

**THE SURVEY OF INCOME AND  
PROGRAM PARTICIPATION**

**THE STATISTICAL INVISIBLE  
MINORITY AGED**

**No. 46**

**C. Taeuber  
Bureau of the Census  
E. Attah  
Atlanta University**

# Survey of Income and Program Participation

THE STATISTICALLY INVISIBLE MINORITY AGED

No. 8724 - 46

Cynthia M. Taeuber, U.S. Census Bureau  
Ernest B. Attah, Atlanta University

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TABLE OF CONTENTS

The Statistically Invisible Minority Aged.....	1
Data Sources.....	2
Problems of What Averages Reflect.....	5
Statistical Approaches to Small Sample Sizes.....	5
Confidence Intervals with SIPP Health-Wealth File.....	7
Functional Limitations.....	8
Table 1.....	9
Work Disabilities.....	10
Table 2.....	10
Retirement and Functional Limitations.....	10
Table 3.....	11
Conclusions.....	12
Footnotes	

## THE STATISTICALLY INVISIBLE MINORITY AGED

"The elderly" is a phrase commonly used to describe the 29 million people aged 65 and over. There has long been a tendency to use statistical averages for the total population 65 and over as if they were a homogeneous group. In recent years, however, data producers have begun to disaggregate the data to show more age detail and, not surprisingly, there are significant differences in a group that covers a 40-year age span. Circumstances can be very different for a 65-year-old married couple than they are for an 85-year-old-widow.

Even when age and gender differences are shown in tabulations, data from surveys tend to be analyzed for the total population, and not for the race or ethnicity groups within the older population. Because the White population is such a large part of the older population (90 percent in 1980), averages for the "total population" are really descriptions of the White population and thus, do not provide a complete view of the diversity within the older population for those who make policy. For example, the 1980 census reported that 15 percent of "the elderly" were poor; the poverty rate for White elderly was 13 percent but 35 percent for the Black elderly. And, from more detailed tabulations, we found that poverty rates varied from 7 percent for White males aged 65 to 74 who lived in families to 73 percent for Black females 85 and over who lived alone. <sup>1/</sup>

This paper will use the Survey of Income and Program Participation (SIPP) to show some illustrative differentials within the older population for the various age, sex, and race groups. We argue here that overall averages used to describe the older population are misleading and that data producers should show age, sex, and race differentials in the data to the extent possible. Because of sample sizes in surveys, such detail has not usually been feasible and so we suggest several statistical approaches to the problem.

The data are subject to various nonsampling errors, such as undercoverage of the population, processing errors, and respondent reporting. Certain measures, such as quality control programs, are implemented to reduce these errors. In addition, if this survey were repeated with different samples of respondents, the results would vary from sample-to-sample. Standard errors indicate the magnitude of this sampling error and partially measure the effect of some nonsampling errors. Confidence intervals are constructed from the sample estimate and its standard error. If an estimate and its standard error were calculated from all possible samples, about 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples. For a particular sample, one can say with a specified confidence that the average derived from all possible samples is included in the confidence interval.

#### DATA SOURCES

Decennial censuses have traditionally been thought of as the only reasonable source of detailed tabulations for the study of relatively small population groups. For instance, the 1980 decennial census provided data by age, sex, and other characteristics for the race/Hispanic origin groups. The 1990 census will provide more age detail cross-classified by sex and other demographic, social, and economic characteristics for the race 2/ and Hispanic-origin groups. The census has many advantages over any other data source as it provides reasonably reliable, detailed tabulations below the national level. But the census is taken only once every 10 years and the questions are general purpose. Censuses focus on demographic, social, and general economic characteristics of the overall population. In the past, health questions relevant to the older population have not been asked. In 1990, it is planned to ask questions

about whether a person has difficulty with activities of daily living inside the house and outside the house. There is no space on a decennial census to ask a series of detailed questions on a particular topic. That is the job of the national surveys.

National recurring surveys such as, for example, the Current Population Survey (CPS), the Health Interview Survey (HIS), and the Survey of Income and Program Participation (SIPP), ask detailed questions on various topics of interest in the study of the older population. But they provide data only at the national level for the most part. Further, for the study of the characteristics of the older population by age, sex, and race/Hispanic origin, sample sizes present a significant barrier because it is difficult to obtain statistically reliable point estimates for small groups. In this paper we will demonstrate two approaches for meeting the sample size problem.

Answering policy questions about "the elderly" and their role in American society has also been hampered by the specialized nature of existing data sets. Generally, the data sets are not designed to simultaneously measure a variety of social, economic, and health characteristics and changes in these characteristics over time. The Survey of Income and Program Participation (SIPP) is a source of very detailed data on the social, economic, and health characteristics of the population, including information on eligibility and participation in government transfer programs, and thus, is potentially a rich source for research on the older population.

SIPP, first administered in October 1983, is a nationally-representative household survey that provides detailed, longitudinal information on income, living arrangements, disability, assets and liabilities, government transfer program

eligibility and participation, pension coverage, taxes, and many other characteristics of individuals. The survey was designed to increase the accuracy of economic data collected by asking detailed questions (e.g., 56 income sources) frequently and to provide data on changes in characteristics over about 2 1/2 years. Respondents are interviewed 8-9 times, or once every 4 months when they update information on their characteristics. New panels (samples) are introduced each year. There were about 19,200 interviewed households in Wave 3 and 18,900 in Wave 4 of the 1984 Panel, the samples for which data are shown in this paper. The longitudinal design of the survey allows for the study of changes in characteristics such as marital status or living arrangements and the relationship of such changes to other characteristics, for example, income or program participation. Survey data can be used to assess future program coverage and costs and to determine the effects of proposed changes in program eligibility rules and benefit levels.<sup>3/</sup>

In addition to files containing SIPP core questions that are asked at each interview, and longitudinal files of the core data, files are also available from topical modules (questions centering on particular subjects) which are administered periodically during the survey. In Wave 3 of the 1984 Panel, a topical module on "Health and Disability" was conducted and in Wave 4 a module on "Asset Holdings" was conducted. With funding from the National Institute on Aging, the two topical modules were merged into one file, the "SIPP Health-Wealth" file.<sup>4/</sup> This file contains data on the ability of persons to perform a set of sensory and physical activities, disabilities that limit or prevent work, the need for personal assistance, health insurance coverage status, and the income, wealth and assets of persons.

While the "Health-Wealth" file presents a unique opportunity to develop detailed cross-tabulations of the health and economic status of persons, the sample size for the older population is a limitation. There were over 11,000 sample cases of persons aged 55 years and over but of that group, 3,500 were aged 65 to 74 and only about 1,900 cases were persons aged 75 to 84 and 400 were 85 and over. Of the 2,300 cases who were 75 or older, nearly 2,100 were White and nearly 200 were Black; 1 was American Indian, and about 20 were Asian or Pacific Islanders. Less than 60 cases were persons of Hispanic origin.

#### PROBLEMS OF WHAT AVERAGES REFLECT

Averages can be like the man with his head in the freezer and his feet in the oven who, on average, feels fine. As discussed above, researchers came to realize that "the elderly" as a statistical average was misleading to those making policy. We argue here that age detail alone can still provide a misleading picture, and that gender and race differences are important variables to consider for evaluating programs and developing policies.

The White population comprises about 90 percent of the elderly population, and thus, averages for the "total" population reflect primarily the characteristics of the White population. SIPP is the example used here but the problem holds for any census or survey.

#### STATISTICAL APPROACHES TO SMALL SAMPLE SIZES

In the 1980 census, of the 25.5 million persons aged 65 and over, 23 million were White (90 percent), 2.1 million were Black (8 percent), and the remainder were other races of whom about 200,000 were Asian or Pacific Islanders and 75,000 were American Indian, Eskimo, or Aleut. There were also about 700,000 persons of Hispanic origin (could be of any race).

As mentioned above, the decennial census is the most important source for studying the details of age, sex, and race differentials within the older population. In fact, for the elderly Asian and Pacific Islander, and American Indian and Alaska Native populations, the census is the only practical source for such detailed study and we have no realistic suggestions for the use of the sample surveys that currently exist to study the elderly among these populations.

The most commonly suggested solution to the problem of studying small-sized population groups is to increase the sample size of the particular population in question. The elderly population is technically an easy group for federal data developers to oversample because Medicare records can be used as a sampling frame. But in Medicare files, race is specified only for the White and Black population. For the Hispanic-origin population, coding of Hispanic surnames is a possibility. Undercoverage of Black males is, however, a problem in Medicare files just as it is in surveys.<sup>5/</sup> For future surveys, we urge consideration of oversampling the total population 75 and over but particularly the Black and Hispanic-origin population aged 75 years and over. For other minority elderly, there is no easy solution and the cost is probably prohibitive unless their size increases substantially.

Even if sample sizes are increased in future surveys, a great deal of existing survey data remains underutilized for the study of White-Black differentials within the older population, and for more recent surveys, Hispanic-origin differentials. Large sampling errors have always seemed to be a roadblock. One solution is for data producers to combine data from several years of survey data to increase the sample size used to produce averages (this would probably be the most useful approach for the study of Hispanic-origin differentials). A second solution is to show data in confidence intervals rather

than as point estimates, thus providing a clearer sense of the variability among groups even if confidence intervals are large for a particular small population group.<sup>6/</sup> Showing confidence intervals does not overcome the problem of small sample size but does bring it to our attention in a straightforward way.

The first option to use currently available survey data by combining data from several years of a survey, has been considered for use with the annual demographic March Supplement Current Population Survey, for example. We could average 3 to 5 years of data together to produce more reliable data for smaller groups within the total older population. Funds currently are not available to try this approach but it seems to be a technically feasible and reasonably cost-effective approach to building historical data files for 3 to 5 years of age, sex, and White, Black, and Hispanic-origin differentials for the older population. The approach could work with other recurring surveys.

The second option, the use of confidence intervals to show relative differences among groups, is shown below with data from SIPP.

#### CONFIDENCE INTERVALS WITH SIPP HEALTH-WEALTH FILE

The following data are examples of the fallacy of talking about "the elderly" as if they were a homogeneous group. They show significant differences in health and economic characteristics among the age, sex, race groups. In general, older Black women have higher rates of health problems and lower incomes than do White men and women and Black men. Where the number in a population group is small, the data are shown in 90-percent confidence intervals rather than as point estimates. Estimates are statistically different if their confidence intervals do not overlap. A population subgroup ("base") had to be at least 200,000 for

data to be shown because the number of cases in the sample would have been less than 50. Because of this requirement, data could not be shown for some detailed tabulations, especially for Black males. Also, throughout for SIPP data, where the term "White" is used, the data are actually for "all races other than Black."

#### Functional Limitations

Difficulty in performing personal care and home management tasks, that is, functional limitations, are indicators of the quality of an individual's life and the need for health and social services. Regardless of race or sex, functional limitations increase with age, but at a different rate among groups. Questions were asked in SIPP about the ability to perform a set of sensory and physical activities including seeing, hearing, speaking, lifting or carrying, walking, using stairs, getting around inside the house, getting around outside the house, and getting into and out of bed. Except for speaking, persons with a difficulty performing activity were asked if they could do it at all. In general, persons aged 65 and older were more likely than younger persons to have one or more of these functional limitations and the limitations were more likely to be severe, that is, they were unable to do the activity at all.

The rate of limitation was higher among elderly Blacks, especially Black women, than among Whites. Among the population 65 years and over, 8 out of 10 Black women had one or more limitations compared with 7 out of 10 Black men, 6 out of 10 White women, and 5 out of 10 White men. The limitations were more likely to be severe among elderly Black women as about half had limitations that were severe compared with about 30 percent of Black men and White women and one-fifth of White men.<sup>7/</sup>

For the total population aged 65-74, there was an inverse relationship between the level of household income and functional limitation status as shown in Table 1. Among Black women aged 65 to 74, from 65 to 80 percent of those with a limitation had monthly household incomes below \$900 compared with 33 to 62 percent of those with no limitations. For those with monthly incomes of \$2,000 or more the difference was not statistically significant as 0 to 8 percent had functional limitations and 4 to 24 percent had no limitations. Table 1 also is illustrative of the differences between Whites and Blacks within the same age and income categories. Only 22 to 29 percent of White men and 39 to 45 percent of White women with one or more limitations had monthly incomes below \$900 compared with the 65 to 80 percent for Black women and 36 to 60 percent for Black men (difference is not statistically different from White women).

TABLE 1. Functional Limitations Status of Noninstitutionalized Persons Aged 65 to 74, by Monthly Household Income, Age, Sex, and Race: 1984 (Waves 3 and 4 of SIPP)  
(Numbers in thousands. Percents in 90-percent confidence intervals.)

Functional Limitations Status	Total, with income	Less than \$900	\$900 to \$1,999	\$2,000 or more
<u>Total</u>	16,306	28.0-31.2	41.4-45.0	25.6-28.8
Black Males	554	32.7-50.9	34.9-53.3	7.7-20.5
White Males	6,519	16.0-20.4	45.2-50.8	30.6-35.8
Black Females	828	58.2-72.6	20.9-34.5	3.1-10.7
White Females	8,405	31.4-36.0	38.4-43.2	23.3-27.7
<u>No Limitations</u>	8,176	18.8-22.8	43.0-48.0	31.2-36.0
Black Males	207	17.5-45.5	35.1-65.3	6.6-30.0
White Males	3,564	10.4-15.6	44.3-51.9	35.2-42.6
Black Females	233	33.1-61.5	24.7-52.3	4.3-24.3
White Females	4,172	22.4-28.6	40.0-47.0	27.7-34.1
<u>One or More Limit.</u>	8,130	36.0-40.8	38.3-43.3	18.8-22.8
Black Males	347	36.4-59.6	29.0-51.8	4.2-19.2
White Males	2,955	21.9-29.1	43.9-52.3	22.6-30.0
Black Females	595	64.6-80.4	16.0-31.0	0.5- 7.5
White Females	4,233	38.5-45.3	34.8-41.6	17.2-22.8

### Work Disabilities

As retirement age is raised to keep the Social Security system and pension plans solvent, we should know that a significant minority of all persons aged 65 to 72 have disabilities that prevent them from working (Table 2) and the proportion of Blacks with work disability is higher than for Whites (interestingly, there are no gender differences within a race group). Among Blacks aged 65 to 72, roughly half to two-thirds had a work disability; additionally, 35 to 55 percent of Black men and 43 to 61 percent of Black women were prevented from working (the difference between Black men and Black women is not statistically significant). From 25 to 30 percent of White men and White women were prevented from working.<sup>8</sup>

TABLE 2. Work Disability Status of Persons Aged 65 to 72, by Sex and Race: 1984 (SIPP, Wave 3)  
(Numbers in thousands. Percents 90-percent confidence intervals.)

Sex, Race	Total	Percent with a work disability	Percent prevented from working
Black Males	448	47.7-67.9	34.7-55.1
White Males	5,415	36.7-42.5	24.8-30.0
Black Females	653	49.2-66.8	43.2-61.0
White Females	6,707	33.1-38.5	25.3-30.3

### Retirement and Functional Limitations

"Retirement" is a continuum of those who receive retirement income (Social Security, public and private pensions) and who were never in the labor force, those who have left the labor force entirely, and those who remain in the labor force, part time (less than 35 hours per week) or full time, part year (less than 50 weeks) or full year.

Of those persons aged 65 and over who received retirement income and worked, most worked all 18 weeks of the survey-question period (full year data are not

available). The difference between working 1-17 weeks and working 18 weeks was statistically significant regardless of race or gender except for Black males with no limitations and Black females with one or more limitations.

Not enough Black men aged 55 to 64 and Black women aged 55 to 59 received retirement income to include in the study (less than 175,000). There were, however, over 3 million White males and 3 million White women aged 55 to 64 who received retirement income.

Among those aged 65 to 69 who received retirement income, there was no statistical difference between the proportion of Whites and Blacks who worked and had a functional limitation (4-6 percent for Whites, 1-8 percent for Blacks). For both groups, the percent working with functional limitations was relatively low (Table 3). Of persons with retirement income in the 65-to-69 year age group, 52 to 69 percent of Blacks did not work and had one or more functional limitations compared with 37 to 43 percent of Whites. Less than 2 percent of Whites worked if they had pension income and a severe limitation; there were no sample cases of Blacks who received pension income and had a severe limitation.

TABLE 3. Functional Limitations Status of Persons Aged 65 to 69 with Retirement Income, by Employment Status and Race: 1984 (SIPP Wave 3 and 4)  
(Percent in 90-percent confidence intervals. Percent of age/race group based on 603,000 Blacks and 7,404,000 Whites.)

Functional Limitations Status	Did not work	Worked
BLACK		
No limitations	19.1-34.7	3.6-13.4
One or more limitations	51.8-69.0	0.7- 7.7
One or more severe limitations	24.0-40.6	-
WHITE		
No limitations	41.5-46.7	7.0-10.0
One or more limitations	37.4-42.6	3.7- 5.9
One or more severe limitations	15.3-19.3	0.6- 1.6

- Indicates zero sample cases.

Some research has indicated that older Black women are more likely to work than are others when they have functional limitations because of their limited economic resources.<sup>9/</sup> SIPP would be ideal for studying this question if the sample size were larger. There were only 253,000 Black males and 350,000 Black females aged 65 to 69 who received retirement income. In this case, the difference by race and gender among those aged 65 to 69 who received retirement income and who worked with one or more functional limitations was not statistically significant (for Black males, 1-16 percent; Black females, 0-5 percent; White males, 4-7 percent; and White females, 3-6 percent). Future work with the SIPP Health-Wealth file will look at the work status and functional limitations status of the older population who do not have retirement income. Information about health as it is related to assets will also receive attention.

#### CONCLUSIONS

From the illustrative decennial census and SIPP data shown above, it is obvious that there are significant differences within the older population and within detailed age groups among the race groups. To the extent that policy makers must rely on statistical averages, policy cannot reflect the differences among the elderly groups. The near statistical invisibility of the minority aged may make it difficult for these groups to bring their concerns to the attention of policymakers. In some cases, more detailed information can be shown by statistical techniques so that at least relative levels can be determined. But at times, even these techniques are not sufficient and increased sample sizes for the minority aged in upcoming surveys are needed to address certain policy questions.

The preliminary data from the SIPP Health-Wealth file shown here are indicative of the information that can be gained when the interaction between health and economic factors are considered. We urge consideration of additional ways to use the SIPP longitudinal files in the study of the older population. We also urge that other surveys on the older population collect both health and socio-economic characteristics.

## FOOTNOTES

- 1/U.S. Bureau of the Census, 1980 Census of Population, Special Tabulations prepared for the National Institute on Aging. These "Special NIA Tabulations" by detailed age, sex, and race/Hispanic origin, are available from the National Archive of Computerized Data on Aging, Survey Research Center, University of Michigan (telephone: 313 - 764-2570). Also available is a data file of selected tabulations from the 1980 census Summary Tape File 5, also by detailed age, sex, and race/Hispanic origin.
- 2/White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; Other races.
- 3/U.S. Bureau of the Census, "Using the Survey of Income and Program Participation for Research on the Older Population," Working Paper Series No. 8503, September 1985, pp. 1-2. Additional information on SIPP is in Series P-70 reports and in "An Overview of the Survey of Income and Program Participation: Update 1," by Dawn Nelson, David B. McMillen, and Daniel Kasprzyk, SIPP Working Paper Series No. 8401, December 1985.
- 4/A machine-readable file is publicly available from the Inter-University Consortium for Political and Social Research, Box 1248, Ann Arbor, MI 48106 (Phone: 313 - 764-2570).
- 5/U.S. Bureau of the Census, "Methodology for Developing Estimates of Coverage in the 1980 Census Based on Demographic Analysis: Population Aged 65 and Over in 1980," by J. Gregory Robinson, Preliminary Evaluation Results Memoranda, No. 116, 1987.
- 6/This approach was also used in a study of the centenarian population from the decennial census. See "America's Centenarians: Data from the 1980 Census," by Gregory Spencer, Arnold A. Goldstein, and Cynthia M. Taeuber (U.S. Bureau of the Census), Current Population Reports, Series P-23, No. 158, U.S. Government Printing Office, Washington, D.C.
- 7/U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 8, "Disability, Functional Limitation, and Health Insurance Coverage: 1981/85, Table B, U.S. Government Printing Office, Washington, D.C., 1986.
- 8/Ibid., Table D provides point estimates.
- 9/Linda L. Belgrave and Marie R. Haug, "Interaction of Health and Pension: The Effects of Women's Early Retirement," paper presented at 1987 Public Health Conference on Records and Statistics, Washington, D.C. Research supported by the National Institute on Aging.



U.S. DEPARTMENT OF COMMERCE

August 10, 1987

To : Cindy

From: Dan *Dan*

This paper looks fine. Annotations are in the text, but a few comments related to the annotations follow:

1. The potential for using the "wealth data" could have been mentioned somewhere.
2. You probably ought to mention that panels (new samples) are introduced each year in SIPP.
3. A reference to the "Overview" paper and/or P-70 for more info on SIPP's design and content is probably appropriate.
4. Is the number of households mentioned on page 3 correct--15,000? I thought Wave 3 had about 19,100 interviewed households and Wave 4 about 18,500 households.
5. In using Medicare records for sampling your population, I believe a large undercoverage problem exists for Blacks, especially Black males (just like in Surveys!).

6. Showing confidence intervals doesn't overcome the small sample size problem, but rather brings the issue to our attention in a straightforward way.
7. Can I make this a SIPP Working Paper to get it a somewhat wider circulation?

## THE STATISTICALLY INVISIBLE MINORITY AGED

Cynthia M. Taeuber, M.A., Bureau of the Census  
and  
Ernest B. Attah, Ph.D., Atlanta University

? "The elderly" is a phrase commonly used to describe the 29 million people aged 65 and over. There has long been a tendency to use statistical averages for the total population 65 and over as if they were a homogeneous group. In recent years, however, data producers have begun to disaggregate the data to show more age detail and, not surprisingly, there are significant differences in a group that covers a 40-year age span. Circumstances can be very different for a 65-year-old married couple than they are for an 85-year old-widow.

Even when age and gender differences are shown, data from surveys tend to be reported for the total population, and not for the race or ethnicity groups within the older population. Because the White population is such a large part of the older population, averages for the "total population" are really descriptions of the White population and thus, do not provide a complete view of the diversity within the older population for those who make policy. For example, the 1980 census reported that 15 percent of "the elderly" were poor; the poverty rate for White elderly was 13 percent but 35 percent for the Black elderly. And, from more detailed tabulations, we found that poverty rates varied from 7 percent for White males aged 65 to 74 who lived in families to 73 percent for Black females 85 and over who lived alone.<sup>1</sup>

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<sup>1</sup>U.S. Bureau of the Census, 1980 Census of Population, Special Tabulations prepared by Cynthia Taeuber for the National Institute on Aging. These "Special NIA Tabulations" by detailed age, sex, and race/Hispanic origin, are available from the National Archive of Computerized Data on Aging, Survey Research Center, University of Michigan (telephone: 313/764-2570). Also available is a data file of selected tabulations from the 1980 census Summary Tape File 5, also by detailed age, sex, and race/Hispanic origin.

## DATA SOURCES

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National surveys such as, for example, the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP), occur every year and they ask detailed questions on various topics of interest in the study of the older population. But they provide data only at the national level for the most part. Further, for the study of the characteristics of the older population by age, sex, and race/Hispanic origin, sample sizes present a significant barrier because it is difficult to obtain statistically significant point estimates for small groups. In this paper we will demonstrate two approaches for meeting the sample size problem.

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<sup>2</sup>White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; Other races.

Wave 3 20,794 HH eligible  
19.191 interviews

increase the accuracy of economic data collected by asking detailed questions (e.g., 56 income sources) frequently and to provide data on changes in characteristics over a 32-month period. Respondents are interviewed 8 times, or once every 4 months when they update information and their characteristics. There were about 15,000 households in the panels for which data are shown in this paper. The longitudinal design of the survey allows for the study of changes in characteristics such as marital status or living arrangements and the relationship of such changes to other characteristics, for example, income or program participation. Survey data can be used to assess future program coverage and costs and to determine the effects of proposed changes in program eligibility rules and benefit levels.<sup>3</sup>

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Interview

While the "Health-Wealth" file presents a unique opportunity to develop detailed cross-tabulations of the health and economic status of persons, the sample size for the older population is a limitation. There were over 11,000 sample cases of persons aged 55 years and over but of that group, 3,500 were aged 65 to 74 and only about 1,900 cases were persons 75 years and over and 400 were 85 and over. Of the 2,300 cases who were 75 or older, nearly 2,100 were White and nearly 200 were Black; 1 was an American Indian, and about 20 were Asian or Pacific Islanders.

For my  
info -  
1,000 cases  
in both  
waves?  
wave 3?  
Wave 4?

<sup>3</sup>U.S. Bureau of the Census, "Using the Survey of Income and Program Participation for Research on the Older Population," David B. McMillen, Cynthia M. Taeuber, and Jennifer Marks, SIPP Working Paper Series No 8503, September 1985, pp. 1-2.

<sup>4</sup>A machine-readable file is publicly available from the Inter-University Consortium for Political and Social Research, Box 1248, Ann Arbor, MI 48106 (Phone: 313/764-2570).

Citation to 'Overview' working paper and/or Series A70 exp. A70-08.

## PROBLEM OF WHAT AVERAGES REFLECT

Averages can be like the man with his head in the freezer and his feet in the oven who, on average, feels fine. As discussed above, researchers came to realize that "the elderly" as a statistical average was misleading to those making policy. We argue here that age detail alone can still provide a misleading picture, and that gender and race differences are important variables to consider.

The White population comprises about 90 percent of the elderly population, and thus, averages for the "total" population reflect primarily the characteristics of the White population. SIPP is the example used here but the problem holds for any census or survey.

## STATISTICAL APPROACHES TO SMALL SAMPLE SIZES

In the 1980 census, of the 25.5 million persons aged 65 and over, 23 million were White (90 percent), 2.1 million were Black (8 percent), and the remainder were other races of whom about 200,000 were Asian or Pacific Islanders and 75,000 were American Indian, Eskimo, or Aleut. There were also about 700,000 persons of Hispanic origin (could be of any race).

The decennial census is the most important source for studying the details of age, sex, and race differentials within the older population. In fact, for the Asian, American Indian, and Hispanic origin elderly populations, the census is the only practical source for such detailed study and we have no realistic suggestions for the use of the sample surveys that currently exist to study these populations.

The most commonly suggested solution to the problem of studying small-sized population groups is to increase the sample size of the particular population in question. The elderly population is technically an easy group for federal data developers to oversample because Medicare records can be used as a sampling frame. ~~But race~~ is specified only for the White and Black population. For future surveys, we urge consideration of oversampling the total population 75 and over but particularly the Black population aged 75 years and over. For other minority elderly, there is no easy solution and the cost is probably prohibitive until their size increases substantially.

Even if sample sizes are increased in future surveys, a great deal of existing survey data remains underutilized for the study of White-Black differentials within the older population. Large sampling errors have always seemed to be a roadblock. We suggest two possible options for overcoming the problem. It is possible for data producers to combine data from several years of survey data to increase the sample size used to produce averages. It is also possible to show data in confidence intervals rather than as point estimates, thus providing a sense of the relative

*This doesn't overcome the problem, it merely is a way of bringing attention to the problem in a rather blatant way*

*in Medicare files*

*Significant undercoverage even in Medicare files*

differences among groups even if confidence intervals are large for a particular small population group.<sup>5</sup>

by The first option ~~for more use of~~ <sup>to</sup> currently available survey data, combine data from several years of a survey, has been considered for use with the annual Current Population Survey, for example. We could average 3 to 5 years of data together to produce more reliable data for smaller groups within the total older population. Funds are not available to try this approach but it seems to be a technically feasible and reasonably cost-effective approach to building historical data files of age, sex, and ~~White-Black~~ <sup>annual demographic Supplement (March)</sup> differentials for the older population. The approach could work with other recurring surveys. <sup>5-54</sup>

The second option, the use of confidence intervals to show relative differences among groups, is shown below with data from SIPP.

#### CONFIDENCE INTERVALS WITH SIPP HEALTH-WEALTH FILE

The data below are examples of the fallacy of talking about "the elderly" as if they were a homogeneous group. They show significant differences in health and economic characteristics among the age, sex, race groups. In general, older Black women have higher rates of health problems and lower incomes than do White men and women and Black men. Where the number in a population group are small, the data are shown in 90-percent confidence intervals rather than as point estimates. Ranges are statistically different only if they do not overlap. A population subgroup ("base") had to be at least 175,000 because the number of sample cases would have been less than 50. Because of this requirement, data could not be shown for some detailed tabulations, especially for Black males. Also, throughout for SIPP data, where the term "White" is used, the data are actually for "White and other races."

#### Functional Limitations

Difficulty in performing personal care and home management tasks, that is, functional limitations, are indicators of the quality of an individual's life and the need for health and social services. Regardless of race or sex, functional limitations increase with age, but at a different rate among groups. Questions were asked in SIPP about the ability to perform a set of sensory and physical activities including seeing, hearing, speaking, lifting or carrying, walking, using stairs, getting around inside the

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<sup>5</sup>This approach was also used in a study of the centenarian population from the decennial census. See "America's Centenarians: Data From the 1980 Census," by Gregory Spencer, Arnold A. Goldstein, and Cynthia M. Taeuber (U.S. Bureau of the Census), Current Population Reports, Series P-23, No. 158, U.S. Government Printing Office.

house, getting around outside the house, and getting into and out of bed. Except for speaking, persons with a difficulty performing an activity were asked if they could do it at all.

In general, persons aged 65 and older were more likely than younger persons to have one or more of the functional limitations asked about and the limitations were more likely to be severe, that is, they were unable to do the activity at all.

The rate of limitation was higher among elderly Blacks, especially Black women, than among Whites. Among the population 65 years and over, almost 8 out of 10 Black women had one or more limitations compared with 7 out of 10 Black men, 6 out of 10 White women, and 5 out of 10 White men. The limitations were more likely to be severe among elderly Black women as over half had limitations that were severe compared with about 30 percent of Black men and White women and one-fifth of White men.<sup>6</sup>

There was an inverse relationship between the level of household income and functional limitation status. Table 1 is illustrative of the differences between White and Blacks within the same age category. Among Black women aged 65 to 74, from 65 to 80 percent of those with a limitation had household incomes below \$900 compared with 33 to 62 percent of those with no limitations. For those with monthly household incomes of \$2,000 or more, less than 8 percent had functional limitations and 4 to 24 percent had no limitations. By comparison, only 22 to 29 percent of White men and 39 to 45 percent of White women with a limitation had monthly incomes below \$900.

*Both?*

TABLE 1. Functional Limitations Status of Noninstitutionalized Persons Aged 65 to 74, by Monthly Household Income, Age, Sex, and Race: 1984 (Waves 3 and 4 of SIPP)  
(Numbers in thousands. Percents 90-percent confidence intervals.)

Functional Limitations Status	Total, with income	Less than \$900	\$900 to \$1,999	\$2,000 or more
<u>No Limitations</u>				
Black Males	207	17.5-45.5	35.1-65.3	6.6-30.0
White Males	3,564	10.4-15.6	44.3-51.9	35.2-42.6
Black Females	233	33.1-61.5	24.7-52.3	4.3-24.3
White Females	4,172	22.4-28.6	40.0-47.0	27.7-34.1
<u>One or More Limitations</u>				
Black Males	347	36.4-59.6	29.0-51.8	4.2-19.2
White Males	2,955	21.9-29.1	43.9-52.3	22.6-30.0
Black Females	595	64.6-80.4	16.0-31.0	0.5- 7.5
White Females	4,233	38.5-45.3	34.8-41.6	17.2-22.8

<sup>6</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 8, "Disability, functional Limitation, and Health Insurance Coverage: 1984/85, Table B, U.S. Government Printing Office, Washington, D.C., 1986.

### Work Disabilities

As we raise retirement age to keep the Social Security system and pension plans solvent, we should know that a significant minority of all persons aged 65 to 72 have disabilities that prevent them from working (Table 2) and the proportion of Blacks with a work disability is higher than for Whites (interestingly, there are no gender differences within a race group). Among Blacks aged 65 to 72, roughly half to two-thirds had a work disability; additionally, 35 to 55 percent of Black men and 43 to 61 percent of Black women were prevented from working. From 25 to 30 percent of White men and White women were prevented from working.<sup>7</sup>

TABLE 2. Work Disability Status of Persons Aged 65 to 72, by Sex and Race: 1984 (SIPP, Wave 3)  
(Numbers in thousands. Percents 90-percent confidence intervals.)

Sex, Race	Total	Percent with a work disability	Percent prevented prevented working
Black Males	448	47.7-67.9	34.7-55.1
White Males	5,415	36.7-42.5	24.8-30.0
Black Females	653	49.2-66.8	43.2-61.0
White Females	6,707	33.1-38.5	25.3-30.3

### Retirement and Functional Limitations

"Retirement" is a continuum of those who receive retirement income (Social Security, public and private pensions) and who were never in the labor force, those who have left the labor force entirely, and those who remain in the labor force, part time (less than 35 hours per week) or full time, part year (less than 50 weeks) or full year.

Of those elderly who received retirement income and worked, most worked all 18 weeks of the survey-question period (full year data are not available), but for less than 35 hours per week, regardless of race or gender.

Not enough Black men aged 55 to 64 and Black women aged 55 to 59 received retirement income to include in the study (less than 175,000). There were, however, over 3 million White males and 3 million White women aged 55 to 64 who received retirement income.

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<sup>7</sup>Ibid., Table D provides point estimates.

Among those aged 65 to 69 who received retirement income, Whites were more likely than Blacks to work if they had a functional limitation, but for both groups, the percent working with functional limitations was low (Table 3). Of persons with retirement income in the 65-to-69 year age group, 52 to 69 percent of Blacks did not work and had one or more functional limitations compared with 37 to 43 percent of Whites. Virtually no Blacks and less than 2 percent of Whites worked if they had pension income but a severe limitation.

TABLE 3. Functional Limitations Status of Persons Aged 65 to 69 with Retirement Income, by Employment Status, Sex, and Race: 1984 (SIPP Wave 3 and 4)  
(Percent in 90-percent confidence intervals. Percent of age/race group based on 603,000 Blacks and 7,404,000 Whites.)

Functional Limitations Status	Did not work	Worked
<b>BLACK</b>		
No limitations	19.1-34.7	3.6-13.4
One or more limitations	51.8-69.0	0 - 2.0
One or more severe limitations	24.0-40.6	-
<b>WHITE</b>		
No limitations	41.5-46.7	7.0-10.0
One or more limitations	37.4-42.6	3.7- 5.9
One or more severe limitations	15.3-19.3	0.6- 1.6

- Indicates zero

Some research has indicated that older Black women are more likely to work than are others when they have functional limitations because of their limited economic resources<sup>8</sup>. SIPP would be ideal for studying this question were it not for the sample-size problem. There were only 253,000 Black males and 350,000 Black females aged 65 to 69 who received retirement income. In this case, the difference by race and gender among those aged 65 to 69 who received retirement income and who worked with one or more functional limitations was not statistically significant (for Black males, 1-16 percent; Black females, 0-5 percent; White males, 4-7 percent; and White females, 3-6 percent). Later work with the SIPP Health-Wealth file will look at the work status and functional limitations status of the older population who do not have retirement income.

<sup>8</sup>Linda L. Belgrave and Marie R. Haug, "Interaction of Health and Pension: The Effects of Women's Early Retirement," paper presented at 1987 Public Health Conference on Records and Statistics, Washington, D.C. Research supported by the National Institute on Aging.

*read to be must*

*At the same time, size were large*

## CONCLUSIONS

From the illustrative decennial census and SIPP data shown above, it is obvious that there are significant differences within the older population and within detailed age groups among the race groups. Policy is not likely to reflect the differences as long as the differences remain hidden by statistical averaging. The near statistical invisibility of the minority aged may make it difficult for these groups to bring their concerns to the attention of policymakers. In some cases, more detailed information can be shown by statistical techniques so that at least relative levels can be determined. But at times, even these techniques are not sufficient and increased sample sizes for the minority aged in upcoming surveys are needed to address certain policy questions.

The preliminary data from the SIPP Health-Wealth file shown here are indicative of the information that can be gained when the interaction between health and economic factors are considered. We urge consideration of additional ways to use the SIPP longitudinal files in the study of the older population. We also urge that other surveys on the older population collect both health and socio-economic characteristics.

*any way to bring in the potential for using the wealth*

THE STATISTICALLY INVISIBLE MINORITY AGED

Cynthia M. Taeuber, M.A., Bureau of the Census  
and  
Ernest B. Attah, Ph.D., Atlanta University

"The elderly" is a phrase commonly used to describe the 29 million people aged 65 and over. There has long been a tendency to use statistical averages for the total population 65 and over as if they were a homogeneous group. In recent years, however, data producers have begun to disaggregate the data to show more age detail and, not surprisingly, there are significant differences in a group that covers a 40-year age span. Circumstances can be very different for a 65-year-old married couple than they are for an 85-year old-widow.

Even when age and gender differences are shown in tabulations, data from surveys tend to be analyzed for the total population, and not for the race or ethnicity groups within the older population. Because the White population is such a large part of the older population (90 percent in 1980), averages for the "total population" are really descriptions of the White population and thus, do not provide a complete view of the diversity within the older population for those who make policy. For example, the 1980 census reported that 15 percent of "the elderly" were poor; the poverty rate for White elderly was 13 percent but 35 percent for the Black elderly. And, from more detailed tabulations, we found that poverty rates varied from 7 percent for White males aged 65 to 74 who lived in families to 73 percent for Black females 85 and over who lived alone.<sup>1</sup>

This paper will use the Survey of Income and Program Participation (SIPP) to show some illustrative differentials within the older population for the various age, sex, and race groups. We argue here that overall averages used to describe the older population are misleading and that data producers should show age, sex, and race differentials in the data to the extent possible. Because of sample sizes in surveys, such detail has not usually been feasible and so we suggest several statistical approaches to the problem.

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<sup>1</sup>U.S. Bureau of the Census, 1980 Census of Population, Special Tabulations prepared for the National Institute on Aging. These "Special NIA Tabulations" by detailed age, sex, and race/Hispanic origin, are available from the National Archive of Computerized Data on Aging, Survey Research Center, University of Michigan (telephone: 313/764-2570). Also available is a data file of selected tabulations from the 1980 census Summary Tape File 5, also by detailed age, sex, and race/Hispanic origin.

The data are subject to various nonsampling errors, such as undercoverage of the population, processing errors, and respondent reporting. Certain measures, such as quality control programs, are implemented to reduce these errors. In addition, if this survey were repeated with different samples of respondents, the results would vary from sample to sample. Standard errors indicate the magnitude of this sampling error and partially measure the effect of some nonsampling errors. Confidence intervals are constructed from the sample estimate and its standard error. If an estimate and its standard error were calculated from all possible samples, about 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples. For a particular sample, one can say with a specified confidence that the average derived from all possible samples is included in the confidence interval.

#### DATA SOURCES

Decennial censuses have traditionally been thought of as the only reasonable source of detailed tabulations for the study of relatively small population groups. For instance, the 1980 decennial census provided data by age, sex, and other characteristics for the race/Hispanic origin groups. The 1990 census will provide more age detail cross-classified by sex and other demographic, social, and economic characteristics for the race<sup>2</sup> and Hispanic-origin groups. The census has many advantages over any other data source as it provides reasonably reliable, detailed tabulations below the national level. But the census is taken only once every 10 years and the questions are general purpose. Censuses focus on demographic, social, and general economic characteristics of the overall population. In the past, health questions relevant to the older population have not been asked. In 1990, it is planned to ask questions about whether a person has difficulty with activities of daily living inside the house and outside the house. There is no space on a decennial census to ask a series of detailed questions on a particular topic. That is the job of national surveys.

National recurring surveys such as, for example, the Current Population Survey (CPS), the Health Interview Survey, and the Survey of Income and Program Participation (SIPP), ask detailed questions on various topics of interest in the study of the older population. But they provide data only at the national level for the most part. Further, for the study of the characteristics of the older population by age, sex, and race/Hispanic origin, sample sizes present a significant barrier because it is difficult to obtain statistically reliable point estimates for

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<sup>2</sup>White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; Other races.

small groups. In this paper we will demonstrate two approaches for meeting the sample size problem.

Answering policy questions about "the elderly" and their role in American society has also been hampered by the specialized nature of existing data sets. Generally, the data sets are not designed to simultaneously measure a variety of social, economic, and health characteristics and changes in these characteristics over time. The Survey of Income and Program Participation (SIPP) is a source of very detailed data on the social, economic, and health characteristics of the population, including information on eligibility and participation in government transfer programs, and thus, is potentially a rich source for research on the older population.

SIPP, first administered in October 1983, is a nationally-representative household survey that provides detailed, longitudinal information on income, living arrangements, disability, assets and liabilities, government transfer program eligibility and participation, pension coverage, taxes, and many other characteristics of individuals. The survey was designed to increase the accuracy of economic data collected by asking detailed questions (e.g., 56 income sources) frequently and to provide data on changes in characteristics over about 2 1/2 years. Respondents are interviewed 8-9 times, or once every 4 months when they update information on their characteristics. New panels (samples) are introduced each year. There were about 19,200 interviewed households in Wave 3 and 18,900 in Wave 4 of the 1984 panel, the samples for which data are shown in this paper. The longitudinal design of the survey allows for the study of changes in characteristics such as marital status or living arrangements and the relationship of such changes to other characteristics, for example, income or program participation. Survey data can be used to assess future program coverage and costs and to determine the effects of proposed changes in program eligibility rules and benefit levels.<sup>3</sup>

In addition to files containing SIPP core questions that are asked at each interview, and longitudinal files of the core data, files are also available from topical modules (questions centering on particular subjects) which are administered periodically during the survey. In Wave 3 of the 1984 panel, a

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<sup>3</sup>U.S. Bureau of the Census, "Using the Survey of Income and Program Participation for Research on the Older Population," David B. McMillen, Cynthia M. Taeuber, and Jennifer Marks, SIPP Working Paper Series No. 8503, September 1985, pp. 1-2. Additional information on SIPP is in Series P-70 reports and in "An Overview of the Survey of Income and Program Participation: Update 1," by Dawn Nelson, David B. McMillen, and Daniel Kasprzyk, SIPP Working Paper Series No. 8401, December 1985.

topical module on "Health and Disability" was conducted and in Wave 4, a module on "Asset Holdings" was conducted. With funding from the National Institute on Aging, the two topical modules were merged into one file, the "SIPP Health-Wealth" file.<sup>4</sup> This file contains data on the ability of persons to perform a set of sensory and physical activities, disabilities that limit or prevent work, the need for personal assistance, health insurance coverage status, and the income, wealth and assets of persons.

While the "Health-Wealth" file presents a unique opportunity to develop detailed cross-tabulations of the health and economic status of persons, the sample size for the older population is a limitation. There were over 11,000 sample cases of persons aged 55 years and over but of that group, 3,500 were aged 65 to 74 and only about 1,900 cases were persons aged 75 to 84 and 400 were 85 and over. Of the 2,300 cases who were 75 or older, nearly 2,100 were White and nearly 200 were Black; 1 was an American Indian, and about 20 were Asian or Pacific Islanders. Less than 60 cases were persons of Hispanic origin.

#### PROBLEM OF WHAT AVERAGES REFLECT

Averages can be like the man with his head in the freezer and his feet in the oven who, on average, feels fine. As discussed above, researchers came to realize that "the elderly" as a statistical average was misleading to those making policy. We argue here that age detail alone can still provide a misleading picture, and that gender and race differences are important variables to consider for evaluating programs and developing policies.

The White population comprises about 90 percent of the elderly population, and thus, averages for the "total" population reflect primarily the characteristics of the White population. SIPP is the example used here but the problem holds for any census or survey.

#### STATISTICAL APPROACHES TO SMALL SAMPLE SIZES

In the 1980 census, of the 25.5 million persons aged 65 and over, 23 million were White (90 percent), 2.1 million were Black (8 percent), and the remainder were other races of whom about 200,000 were Asian or Pacific Islanders and 75,000 were American Indian, Eskimo, or Aleut. There were also about 700,000 persons of Hispanic origin (could be of any race).

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<sup>4</sup>A machine-readable file is publicly available from the Inter-University Consortium for Political and Social Research, Box 1248, Ann Arbor, MI 48106 (Phone: 313/764-2570).

As mentioned above, the decennial census is the most important source for studying the details of age, sex, and race differentials within the older population. In fact, for the elderly Asian and Pacific Islander, and American Indian and Alaska Native populations, the census is the only practical source for such detailed study and we have no realistic suggestions for the use of the sample surveys that currently exist to study the elderly among these populations.

The most commonly suggested solution to the problem of studying small-sized population groups is to increase the sample size of the particular population in question. The elderly population is technically an easy group for federal data developers to oversample because Medicare records can be used as a sampling frame. But in Medicare files, race is specified only for the White and Black population. For the Hispanic-origin population, coding of Hispanic surnames is a possibility. Undercoverage of Black males is, however, a problem in Medicare files just as it is in surveys.<sup>9</sup> For future surveys, we urge consideration of oversampling the total population 75 and over but particularly the Black and Hispanic-origin population aged 75 years and over. For other minority elderly, there is no easy solution and the cost is probably prohibitive unless their size increases substantially.

Even if sample sizes are increased in future surveys, a great deal of existing survey data remains underutilized for the study of White-Black differentials within the older population, and for more recent surveys, Hispanic-origin differentials. Large sampling errors have always seemed to be a roadblock. One solution is for data producers to combine data from several years of survey data to increase the sample size used to produce averages (this would probably be the most useful approach for the study of Hispanic-origin differentials). A second solution is to show data in confidence intervals rather than as point estimates, thus providing a clearer sense of the variability among groups even if confidence intervals are large for a particular small population group.<sup>6</sup> Showing confidence intervals does not

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<sup>9</sup>U.S. Bureau of the Census, "Methodology for Developing Estimates of Coverage in the 1980 Census Based on Demographic Analysis: Population Aged 65 and Over in 1980," by J. Gregory Robinson, Preliminary Evaluation Results Memoranda, No. 116, 1987.

<sup>6</sup>This approach was also used in a study of the centenarian population from the decennial census. See "America's Centenarians: Data From the 1980 Census," by Gregory Spencer, Arnold A. Goldstein, and Cynthia M. Taeuber (U.S. Bureau of the Census), Current Population Reports, Series P-23, No. 158, U.S. Government Printing Office.

overcome the problem of small sample size but does bring it to our attention in a straightforward way.

The first option to use currently available survey data by combining data from several years of a survey, has been considered for use with the annual demographic March Supplement Current Population Survey, for example. We could average 3 to 5 years of data together to produce more reliable data for smaller groups within the total older population. Funds currently are not available to try this approach but it seems to be a technically feasible and reasonably cost-effective approach to building historical data files for 3 to 5 years of age, sex, and White, Black, and Hispanic-origin differentials for the older population. The approach could work with other recurring surveys.

The second option, the use of confidence intervals to show relative differences among groups, is shown below with data from SIPP.

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In general, persons aged 65 and older were more likely than younger persons to have one or more of these functional limitations and the limitations were more likely to be severe, that is, they were unable to do the activity at all.

The rate of limitation was higher among elderly Blacks, especially Black women, than among Whites. Among the population 65 years and over, 8 out of 10 Black women had one or more limitations compared with 7 out of 10 Black men, 6 out of 10 White women, and 5 out of 10 White men. The limitations were more likely to be severe among elderly Black women as about half had limitations that were severe compared with about 30 percent of Black men and White women and one-fifth of White men.<sup>7</sup>

For the total population aged 65-74, there was an inverse relationship between the level of household income and functional limitation status as shown in Table 1. Among Black women aged 65 to 74, from 65 to 80 percent of those with a limitation had monthly household incomes below \$900 compared with 33 to 62 percent of those with no limitations. For those with monthly incomes of \$2,000 or more the difference was not statistically significant as 0 to 8 percent had functional limitations and 4 to 24 percent had no limitations. Table 1 also is illustrative of the differences between Whites and Blacks within the same age and income categories. Only 22 to 29 percent of White men and 39 to 45 percent of White women with one or more limitations had monthly incomes below \$900 compared with the 65 to 80 percent for Black women and 36 to 60 percent for Black men (difference is not statistically different from White women).

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<sup>7</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 8, "Disability, functional Limitation, and Health Insurance Coverage: 1984/85, Table B, U.S. Government Printing Office, Washington, D.C., 1986.

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Functional Limitations Status	Total, with income	Less than \$900	\$900 to \$1,999	\$2,000 or more
<u>Total</u>	16,306	28.0-31.2	41.4-45.0	25.6-28.8
Black Males	554	32.7-50.9	34.9-53.3	7.7-20.5
White Males	6,519	16.0-20.4	45.2-50.8	30.6-35.8
Black Females	828	58.2-72.6	20.9-34.5	3.1-10.7
White Females	8,405	31.4-36.0	38.4-43.2	23.3-27.7
<u>No Limitations</u>	8,176	18.8-22.8	43.0-48.0	31.2-36.0
Black Males	207	17.5-45.5	35.1-65.3	6.6-30.0
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<u>One or More Limit.</u>	8,130	36.0-40.8	38.3-43.3	18.8-22.8
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#### Retirement and Functional Limitations

"Retirement" is a continuum of those who receive retirement income (Social Security, public and private pensions) and who were never in the labor force, those who have left the labor force entirely, and those who remain in the labor force, part time (less than 35 hours per week) or full time, part year (less than 50 weeks) or full year.

Of those persons aged 65 and over who received retirement income and worked, most worked all 18 weeks of the survey-question period (full year data are not available). The difference between working 1-17 weeks and working 18 weeks was statistically significant regardless of race or gender except for Black males with no limitations and Black females with one or more limitations.

Not enough Black men aged 55 to 64 and Black women aged 55 to 59 received retirement income to include in the study (less than 175,000). There were, however, over 3 million White males and 3 million White women aged 55 to 64 who received retirement income.

Among those aged 65 to 69 who received retirement income, there was no statistical difference between the proportion of Whites and Blacks who worked and had a functional limitation (4-6 percent for Whites, 1-8 percent for Blacks). For both groups, the percent working with functional limitations was relatively low (Table 3). Of persons with retirement income in the 65-to-69 year age group, 52 to 69 percent of Blacks did not work and had one or more functional limitations compared with 37 to 43 percent of Whites. Less than 2 percent of Whites worked if they had pension income and a severe limitation; there were no sample cases of Blacks who received pension income and had a severe limitation.

TABLE 3. Functional Limitations Status of Persons Aged 65 to 69 with Retirement Income, by Employment Status and Race: 1984 (SIPP Wave 3 and 4)  
(Percent in 90-percent confidence intervals. Percent of age/race group based on 603,000 Blacks and 7,404,000 Whites.)

Functional Limitations Status	Did not work	Worked
<b>BLACK</b>		
No limitations	19.1-34.7	3.6-13.4
One or more limitations	51.8-69.0	0.7- 7.7
One or more severe limitations	24.0-40.6	-
<b>WHITE</b>		
No limitations	41.5-46.7	7.0-10.0
One or more limitations	37.4-42.6	3.7- 5.9
One or more severe limitations	15.3-19.3	0.6- 1.6

- Indicates zero sample cases.

Some research has indicated that older Black women are more likely to work than are others when they have functional limitations because of their limited economic resources<sup>7</sup>. SIPP would be ideal for studying this question if the sample size were larger. There were only 253,000 Black males and 350,000 Black females aged 65 to 69 who received retirement income. In this case, the difference by race and gender among those aged 65 to 69 who received retirement income and who worked with one or more functional limitations was not statistically significant (for Black males, 1-16 percent; Black females, 0-5 percent; White males, 4-7 percent; and White females, 3-6 percent). Future work with the SIPP Health-Wealth file will look at the work status and functional limitations status of the older population who do not have retirement income. Information about health as it is related to assets will also receive attention.

<sup>7</sup>Linda L. Belgrave and Marie R. Haug, "Interaction of Health and Pension: The Effects of Women's Early Retirement," paper presented at 1987 Public Health Conference on Records and Statistics, Washington, D.C. Research supported by the National Institute on Aging.

## CONCLUSIONS

From the illustrative decennial census and SIPP data shown above, it is obvious that there are significant differences within the older population and within detailed age groups among the race groups. To the extent that policy makers must rely on statistical averages, policy cannot reflect the differences among the elderly groups. The near statistical invisibility of the minority aged may make it difficult for these groups to bring their concerns to the attention of policymakers. In some cases, more detailed information can be shown by statistical techniques so that at least relative levels can be determined. But at times, even these techniques are not sufficient and increased sample sizes for the minority aged in upcoming surveys are needed to address certain policy questions.

The preliminary data from the SIPP Health-Wealth file shown here are indicative of the information that can be gained when the interaction between health and economic factors are considered. We urge consideration of additional ways to use the SIPP longitudinal files in the study of the older population. We also urge that other surveys on the older population collect both health and socio-economic characteristics.

## THE STATISTICALLY INVISIBLE MINORITY AGED

Cynthia M. Taeuber, M.A., Bureau of the Census  
and  
Ernest B. Attah, Ph.D., Atlanta University

"The elderly" is a phrase commonly used to describe the 29 million people aged 65 and over. There has long been a tendency to use statistical averages for the total population 65 and over as if they were a homogeneous group. In recent years, however, data producers have begun to disaggregate the data to show more age detail and, not surprisingly, there are significant differences in a group that covers a 40-year age span. Circumstances can be very different for a 65-year-old married couple than they are for an 85-year old-widow.

Even when age and gender differences are shown, data from surveys tend to be reported for the total population, and not for the race or ethnicity groups within the older population. Because the White population is such a large part of the older population, averages for the "total population" are really descriptions of the White population and thus, do not provide a complete view of the diversity within the older population for those who make policy. For example, the 1980 census reported that 15 percent of "the elderly" were poor; the poverty rate for White elderly was 13 percent but 35 percent for the Black elderly. And, from more detailed tabulations, we found that poverty rates varied from 7 percent for White males aged 65 to 74 who lived in families to 73 percent for Black females 85 and over who lived alone.<sup>1</sup>

This paper will use the Survey of Income and Program Participation (SIPP) to show some illustrative differentials within the older population for the various age, sex, and race groups. We argue here that overall averages used to describe the older population are misleading and that data producers should show age, sex, and race differentials in the data to the extent possible. Because of sample sizes in surveys, such detail has not usually been feasible and so we suggest several statistical approaches to the problem.

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<sup>1</sup>U.S. Bureau of the Census, 1980 Census of Population, Special Tabulations prepared by Cynthia Taeuber for the National Institute on Aging. These "Special NIA Tabulations" by detailed age, sex, and race/Hispanic origin, are available from the National Archive of Computerized Data on Aging, Survey Research Center, University of Michigan (telephone: 313/764-2570). Also available is a data file of selected tabulations from the 1980 census Summary Tape File 5, also by detailed age, sex, and race/Hispanic origin.

## DATA SOURCES

Decennial censuses have traditionally been thought of as the only reasonable source for detailed tabulations for the study of relatively small population groups. The 1980 decennial census provided data by age, sex, and race/Hispanic origin. The 1990 census will provide more age detail and most tabulations will be for gender and the major race groups<sup>2</sup> and Hispanic origin. The census has many advantages over any other data source in terms of the ability to provide reasonably reliable, detailed tabulations at the national, state, and local level. But the census is taken only once every 10 years and the questions are general purpose. Censuses focus on demographic, social, and general economic characteristics, and in the past, have not asked health questions relevant to the older population. In 1990, it is planned to ask questions about whether a person needs help with activities of daily living inside the house and outside the house. There is no space on a decennial census to ask a series of detailed questions on a particular topic. That is the job of national surveys.

National surveys such as, for example, the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP), occur every year and they ask detailed questions on various topics of interest in the study of the older population. But they provide data only at the national level for the most part. Further, for the study of the characteristics of the older population by age, sex, and race/Hispanic origin, sample sizes present a significant barrier because it is difficult to obtain statistically significant point estimates for small groups. In this paper we will demonstrate two approaches for meeting the sample size problem.

reliable

Answering policy questions about "the elderly" and their role in American society has also been hampered by the specialized nature of existing data sets. Generally, the data sets are not designed to simultaneously measure a variety of social, economic, and health characteristics and changes in these characteristics over time. The Survey of Income and Program Participation (SIPP) is a source of very detailed data on the social, economic, and health characteristics of the population, including information on eligibility and participation in government transfer programs, and thus, is potentially a rich source for research on the older population.

SIPP, first administered in October 1983, is a nationally-representative household survey that provides detailed, longitudinal information on income, living arrangements, disability, assets and liabilities, government transfer program eligibility and participation, pension coverage, taxes, and many other characteristics of individuals. The survey was designed to

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<sup>2</sup>White; Black; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; Other races.

Wave 3 20,794 HH eligible  
19,191 interviewed

increase the accuracy of economic data collected by asking detailed questions (e.g., 56 income sources) frequently and to provide data on changes in characteristics over a 32-month period. Respondents are interviewed 8 times, or once every 4 months when they update information and their characteristics. There were about 15,000 households in the panels for which data are shown in this paper. The longitudinal design of the survey allows for the study of changes in characteristics such as marital status or living arrangements and the relationship of such changes to other characteristics, for example, income or program participation. Survey data can be used to assess future program coverage and costs and to determine the effects of proposed changes in program eligibility rules and benefit levels.<sup>3</sup>

panels are  
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and health for

In addition to files for the monthly SIPP core data that are asked repeatedly at each interview, and longitudinal files of the core data, files are also available from topical modules (questions centering on particular subjects) which are administered periodically during the survey. In the third quarter of 1984, a topical module on "Health and Disability" was conducted and in the fourth quarter, a module on "Asset Holdings" was conducted. With funding from the National Institute on Aging, the two topical modules were merged into one file, the "SIPP Health-Wealth" file.<sup>4</sup> This file contains data on the ability of persons to perform a set of sensory and physical activities, disabilities that limit or prevent work, the need for personal assistance, health insurance coverage status, and the income, wealth and assets of persons.

Interview

While the "Health-Wealth" file presents a unique opportunity to develop detailed cross-tabulations of the health and economic status of persons, the sample size for the older population is a limitation. There were over 11,000 sample cases of persons aged 55 years and over but of that group, 3,500 were aged 65 to 74 and only about 1,900 cases were persons 75 years and over and 400 were 85 and over. Of the 2,300 cases who were 75 or older, nearly 2,100 were White and nearly 200 were Black; 1 was an American Indian, and about 20 were Asian or Pacific Islanders.

For my  
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waves?  
wave 3?  
Wave 4?

<sup>3</sup>U.S. Bureau of the Census, "Using the Survey of Income and Program Participation for Research on the Older Population," David B. McMillen, Cynthia M. Taeuber, and Jennifer Marks, SIPP Working Paper Series No 8503, September 1985, pp. 1-2.

<sup>4</sup>A machine-readable file is publicly available from the Inter-University Consortium for Political and Social Research, Box 1248, Ann Arbor, MI 48106 (Phone: 313/764-2570).

Citation to 'overview' working paper and/or Series A70 exp. A70-08.

## PROBLEM OF WHAT AVERAGES REFLECT

Averages can be like the man with his head in the freezer and his feet in the oven who, on average, feels fine. As discussed above, researchers came to realize that "the elderly" as a statistical average was misleading to those making policy. We argue here that age detail alone can still provide a misleading picture, and that gender and race differences are important variables to consider.

The White population comprises about 90 percent of the elderly population, and thus, averages for the "total" population reflect primarily the characteristics of the White population. SIPP is the example used here but the problem holds for any census or survey.

## STATISTICAL APPROACHES TO SMALL SAMPLE SIZES

In the 1980 census, of the 25.5 million persons aged 65 and over, 23 million were White (90 percent), 2.1 million were Black (8 percent), and the remainder were other races of whom about 200,000 were Asian or Pacific Islanders and 75,000 were American Indian, Eskimo, or Aleut. There were also about 700,000 persons of Hispanic origin (could be of any race).

The decennial census is the most important source for studying the details of age, sex, and race differentials within the older population. In fact, for the Asian, American Indian, and Hispanic origin elderly populations, the census is the only practical source for such detailed study and we have no realistic suggestions for the use of the sample surveys that currently exist to study these populations.

The most commonly suggested solution to the problem of studying small-sized population groups is to increase the sample size of the particular population in question. The elderly population is technically an easy group for federal data developers to oversample because Medicare records can be used as a sampling frame. ~~But race~~ is specified only for the White and Black population. For future surveys, we urge consideration of oversampling the total population 75 and over but particularly the Black population aged 75 years and over. For other minority elderly, there is no easy solution and the cost is probably prohibitive until their size increases substantially.

Even if sample sizes are increased in future surveys, a great deal of existing survey data remains underutilized for the study of White-Black differentials within the older population. Large sampling errors have always seemed to be a roadblock. We suggest two possible options for overcoming the problem. It is possible for data producers to combine data from several years of survey data to increase the sample size used to produce averages. It is also possible to show data in confidence intervals rather than as point estimates, thus providing a sense of the relative

*This doesn't overcome the problem, it merely is a way of bringing attention to the problem in a rather blatant way*

*in Medicare files*

*Significant undercoverage seen in Medicare files*

differences among groups even if confidence intervals are large for a particular small population group.<sup>5</sup>

by The first option ~~for more use of~~ <sup>to</sup> currently available survey data, <sup>annual demographic Supplement (March)</sup> combine data from several years of a survey, has been considered for use with the annual Current Population Survey, for example. We could average 3 to 5 years of data together to produce more reliable data for smaller groups within the total older population. Funds are not available to try this approach but it seems to be a technically feasible and reasonably cost-effective approach to building historical data files of age, sex, and ~~of~~ <sup>574</sup> White-Black differentials for the older population. The approach could work with other recurring surveys.

The second option, the use of confidence intervals to show relative differences among groups, is shown below with data from SIPP.

#### CONFIDENCE INTERVALS WITH SIPP HEALTH-WEALTH FILE

The data below are examples of the fallacy of talking about "the elderly" as if they were a homogeneous group. They show significant differences in health and economic characteristics among the age, sex, race groups. In general, older Black women have higher rates of health problems and lower incomes than do White men and women and Black men. Where the number in a population group are small, the data are shown in 90-percent confidence intervals rather than as point estimates. Ranges are statistically different only if they do not overlap. A population subgroup ("base") had to be at least 175,000 because the number of sample cases would have been less than 50. Because of this requirement, data could not be shown for some detailed tabulations, especially for Black males. Also, throughout for SIPP data, where the term "White" is used, the data are actually for "White and other races."

#### Functional Limitations

Difficulty in performing personal care and home management tasks, that is, functional limitations, are indicators of the quality of an individual's life and the need for health and social services. Regardless of race or sex, functional limitations increase with age, but at a different rate among groups. Questions were asked in SIPP about the ability to perform a set of sensory and physical activities including seeing, hearing, speaking, lifting or carrying, walking, using stairs, getting around inside the

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<sup>5</sup>This approach was also used in a study of the centenarian population from the decennial census. See "America's Centenarians: Data From the 1980 Census," by Gregory Spencer, Arnold A. Goldstein, and Cynthia M. Taeuber (U.S. Bureau of the Census), Current Population Reports, Series P-23, No. 158, U.S. Government Printing Office.

house, getting around outside the house, and getting into and out of bed. Except for speaking, persons with a difficulty performing an activity were asked if they could do it at all.

In general, persons aged 65 and older were more likely than younger persons to have one or more of the functional limitations asked about and the limitations were more likely to be severe, that is, they were unable to do the activity at all.

The rate of limitation was higher among elderly Blacks, especially Black women, than among Whites. Among the population 65 years and over, almost 8 out of 10 Black women had one or more limitations compared with 7 out of 10 Black men, 6 out of 10 White women, and 5 out of 10 White men. The limitations were more likely to be severe among elderly Black women as over half had limitations that were severe compared with about 30 percent of Black men and White women and one-fifth of White men.<sup>6</sup>

There was an inverse relationship between the level of household income and functional limitation status. Table 1 is illustrative of the differences between White and Blacks within the same age category. Among Black women aged 65 to 74, from 65 to 80 percent of those with a limitation had household incomes below \$900 compared with 33 to 62 percent of those with no limitations. For those with monthly household incomes of \$2,000 or more, less than 8 percent had functional limitations and 4 to 24 percent had no limitations. By comparison, only 22 to 29 percent of White men and 39 to 45 percent of White women with a limitation had monthly incomes below \$900.

*Black?*

TABLE 1. Functional Limitations Status of Noninstitutionalized Persons Aged 65 to 74, by Monthly Household Income, Age, Sex, and Race: 1984 (Waves 3 and 4 of SIPP)  
(Numbers in thousands. Percents 90-percent confidence intervals.)

Functional Limitations Status	Total, with income	Less than \$900	\$900 to \$1,999	\$2,000 or more
<u>No Limitations</u>				
Black Males	207	17.5-45.5	35.1-65.3	6.6-30.0
White Males	3,564	10.4-15.6	44.3-51.9	35.2-42.6
Black Females	233	33.1-61.5	24.7-52.3	4.3-24.3
White Females	4,172	22.4-28.6	40.0-47.0	27.7-34.1
<u>One or More Limitations</u>				
Black Males	347	36.4-59.6	29.0-51.8	4.2-19.2
White Males	2,955	21.9-29.1	43.9-52.3	22.6-30.0
Black Females	595	64.6-80.4	16.0-31.0	0.5- 7.5
White Females	4,233	38.5-45.3	34.8-41.6	17.2-22.8

<sup>6</sup>U.S. Bureau of the Census, Current Population Reports, Series P-70, No. 8, "Disability, functional Limitation, and Health Insurance Coverage: 1984/85, Table B, U.S. Government Printing Office, Washington, D.C., 1986.

### Work Disabilities

As we raise retirement age to keep the Social Security system and pension plans solvent, we should know that a significant minority of all persons aged 65 to 72 have disabilities that prevent them from working (Table 2) and the proportion of Blacks with a work disability is higher than for Whites (interestingly, there are no gender differences within a race group). Among Blacks aged 65 to 72, roughly half to two-thirds had a work disability; additionally, 35 to 55 percent of Black men and 43 to 61 percent of Black women were prevented from working. From 25 to 30 percent of White men and White women were prevented from working.<sup>7</sup>

TABLE 2. Work Disability Status of Persons Aged 65 to 72, by Sex and Race: 1984 (SIPP, Wave 3)  
(Numbers in thousands. Percents 90-percent confidence intervals.)

Sex, Race	Total	Percent with a work disability	Percent prevented prevented working
Black Males	448	47.7-67.9	34.7-55.1
White Males	5,415	36.7-42.5	24.8-30.0
Black Females	653	49.2-66.8	43.2-61.0
White Females	6,707	33.1-38.5	25.3-30.3

### Retirement and Functional Limitations

"Retirement" is a continuum of those who receive retirement income (Social Security, public and private pensions) and who were never in the labor force, those who have left the labor force entirely, and those who remain in the labor force, part time (less than 35 hours per week) or full time, part year (less than 50 weeks) or full year.

Of those elderly who received retirement income and worked, most worked all 18 weeks of the survey-question period (full year data are not available), but for less than 35 hours per week, regardless of race or gender.

Not enough Black men aged 55 to 64 and Black women aged 55 to 59 received retirement income to include in the study (less than 175,000). There were, however, over 3 million White males and 3 million White women aged 55 to 64 who received retirement income.

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<sup>7</sup>Ibid., Table D provides point estimates.

Among those aged 65 to 69 who received retirement income, Whites were more likely than Blacks to work if they had a functional limitation, but for both groups, the percent working with functional limitations was low (Table 3). Of persons with retirement income in the 65-to-69 year age group, 52 to 69 percent of Blacks did not work and had one or more functional limitations compared with 37 to 43 percent of Whites. Virtually no Blacks and less than 2 percent of Whites worked if they had pension income but a severe limitation.

TABLE 3. Functional Limitations Status of Persons Aged 65 to 69 with Retirement Income, by Employment Status, Sex, and Race: 1984 (SIPP Wave 3 and 4)  
(Percent in 90-percent confidence intervals. Percent of age/race group based on 603,000 Blacks and 7,404,000 Whites.)

Functional Limitations Status	Did not work	Worked
<b>BLACK</b>		
No limitations	19.1-34.7	3.6-13.4
One or more limitations	51.8-69.0	0 - 2.0
One or more severe limitations	24.0-40.6	-
<b>WHITE</b>		
No limitations	41.5-46.7	7.0-10.0
One or more limitations	37.4-42.6	3.7- 5.9
One or more severe limitations	15.3-19.3	0.6- 1.6

- Indicates zero

Some research has indicated that older Black women are more likely to work than are others when they have functional limitations because of their limited economic resources<sup>8</sup>. SIPP would be ideal for studying this question were it not for the sample-size problem. There were only 253,000 Black males and 350,000 Black females aged 65 to 69 who received retirement income. In this case, the difference by race and gender among those aged 65 to 69 who received retirement income and who worked with one or more functional limitations was not statistically significant (for Black males, 1-16 percent; Black females, 0-5 percent; White males, 4-7 percent; and White females, 3-6 percent). Later work with the SIPP Health-Wealth file will look at the work status and functional limitations status of the older population who do not have retirement income.

<sup>8</sup>Linda L. Belgrave and Marie R. Haug, "Interaction of Health and Pension: The Effects of Women's Early Retirement," paper presented at 1987 Public Health Conference on Records and Statistics, Washington, D.C. Research supported by the National Institute on Aging.

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## CONCLUSIONS

From the illustrative decennial census and SIPP data shown above, it is obvious that there are significant differences within the older population and within detailed age groups among the race groups. Policy is not likely to reflect the differences as long as the differences remain hidden by statistical averaging. The near statistical invisibility of the minority aged may make it difficult for these groups to bring their concerns to the attention of policymakers. In some cases, more detailed information can be shown by statistical techniques so that at least relative levels can be determined. But at times, even these techniques are not sufficient and increased sample sizes for the minority aged in upcoming surveys are needed to address certain policy questions.

The preliminary data from the SIPP Health-Wealth file shown here are indicative of the information that can be gained when the interaction between health and economic factors are considered. We urge consideration of additional ways to use the SIPP longitudinal files in the study of the older population. We also urge that other surveys on the older population collect both health and socio-economic characteristics.

*any way to bring in the potential for using the wealth*