This article examines the validity of a mortality study of early retirees by Dr. Eric Kingson. The Kingson study supports the hypothesis that men who retired early were very prone to have work-limiting conditions even though they were not awarded Disability Insurance benefits. This article maintains that Kingson's study is analytically faulty because of the procedure used to categorize the sample. In comparing groups of early retirees, Kingson combined two groups—(1) severely disabled persons who died before becoming eligible to receive Disability Insurance benefits and (2) early retirees who alleged work-limiting disability. He found that their combined mortality was higher than that of those who received Disability Insurance benefits.

He then concluded that, for this reason, early retirees who alleged work-limiting disability really had such disabilities. However, this article contends that the mortality effects of the first group are so great as to mask any conclusions relevant to the two groups combined. The analysis here does not conclude that persons generally do not retire early because of poor health, but rather that the findings of Kingson's study, being based on faulty mortality analysis, are not conclusive.

A widespread belief exists that a considerable number of people who leave gainful employment before age 65 do so because of poor health. An extensive literature has been built up on this subject, as cited by Eric R. Kingson ("The Health of Very Early Retirees," pages 3-9 in this issue). In my opinion, the conclusions drawn in the various studies are based on erroneous or inadequate analysis and are not necessarily valid.

One basic flaw is that the analysis is usually based on survey material, the procedures for which frequently contain irremediable flaws—especially in considering questions of a substantive nature, such as health as it affects employment. For example, many people leave the labor market at an early age for such reasons as the preference to "take life easy," or because the difference between their subsequent income and their previous take-home pay is not very large, or because they just do not like their work. These persons do not necessarily admit the real underlying cause when asked in a survey. Conversely, of course, there are people who will not admit to being in poor health, even though they are. Thus, as a result, any data on self-reported health status, as it relates to employment, are of a very heterogenous and unreliable nature.

Dr. Kingson has attempted to validate the conclusion that a large proportion of early retirees who do not receive Disability Insurance benefits under the Social Security program retired because of work-limiting health conditions. This article examines the methodology in Kingson's report to see whether it is appropriate, and whether the conclusions drawn are therefore valid. In doing this, the actual extent of early retirement and the general weakness of the survey approach in many areas are described. Also discussed are the very considerable problems that occur in making analyses of mortality data.

It does not follow logically that, if early retirees have work-limiting health conditions, this is necessarily the reason they leave the labor force. These two variables can be, and often are, independent of each other. Many
people with work-limiting health conditions do remain in the work force. In fact, it might be better for many such individuals—both psychologically and physiologically—to work, rather than be attracted by the availability of benefits at such a level that working brings in little net financial gain. This is, of course, not to say that there are not many people with work-limiting health conditions who really cannot work.

**Extent of Early Retirement**

Before examining the question of the causes of early retirement, let us first examine the extent to which it has actually occurred in the United States, including for these purposes disability retirement as a form of early retirement. In essence, early retirement can most easily be seen by examining the other face of the coin—labor-force participation rates.

Let us consider only men; women present a more confusing picture, because many withdraw from the labor force to become homemakers and subsequently reenter the labor market. At ages 25-44, male labor-force participation rates were about 97-98 percent in the period following World War II, but decreased slightly during the 1970's to about 96 percent. For men aged 45-54, the rate was about 96 percent until the mid-1960's, and it then decreased steadily, reaching about 91 percent at the end of the 1970's. Similarly, for men aged 55-59, the rate was 90 percent in 1970, and it then decreased steadily and drastically, reaching 82 percent by the end of the 1970's. For men aged 60-64, the rate was 81 percent in 1960 (just before early retirement at ages 62-64 was first permitted under the Social Security program), and it decreased steadily thereafter, reaching 61 percent in 1980.

In many ways, it might be said that this downward trend in the labor-force participation rate for men is surprising, in view of such factors as declining mortality rates and the decreased extent of hard manual work, as automation has become more widespread.

**Weaknesses of Surveys**

In recent years, there has been a proliferation of surveys, which are often developed by complex and expensive scientific sampling procedures and analyzed by sophisticated mathematical and statistical techniques. Too frequently, opinions and/or factual data are sought that are really impossible to obtain accurately.

The respondents often do not have sufficient knowledge to answer questions fully and accurately. In other instances, they feel that it may be in their best interest not to give truthful responses. Several examples will illustrate these points.

Many Social Security beneficiaries, when asked about their income and assets, might underestimate them. They may feel that, somehow or other, this information will be made known to the Government and will affect the amount of their Social Security benefits in the future (or even benefits already received).

Future fertility experience is often predicted by asking young women how many more children they would like to have. If this question is put to a newlywed woman, she may say that she would like to have many children. However, if such a question is asked of a woman who has had a baby or two, the answer might well vary, depending on various matters.

When opinions are elicited regarding desirable changes in the Social Security program, the form of question might be incomplete or slanted. Or the respondent may not be furnished sufficient information (possibly because there is not enough time to do so, or because the respondent could not absorb or understand all of the necessary background information). In some instances, the interviewees may not be aware that a proposed increase in benefit protection may result in a sizable increased tax burden to themselves, either through visible payroll taxes or through indirect general revenue taxes.

The question might be asked as to whether the minimum retirement age for unreduced Social Security benefits should be gradually increased over the years. The automatic answer might be “no” unless there is a full and complete presentation of why this would be done and what the cost consequences would be if it were not done. With such a full explanation, the answer might well be different.

Finally, a question might be asked as to whether the respondent is in favor of National Health Insurance, under which complete medical care would be provided without any direct charge related to the services furnished. Quite different answers might occur, depending on whether more detail is given as to how the costs would be met, how they would impinge upon the respondent, and how the methods of delivery of medical care would be changed.

**Is Early Retirement Caused by Health Conditions?**

Quite obviously, many people are compelled to retire before the “normal” retirement age because of health conditions. Certainly this is the case for the approximately 2.7 million persons currently receiving Social Security disabled-worker benefits. In addition, many individuals are significantly impaired and have considerable difficulty in working but do not meet the strict standards of the Social Security disability program.

On the other hand, it seems reasonable to believe that many individuals at the middle and older ages have left the paid labor force for a number of reasons but, when asked why, will say that they did so solely because of
work-limiting health conditions. Actually, such individuals may have health conditions that are not sufficiently severe to preclude the performance of substantial useful work. The real reason for leaving work may have been that some other income was available (so that the after-tax effect of working did not seem worthwhile), or that the spouse was employed and brought in sufficient income, or that working was just too unpleasant, or some combination of these reasons. Then, because of the general acceptability and underlying inherent belief in the work ethic and because of the need to “maintain face,” respondents to surveys will often give poor health as the reason for withdrawal, because this is the “socially-acceptable” answer.

I cannot, of course, give any solid factual evidence that this is so, but rather base my views on general reasoning as it relates to people in the real world. I believe that surveys dealing with questions of this type cannot produce valid data. This would be the case even if the surveys were made by medical teams that spent considerable time with each respondent, instead of the usual procedure of having a survey-taker who is not knowledgeable about the subject being discussed fire a long battery of questions at the interviewee.

Dr. Kingson believes that, in a large proportion of the early-retirement cases, the individual left the labor force because of work-limiting health conditions. He attempts to prove this by making a mortality analysis of three categories of persons in a longitudinal survey of men:

1. Those who received Social Security Disability Insurance benefits at any time.
2. Those who asserted that they left the labor force because of a work-limiting health condition, but who did not receive Social Security Disability Insurance benefits at any time.
3. Those who retired early and stated that they did not have a work-limiting health condition.

According to the Kingson study, the mortality rate of the second group—the “unhealthy” early retirees who did not qualify for Disability Insurance benefits—was much higher than that of early retirees who stated that they were in good health. Also, surprisingly, somewhat higher mortality was shown for the “unhealthy” early retirees than for those who had received Disability Insurance benefits. The specific results are shown in table 1, from which it may be seen that, for white men, 42 percent of the “unhealthy” early retirees died in the survey period, compared with 33 percent of those who had received Disability Insurance benefits and only 15 percent of the “healthy” early retirees. The corresponding figures for black men were 52 percent, 37 percent, and 48 percent; the unexpectedly high level of the last figure—for healthy early retirees—cannot be explained.

From these results, Kingson draws the conclusion that the early retirees with work-limiting health conditions really were severely disabled and that it is therefore proven that they withdrew from the labor market because of disability. It is my contention that this mortality analysis is faulty in both its theory and its methodology and that, therefore, Kingson has not proven the point that early retirees who assert that they have work-limiting health conditions really retire because of such conditions.

**Pitfalls in Mortality Analysis**

Before dealing with the particular case that Kingson has considered, let us first examine some of the pitfalls in the field of mortality analysis awaiting those who do not have training in actuarial science. (This does not, however, imply that these “more obvious” types of pitfalls are not understood by Kingson.)

One example is the analysis of mortality between two categories by looking only at the crude (or aggregate) death rate. Thus, for instance, the death rate for a Florida retirement community might well be considerably higher than that for a college town. However, quite obviously, this would by no means indicate that health conditions in the former are much worse than in the latter. What is missing, of course, is the fact that the relative age distributions of the two localities were not considered.

Another example involves the relationship between life expectancy and the statutory minimum retirement age.
age. In 1935, when age 65 was selected as the minimum retirement age for the Social Security program, the expectation of life at birth was only about 62 years. Does this mean—as some critics at the time said—that 65 was a ridiculously high retirement age, because nobody would live that long? Such statements were made despite the fact that about 7 1/2 million persons were then aged 65 or over! What was really the case under mortality conditions then was that almost half of a group of new-born babies would live until age 65—and then such survivors would have an average life expectancy of about 12 1/2 years thereafter.

Yet another pitfall in mortality analysis occurs in connection with determining the average length of widowhood. As an example, consider the case of a husband and wife who are both aged 65 and whose mortality in the future follows that of the U.S. Total Persons Life Tables for 1969-71. These tables show a life expectancy for men of 13.49 years and a life expectancy for women of 17.33 years. At first glance, it could be concluded that the average period of widowhood would be 3.84 years. However, this would be incorrect, because the average years of widowhood for those women who become widows (approximately two-thirds of the total group) is calculated to be 7.36 years.²

**Mortality Analysis by Kingson**

As indicated previously, Kingson made a mortality analysis of the three categories of individuals who had withdrawn from the active labor force before age 62. His mortality analysis consisted of computing, for each group, the proportion of individuals who died within the observation period of approximately 9 years. It is my belief that the procedure used involved several technical weaknesses, so that any results obtained are inconclusive.

First, no account was taken of the different time periods of exposure to the risk of death of the various persons involved, which could have been significantly different among the three categories. Second, the category involving people who were “unhealthy” early retirees and who did not receive Social Security Disability Insurance benefits before the end of the survey period (or before death, if earlier) was a very heterogeneous one. In essence, it consisted of two subcategories: (1) persons who were so seriously disabled that they died before the end of the 6-month waiting period for disability benefits³ (or even later if their claim was still in the adjudication process), and (2) persons who may or may not have been in good health but who were not disabled sufficiently to qualify for Disability Insurance benefits.

The first subcategory consists entirely of individuals who were obviously in very poor health, while the second subcategory includes some persons who may have been in excellent health and some who may have been in poor health. The resulting high mortality for the combined group would, therefore, not necessarily be indicative of poor health for all the persons therein.

The procedure followed by Kingson could lead to inconclusive results. This is demonstrated when one assumes a certain composition for a group of “unhealthy” cases, as between two categories: (1) those who are so severely disabled that they die before completing the waiting period for Social Security benefits, and (2) those who claim to have work-limiting conditions but do not qualify for Disability Insurance benefits, even though they survive beyond the waiting period. The null-hypothesis approach is taken, by assuming that persons in the latter category have normal mortality. Then, it will be shown that the result of combining the two categories is that the group as a whole has very high mortality—and, in fact, even higher mortality than for those on the disability benefit rolls—even though one category has normal, low mortality.

I have made the following empirical, but reasonable assumptions as to individuals who withdraw from the labor force and who allege that they have work-limiting health conditions:

1. 1,000 persons withdraw from the labor force at each year of age from 55 through 61.
2. 20 percent of the withdrawals do not receive Disability Insurance benefits and do not die in the waiting period (the first 6 months after disablement). This group excludes not only those who become disabled-worker beneficiaries but also those who are so severely disabled that they would have received Disability Insurance benefits if they had survived the waiting period.
3. The other 80 percent of the withdrawals are divided into two categories—8 percent who die in the first 6 months (and who otherwise would have received Disability Insurance benefits if they had survived) and the remaining 72 percent who are severely disabled for at least 6 months and who, therefore, go on the disability benefit rolls.
4. The mortality rates for the persons who allege that they are unhealthy but who do not die in the first 6 months and do not later receive Disability

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³ Although the waiting period is often referred to as being 5 months, at least 6 months always elapses between the date of disablement and the date of eligibility for the first benefit check (which is payable only if the beneficiary is alive and disabled at the end of the sixth month following the month of disablement).
Insurance benefits (that is, the category described in item (2)) are assumed to be those of the U.S. Total Males Life Table for 1969–71. In other words, the basic hypothesis is that this category is not really unhealthy, as its members allege.

(5) The mortality rates for persons who are severely disabled and who survive the waiting period (that is, the second category described in item (3)) are assumed to be 10 percent in the first year on the benefit rolls and 5 percent per year thereafter. 3

The results from this model, based on terminating the study period at attainment of age 62 for those who survive thereto, are shown in table 2 for each of the three categories separately (and also for the combination of the two categories that Kingson compared). The category of those who receive Disability Insurance benefits showed the relatively high mortality of 18 percent within the investigation period.

Quite naturally, the mortality of the category of those dying within the first 6 months after disablement (who would have received disability insurance benefits after the waiting period if they had lived) was extremely high—100 percent, by definition. Similarly, for those who alleged that they withdrew from the labor force because of work-limiting health conditions, only about 7 percent died within the investigation period—as would be anticipated, because it was hypothesized that they have normal mortality. However, when the last two categories are combined—as Kingson did—the proportion that died within the investigation period was 34 percent, or almost double the rate for those who actually received disability benefits.

Such a comparison would seem to lead to the following two conclusions (as it did for Kingson in his study):

1. The group of people who left the labor market with an alleged work-limiting health condition and did not receive Disability Insurance benefits

2. Therefore, these early retirees as a group were really in poor health, and this must have caused withdrawal from the labor market in all cases.

And yet we know that this is not the case for the entire group, because the assumption was made that some of them had normal mortality—namely, those in the category who survived for 6 months but did not quality for Disability Insurance benefits, and who alleged that they were unhealthy. Therefore, it can properly be concluded that the method of mortality analysis used by Kingson produced results that are inconclusive, because the group consisted of two categories that greatly differed as to mortality characteristics, and the effect of the high-mortality category biased the results irreparably.

**Summary**

The analysis in this article indicates that the method of mortality analysis used by Kingson in analyzing the health condition of persons who withdraw from the labor market with self-assessed work-limiting health conditions and who never receive Social Security Disability Insurance benefits is inconclusive because of the procedure adopted for categorizing the sample. The group so defined consists of one category that definitely has extremely high mortality and another category that may or may not have mortality any different than normal. The mortality effects for the first category are so substantial that they can readily mask the results for the two categories combined, so that no valid conclusions can be drawn for the second category alone. The only valid technical approach would have been to separate out each of the two categories and make the analysis on a precise basis by having the actual dates of disablement and, where applicable, the dates of first eligibility for Disability Insurance benefits.

It is recognized that the approach of building a model that hypothesized that those in a certain category withdrew from the labor market and alleged work-limiting health conditions, but really had normal mortality, is not precisely the same approach that Kingson followed. However, my simplified model is not too different from his approach, and it clearly shows that consideration of only the heterogeneous group of persons who withdraw from the labor force and do not receive Social Security Disability Insurance benefits can well lead to inconclusive results. It is also recognized that the data with which Kingson had to operate were not available in proper form to make a technically accurate investigation. Nonetheless, the fact remains that such data as were available and the methodology applied thereto were such that conclusive results were not possible.

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1 See footnote 1.
2 These approximate rates—as well as the assumption of a mortality rate of 10 percent in the first 6 months of disablement—are consistent with the more detailed rates by age at entitlement to disability benefits according to the actual experience under the Social Security program (see Bruce D. Schobel, *Experience of Disabled-Worker Benefits Under OASDI, 1974–78* (Actuarial Study No. 81), Office of the Actuary, Social Security Administration, April 1980).

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**Table 2**—Percent of men who retired before age 62 dying before end of study period in Myers model

<table>
<thead>
<tr>
<th>Category</th>
<th>Total persons in category</th>
<th>Total deaths</th>
<th>Percent dying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received Disability Insurance benefits</td>
<td>5,040</td>
<td>886</td>
<td>18</td>
</tr>
<tr>
<td>Did not receive Disability Insurance benefits</td>
<td>1,960</td>
<td>664</td>
<td>34</td>
</tr>
<tr>
<td>Died in first 6 months</td>
<td>560</td>
<td>560</td>
<td>100</td>
</tr>
<tr>
<td>Lived at least 6 months</td>
<td>1,400</td>
<td>104</td>
<td>7</td>
</tr>
</tbody>
</table>

1 See text for description of model.
2 The persons in this category also alleged themselves to be "unhealthy" (that is, they reported some health-related limits on work ability at the time of withdrawal from the labor force).