# Introducing the "Oldest Old" 

RICHARD SUZMAN and MATILDA WHITE RILEY

National Institute on Aging

ALTHOUGH THE OLDEST SEGMENT OF THE population is currently the fastest growing, less is known about it than about any other age category. In the United States, those aged 85 and over now constitute 1 percent of the population and are projected to increase to 1.9 percent by the year 2000 and to 5.2 percent by 2050 (cf. Rosenwaike in this issue). The development of a substantial number of the oldest old (currently there are about 2.6 million aged 85 and over) is so new a phenomenon that there is little in historical experience that can help in interpreting it. Yet, the mounting numbers of the very old can no longer remain invisible in the economy, the polity, the health care system, or the statistical records where the accounting is kept.

This special issue of the Milbank Quarterly provides an early indepth look at the basic features of the oldest old population of the United States-defined arbitrarily as those aged 85 and over. Because of the current lack of precise information about this population, these papers represent works in progress. Allocation of an entire issue to this special population in 1985 stems from a converging concern of both the National Institute on Aging (NIA) and the Milbank Quarterly with the urgent need for serious attention to the topic. David P.

Willis, editor of the Milbank Quarterly, notes that 1985 marks the 50th anniversary of Social Security; the 20th anniversary of Medicare, Medicaid, and the Older Americans Act; and the 10th anniversary of the Supplementary Security Income Program and the Employee Retirement Income Security Act. It would be ironic if, in celebrating these notable events of the past, we were to lose sight of this dramatic change in the elderly population that these programs were designed to serve. Mindful of this change, we at the National Institute on Aging welcome this special issue as part of our major effort to develop further understanding of the oldest old; to dispel fallacious stereotypes of the homogeneity of the elderly population and of the universality and inevitability of age-related declines in health; and to emphasize the impact of broad social and cultural changes on the nature of the aging process itself. Not only are older people living longer today; they are also growing older in ways that differ markedly from their predecessors who grew older in the past.

Our hope for this issue is that it will begin to illuminate the unique features of the oldest old today and in the near future, in contrast both to those just entering later life and to the old in other periods of history. We also hope that it will set forth the challenge for research which the special conditions and characteristics of the oldest old demand.

## Who Are the Oldest Old?

As the papers in this issue make clear, certain facts about the population aged 85 and over have been established, including its startling recent increase in size and the striking contrast with other age categories in many of its characteristics. As Torrey notes in this issue, the elderly population is itself aging. For example, in 1966 there were 19 individuals aged 85 and over for every 100 aged 65 to 69 ; by 1983 there were 31. Still unknown is how many people will actually survive to the oldest ages under the unknown conditions of the future, or what the future survivors to very old age will be like. How many will be healthy and vigorous; how many disabled and dependent; what will their attitudes and values be; what places will be made for them in society where they can be useful and respected or, if need be, cared for? However, since everyone who will reach age 85 by the year 2070
is already born, existing knowledge of their earlier lives can be used to guide future estimates.

## The Numbers

The dramatic increases in the number of the very old, with middle series projections by the Bureau of the Census, are illustrated in figure 1 . The increases are attributable primarily to a combination of changing size of cohorts at birth and increases in longevity. Except for declines in births from 1920 to 1940 and during the "baby bust" of 1965 to 1973, the trend since the beginning of this century has been toward increases in the annual number of births. This disordering of the cohort flow accounts largely for the irregularities in the increases of the oldest old shown in figure 1 (such as the levelling from 2010 to 2120). If improvements in mortality were to continue at the recent rate, the increases in the projected size of the future older population will be even greater than those shown in figure 1 (Taeuber 1983).

Millions
20


fig. 1. Population Aged 85 Years and Over: 1900-2050.

That the unprecedented declines in mortality at the later ages have also been contributing to the growth of the oldest segment-more, indeed, than to the younger categories of old age-has been demonstrated by the National Center for Health Statistics (Rice et al. 1983). Rudimentary projections for the years 1978 to 2003 (though without benefit of the most recent data on mortality decline) illustrate the principle. For the population aged 75 to 84 , the projected increase would be 61.5 percent under a constant mortality assumption, in contrast to 85.9 percent under a declining mortality assumption; for the population aged 85 and over, the comparable percentages would be 84.3 percent and 213.2 percent! Thus, a critical question for the future is what the mortality rates will actually be under conditions of unpredictable changes.

## Uniqueness of the Population

Apart from its size, as every paper in this issue demonstrates, the oldest old are very dissimilar to those who have recently entered old age-say, those aged 65 to 69 . Those aged 85 and over have a unique sex ratio-a much greater excess of females over males than any other age category. They are currently much more likely to be living in institutions, less likely to be married, and more likely to have low educational attainment. Their needs, capacities, and resources are different. They consume an amount of services, benefits, and transfers far out of proportion to their numbers (Torrey in this issue). Indeed, because of their special needs they receive a significant fraction of all the federal benefits, services, and transfers received by all those over age 65 . The differentiation of the elderly population has become so marked that it is no longer useful to treat all elderly-those aged 65 and over-as a single category as has usually been done (see, for example, Moon and Sawhill 1984 on the recent gains in income of the "elderly," or Preston 1984a, 1984b on the relative financial gains of "the elderly" in relation to children). Such collapsing of some 35 years into a single age category, especially during a period in which the possible revamping of the Medicare system is being aired, is prejudicial to an understanding of the newly emerging facts.

## Heterogeneity of the Population

Also widely unrecognized is the pronounced diversity of the population aged 85 and over. At this age many people still function effectively,
while others have outlived their social and financial supports and have become dependent upon society for their daily living. Thus, while nearly one-fourth of the oldest old are institutionalized and among the noninstitutionalized oldest old some 43 percent need the help of another to function in daily life, there is another 57 percent who declare themselves free of any limitations and are able to function without the help of another (Feller 1983).

## Cbanging Nature of the Population

Whatever else may be said about the contemporary population of the oldest old, one fact is certain: this population category will never have fixed limits. Its members are continually dying and being replaced by oncoming cohorts, each having grown older within its own slice of historical time. By dint of the continuing interplay between social change and the nature of the aging process, the composition and nature of the oldest old category will predictably continue to change rapidly. Thus, in respect to educational attainment, the gap between the oldest old and the younger population is already narrowing and is expected to become nearly closed in the next decade or two. As those now very old die, they will be succeeded by the better educated more recent cohorts; even today in the cohort reaching ages 55 to 64, the proportion which has completed high school is nearly equal to that of the younger population (Taeuber 1983). In another example, as demonstrated in papers by Torrey, Atkins, Manton and Soldo, and Soldo and Manton, the interwoven factors of marital status, kinship status, and living arrangements are important determinants of income, formal care received, and usage of long-term care by the oldest old. But changes in the family occasioned by increases in longevity, changing birth and divorce rates, and increasing participation of mature women in the labor force all presage major changes for the status and care of the oldest old (cf. Riley 1983).

Perhaps the most critical question for the future is how healthy the oldest old will be. How is the postponement of mortality in successive cohorts related to the morbidity of the survivors (cf. the paper by Manton and Soldo)? To what extent is there a coincident tendency toward postponement of morbidity? To what extent is there a tendency simply to sustain life in those disabled older people who, under earlier circumstances, would have been winnowed from the cohort through death (cf. the discussion in Riley and Bond 1983;

Feldman 1983)? Such questions are still subject to argument. Though definitive answers are not yet in, there are nevertheless a few indications that more recent cohorts are increasingly aware of their own future health and the importance of primary prevention of chronic disease. For example, in respect to cigarette smoking, the most deadly of the health risk factors, over the past decades each successive cohort of adult males in the United States-presumably responsive to the Surgeon General's warnings-has been less likely than its predecessors to smoke. Even the most recent cohorts of women have begun to follow this declining pattern (Riley 1981; see also Harris 1983; Feinleib et al. 1970). It is also clear that successive cohorts differ markedly in diet, exercise, standard of living, medical care, and experience with chronic vs. acute diseases.

Regardless of the particular directions of future change, the pace of current change is so rapid that there is good reason to argue that the time between the decennial censuses is too long to capture the changing characteristics of the oldest old and that interstitial surveys are needed. There is good reason to argue also that chronological age in itself, while often a useful indicator of characteristics and functioning, is a very imperfect measure and one that is subject to change as successive cohorts age in different ways. For this issue of the Milbank Quarterly the oldest old have been defined as those aged 85 and over (though in some cases authors, limited by the available data, have had to make do with age 80 or even 75 and over) but it is not unlikely that in the future the definition of the oldest old will more appropriately be advanced to those over age 90 or even 100 .

## Genesis of This Issue

This special issue of the Milbank Quarterly is a direct outgrowth of the session organized by Riley and Suzman for the May 1984 annual meeting of the American Association for the Advancement of Science. For the title of that session, we coined the term "the oldest old." The papers presented there and the ensuing discussion called attention to wide-ranging philosophical, social, economic, political, and servicerelated implications of the dramatic demographic changes which were then only beginning to be recognized. A selection of papers from that session were revised, expanded, and supplemented by additional papers to broaden the scope of the issue.

## Related Developments at the National Institute on Aging

The formulations in these papers as they now appear in 1985 took shape as part of the development of a research initiative at the National Institute on Aging (NIA). This initiative grew out of the identification of unanticipated declines in mortality and increases in the numbers of the very old, as demonstrated in the research of three NIA grantees: Eileen Crimmins, Ira Rosenwaike, and Kenneth Manton. Each of these researchers "called" the decline in mortality at advanced ages well before the Social Security Administration took official note. NIA set up an informal working group to pool information about this special population and to establish a research agenda. Attending the working group were the three investigators just named, as well as Nathan Keyfitz, Jacob Siegel, Jacob Feldman, David Rabin, Roy Walford, and members of the NIA staff. Fortuitously, the meeting was held the afternoon of the day (July 15, 1983) on which the Senate Finance Committee held hearings to examine estimates by the Social Security Administration of the growth of the elderly and the very old population.

## Inadequacy of the Data

It quickly became clear at the planning meeting that few facts were at hand about the oldest old. Many federal statistical reports had simply not tabulated results for those aged 85 and over. Because of their still small numbers, they were rarely adequately represented in sample surveys to allow separate analysis. Furthermore, some of the available data, both published and unpublished, were considered to be of low quality. Infirmities such as poor hearing or cognitive impairment made the oldest old difficult to study, and this difficulty was compounded by the problem of obtaining reliable data for those in institutions. With many basic census tabulations absent, there was heated debate at the planning meeting about the causes of death in this age category. Since even at autopsy the cause of death of a sizeable percent of the very old could not be ascertained, some debated the possibility of senescence as a cause (see also Kohn 1982; Minaker and Rowe in this issue). A summary review of the literature confirmed this early impression that at almost all levels, from the physiologic to the demographic, little valid or reliable information existed on this population.

Thus, the papers in this issue, to be seen as research in progress,
represent first rather than last work on the subject. Since a concerted effort is just getting underway to collect, tabulate, and distribute appreciable data on the oldest old, we can confidently predict a mushrooming, albeit from a small base, of knowledge on this special population. Indeed, throughout most of the papers a common theme emerges-the absence of adequate data allows for only tentative and sometimes hesitant conclusions on important topics.

## Apologia for This Issue

In our haste to publish this issue we overlooked a number of shortcomings. First, some papers developed overlaps which could not be fully dealt with in the limited time. For example, the papers by Lawrence Atkins and Barbara Torrey cover some of the same ground from different perspectives, though each develops a number of important and unique insights into the financial condition of the oldest old.

Second, given the time and space allotments, some key areas were given inadequate coverage. Although some two-thirds of the oldest old are women, and while sex differences permeate many of the chapters, there is no single paper devoted to women. No full examination of Alzheimer's disease, cognitive functioning, or depression is included although the papers by Manton and Soldo, Minaker and Rowe, and Cornoni-Huntley et al. touch upon these subjects. The behavioral and genetic risk factors contributing to morbidity and loss of functioning among the oldest old are too little understood to be reported. There are some tantalizing hints about the health and morbidity patterns of the highly selected majority of old people aged 85 and over who appear to be without significant limitation of activity (see Manton and Soldo's paper, for example), yet a full paper here was seen as premature. Racial differences, equally intriguing, are also left for future treatment. The interaction of the oldest old and long-term care institutions is touched upon in a number of papers, but remains to be amplified. The papers of Soldo and Manton and Binstock reflect on the burden of caretaking but the full impact of this burden still requires examination. Other excluded topics include the needs for specialized housing and transportation, and the rehabilitation of functioning. Given that the historical record on this age category is so short, cross-national comparisons with other industrialized nations offer special potential; but, while Manton and Soldo's paper touches
upon some international comparisons, no full treatment is included. To recapitulate, this issue represents the first and not the last word.

## References

Feinleib, M., R.J. Garrison, L. Stallones, W.B. Kannel, W.P. Castelli, and P.M. McNamara. 1970. A Comparison of Blood Pressure, Total Cholesterol and Cigarette Smoking in Parents in 1950 and Their Children in 1970. American Journal of Epidemiology 110 (3):291-303.

Feldman, J.J. 1983. Work Ability of the Aged under Conditions of Improving Mortality. Milbank Memorial Fund Quarterly/Health and Society 61 (3):430-44.
Feller, B.A. 1983. Americans Need Help to Function at Home. Vital and Health Statistics 92 (September 14) Advance data. Hyattsville, Md.: National Center for Health Statistics.

Harris, J.E. 1983. Cigarette Smoking among Successive Birth Cohorts of Men and Women in the United States during 1900-80. Journal of the National Cancer Institute 71 (3):473-79.
Kohn, R.R. 1982. The Cause of Death in Very Old People. Journal of the American Medical Association 247 (20):2793-97.
Moon, M., and I.V. Sawhill. 1983. Family Incomes: Gainers and Losers. In The Reagan Record, ed. J.L. Palmer and I.V. Sawhill, 317-44. Cambridge, Mass.: Ballinger.
Preston, S. 1984a. Children and the Elderly: Divergent Paths for America's Dependents. Demography 21 (4):435-58.
——. 1984b. Children and the Elderly in the United States. Scientific American 251 (6):44-49.
Rice, D.P., H.M. Rosenberg, L. R. Curtin, and T.A. Hodgson. 1983. Changing Mortality Patterns, Health Services Utilization, and Health Care Expenditures in the United States. DHHS pub. no. (PHS) 831407. Washington.

Riley, M.W. 1981. Health Behavior of Older People: Toward a New Paradigm. In Health Behavior and Aging, ed. D.L. Parron, F. Solomon, and J. Rodin, 25-39. Washington: National Academy Press.
Riley, M.W. 1983. The Family in an Aging Society: A Matrix of Latent Relationships. Journal of Family Issues 4:439-54.
Riley, M.W., and K. Bond. 1983. Beyond Ageism: Postponing the Onset of Disability. In Aging in Society: Selected Reviews of Recent Research, ed. M.W. Riley, B.B. Hess, and K. Bond, 243-52. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Taeuber, C.M. 1983. America in Transition: An Aging Society. Current Population Reports, series P-23, no. 128. Washington.

Acknowledgments: The editors wish to thank the authors for their willingness to share work in progress and their courage in reflecting on the implications of preliminary data. Only through such venturesome spirit can the insights be generated and the hypotheses formulated for the research that is needed before the imminent social changes have run their course. In addition, both editors and authors have benefited from the ideas and constructive criticisms of a long list of people, representing a wide range of academic, governmental, and professional fields, who have shared the enthusiasm for promoting intellectual and research investment in this area. This list includes: John Beck, Lisa Berkman, William Cartwright, Robert Clark, Ansley Coale, Thomas Espenshade, Jacob Feldman, Amasa Ford, Jeanne Griffith, Marie Haug, William Hazzard, Stanislas Kasl, Sidney Katz, Donald Kaye, Lawrence Kotlikoff, Mary Grace Kovar, Charles Longino, Constance Nathanson, Adrien Ostfeld, Clifford Patrick, John Rother, William Serow, Burton Singer, Mervyn Susser, Cynthia Taeuber, Lois Verbrugge, Elizabeth Vierck, and David Wise. We welcome further criticism and suggestions from readers as the research enterprise continues.

Address correspondence to: Richard Suzman, Ph.D., Behavioral Sciences Research, National Institute on Aging, National Institutes of Health, Building 31, Room 4C-32, Bethesda, MD 20205.

