Male | 4074 | 42.5 | 4059 | 41.1 | 3950 | 40.0 |
| Female | 5996 | 53.0 | 6000 | 51.4 | 5887 | 48.8 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 43.7 | 3879 | 43.5 | 3977 | 42.2 |
| 65-74 yrs | 3408 | 50.2 | 3241 | 48.2 | 2967 | 45.8 |
| 75-84 yrs | 2282 | 52.9 | 2305 | 49.1 | 2223 | 48.5 |
| 85+ yrs | 644 | 54.5 | 634 | 54.8 | 670 | 47.4 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 43.4 | 1038 | 40.1 | 1005 | 40.4 |
| Non-Hispanic White | 7718 | 49.2 | 7575 | 47.6 | 7475 | 44.9 |
| Non-Hispanic Black | 1174 | 47.1 | 1232 | 46.7 | 1131 | 51.1 |
| Non-Hispanic Other | 232 | 37.4 | 214 | 39.1 | 226 | 34.1 |

Sample Ns are based on unweighted data; proportions are based on weighted data
12-month prevalence asked in 1998 and 2000; 30-day prevalence asked in 2002

Table 53. Frequency of Overall Self-Rated Health Status – NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | NHIS | | NHIS | | NHIS | |
| | N | % | N | % | N | % |
| **Total** | 10070 | 23.0 | 10059 | 22.6 | 9837 | 23.5 |
| **Sex** | | | | | | |
| Male | 4074 | 21.5 | 4059 | 22.4 | 3950 | 23.6 |
| Female | 5996 | 24.1 | 6000 | 22.8 | 5887 | 23.4 |
| **Age** | | | | | | |
| 55-64 yrs | 3736 | 18.4 | 3879 | 18.3 | 3977 | 19.2 |
| 65-74 yrs | 3408 | 24.1 | 3241 | 22.5 | 2967 | 23.6 |
| 75-84 yrs | 2282 | 28.2 | 2305 | 29.3 | 2223 | 29.6 |
| 85+ yrs | 644 | 31.5 | 634 | 30.7 | 670 | 33.6 |
| **Race and Hispanic Ethnicity** | | | | | | |
| Hispanic | 946 | 33.8 | 1038 | 33.8 | 1005 | 33.9 |
| Non-Hispanic White | 7718 | 20.7 | 7575 | 20.2 | 7475 | 21.2 |
| Non-Hispanic Black | 1174 | 36.8 | 1232 | 37.2 | 1131 | 36.8 |
| Non-Hispanic Other | 232 | 24.3 | 214 | 20.5 | 226 | 22.1 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Ns and percentages are based on those who reported being in Fair or Poor Health (on a rating scale of Excellent, Very Good, Good, Fair, or Poor)

Table 54. Frequency of Hypertension – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 47.6 | 45.9 | 49.0 | 47.1 | 51.7 | 48.7 |
| **Age** | | | | | | |
| 55-64 yrs | 40.6 | 38.7 | 41.8 | 39.8 | 44.4 | 41.2 |
| 65-74 yrs | 50.8 | 48.2 | 51.5 | 50.2 | 54.1 | 52.9 |
| 75-84 yrs | 54.4 | 54.5 | 56.9 | 56.0 | 60.9 | 56.8 |
| 85+ yrs | 54.3 | 51.9 | 57.4 | 51.1 | 60.6 | 54.8 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 55. Frequency of Diabetes – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 14.0 | 12.2 | 14.7 | 13.2 | 16.7 | 14.4 |
| **Age** | | | | | | |
| 55-64 yrs | 12.0 | 10.8 | 12.5 | 11.2 | 14.9 | 12.5 |
| 65-74 yrs | 15.9 | 14.0 | 16.8 | 15.7 | 18.6 | 17.0 |
| 75-84 yrs | 15.5 | 13.0 | 16.6 | 13.9 | 18.8 | 16.2 |
| 85+ yrs | 12.3 | 8.8 | 12.3 | 10.3 | 12.1 | 9.5 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 56. Frequency of Cancer – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 11.8 | 12.4 | 12.3 | 13.1 | 13.4 | 14.1 |
| **Age** | | | | | | |
| 55-64 yrs | 7.8 | 8.6 | 8.0 | 7.8 | 8.8 | 8.7 |
| 65-74 yrs | 12.5 | 13.7 | 13.2 | 13.9 | 14.3 | 16.2 |
| 75-84 yrs | 17.1 | 16.6 | 17.8 | 20.5 | 19.4 | 20.5 |
| 85+ yrs | 16.5 | 17.0 | 17.6 | 20.5 | 20.5 | 21.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data
Does not include non-melanoma skin cancers

Table 57. Frequency of Heart Disease – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 22.0 | 25.8 | 22.9 | 24.4 | 24.0 | 24.8 |
| **Age** | | | | | | |
| 55-64 yrs | 14.9 | 17.0 | 14.7 | 16.2 | 15.1 | 17.0 |
| 65-74 yrs | 24.2 | 28.2 | 24.4 | 26.4 | 24.8 | 26.2 |
| 75-84 yrs | 29.1 | 35.7 | 32.9 | 34.8 | 36.3 | 35.0 |
| 85+ yrs | 36.4 | 41.3 | 39.3 | 35.3 | 41.9 | 41.3 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 58. Frequency of Stroke – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 6.3 | 6.5 | 6.1 | 6.2 | 6.2 | 6.3 |
| **Age** | | | | | | |
| 55-64 yrs | 3.2 | 3.9 | 3.5 | 3.3 | 3.7 | 3.4 |
| 65-74 yrs | 6.6 | 6.9 | 5.9 | 6.5 | 5.7 | 6.3 |
| 75-84 yrs | 9.6 | 10.2 | 10.0 | 10.3 | 9.8 | 10.8 |
| 85+ yrs | 13.9 | 8.9 | 11.6 | 11.0 | 14.0 | 12.1 |

Sample Ns are based on unweighted data; proportions are based on weighted data

Table 59. Frequency of Arthritis or Joint Pain – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 54.3 | 48.3 | 56.9 | 46.8 | 58.2 | 44.8 |
| **Age** | | | | | | |
| 55-64 yrs | 47.4 | 43.7 | 47.4 | 43.5 | 48.7 | 42.2 |
| 65-74 yrs | 56.2 | 50.2 | 60.8 | 48.2 | 62.6 | 45.8 |
| 75-84 yrs | 61.3 | 52.9 | 66.2 | 49.1 | 67.8 | 48.5 |
| 85+ yrs | 67.4 | 54.5 | 69.8 | 54.8 | 71.7 | 47.4 |

Sample Ns are based on unweighted data; proportions are based on weighted data
In the NHIS, 12-month prevalence of joint pain or aching is asked in 1998 and 2000;
30-day prevalence asked in 2002

Table 60. Frequency of Overall Self-Rated Health Status – HRS vs. NHIS Respondents (55+ Years)

| | 1998 | | 2000 | | 2002 | |
|---|---|---|---|---|---|---|
| | HRS | NHIS | HRS | NHIS | HRS | NHIS |
| | % | % | % | % | % | % |
| **Total** | 30.8 | 23.0 | 26.4 | 22.6 | 26.4 | 23.5 |
| **Age** | | | | | | |
| 55-64 yrs | 24.9 | 18.4 | 21.4 | 18.3 | 21.9 | 19.2 |
| 65-74 yrs | 30.3 | 24.1 | 25.1 | 22.5 | 25.0 | 23.6 |
| 75-84 yrs | 38.6 | 28.2 | 34.1 | 29.3 | 33.2 | 29.6 |
| 85+ yrs | 45.4 | 31.5 | 39.4 | 30.7 | 41.7 | 33.6 |

## APPENDIX B - Health Condition Question Concordance Across Waves

*Hypertension Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B6 | B3 | B6a | B3 | B3 | B3 | B3 | C005 |
| **Medication** | B6a | - | B6b | B3a | B3a | B3a | B3a | C006 |
| **Hypertension at present** | B6b | - | B6c | - | - | - | - | - |
| **Weight/diet** | - | - | - | B3b | B3b | B3b | B3b | C007 |
| **Hypertension under control** | - | - | - | B3c | B3c | B3c | B3c | C008 |
| **Better/worse/same** | - | - | - | B3d | B3d | B3d | B3d | C009 |

*Hypertension Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V325 | V215 | W328 | D781 | E781 | F1109 | G1238 | HC005 |
| **Medication** | V326 | - | W329 | D782 | E782 | F1110 | G1239 | HC006 |
| **Hypertension at present** | V327 | - | W330 | - | - | - | - | - |
| **Weight/diet** | - | - | - | D783 | E783 | F1111 | G1240 | HC007 |
| **Hypertension under control** | - | - | - | D784 | E784 | F1112 | G1241 | HC008 |
| **Better/worse/same** | - | - | - | D785 | E785 | F1113 | G1242 | HC009 |

**HRS 92**

- B6. Has a doctor ever told you that you have high blood pressure or hypertension? (V325)
- B6a. Are you taking medication for your blood pressure now? (V326)
- B6b. Do you have high blood pressure or hypertension at the present time? (V327)

**AHEAD 93**

- B3. Has a doctor ever told you that you have high blood pressure or hypertension? (V215)

**HRS 94**

- B6a. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension?* (W328)
- B6b. Are you taking medication for your blood pressure now? (W329)
- B6c. Do you have high blood pressure or hypertension at the present time? (W330)

* Prevalent cases from HRS 92 were not asked B6a-B6c.

**AHEAD 95**

- B3. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension? (D781)
- B3a. In order to lower your blood pressure, are you now taking any medication? (D782)
- B3b. In order to lower your blood pressure, have you lost weight or followed a special diet (since previous wave interview date / in the last two years)? (D783)
- B3c. Is your blood pressure generally under control? (D784)
- B3d. Compared to when we interviewed you in (previous wave interview date), is your high blood pressure better, worse, or is it about the same as it was then? (D785)

**HRS 96**

- B3. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension? (E781)
- B3a. In order to lower your blood pressure, are you now taking any medication? (E782)
- B3b. In order to lower your blood pressure, have you lost weight or followed a special diet (since previous wave interview date / in the last two years)? (E783)
- B3c. Is your blood pressure generally under control? (E784)
- B3d. Compared to when we interviewed you in (previous wave interview date), is your high blood pressure better, worse, or is it about the same as it was then? (E785)

**HRS 98**

- B3. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension? (F1109)
- B3a. In order to lower your blood pressure, are you now taking any medication? (F1110)
- B3b. In order to lower your blood pressure, have you lost weight or followed a special diet (since previous wave interview date / in the last two years)? (F1111)
- B3c. Is your blood pressure generally under control? (F1112)
- B3d. Compared to when we interviewed you in (previous wave interview date), is your high blood pressure better, worse, or is it about the same as it was then? (F1113)

**HRS 2000**

- B3. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension? (G1238)
- B3a. In order to lower your blood pressure are you now taking any medication? (G1239)
- B3b. In order to lower your blood pressure, have you lost weight or followed a special diet (since previous wave interview date / in the last two years)? (G1240)
- B3c. Is your blood pressure generally under control? (G1241)
- B3d. Compared to when we interviewed you in (previous wave interview date), is your high blood pressure better, worse, or is it about the same as it was then? (G1242)

**HRS 2002**

- C005. Since we last talked to you, has a doctor told you that you have high blood pressure or hypertension? (HC005)
- C006. In order to lower your blood pressure are you now taking any medication? (HC006)
- C007. In order to lower your blood pressure, have you lost weight or followed a special diet (since previous wave interview date / in the last two years)? (HC007)
- C008. Is your blood pressure generally under control? (HC008)
- C009. Compared to when we last interviewed you in (previous wave interview date), is your high blood pressure better, worse, or is it about the same as it was then? (HC009)

*Diabetes Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B7 | B4 | B7 | B4 | B4 | B4 | B4 | C010 |
| **Year diagnosed** | B7a | - | - | - | - | - | - | - |
| **Hospitalization** | B7b | - | B7a | - | - | - | - | - |
| **Diabetes at present** | B7c | - | B7b | - | - | - | - | - |
| **Seen doctor** | B7d | - | B7c | - | - | - | - | - |
| **Diet** | B8a | - | B8a | B4d | B4d | B4d | B4y1c | C014 |
| **Weight loss** | B8b | - | B8b | B4c | B4c | B4c | B4c | C013 |
| **Oral medication** | B8c | B4a | B8c | B4a | B4a | B4a | B4a | C011 |
| **Insulin** | B8d | B4b | B8d | B4b | B4b | B4b | B4b | C012 |
| **Under control** | - | - | - | B4e | B4e | B4e | B4e | C015 |
| **Better/worse/same** | - | - | - | B4f | B4f | B4f | B4f | C016 |
| **Kidney trouble** | - | - | - | B4g | B4g | B4g | B4g | C017 |

*Diabetes Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V328 | V219 | W331 | D788 | E788 | F1116 | G1245 | HC010 |
| **Year diagnosed** | V329 | - | - | - | - | - | - | - |
| **Hospitalization** | V330 | - | W332 | - | - | - | - | - |
| **Diabetes at present** | V331 | - | W333 | - | - | - | - | - |
| **Seen doctor** | V332 | - | W334 | - | - | - | - | - |
| **Diet** | V333 | - | W335 | D792 | E792 | F1120 | G1251 | HC014 |
| **Weight loss** | V334 | - | W336 | D791 | E791 | F1119 | G1250 | HC013 |
| **Oral medication** | V335 | V223 | W337 | D789 | E789 | F1117 | G1248 | HC011 |
| **Insulin** | V336 | V224 | W338 | D790 | E790 | F1118 | G1249 | HC012 |
| **Under control** | - | - | - | D793 | E793 | F1121 | G1252 | HC015 |
| **Better/worse/same** | - | - | - | D794 | E794 | F1122 | G1255 | HC016 |
| **Kidney trouble** | - | - | - | D795 | E795 | F1123 | G1256 | HC017 |

**HRS 92**

- B7. Has a doctor ever told you that you have diabetes or high blood sugar? (V328)
- B7a. In what year was that first diagnosed? (V329)
- B7b. Have you ever been hospitalized because of your diabetes or high blood sugar? (V330)
- B7c. Do you have diabetes now? (V331)
- B7d. During the last 12 months, have you seen a doctor for your diabetes? (V332)
- B8a-B8d. Are you now using any of the following to treat or control your diabetes:
    - A special diet? (V333)
    - Weight loss? (V334)
    - Medication that you swallow? (V335)
    - Insulin injection? (V336)

**AHEAD 93**

- B4. Do you have diabetes? (V219)
- B4a. Are you now using medication that you swallow to treat or control your diabetes? (V223)
- B4b. Are you now using insulin injections? (V224)

**HRS 94**

- B7. Since we last talked to you, has a doctor told you that you have diabetes or high blood sugar?* (W331)
- B7a. Have you been hospitalized because of your diabetes or high blood sugar? (W332)
- B7b. Do you have diabetes now? (W333)
- B7c. During the last 12 months, have you seen a doctor for your diabetes? (W334)
- B8a-B8d. Are you now using any of the following to treat or control your diabetes:
    - A special diet? (W335)
    - Weight loss? (W336)
    - Medication that you swallow? (W337)
    - Insulin injection? (W338)

* Prevalent cases from HRS 92 were not asked B7-B8d.

**AHEAD 95**

- B4. Since we last talked to you, has a doctor told you that you have diabetes or high blood sugar? (D788)
- B4a. In order to treat or control your diabetes, are you now taking medication that you swallow? (D789)
- B4b. Are you using insulin shots or a pump? (D790)
- B4c. In order to treat or control your diabetes, have you lost weight (since previous wave interview date / in the last two years)? (D791)
- B4d. Are you following a special diet? (D792)
- B4e. Is your diabetes generally under control? (D793)
- B4f. Compared to when we interviewed you last in (previous wave interview date), has your diabetes gotten better, worse, or stayed about the same? (D794)
- B4g. Has your diabetes caused you to have trouble with your kidneys or protein in your urine? (D795)

**HRS 96**

- B4. Since we talked last, has a doctor told you that you have diabetes or high blood sugar? (E788)
- B4a. In order to treat or control your diabetes, are you now taking medication that you swallow? (E789)
- B4b. Are you now using insulin shots or a pump? (E790)
- B4c. In order to treat or control your diabetes, have you lost weight (since previous wave interview date / in the last two years)? (E791)
- B4d. Are you following a special diet? (E792)
- B4e. Is your diabetes generally under control? (E793)
- B4f. Compared to when we interviewed you last in (previous wave interview date), has your diabetes gotten better, worse, or stayed about the same? (E794)
- B4g. Has your diabetes caused you to have trouble with your kidneys or protein in your urine? (E795)

**HRS 98**

- B4. Since we talked last, has a doctor told you that you have diabetes or high blood sugar? (F1116)

- B4a. In order to treat or control your diabetes, are you now taking medication that you swallow? (F1117)
- B4b. Are you now using insulin shots or a pump? (F1118)
- B4c. In order to treat or control your diabetes, have you lost (since previous wave interview date / in the last two years)? (F1119)
- B4d. Are you following a special diet? (F1120)
- B4e. Is your diabetes generally under control? (F1121)
- B4f. Compared to when we interviewed you last, has your diabetes gotten better, worse, or stayed about the same? (F1122)
- B4g. Has your diabetes caused you to have trouble with your kidneys or protein in your urine? (F1123)

**HRS 2000**

- B4. Since we talked last, has a doctor told you that you have diabetes or high blood sugar? (G1245)
- B4a. In order to treat or control your diabetes, are you now taking medication that you swallow? (G1248)
- B4b. Are you now using insulin shots or a pump? (G1249)
- B4c. In order to treat or control your diabetes, have you lost weight (since previous wave interview date / in the last two years)? (G1250)
- B4y1c. Are you following a special diet? (G1251)
- B4e. Is your diabetes generally under control? (G1252)
- B4f. Compared to when we interviewed you last, has your diabetes gotten better, worse, or stayed about the same? (G1255)
- B4g. Has your diabetes caused you to have trouble with your kidneys or protein in your urine? (G1256)

**HRS 2002**

- C010. Since we last talked to you, has a doctor told you that you have diabetes or high blood sugar? (HC010)
- C011. In order to treat or control your diabetes, are you now taking medication that you swallow? (HC011)
- C012. Are you now using insulin shots or a pump? (HC012)
- C013. In order to treat or control your diabetes, have you lost weight (since previous wave interview date / in the last two years)? (HC013)
- C014. Are you following a special diet? (HC014)
- C015. Is your diabetes generally under control? (HC015)
- C016. Compared to when we interviewed you last, has your diabetes gotten better, worse, or stayed about the same? (HC016)
- C017. Has your diabetes caused you to have trouble with your kidneys or protein in your urine? (HC017)

*Cancer Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B9 | B5 | B9 | B5 | B5 | B5 | B5 | C018 |
| **New cancer** | - | - | B9a | B5e | B5e | B5e | B5e | C024 |
| **# of cancers** | B9a | - | B9b | B5f | B5f | B5f | B5f | C025 |
| **Month/year of diagnosis** | B10 (yr) | - | B10 (yr) | B5j-k | B5j-k | B5j-k | B5j-k | C028-C029 |
| **Organ/part of body** | B11 | B5a | B11 | - | - | - | - | - |
| **Seen doctor (yes/no)** | B12 | - | B12 | B5a | B5a | B5a | B5a | C019 |
| **Treatment** | - | - | - | B5b | B5b | B5b | B5b | C020 |
| **Chemo/meds** | B13a | B5b | B13 | B5c | B5c | B5c | B5c | C021 |
| **Surgery/biopsy** | B13b | B5b | B13 | B5c | B5c | B5c | B5c | C021 |
| **Radiation/x-ray** | B13c | B5b | B13 | B5c | B5c | B5c | B5c | C021 |
| **Other treatment** | B13d | B5b | B13 | B5c | B5c | B5c | B5c | C021 |
| **Better/worse/same** | - | - | - | B5d | B5d | B5d | B5d | C023 |
| **Cancer spread** | - | - | - | B5h | B5h | B5h | B5h | C027 |

*Cancer Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V337 | V225 | W339 | D801 | E801 | F1129 | G1262 | HC018 |
| **New cancer** | - | - | W340 | D806 | E806 | F1134 | G1267 | HC024 |
| **# of cancers** | V338 | - | W341 | D807 | E807 | F1135 | G1268 | HC025 |
| **Month/year of diagnosis** | V339/V346 | - | W342/ W352 | D813-D814 | E813-E814 | F1141-F1142 | G1274-G1275 | HC028-HC029 |
| **Organ/part of body** | V340/V347 | V231 | W343/ W353 | - | - | - | - | - |
| **Seen doctor (yes/no)** | V341/V348 | - | W344/ W354 | D802 | E802 | F1130 | G1263 | HC019 |
| **Treatment** | - | - | - | D803 | E803 | F1131 | G1264 | HC020 |
| **Chemo/meds** | V342/V349 | V232A1-A4 | W345-W351/ W355- | D804M1-M4 | E804M1-M4 | F1132M1-M4 | G1265M1-M4 | HC021M1-M4 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | W361 | | | | | |
| **Surgery/biopsy** | V343/V350 | V232A1-A4 | W345-W351 | D804M1-M4 | E804M1-M4 | F1132M1-M4 | G1265M1-M4 | HC021M1-M4 |
| **Radiation/x-ray** | V344/V351 | V232A1-A4 | W345-W351 | D804M1-M4 | E804M1-M4 | F1132M1-M4 | G1265M1-M4 | HC021M1-M4 |
| **Other treatment** | V345/V352 | V232A1-A4 | W345-W351 | D804M1-M4 | E804M1-M4 | F1132M1-M4 | G1265M1-M4 | HC021M1-M4 |
| **Better/worse/same** | - | - | - | D805 | E805 | F1133 | G1266 | HC023 |
| **Cancer spread** | - | - | - | D812 | E812 | F1140 | G1273 | HC027 |

*Cancer - Available Questions*

**HRS 92**

- B9. Has a doctor ever told you that you have cancer or a malignant tumor of any kind except skin cancer? (V337)
- B9a. How many such cancers have you had? (V338)
- B10. In what year was your most recent/next most recent cancer diagnosed? (V339/V346)
- B11. In which organ or part of your body did this cancer occur? (V340/V347)
- B12. During the last 12 months, have you seen a doctor about this cancer? (V341/V348)
- B13a-B13d. During the last 12 months, what sort of treatments have you received for this cancer? (reported for only/most recent cancer as well as second most recent cancer)
  - Chemotherapy/medication (V342/V349)
  - Surgery or biopsy (V343/V350)
  - Radiation/x-ray (V344/V351)
  - Other (V345/V352)

**AHEAD 93**

- B5. Has a doctor ever told you that you have cancer or a malignant tumor, excluding minor skin cancers? (V225)
- B5a. In which organ or part of your body did your most recent cancer start? (V231)
- B5b. During the last 12 months, what sort of treatments have you received for cancer? (V232A1 – V232A4)
  - Chemotherapy/medication
  - Surgery or biopsy
  - Radiation/x-ray
  - Other
  - None

**HRS 94**

- B9. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor of any kind except skin cancer?* (W339)
- B9a. (Since previous wave interview date / In the last two years), has your doctor told you that you have a new cancer? (W340)
- B9b. How many such cancers have you had? (W341)
- B10. In what year was your most recent/second most recent cancer diagnosed? (W342/W352)
- B11. In which organ or part of your body did this cancer occur? (W343/W353)
- B12. During the last 12 months, have you seen a doctor about this cancer? (W344/W354)
- B13. During the last two years, what sort of treatments have you received for this cancer? (reported for only/most recent cancer as well as second most recent cancer) (W345-W351/W355-W361)
  - Chemotherapy/medication
  - Surgery or biopsy
  - Radiation/x-ray
  - Other

* Prevalent cases from HRS 92 were not asked B9 and unless they reported a new cancer in B9a were not asked B9b-B13.

**AHEAD 95**

- B5. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancers? (D801)
- B5a. (Since previous wave interview date / In the last two years), have you seen a doctor about your cancer? (D802)
- B5b. Are you now receiving treatment for cancer? (D803)
- B5c. (Since previous wave interview date / During the last two years), what sort of treatments have you received for cancer? (D804M1-D804M4)
    - Chemotherapy or medication
    - Surgery or biopsy
    - Radiation/x-ray
    - Medication/treatment for symptoms
    - Other
- B5d. Since (previous wave interview date), has the cancer gotten worse, better, or stayed about the same? (D805)
- B5e. Since (previous wave interview date), has a doctor told you that you had a new cancer or malignant tumor, excluding minor skin cancer? (D806)
- B5f. How many different cancers have you had? (D807)
- B5h. Has your cancer/ have any of your cancers spread? (D812)
- B5j-B5k. In what month and year was your (most recent) cancer diagnosed? (D813-D814)

**HRS 96**

- B5. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancers? (E801)
- B5a. (Since previous wave interview date / In the last two years), have you seen a doctor about your cancer? (E802)
- B5b. Are you now receiving treatment for cancer? (E803)
- B5c. (Since previous wave interview date / During the last two years), what sort of treatments have you received for cancer? (E804M1-E804M4)
    - Chemotherapy or medication
    - Surgery or biopsy
    - Radiation/x-ray
    - Medication/treatment for symptoms
    - Other
- B5d. Since (previous wave interview date), has the cancer gotten worse, better, or stayed about the same? (E805)
- B5e. Since (previous wave interview date), has a doctor told you that you had a new cancer or malignant tumor, excluding minor skin cancer? (E806)
- B5f. How many different cancers have you had? (E807)
- B5h. Has your cancer/ have any of your cancers spread? (E812)
- B5j-B5k. In what month and year was your (most recent) cancer diagnosed? (E813-E814)

**HRS 98**

- B5. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancers? (F1129)
- B5a. (Since previous wave interview date / In the last two years), have you seen a doctor about your cancer? (F1130)
- B5b. Are you now receiving treatment for cancer? (F1131)
- B5c. (Since previous wave interview date / During the last two years), what sort of treatments have you received for cancer? (F1132M1-F1132M4)
    - Chemotherapy or medication
    - Surgery or biopsy
    - Radiation/x-ray
    - Medication/treatment for symptoms
    - Other

- B5d. Since (previous wave interview date), has the cancer gotten worse, better, or stayed about the same? (F1133)
- B5e Since (previous wave interview date), has a doctor told you that you had a new cancer or malignant tumor, excluding minor skin cancer? (F1134)
- B5f. How many different cancers have you had? (F1135)
- B5h. Has your cancer/ have any of your cancers spread? (F1140)
- B5j.-B5k. In what year and month was your (most recent) cancer diagnosed? (F1141-F1142)

**HRS 2000**

- B5. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancers? (G1262)
- B5a. (Since previous wave interview date / In the last two years), have you seen a doctor about your cancer? (G1263)
- B5b. (Since previous wave interview date / During the last two years), have you received any treatment for cancer?** (G1264)
- B5c. (Since previous wave interview date / During the last two years), what sort of treatments have you received for cancer? (G1265M1-G1265M4)
    - Chemotherapy or medication
    - Surgery or biopsy
    - Radiation/x-ray
    - Medication/treatment for symptoms
    - Other
- B5d. Since (previous wave interview date), has the cancer gotten worse, better, or stayed about the same? (G1266)
- B5e. Since (previous wave interview date), has a doctor told you that you had a new cancer or malignant tumor, excluding minor skin cancer? (G1267)
- B5f. How many different cancers have you had? (G1268)
- B5h. Has your cancer/ have any of your cancers spread? (G1273)
- B5j.-B5k. In what year and month was your (most recent) cancer diagnosed? (G1274-G1275)

**HRS 2002**

- C018. Since we last talked to you, has a doctor told you that you have cancer or a malignant tumor, excluding minor skin cancer2? (HC018)
- C019. (Since previous wave interview date / In the last two years), have you seen a doctor about your cancer? (HC019)
- C020. (Since previous wave interview date / During the last two years), have you received any treatment for cancer?** (HC020)
- C021. (Since previous wave interview date / During the last two years), what sort of treatments have you received for cancer? (HC021M1-HC021M4)
    - Chemotherapy or medication
    - Surgery or biopsy
    - Radiation/x-ray
    - Medication/treatment for symptoms
    - Other
- C023. Since (previous wave interview date), has the cancer gotten worse, better, or stayed about the same? (HC023)
- C024. Since (previous wave interview date), has a doctor told you that you had a new cancer or malignant tumor, excluding minor skin cancer? (HC024)
- C025. How many different cancers have you had? (HC025)
- C027. Has your cancer/ have any of your cancers spread? (HC027)
- C028-C029. In what year and month was your (most recent) cancer diagnosed? (HC028-HC029)

** In 2002 and 2002 the questions regarding treatment refers to any treatment in the last two years or since the previous wave interview rather than current treatment as had been asked in earlier waves (B5b / C020).

*Chronic Lung Disease Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B15 | B6 | B14 | B6 | B6 | B6 | B6 | C030 |
| **Medication** | B15a | - | B14a | B6b | B6b | B6b | B6b | C032 |
| **Short of breath** | B15b | - | B14b | - | - | - | - | - |
| **Wheezing/coughing** | B15c | - | B14c | - | - | - | - | - |
| **Limit activities** | B15d | B6a | B14d | B6f | B6f | B6f | B6f | C035 |
| **Better/worse/same** | - | - | - | B6a | B6a | B6a | B6a | C031 |
| **Oxygen** | - | - | - | B6c | B6c | B6c | B6c | C033 |
| **Phys/resp therapy** | - | - | - | B6d | B6d | B6d | B6d | C034 |

*Chronic Lung Disease Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V401 | V235 | W362 | D818 | E818 | F1146 | G1279 | HC030 |
| **Medication** | V402 | - | W363 | D823 | E823 | F1151 | G1284 | HC032 |
| **Short of breath** | V403 | - | W364 | - | - | - | - | - |
| **Wheezing/coughing** | V404 | - | W365 | - | - | - | - | - |
| **Limit activities** | V405 | V238 | W366 | D826 | E826 | F1154 | G1287 | HC035 |
| **Better/worse/same** | - | - | - | D819 | E819 | F1147 | G1280 | HC031 |
| **Oxygen** | - | - | - | D824 | E824 | F1152 | G1285 | HC033 |
| **Phys/resp therapy** | - | - | - | D825 | E825 | F1153 | G1286 | HC034 |

**HRS 92**

- B15. Not including asthma, has a doctor ever told you that you have chronic lung disease such as chronic bronchitis or emphysema? (V401)
- B15a. Are you taking medication or other treatments for your lung condition? (V402)
- B15b. Are you sometimes short of breath because of your lung condition? (V403)
- B15c. Do you sometimes have wheezing or persistent cough, or bring up phlegm because of your lung condition? (V404)
- B15d. Does your condition limit your usual activities such as household chores or going to work? (V405)

**AHEAD 93**

- B6. Not including asthma, has a doctor ever told you that you have chronic lung disease such as chronic bronchitis or emphysema? (V235)
- B6a. Does your condition limit your usual activities such as household chores? (V238)

**HRS 94**

- B14. Not including asthma, has a doctor ever told you (since previous wave interview date / during the last two years) that you have chronic lung disease such as chronic bronchitis or emphysema??* (W362)
- B14a. Are you taking medication or other treatments for your lung condition? (W363)
- B14b. Are you sometimes short of breath because of your lung condition? (W364)
- B14c. Do you sometimes have wheezing or persistent cough, or bring up phlegm because of your lung condition? (W365)
- B14d. Does your condition limit your usual activities such as household chores or going to work? (W366)

* Prevalent cases from HRS 92 were not asked B14-B14d.

**AHEAD 95**

- B6. Since we last talked to you, has a doctor told you that you have chronic lung disease, such as chronic bronchitis or emphysema? (D818)
- B6a. Since then, has this condition gotten better, worse, or stayed about the same? (D819)
- B6b. Are you now taking medication or other treatment for your lung condition? (D823)
- B6c. Are you receiving oxygen for your lung condition? (D824)
- B6d. Are you receiving physical or respiratory therapy for your lung condition? (D825)
- B6f. Does your lung condition limit your usual activities, such as household chores or work? (D826)

**HRS 96**

- B6. Since last we talked to you, has a doctor told you that you have chronic lung disease, such as chronic bronchitis or emphysema? (E818)
- B6a. Since then, has this condition gotten better, worse, or stayed about the same? (E819)
- B6b. Are you now taking medication or other treatment for your lung condition? (E823)
- B6c. Are you receiving oxygen for your lung condition? (E824)
- B6d. Are you receiving physical or respiratory therapy for your lung condition? (E825)
- B6f. Does your lung condition limit your usual activities, such as household chores or work? (E826)

**HRS 98**

- B6. Since we last talked to you, has a doctor told you that you have chronic lung disease, such as chronic bronchitis or emphysema? (F1146)
- B6a. Since then, has this condition gotten better, worse, or stayed about the same? (F1147)
- B6b. Are you now taking medication or other treatment for your lung condition? (F1151)
- B6c. Are you receiving oxygen for your lung condition? (F1152)
- B6d. Are you receiving physical or respiratory therapy for your lung condition? (F1153)
- B6f. Does your lung condition limit your usual activities, such as household chores or work? (F1154)

**HRS 2000**

- B6. Since we last talked to you, has a doctor told you that you have chronic lung disease, such as chronic bronchitis or emphysema? (G1279)
- B6a. Since then, has this condition gotten better, worse, or stayed about the same? (G1280)

- B6b. Are you now taking medication or other treatment for your lung condition? (G1284)
- B6c. Are you receiving oxygen for your lung condition? (G1285)
- B6d. Are you receiving physical or respiratory therapy for your lung condition? (G1286)
- B6f. Does your lung condition limit your usual activities, such as household chores or work? (G1287)

**HRS 2002**

- C030. Since we last talked to you, has a doctor told you that you have chronic lung disease, such as chronic bronchitis or emphysema? (HC030)
- C031. Since then, has this condition gotten better, worse, or stayed about the same? (HC031)
- C032. Are you now taking medication or other treatment for your lung condition? (HC032)
- C033. Are you receiving oxygen for your lung condition? (HC033)
- C034. Are you receiving physical or respiratory therapy for your lung condition? (HC034)
- C035. Does your lung condition limit your usual activities, such as household chores or work? (HC035)

*Coronary Heart Disease Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B16 | B7 | B15 (1-2) | B7 | B7 | B7 | B7 | C036 |
| **MI** | B16a | B7a | B15a | B7d | B7d | B7d | B7d | C040 |
| **Year (or month) of last MI** | B16b (yr) | - | B15b (yr) | B7g, B7y | B7g, B7y | B7g-h | B7g-h | C043-C044 |
| **Angina** | B17 | B7b | B16 | B7i | B7i | B7i | B7i | C045 |
| **Medications** | B17a | - | B16a | B7a, B7f, B7j | B7a, B7f, B7j | B7a, B7f, B7j | B7a, B7f, B7j | C037, C042, C046 |
| **CHF** | B18 | - | B17 | B7k | B7kb | B7kb | B7kb | C048 |
| **CHF-related hospitalization** | - | - | - | B7m | B7m | B7m | B7m | C049 |
| **CHF - meds** | B18a | - | B17a | B7n | B7n | B7n | B7n | C050 |
| **CHF - symptoms** | B18b | - | B17b | - | - | - | - | - |
| **Seen Doctor** | B19 | - | B18 | B7b, B7e | B7b, B7e | B7b, B7e | B7b, B7e | C038, C041 |
| **Angiogram / angioplasty** | B20 | - | B19 | B7p | B7p | B7p | B7p | C051 |
| **Heart surgery** | B21 | - | B20 | B7q | B7q | B7q | B7q | C052 |
| **Better/worse/same** | - | - | - | B7c | B7c | B7c | B7c | C039 |
| **Limiting activities** | - | - | - | B8k | B7ka | B7ka | B7ka | C047 |

*Coronary Heart Disease Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V406 | V242 | W367, W368 | D828 | E828 | F1156 | G1289 | HC036 |
| **MI** | V407 | V244 | W369 | D834 | E834 | F1162 | G1295 | HC040 |
| **Year (or month) of last MI** | V408 | - | W370 | D838-D839 | E838-E839 | F1166-F1167 | G1299-G1300 | HC043-HC044 |
| **Angina** | V409 | V245 | W371 | D840 | E840 | F1168 | G1301 | HC045 |
| **Medications** | V410 | - | W372 | D829, D837, D841 | E829, E837, E841 | F1157, F1165, F1169 | G1290, G1298, G1302 | HC037, HC042, HC046 |
| **CHF** | V411 | - | W373 | D843 | E843 | F1171 | G1304 | HC048 |
| **CHF-related hospitalization** | - | - | - | D844 | E844 | F1172 | G1305 | HC049 |
| **CHF - meds** | V412 | - | W374 | D845 | E845 | F1173 | G1306 | HC050 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **CHF - symptoms** | V413 | - | W375 | - | - | - | - | - |
| **Seen doctor** | V414 | - | W376 | D830, D836 | E830, E836 | F1158, F1164 | G1291, G1297 | HC038, HC041 |
| **Angiogram / angioplasty** | V415 | - | W377 | D846 | E846 | F1174 | G1307 | HC051 |
| **Heart surgery** | V416 | - | W378 | D847 | E847 | F1175 | G1308 | HC052 |
| **Better/worse/same** | - | - | - | D831 | E831 | F1159 | G1292 | HC039 |
| **Limiting activities** | - | - | - | D842 | E842 | F1170 | G1303 | HC047 |

*Coronary Heart Disease – Available Questions*

**HRS 92**

- B16. Has a doctor ever told you that you had a heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems? (V406)
- B16a. Did you have a heart attack or myocardial infarction? (V407)
- B16b. In what year did you have your (last) heart attack or myocardial infarction? (V408)
- B17. Do you currently have any angina or chest pains due to your heart? (V409)
- B17a. Are you taking or carrying any medications because of your chest pain? (V410)
- B18. Has a doctor ever told you that you have congestive heart failure? (V411)
- B18a. Are you taking any medications for this? (V412)
- B18b. Does your congestive heart failure sometimes cause you to be weak or short of breath? (V413)
- B19. During the last 12 months, have you seen a doctor for any of your heart problems? (V414)
- B20. Have you ever had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty)? (V415)
- B21. Have you ever had surgery on your heart? (V416)

**AHEAD 93**

- B7. Has a doctor ever told you that you had a heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems? (V242)
- B7a. Have you had a heart attack in the past five years? (V244)
- B7b. Have you recently had an angina or chest pains due to your heart? (V245)

**HRS 94**

- B15 (1). Last time we spoke with you, you told us about (wave 1 heart problem). Since (previous wave interview date), has your doctor told you that you had a heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems?* (W367)
- B15(2). (Since previous wave interview date), has your doctor told you that you had a heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems?* (W368)
- B15a. Did you have a heart attack or myocardial infarction? (W369)
- B15b. In what year did you have your (most recent) heart attack or myocardial infarction? (W370)
- B16. Do you currently have any angina or chest pains due to your heart? (W371)
- B16a. Are you taking or carrying any medications because of your chest pain? (W372)
- B17. (Since previous wave interview date), has a doctor told you that you have congestive heart failure? (W373)
- B17a. Are you taking any medications for this? (W374)
- B17b. Does your congestive heart failure sometimes cause you to be weak or short of breath? (W375)
- B18. During the last 12 months, have you seen a doctor for any of your heart problems? (W376)
- B19. Have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty)? (W377)
- B20. Have you had surgery on your heart? (W378)

* Prevalent cases from HRS 92 were asked B15(1); others were asked B15(2).

**AHEAD95**

- B7. Since your interview in (previous wave interview date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems? (D828)
- B7a. Are you now taking or carrying medication for your heart problem? (D829)
- B7b. (Since previous wave interview date/In the last two years), have you seen a doctor for your heart problem? (D830)
- B7c. Since (previous wave interview date), has this condition gotten better, worse, or stayed about the same? (D831)
- B7d. Have you had a heart attack or myocardial infarction (since previous wave interview date/in the past two years)? (D834)
- B7e. (Since we talked to you last), have you seen a doctor in connection with your heart attack? (D836)
- B7f. Are you now taking medication because of your heart attack? (D837)
- B7g. and B7y. In what month and year was your (most recent) heart attack? (D838-D839)
- B7i. (Since previous wave interview date/In the last two years), have you had any angina or chest pains due to your heart? (D840)
- B7j. Are you now taking or carrying medications because of angina or chest pain? (D841)
- B8k. Are you limiting your usual activities because of your angina? (D842)
- B7k. (Since previous wave interview date/In the last two years), has a doctor told you that you have congestive heart failure? (D843)
- B7m. (Since previous wave interview date/In the past two years), have you been admitted to the hospital overnight because of congestive heart failure? (D844)
- B7n. Are you taking any medication for congestive heart failure? (D845)
- B7p. (Since previous wave interview date/In the past two years), have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty? (D846)
- B7q. (Since previous wave interview date/In the past two years), have you had surgery on your heart? (D847)

**HRS 96**

- B7. Since (previous wave interview date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems? (E828)
- B7a. Are you now taking or carrying medication for your heart problem? (E829)
- B7b. (Since previous wave interview date/In the last two years), have you seen a doctor for your heart problem? (E830)
- B7c. Since (previous wave interview date), has this condition gotten better, worse, or stayed about the same? (E831)
- B7d. Have you had a heart attack or myocardial infarction (since previous wave interview date/in the past two years)? (E834)
- B7e. (Since we talked to you last), have you seen a doctor in connection with your heart attack? (E836)
- B7f. Are you now taking or carrying medication because of your heart attack? (E837)
- B7g and B7y. In what month and year was your (most recent) heart attack? (E838-E839)
- B7i. (Since previous wave interview date/In the last two years), have you had any angina or chest pains due to your heart? (E840)
- B7j. Are you now taking or carrying medications because of angina or chest pain? (E841)
- B7ka. Are you limiting your usual activities because of your angina? (E842)
- B7kb. (Since previous wave interview date/In the last two years), has a doctor told you that you have congestive heart failure? (E843)
- B7m. (Since previous wave interview date/In the past two years), have you been admitted to the hospital because of congestive heart failure? (E844)
- B7n. Are you taking or carrying any medication for congestive heart failure? (E845)
- B7p. (Since previous wave interview date/In the past two years), have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries? (cardiac catheterization, coronary angiogram or angioplasty) (E846)
- B7q. (Since previous wave interview date/In the past two years), have you had surgery on your heart? (E847)

**HRS 98**

- B7. Since (previous wave interview date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems? (F1156)
- B7a. Are you now taking or carrying medication for your heart problem? (F1157)
- B7b. (Since previous wave interview date/In the last two years), have you seen a doctor for your heart problem? (F1158)
- B7c. Since (previous wave interview date), has this condition gotten better, worse, or stayed about the same? (F1159)
- B7d. (Since previous wave interview date/In the past two years), have you had a heart attack or myocardial infarction? (F1162)
- B7e. Since we talked to you last, have you seen a doctor in connection with your heart attack? (F1164)
- B7f. Are you now taking or carrying medication because of your heart attack? (F1165)
- B7g.-B7h. In what year and month was your (most recent) heart attack? (F1166-F1167)
- B7i. (Since previous wave interview date/In the last two years), have you had any angina or chest pains due to your heart? (F1168)
- B7j. Are you now taking or carrying medications because of angina or chest pain? (F1169)
- B7ka. Are you limiting your usual activities because of your angina? (F1170)
- B7kb. (Since previous wave interview date/In the last two years), has a doctor told you that you have congestive heart failure? (F1171)
- B7m. (Since previous wave interview date/In the past two years), have you been admitted to the hospital overnight because of congestive heart failure? (F1172)
- B7n. Are you taking or carrying any medication for congestive heart failure? (F1173)
- B7p. (Since previous wave interview date/In the past two years), have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty)? (F1174)
- B7q. (Since previous wave interview date/In the past two years), have you had surgery on your heart? (F1175)

**HRS 2000**

- B7. Since (previous wave interview date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems? (G1289)
- B7a. Are you now taking or carrying medication for your heart problem? (G1290)
- B7b. (Since previous wave interview date/In the last two years), have you seen a doctor for your heart problem? (G1291)
- B7c. Since (previous wave interview date), has this condition gotten better, worse, or stayed about the same? (G1292)
- B7d. (Since previous wave interview date/In the past two years), have you had a heart attack or myocardial infarction? (G1295)
- B7e. Since we talked to you last, have you seen a doctor in connection with your heart attack? (G1297)
- B7f. Are you now taking or carrying medication because of your heart attack? (G1298)
- B7g-B7h. In what year and month was your (most recent) heart attack? (G1299-G1300)
- B7i. (Since previous wave interview date/In the last two years), have you had any angina or chest pains due to your heart? (G1301)
- B7j. Are you now taking or carrying medications because of angina or chest pain? (G1302)
- B7ka. Are you limiting your usual activities because of your angina? (G1303)
- B7kb. (Since previous wave interview date/In the last two years), has a doctor told you that you have congestive heart failure? (G1304)
- B7m. (Since previous wave interview date/In the past two years), have you been admitted to the hospital overnight because of congestive heart failure? (G1305)
- B7n. Are you taking or carrying any medication for congestive heart failure? (G1306)
- B7p. (Since previous wave interview date/In the past two years), have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty)? (G1307)
- B7q. (Since previous wave interview date/In the past two years), have you had surgery on your heart? (G1308)

**HRS 2002**

- C036. Since (previous wave interview date), has a doctor told you that you have had a heart attack, have coronary heart disease, angina, congestive heart failure, or other heart problems? (HC036)
- C037 Are you now taking or carrying medication for your heart problem? (HC037)
- C038. (Since previous wave interview date/In the last two years), have you seen a doctor for your heart problem? (HC038)
- C039. Since (previous wave interview date), has this condition gotten better, worse, or stayed about the same? (HC039)
- C040. (Since previous wave interview date/In the last two years), have you had a heart attack or myocardial infarction? (HC040)
- C041. (Since then have/Have) you seen a doctor in connection with your heart attack? (HC041)
- C042. Are you now taking or carrying medication because of your heart attack? (HC042)
- C043-C044. In what year and month was your (most recent) heart attack? (HC043-HC044)
- C045. (Since previous wave interview date/In the last two years), have you had any angina or chest pains due to your heart? (HC045)
- C046. Are you now taking or carrying medications because of angina or chest pain? (HC046)
- C047. Are you limiting your usual activities because of your angina? (HC047)
- C048. (Since previous wave interview date/In the last two years), has a doctor told you that you have congestive heart failure? (HC048)
- C049. (Since previous wave interview date/In the last two years), have you been admitted to the hospital overnight because of congestive heart failure? (HC049)
- C050 Are you taking or carrying any medication for congestive heart failure? (HC050)
- C051. (Since previous wave interview date/In the last two years), have you had a special test or treatment of your heart where tubes were inserted into your veins or arteries (cardiac catheterization, coronary angiogram or angioplasty)? (HC051)
- C052. (Since previous wave interview date/In the last two years), have you had surgery on your heart? (HC052)

*Stroke Questions*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B22 | B8 | B21 | B9 | B9 | B9 | B9 | C053 |
| **Month/year of last stroke** | B22a (yr) | - | B21a (yr) | B9m-n | B9m-n | B9m-n | B9m-n | C063-C064 |
| **Remaining problems** | B22b | B8a | B21b | B9b | B9b | B9b | B9b | C055 |
| **Seen doctor (yes/no)** | B22c | - | B21c | B9a | B9a | B9a | B9a | C054 |
| **Medications** | B22d | - | B21d | B9g | B9g | B9g | B9g | C060 |
| **Arms and legs** | - | - | - | B9c | B9c | B9c | B9c | C056 |
| **Speaking or swallowing** | - | - | - | B9d | B9d | B9d | B9d | C057 |
| **Vision** | - | - | - | B9e | B9e | B9e | B9e | C058 |
| **Thinking/finding words** | - | - | - | B9f | B9f | B9f | B9f | C059 |
| **Receiving therapy** | - | - | - | B9h | B9h | B9h | B9h | C061 |
| **Another stroke** | - | - | - | B9j | B9j | B9j | B9j | C062 |

*Stroke Variables*

| | HRS 92 | AHD 93 | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V417 | V252 | W379 | D848 | E848 | F1176 | G1309 | HC053 |
| **Month/year of last stroke** | V418 | - | W380 | D859-D860 | E859-E860 | F1187-F1188 | G1320-G1321 | HC063-HC064 |
| **Remaining problems** | V419 | V254 | W381 | D851 | E851 | F1179 | G1312 | HC055 |
| **Seen doctor (yes/no)** | V420 | - | W382 | D850 | E850 | F1178 | G1311 | HC054 |
| **Medications** | V421 | - | W383 | D856 | E856 | F1184 | G1317 | HC060 |
| **Arms and legs** | - | - | - | D852 | E852 | F1180 | G1313 | HC056 |
| **Speaking or swallowing** | - | - | - | D853 | E853 | F1181 | G1314 | HC057 |
| **Vision** | - | - | - | D854 | E854 | F1182 | G1315 | HC058 |
| **Thinking/finding words** | - | - | - | D855 | E855 | F1183 | G1316 | HC059 |
| **Receiving therapy** | - | - | - | D857 | E857 | F1185 | G1318 | HC061 |
| **Another stroke** | - | - | - | D858 | E858 | F1186 | G1319 | HC062 |

**HRS 92**

- B22. Has a doctor ever told you that you had a stroke? (V417)
- B22a. In what year did you last have a stroke? (V418)
- B22b. Do you still have any remaining health problems because of your stroke, such as muscle weakness or difficulty speaking? (V419)
- B22c. During the last 12 months, have you seen a doctor because of your stroke? (V420)
- B22d. Are you taking any medications because of your stroke and its complications? (V421)

**AHEAD 93**

- B8. Has a doctor ever told you that you had a stroke? (V252)
- B8a. Do you still have any remaining health problems because of your stroke? (V254)

**HRS 94**

- B21. Since (previous wave interview date), has a doctor told you that you had a stroke?* (W379)
- B21a. In what year did you have a stroke? (W380)
- B21b. Do you still have any remaining health problems because of your stroke, such as muscle weakness or difficulty speaking? (W381)
- B21c. During the last 12 months, have you seen a doctor because of your stroke? (W382)
- B21d. Are you taking any medications because of your stroke and its complications? (W383)

* Prevalent cases from HRS 92 were not asked B21-B21d.

**AHEAD 95**

- B9. Since (previous wave interview date), has a doctor told you that you have had a stroke? (D848)
- B9a. (Since previous wave interview date/In the past two years), have you seen a doctor because of this or any other stroke? (D850)
- B9b. Do you still have any remaining problems because of your stroke(s)? (D851)
- B9c. Do you have weakness in your arms and legs, or decreased ability to move or use them? (D852)
- B9d. Difficulty speaking or swallowing? (D853)
- B9e. Difficulty with your vision? (D854)
- B9f. Difficulty in thinking or finding the right words to say? (D855)
- B9g. Are you now taking any medications because of your stroke or its complications? (D856)
- B9h. Are you receiving physical or occupational therapy because of your stroke or its complications? (D857)
- B9j. Since (previous wave interview date), has a doctor told you that you had another stroke? (D858)
- B9m.-B9n. In what month and year was your (most recent) stroke? (D859-D860)

**HRS 96**

- B9. Since (previous wave interview date), has a doctor told you that you have had a stroke? (E848)
- B9a. (Since previous wave interview date/In the past two years), have you seen a doctor because of this or any other stroke? (E850)
- B9b. Do you still have any remaining problems because of your stroke(s)? (E851)
- B9c. Do you have weakness in your arms and legs, or decreased ability to move or use them? (E852)
- B9d. Difficulty speaking or swallowing? (E853)
- B9e. Difficulty with your vision? (E854)
- B9f. Difficulty in thinking or finding the right words to say? (E855)
- B9g. Are you now taking any medications because of your stroke or its complications? (E856)
- B9h. Are you receiving physical or occupational therapy because of your stroke or its complications? (E857)
- B9j. Since (previous wave interview date), has a doctor told you that you had another stroke? (E858)
- B9m-B9n. In what month and year was your (most recent) stroke? (E859-E860)

**HRS 98**

- B9. Since (previous wave interview date), has a doctor told you that you have had a stroke? (F1176)

- B9a. (Since previous wave interview date/In the past two years), have you seen a doctor because of this or any other stroke? (F1178)
- B9b. Do you still have any remaining problems because of your stroke(s)? (F1179)
- B9c. Do you have weakness in your arms and legs, or decreased ability to move or use them? (F1180)
- B9d. Difficulty speaking or swallowing? (F1181)
- B9e. Difficulty with your vision? (F1182)
- B9f. Difficulty in thinking or finding the right words to say? (F1183)
- B9g. Are you now taking any medications because of your stroke or its complications? (F1184)
- B9h. Are you receiving physical or occupational therapy because of your stroke or its complications? (F1185)
- B9j. Since (previous wave interview date), has a doctor told you that you had another stroke? (F1186)
- B9m.-B9n. In what month and year was your (most recent) stroke? (F1187-F1188)

**HRS 2000**

- B9. Since (previous wave interview date), has a doctor told you that you have had a stroke? (G1309)
- B9a. (Since previous wave interview date/In the past two years), have you seen a doctor because of this or any other stroke? (G1311)
- B9b. Do you still have any remaining problems because of your stroke(s)? (G1312)
- B9c. Do you have weakness in your arms and legs, or decreased ability to move or use them? (G1313)
- B9d. Difficulty speaking or swallowing? (G1314)
- B9e. Difficulty with your vision? (G1315)
- B9f. Difficulty in thinking or finding the right words to say? (G1316)
- B9g. Are you now taking any medications because of your stroke or its complications? (G1317)
- B9h. Are you receiving physical or occupational therapy because of your stroke or its complications? (G1318)
- B9j. Since (previous wave interview date), has a doctor told you that you had another stroke? (G1319)
- B9m.-B9n. In what month and year was your (most recent) stroke? (G1320-G1321)

**HRS 2002**

- C053. Since we last talked to you, has a doctor told you that you have had a stroke? (HC053)
- C054. (Since previous wave interview date/In the last two years),, have you seen a doctor because of this or any other stroke? (HC054)
- C055. Do you still have any remaining problems because of your stroke(s)? (HC055)
- C056. Do you have weakness in your arms and legs, or decreased ability to move or use them? (HC056)
- C057. Difficulty speaking or swallowing? (HC057)
- C058. Difficulty with your vision? (HC058)
- C059. Difficulty in thinking or finding the right words to say? (HC059)
- C060. Are you now taking any medications because of your stroke or its complications? (HC060)
- C061. Are you receiving physical or occupational therapy because of your stroke or its complications? (HC061)
- C062. Since (previous wave interview date), has a doctor told you that you had another stroke? (HC062)
- C063-C064. In what month and year was your (most recent) stroke? (HC063-HC064)

*Psychiatric/Psychological Problems Questions*

| | HRS 92 | AHD 93* | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B23 | B9 | B23 | B10 | B10 | B10 | B10 | C065 |
| **Problems in last year** | B24 | B9a | - | - | - | - | - | - |
| **Psych treatment** | B24a | - | B23a | B10b | B10b | B10b | B10b | C067 |
| **Medications** | B24b | - | B23b | B10c | B10c | B10c | B10c | C068 |
| **Better/worse/same** | - | - | - | B10a | B10a | B10a | B10a | C066 |
| **Memory-related disease** | - | - | - | - | - | B10d | B10d | C069 |

*Psychiatric/Psychological Problems Variables*

| | HRS 92 | AHD 93* | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V422 | V259 | W384 | D861 | E861 | F1189 | G1322 | HC065 |
| **Problems in last year** | V423 | V260 | - | - | - | - | - | - |
| **Psych treatment** | V424 | - | W385 | D863 | E863 | F1191 | G1324 | HC067 |
| **Medications** | V425 | - | W386 | D864 | E864 | F1192 | G1325 | HC068 |
| **Better/worse/same** | - | - | - | D862 | E862 | F1190 | G1323 | HC066 |
| **Memory-related disease** | - | - | - | - | - | F1193 | G1326 | HC069 |

**HRS 92**

- B23. Has a doctor ever told you that you had emotional, nervous, or psychiatric problems? (V422)
- B24. During the last 12 months, have you had any emotional, nervous, or psychiatric problems? (V423)
- B24a. Do you now get psychiatric or psychological treatment for your problems? (V424)
- B24b. Do you now use tranquilizers, antidepressants, or pills for nerves? (V425)

**AHEAD 93**

- B9. Have you ever seen a doctor for emotional, nervous, or psychiatric problems?* (V259)
- B9a. Have you had any of these problems in the last 12 months? (V260)

* Note this question asks whether the respondent has seen a doctor for this condition not whether a doctor has told them they have the condition. This differs from the wording of similar questions in other waves.

**HRS 94**

- B23. Since (previous wave interview date), have you had or has a doctor told you that you have any
- emotional, nervous, or psychiatric problems?* (W384)
- B23a. Do you now get psychiatric or psychological treatment for your problems? (W385)
- B23b. Do you now use tranquilizers, sleeping pills, antidepressants, or pills for nerves? (W386)

* Prevalent cases from HRS 92 were not asked B23-B23d.

**AHEAD 95**

- B10. Since (previous wave interview date), have you had or has a doctor told you that you have any emotional, nervous, or psychiatric problems? (D861)
- B10a. Have these problems gotten better, worse, or stayed about the same? (D862)
- B10b. Do you now get psychiatric or psychological treatment for your problems? (D863)
- B10c. Do you now take tranquilizers, antidepressants, or pills for nerves? (D864)

**HRS 96**

- B10. Since (previous wave interview date), have you had or has a doctor told you that you have any emotional, nervous, or psychiatric problems? (E861)
- B10a. Have these problems gotten better, worse, or stayed about the same? (E862)
- B10b. Do you now get psychiatric or psychological treatment for your problems? (E863)
- B10c. Do you now take tranquilizers, antidepressants, or pills for nerves? (E864)

**HRS 98**

- B10. Since (previous wave interview date), have you had or has a doctor told you that you have any emotional, nervous, or psychiatric problems? (F1189)
- B10a. Since (previous wave interview date), have these problems gotten better, worse, or stayed about the same? (F1190)
- B10b. Do you now get psychiatric or psychological treatment for your problems? (F1191)
- B10c. Do you now take tranquilizers, antidepressants, or pills for nerves? (F1192)
- B10d. Has a doctor ever told you that you have a memory-related disease? (F1193)

**HRS 2000**

- B10. Since (previous wave interview date), have you had or has a doctor told you that you have any emotional, nervous, or psychiatric problems? (G1322)
- B10a. Since (previous wave interview date), have these problems gotten better, worse, or stayed about the same? (G1323)
- B10b. Do you now get psychiatric or psychological treatment for your problems? (G1324)
- B10c. Do you now take tranquilizers, antidepressants, or pills for nerves? (G1325)
- B10d. Since we last talked to you, has a doctor told you that you have a memory-related disease? (G1326)

**HRS 2002**

- C065. Since we last talked to you, have you had or has a doctor told you that you have any emotional, nervous, or psychiatric problems? (HC065)
- C066. Since (previous wave interview date), have these problems gotten better, worse, or stayed about the same? (HC066)
- C067. Do you now get psychiatric or psychological treatment for your problems? (HC067)
- C068. Do you now take tranquilizers, antidepressants, or pills for nerves? (HC068)
- C069. Since we last talked to you, has a doctor told you that you have a memory-related disease? (HC069)

*Arthritis Questions*

| | HRS 92 | AHD 93* | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | B25 | B10 | B24 | B11 | B11 | B11 | B11 | C070 |
| **Joint pain, swelling** | B25a | - | B24a | B11c | B11c | B11c | B11c | C073 |
| **Medications** | B25b | - | B24b | B11d | B11d | B11d | B11d | C074 |
| **Seen doctor** | B25c | - | B24c | B11b | B11b | B11b | B11b | C072 |
| **Better/worse/same** | - | - | - | B11a | B11a | B11a | B11a | C071 |
| **Limit activities** | - | - | - | B11e | - | B11e | B11e | C075 |
| **Surgery** | - | - | - | B11f | - | B11f | B11f | C076 |
| **Which joint** | - | - | - | B11g | - | B11g | B11g | C077M1-M3 |

*Arthritis Variables*

| | HRS 92 | AHD 93* | HRS 94* | AHD 95 | HRS 96 | HRS 98 | HRS 00 | HRS 02 |
|---|---|---|---|---|---|---|---|---|
| **Doctor diagnosis** | V426 | V265 | W387 | D866 | E866 | F1194 | G1327 | HC070 |
| **Joint pain, swelling** | V427 | - | W388 | D869 | E869 | F1197 | G1330 | HC073 |
| **Medications** | V428 | - | W389 | D870 | E870 | F1198 | G1331 | HC074 |
| **Seen doctor** | V429 | - | W390 | D868 | E868 | F1196 | G1329 | HC072 |
| **Better/worse/same** | - | - | - | D867 | E867 | F1195 | G1328 | HC071 |
| **Limit activities** | - | - | - | D871 | - | F1199 | G1332 | HC075 |
| **Surgery** | - | - | - | D872 | - | F1200 | G1333 | HC076 |
| **Which joint** | - | - | - | D875M1-M2 | - | F1203M1-M3 | G1336M1-M3 | HC077M1-M3 |

**HRS 92**

- B25. Have you ever had, or has a doctor ever told you that you have, arthritis or rheumatism? (V426)
- B25a. Do you sometimes have pain, stiffness, or swelling in your joints? (V427)
- B25b. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (V428)
- B25c. During the last 12 months, have you seen a doctor specifically for your arthritis or rheumatism? (V429)

**AHEAD 93**

- B10. During the last 12 months, have you seen a doctor specifically for arthritis or rheumatism?* (V265)

* Note this question asks whether the respondent has seen a doctor for this condition not whether a doctor has told them they have the condition. This differs from the wording of similar questions in other waves.

**HRS 94**

- B24. Since (previous wave interview date), have you had, or has a doctor told you that you have, arthritis or rheumatism?* (W387)
- B24a. Do you sometimes have pain, stiffness, or swelling in your joints? (W388)
- B24b. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (W389)
- B24c. During the last 12 months, have you seen a doctor specifically for your arthritis or rheumatism? (W390)

* Prevalent cases from HRS 92 were not asked B24-B24c.

**AHEAD 95**

- B11. Since (previous wave interview date), have you had or has a doctor told you that you have arthritis or rheumatism? (D866)
- B11a. Has this arthritis gotten better, worse, or stayed about the same? (D867)
- B11b. (Since previous wave interview date/In the past two years), have you seen a doctor specifically for your arthritis or rheumatism? (D868)
- B11c. Do you sometimes have pain, stiffness, or swelling in your joints? (D869)
- B11d. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (D870)
- B11e. Does your arthritis sometimes limit your usual activities? (D871)
- B11f. Have you had surgery or any joint replacement because of arthritis since we last talked to you? (D872)
- B11g. Which joint was that? (D875M1-D875M2)
    - Hip(s)
    - Knee(s)
    - Other

**HRS 96**

- B11. Since (previous wave interview date), have you had or has a doctor told you that you have, arthritis or rheumatism? (E866)
- B11a. Has this arthritis gotten better, worse, or stayed about the same? (E867)
- B11b. (Since previous wave interview date/In the past two years), have you seen a doctor specifically for your arthritis or rheumatism? (E868)
- B11c. Do you sometimes have pain, stiffness, or swelling in your joints? (E869)
- B11d. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (E870)
- B11e. Does your arthritis sometimes limit your usual activities? (E871)
- B11f. Have you had surgery or any joint replacement because of arthritis since we last talked to you? (E872)
- B11g. Which joint was that? (E875M1-E875M3)
    - Hip(s)
    - Knee(s)
    - Other

**HRS 98**

- B11. Since (previous wave interview date), have you had or has a doctor told you that you have arthritis or rheumatism? (F1194)
- B11a. Since (previous wave interview date), has this arthritis gotten better, worse, or stayed about the same? (F1195)
- B11b. (Since previous wave interview date/In the past two years), have you seen a doctor specifically for your arthritis or rheumatism? (F1196)
- B11c. Do you sometimes have pain, stiffness, or swelling in your joints? (F1197)
- B11d. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (F1198)
- B11e. Does your arthritis sometimes limit your usual activities? (F1199)
- B11f. (Since previous wave interview date/In the last two years), have you had surgery or any joint replacement because of arthritis? (F1200)
- B11g. Which joint was that? (F1203M1-F1203M3)
    - Hip(s)
    - Knee(s)
    - Hand/Wrist Area
    - Ankle/Foot Area
    - Shoulder
    - Spine
    - Other

**HRS 2000**

- B11. Since (previous wave interview date), have you had or has a doctor told you that you have arthritis or rheumatism? (G1327)
- B11a. Since (previous wave interview date), has this arthritis gotten better, worse, or stayed about the same? (G1328)
- B11b. (Since previous wave interview date/In the past two years), have you seen a doctor specifically for your arthritis or rheumatism? (G1329)
- B11c. Do you sometimes have pain, stiffness, or swelling in your joints? (G1330)
- B11d. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (G1331)
- B11e. Does your arthritis sometimes limit your usual activities? (G1332)
- B11f. (Since previous wave interview date/In the last two years), have you had surgery or any joint replacement because of arthritis? (G1333)
- B11g. Which joint was that? (G1336M1-G1336M3)
    - Hip(s)
    - Knee(s)
    - Hand/Wrist Area
    - Ankle/Foot Area
    - Shoulder
    - Spine
    - Other

**HRS 2002**

- C070. Since we last talked to you, have you had or has a doctor told you that you have arthritis or rheumatism? (HC070)
- C071. Since (previous wave interview date), has this arthritis gotten better, worse, or stayed about the same? (HC071)
- C072. (Since previous wave interview date/In the last two years), have you seen a doctor specifically for your arthritis or rheumatism? (HC072)
- C073. Do you sometimes have pain, stiffness, or swelling in your joints? (HC073)
- C074. Are you currently taking any medication or other treatments for your arthritis or rheumatism? (HC074)
- C075. Does your arthritis sometimes limit your usual activities? (HC075)
- C076. (Since previous wave interview date/In the last two years), have you had surgery or any joint replacement because of arthritis? (HC076)

- C077M1-C077M3. Which joint was that? (HC077M1-HC077M3)
    - Hip(s)
    - Knee(s)
    - Hand/Wrist Area
    - Ankle/Foot Area
    - Shoulder
    - Spine
    - Other