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Before the Boom: Trends in Long-Term Supportive Services for Older Americans with Disabilities

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The AARP Public Policy Institute, formed in 1985, is part of the Policy and Strategy Group at AARP. One of the missions of the Institute is to foster research and analysis on public policy issues of importance to mid-life and older Americans. This publication represents part of that effort.

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FOREWORD

Like other Western industrialized societies, the United States has experienced unprecedented growth in the older population over the past few decades. To an even greater degree than most European countries, the post World War II years brought a large increase in birth rates in the United States, which will result in growth in the older population during the coming decades that will far surpass all past experience. Addressing the future needs of the Baby Boom cohorts born between 1946 and 1965 is increasingly a subject of national debate. At times the debate is characterized by almost apocalyptic estimates of the potential costs of meeting their long-term supportive services needs, even though the oldest Boomers are only 56-years-old and are unlikely to need such services in large numbers for another 20 years or more.

In order to make good policy decisions now that affect the future, it is important to understand the factors that have driven change in recent decades. In the report that follows, Don Redfoot and Sheel Pandya, staff members of AARP's Public Policy Institute, examine the vast and disparate literature regarding demographic, socioeconomic, and policy trends that have significantly changed the delivery of supportive services over the past few decades. Their goal is to provide a better understanding of the factors that are likely to drive further change over the next two to three decades—before the demographic boom hits.

Predicting trends for the future is an uncertain business at best—involving as much art as science. Many social and technological factors may change in ways we cannot envision now, for good or ill. This report, therefore, presents a range of projections, under different assumptions. However, if current favorable trends described in this report continue, the predicted increase in demand for services may be more manageable than many policy decision-makers now fear. Indeed, Redfoot and Pandya conclude that relatively slack demand during the next two decades presents an opportunity for consumer friendly changes in the system of public financing for long-term supportive services.

The wealth of information presented in this report should provide a useful basis for comparing trends in the United States with other countries so that we can learn from their experiences and contribute to their understanding of our experiences. By compiling information on recent trends, this report should also be useful in evaluating potential options for better serving older persons with disabilities in the future, especially those who have limited means and must depend on public programs for support in their later years.

Elizabeth Clemmer
Associate Director
AARP Public Policy Institute

EXECUTIVE SUMMARY

I. INTRODUCTION

Much attention has focused on the aging of the Baby Boom generation born between 1946 and 1965 and the potential demands this population may make on the nation's systems for providing long-term supportive services. However, Boomer-driven demand for long-term supportive services is not likely to increase substantially for roughly 20 years and will not crest until after 2030. The cohorts reaching old age in the meantime will be relatively small, and they are likely to be healthier and wealthier than previous cohorts—characteristics that are likely to promote a more consumer-oriented system of delivering long-term supportive services.

II. PURPOSE

The purpose of this report is to examine demographic, socioeconomic, market, and policy trends that have substantially changed the direction of long-term supportive services over the past few decades and how these trends are likely to affect demand for such services between now and 2030 when the first Boomers turn 85. Although the trends described in this report will clearly have implications for Boomers as they age, most of the projections reported extend only three, or occasionally four, decades into the future since projections beyond that point are increasingly speculative and certain to be altered by factors we cannot foresee.

III. METHODOLOGY

The data presented in this report come from a wide variety of secondary sources. Where noted, AARP Public Policy Institute staff members have made additional analyses and projections based on data from the National Long-Term Care Survey (NLTCS), the National Nursing Home Survey (NNHS), the Social Security Administration (SSA), and the Census Bureau. In addition, we have included data from other sources such as the Medicare Current Beneficiary Survey (MCBS), the Online Survey and Certification Assessment Reporting (OSCAR) system used by the Centers for Medicare and Medicaid Services (CMS), and the National Home and Hospice Care Survey (NHHCS). We have attempted to present or cite as many data sources as possible to allow the reader to make judgments about trends affecting the delivery of long-term supportive services to older persons with disabilities.

Comparing the results from many sources of information can be difficult because of the different definitions and analyses used. For example, the NLTCS defines "chronic disability" as either: 1) needing help with one or more activities of daily living (ADLs) or one or more instrumental activities of daily living (IADLs) for a period of at least 90 days; or 2) living in a long-term care institution. In contrast, the MCBS asks about the "presence of help" rather than the "need for help" and makes no inquiry about the duration of a disability. As a result, the MCBS reports significantly higher rates of disability than the NLTCS though the trends reported from both are similar.

The data reported below are often broken down into three age categories: 65-74 (young old); 75-84 (middle old); and 85 and older (oldest old). When looking at age as a risk factor for institutionalization, the report frequently refers to the 75 and older categories as having high risk—in contrast to the low risk among the young old. In looking at cohort characteristics, however, the report frequently uses different age breaks: Oldest Old cohorts (born 1925 and before who were 75 and older in 2000); Birth Dearth cohorts (born 1926-1945); and the Baby Boomers (1946-65). These cohorts have distinctive characteristics that help explain different patterns of disability and utilization of services. The report tries to make clear whether aging or cohort analyses are being presented and the specific age groupings used in each case, but the reader should be aware of the differences in age groupings and terms used that are dictated by the two types of analyses. Unless otherwise noted, the term "older persons" refers to those persons aged 65 and older.

IV. DECLINES IN NURSING HOME UTILIZATION

Trend #1 – Nursing home utilization rates have declined substantially, especially among persons 75 years of age and older.

In age-standardized terms, nursing home utilization has declined by one-fourth since the earliest wave of the NNHS in 1973-74. If utilization had remained at 1973-74 levels, the number of older persons in nursing homes in 1999 would have been more than half a million higher than the actual number of 1.4 million.

V. AGE COHORTS BEFORE THE BOOM

Trend #2 – Growth in the older population, which was heavily skewed toward the 75 and older age categories in the last decade, will shift to the younger old in the next two decades.

More than 90 percent of the growth in the older population during the 1990s was among those 75 years of age and older. While the older population will grow significantly during the next two decades, most of that growth will be among persons 65 to 74 years of age, who are at a relatively low risk of needing long-term supportive services.

VI. DECLINING DISABILITY RATES AND THEIR CAUSES

Trend #3 – Disability rates among older persons have declined substantially.

According to the NLTCS, the number of older persons with a chronic disability has remained essentially unchanged at 7 million since 1989, resulting in 2.3 million fewer older persons with disabilities than would have been predicted based on 1982 rates. Projections of future numbers

of older persons with disabilities depend on the assumed rate of declines in disability rates. The number of older persons with chronic disabilities would rise sharply to 15.9 million in 2030 if rates stay at 1994 levels, increase more modestly to 8.9 million if rates decline 1.5 percent per year (as they did between 1989 and 1994), and decrease to 6.1 million if rates continue to decline 2.6 percent per year (as they did between 1994 and 1999).

Trend #4 – Socioeconomic improvements have reduced disability rates among older persons.

Survey data indicate that declines in disability are concentrated among older persons with the highest levels of education. Higher levels of educational attainment among cohorts who will reach late old age over the next few decades may indicate additional improvements in disability levels.

Trend #5 – Medical advances have also played a role in reducing disability rates.

Even though the prevalence of some chronic conditions has been increasing, the debilitating effects of many of those conditions have been reduced. Based on such findings, researchers have concluded that both treatment and prevention of potentially disabling chronic conditions contribute significantly to decreasing disability rates.

VII. CHANGES IN SERVICE UTILIZATION DUE TO CHANGES IN THE OLDER POPULATION

Trend #6 – Socioeconomic improvement is increasing the service options available to older persons with disabilities.

The improved socioeconomic status of older persons is also playing a major role in the choices available regarding long-term supportive services. For example, the number of older nursing home residents paying privately dropped by more than half (54 percent) from the number that would have been expected if 1985 utilization patterns had remained constant. Older persons with the means to pay privately appear to be voting with their feet—and their wallets—for alternatives such as home care services and assisted living.

Trend #7 – The narrowing ratio of men to women in old age has contributed to the declining use of institutional care and will likely continue to do so over the next few decades.

The overwhelming majority of supportive services for older persons with disabilities is provided by family or friends. Demographic evidence points to increased availability of family support for older persons with disabilities over the next few decades. The narrowing gender ratio of men to women among those 55 years of age and older will result in lower rates of widowhood and may portend further improvements in spousal support in the future. Older women are especially likely to benefit from increased spousal support.

Trend #8 – Cohorts of older persons reaching the high risk years of 75 and older during the next two decades have more adult children than previous cohorts.

In contrast to the cohorts who are now 75 and older, the Birth Dearth cohorts (55 to 74 years of age in 2000) have low rates of childlessness and high average numbers of children. The combined effects of more living spouses and more children will increase potential family support for at least the next two or three decades, after which time increased divorce rates and higher rates of childlessness among Boomers make expectations of family support for older persons less certain.

Trend #9 – Utilization trends for long-term supportive services differ substantially among racial/ethnic groups.

The ethnic and racial makeup of the older population will become more diverse over the next two decades as the number of older minorities grows more rapidly than the population of older Whites. Adjusted to the age structure of 2000, nursing home utilization rates fell from 61.2 per thousand persons aged 65 and older among Whites in 1973-74 to 41.9 in 1999. Among older Blacks, the comparable utilization rates increased sharply from 28.2 per thousand in 1973-74 to 55.6 per thousand in 1999. The 1996 utilization rate for home health services among older Whites was 40.2 per thousand persons 65 years of age and older compared to 69.0 per thousand among older Blacks. Small numbers make following trends among other ethnic groups more difficult, although nursing home utilization appears to be much lower among older Hispanics and Asians than among older Blacks and Whites. Whether Hispanics and Asians will follow the pattern of Blacks by increasing use of nursing homes in future years remains an open question.

VIII. CHANGES IN THE DELIVERY OF LONG-TERM SUPPORTIVE SERVICES

Trend #10 – Assisted living has grown substantially over the past decade, although the extent to which it has replaced nursing home services is not well documented.

In one survey, the number of facilities providing assisted living services increased by 49.4 percent between 1991 and 1999. Assisted living appears to fill a gap for those with relatively low levels of disability as nursing homes become increasingly focused on higher levels of disability and more medical services. The average assisted living resident needs assistance with 2.3 activities of daily living (ADLs) compared to 3.8 for residents in nursing homes and 1.6 for those receiving home health services. Most assisted living facilities cannot serve those with complex medical conditions and are not serving large numbers of persons who need public subsidies, largely because of state and federal limitations on those subsidies.

Trend #11 – Home health care utilization grew rapidly but then declined precipitously following cuts in Medicare reimbursements in the late 1990s.

The utilization of home health services increased rapidly before plummeting in the wake of the Balanced Budget Amendment of 1997. Expenditures for home health care increased from 1 percent of Medicare spending on those 65 years of age and older in 1967 to 10 percent in 1997, before retreating to 6 percent in 1998. Recipients of home health services are much younger and less disabled than are consumers in nursing homes or assisted living.

Trend #12 – Many nursing homes have responded to the changing long-term supportive service market by becoming increasingly diversified, specialized, and medicalized.

In 1996, 12.6 percent of skilled nursing homes offered 73,400 beds (out of a total of 1.76 million beds) in special care units for persons with Alzheimer's disease, by far the largest category of specialized care units. Other special care units provided 18,500 beds for ventilator, hospice, HIV/AIDS, and brain injury services. On the more medicalized end of care, 5 percent of nursing homes had a distinct rehabilitation and/or subacute special care unit with 28,500 beds. On the "light" end of care, many nursing homes have also added assisted living services.

IX. CHANGES IN PUBLIC POLICY REGARDING LONG-TERM SUPPORTIVE SERVICES

Trend #13 – Medicaid's institutional bias in favor of funding nursing home services is slowly shifting toward increased funding for home and community-based services.

From 1990 to 2000, the share of all Medicaid long-term care dollars funded to home and community-based services doubled from 13.2 percent to 26.9 percent. The dollars spent on such services more than quadrupled from $3.9 billion to $18.2 billion during the same period. States vary considerably in the degree to which they fund home and community-based services—ranging from 5.4 percent of total long-term care expenditures in Mississippi to 61.9 percent in Oregon in fiscal year 2000. Despite the shift toward increased funding for home and community-based services, older persons who rely on public funding are more likely to be institutionalized than younger persons with disabilities.

Trend #14 – Increased public and private payments for home and community-based alternatives have combined with Medicare changes to reinforce the increased specialization and medicalization of nursing homes.

Medicare's prospective payment system has shortened the length of hospital stays and shifted much post-acute care to nursing homes, while more "long-term" care is shifting to home and community-based settings. Payer sources also reflect these changes as the number of nursing home residents paying privately declined sharply between 1985 and 1999, while the number of residents whose primary source of payment was Medicare increased more than tenfold. Much of "long-term" supportive services, at least for those who can pay privately, is shifting to other venues while shortened hospital stays have shifted "short-term" post-acute care, rehabilitation, and end-of-life care to nursing homes.

X. CONCLUSIONS AND IMPLICATIONS FOR THE FUTURE

Projecting utilization patterns for long-term supportive services of future cohorts of older persons is likely to exaggerate potential demand for services and their costs unless cohort differences are taken into account. Predicting the future is an uncertain art, but the characteristics of the cohorts who will enter late old age during the next two to three decades suggest that demand for long-

term supportive services—especially those offered in institutional settings—will grow very slightly, if at all. Favorable demographic and socioeconomic trends are likely to create a more consumer-driven market that will demand not only higher quality services but also a much higher quality of life.

Unfortunately, the current patchwork of federal and state responsibilities for health and supportive services programs along with existing budget constraints makes positive change slow and difficult. Between fiscal years 1990 and 2000, Medicaid-funded nursing home expenditures increased by 120 percent (from $18.0 to $39.6 billion). Home and community-based services increased more rapidly—rising 366.7 percent from $3.9 to $18.9 billion between fiscal years 1990 and 2000—though such services still receive less than half of the total funding for long-term supportive services in most states. Moreover, predicting future costs of long-term supportive services is very difficult given the number of variables that can affect utilization patterns.

Projections of future demand range widely, contributing to the difficulty policymakers will have in making decisions affecting long-term supportive services to older persons with disabilities. But it is certain that public policy will need to adapt to the greater diversity of needs and preferences of older persons with disabilities, if long-term supportive services are to enhance consumer control, autonomy, and dignity. The next 20 to 30 years offer a window of opportunity to make such changes—before the Boomers enter late old age.

BEFORE THE BOOM: TRENDS IN LONG-TERM SUPPORTIVE SERVICES FOR OLDER AMERICANS WITH DISABILITIES [1]

I. INTRODUCTION

Much attention has focused on the aging of the Baby Boom cohort born between 1946 and 1965 and the potential demands this population may make on the nation's systems for providing long-term supportive services. For example, the Senate Special Committee on Aging has already held at least three hearings on this topic in recent years (U.S. Senate Special Committee on Aging, 2002, 2001, 1998). The Senate is not alone in its focus on Boomers. Organizations representing providers, consumers, and states have all noted the potential effects on supportive service needs and the associated financing costs, as the large Boomer cohorts grow older.

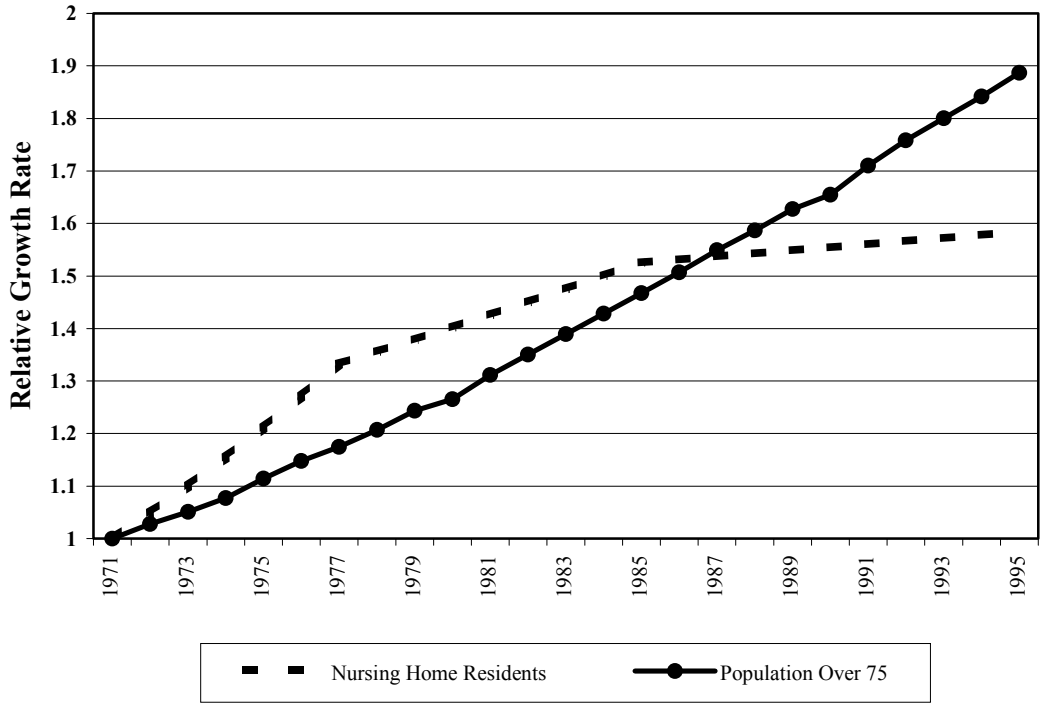
It is not too early to prepare for the financial implications of the aging Baby Boom, but it is important to note that the oldest Boomers will not reach age 75 until 2020. Boomer-driven demand for long-term supportive services is not likely to increase substantially for roughly 20 years or more. Indeed, a recent analysis referred to the long-term supportive service needs of the Boomers as "the 2030 problem," because Boomer-driven demand for such services will crest after 2030 when its oldest members begin to turn 85 (Knickman and Snell, 2002). In the meantime, characteristics of the older population are changing rapidly, reshaping the outlook for long-term supportive services.

In projecting trends for the future, we can learn some lessons from past experience. For example, a 1991 report prepared jointly by the Senate Special Committee on Aging, AARP, the Federal Council on Aging, and the U.S. Administration on Aging (U.S. Senate Special Committee on Aging, 1991) estimated that the number of older persons needing some form of long-term care services would rise from 7 million in 1990 to more than 9 million in 2005 and to 12 million in 2020. Similarly, the report estimated that the older nursing home population would rise from 1.3 million in 1985 to 2.1 million by 2005 and to 2.6 million in 2020.

These projections were based on the best demographic data from the 1970s and 1980s, which indicated that increased longevity was accompanied by higher rates of disability and nursing home utilization. Lakdawalla and Phillipson (1999) compared growth in the nursing home population to growth in the population 75 years of age and older (as a ratio of the numbers in the base year of 1971). Their research, as shown in Figure 1, indicated that the number of older persons in nursing homes grew more rapidly than did the population 75 years of age and older during the 1970s and early 1980s.

[1] This report will use the terminology "long-term supportive services" rather than "long-term care," wherever possible, to emphasize the goal of supporting individual autonomy and dignity. Advocates for persons with disabilities use the same terminology.

FIGURE 1:
Growth in Nursing Home Residents and the Elderly Population, 1971-1995



Source: Lakdawalla and Philipson (2002) (based on Current Resident Population data from Vital Statistics)

Based on data available from the mid-1980s and earlier, many observers, including the Senate Aging Committee, predicted substantially increased demand for long-term supportive services (see discussions in Schoeni et al., 2001; Waidmann and Liu, 2000; Manton and Gu, 2001). However, as Figure 1 shows, conditions have changed significantly since the mid-1980s, rendering those projections obsolete. Rather than rising sharply, the numbers of older persons with disabilities and those receiving nursing home care have remained almost unchanged over the past 10 to 15 years, despite the fact that those years have seen substantial growth in the older population. Data from the 1999 National Long-Term Care Survey (NLTCS) show that the number of older persons with at least one chronic disability has remained essentially unchanged at 7 million since 1989, resulting in 2.3 million fewer older persons with disabilities than would have been predicted based on 1982 rates (Manton and Gu, 2001). Similarly, data from the National Nursing Home Survey (NNHS) indicate that the number of older persons in nursing homes increased very little between 1985 and 1999—from 1.32 million to 1.47 million. If one subtracts the number of persons receiving Medicare-funded services, primarily for short-term post-acute care, the number of older persons in nursing homes actually declined slightly from 1.30 million in 1985 to 1.24 million in 1999 (National Center for Health Statistics, 2001).

In short, the assumption that increased longevity would be accompanied by higher rates of disability and usage of institutional long-term supportive services was clearly wrong. To the contrary, longevity gains over the past decade and a half have been accompanied by declining disability rates and declining use of nursing home services. Whether one anticipates a major tidal wave of demand for long-term supportive services or relatively modest increases depends to a large degree on one's assumptions about whether or not these trends will continue. As past experience indicates, accurate projections of future demand for long-term supportive services cannot be derived by simply projecting current utilization patterns onto future cohorts. "Demography is not destiny" (Friedland and Summer, 1999). Changes in health status, socioeconomic status, and the delivery of services will significantly change the demand for services as much as the growth projected for the older population. The following sections will examine trends in six areas in order to understand the factors likely to drive future demand for long-term supportive services:

- Declining demand for nursing home services.
- Smaller cohort sizes among the age cohorts who will enter late life during the next two decades.
- Declining disability rates and their causes.
- Changes in characteristics of the older population, including socioeconomic status, family supports, and ethnicity and how they affect patterns of informal and formal caregiving.
- Changes in the delivery systems for long-term supportive services, especially the growth in assisted living and home care and the specialization of the nursing home industry.
- Changes in public policies regarding long-term supportive services.

II. PURPOSE

The purpose of this report is to examine demographic, socioeconomic, market, and policy trends that have substantially changed the direction of long-term supportive services over the past couple of decades and how these trends are likely to affect demand for such services between now and 2030 when the first Boomers turn 85. Although the trends described in this report will clearly have implications for Boomers as they age, most of the projections reported extend only three, or occasionally four, decades into the future since projections beyond that point are increasingly speculative and certain to be altered by factors we cannot foresee.

III. METHODOLOGY

The data presented in this report come from a wide variety of secondary sources. Where noted, AARP Public Policy Institute staff members have made additional analyses and projections based on data from the NLTCS, NNHS, the Social Security Administration (SSA), and the Census Bureau. In addition, we have included data from other sources such as the Medicare Current Beneficiary Survey (MCBS), the Online Survey and Certification Assessment Reporting (OSCAR) system used by the Centers for Medicare and Medicaid Services (CMS), and NHHCS. In all cases, we have attempted to present or cite as many data sources as possible to allow the reader to make judgments about trends affecting the delivery of long-term supportive services to

older persons with disabilities. In order to show trends in disability or nursing home utilization, the data have sometimes (where noted) been "age standardized." Age standardization simply means reporting data from various points of time as if the age distribution had remained constant so that changes in the age distribution do not confound or distort underlying trends.

Comparing the results from many sources of information can be difficult because of the different definitions and analyses used (Gregory, forthcoming). For example, the NLTCS defines "chronic disability" as either: 1) needing help with one or more activities of daily living (ADLs) such as bathing, dressing, transferring, toileting, and eating or one or more instrumental activities of daily living such as cooking and doing laundry for a period of at least 90 days; or 2) living in a long-term care institution. In contrast, the MCBS asks about the presence of help rather than the need for help and makes no inquiry about the duration of a disability. As a result, the MCBS reports significantly higher rates of disability than the NLTCS though the trends reported from both are similar. Other surveys use still other definitions (Gregory, forthcoming), which makes comparisons of disability rates across surveys difficult, though comparing rates of change over time contributes to an understanding of trends.

The data reported below are often broken down into three age categories: 65-74 (young old); 75-84 (middle old); and 85 and older (oldest old). When looking at age as a risk factor for institutionalization, the report frequently refers to the 75 and older categories as having high risk–in contrast to the low risk among the young old. In looking at cohort characteristics, however, the report frequently uses different breaks: Oldest Old cohorts (born 1925 and before who were 75 and older in 2000); Birth Dearth cohorts (born 1926-1945); and the Baby Boomers (1946-65). These cohorts have distinctive characteristics that help explain different patterns of disability and services utilization. The report tries to make clear when aging or cohort analyses are being done and the age groupings used in each case, but the reader should be aware of the differences in age groupings and terms used that are dictated by the two types of analyses. Unless otherwise noted, the term "older persons" refers to those persons aged 65 and older.

IV. DECLINES IN NURSING HOME UTILIZATION

Most supportive services to older persons with disabilities are provided by family members in the home (Stone, 2000). However, we begin this discussion of supportive services by looking at nursing home utilization rates because they demonstrate changes affecting the whole system of long-term supportive services. Moreover, since the lion's share of public funding for long-term supportive services is provided to nursing homes, nursing homes have received a disproportionate share of policymakers' attention.

Trend #1 – Nursing home utilization rates have declined substantially, especially among persons 75 years of age and older.

Data from the NNHS show that nursing home utilization rates have decreased substantially since the 1970s (See Table 1). The disproportionate growth of the 75 and older age categories has masked the degree of decline in nursing home utilization among those 65 years of age and older. By standardizing the data so that the percentages of persons in each age category are adjusted to

equal the age structure in the year 2000, a truer picture of the underlying decline in utilization emerges. In age-standardized terms, nursing home utilization among older persons has declined by one-fourth (26 percent) since the earliest wave of the NNHS in 1973-74.[2]

TABLE 1: Nursing Home Utilization Rates Per Thousand Population, 1973-1999

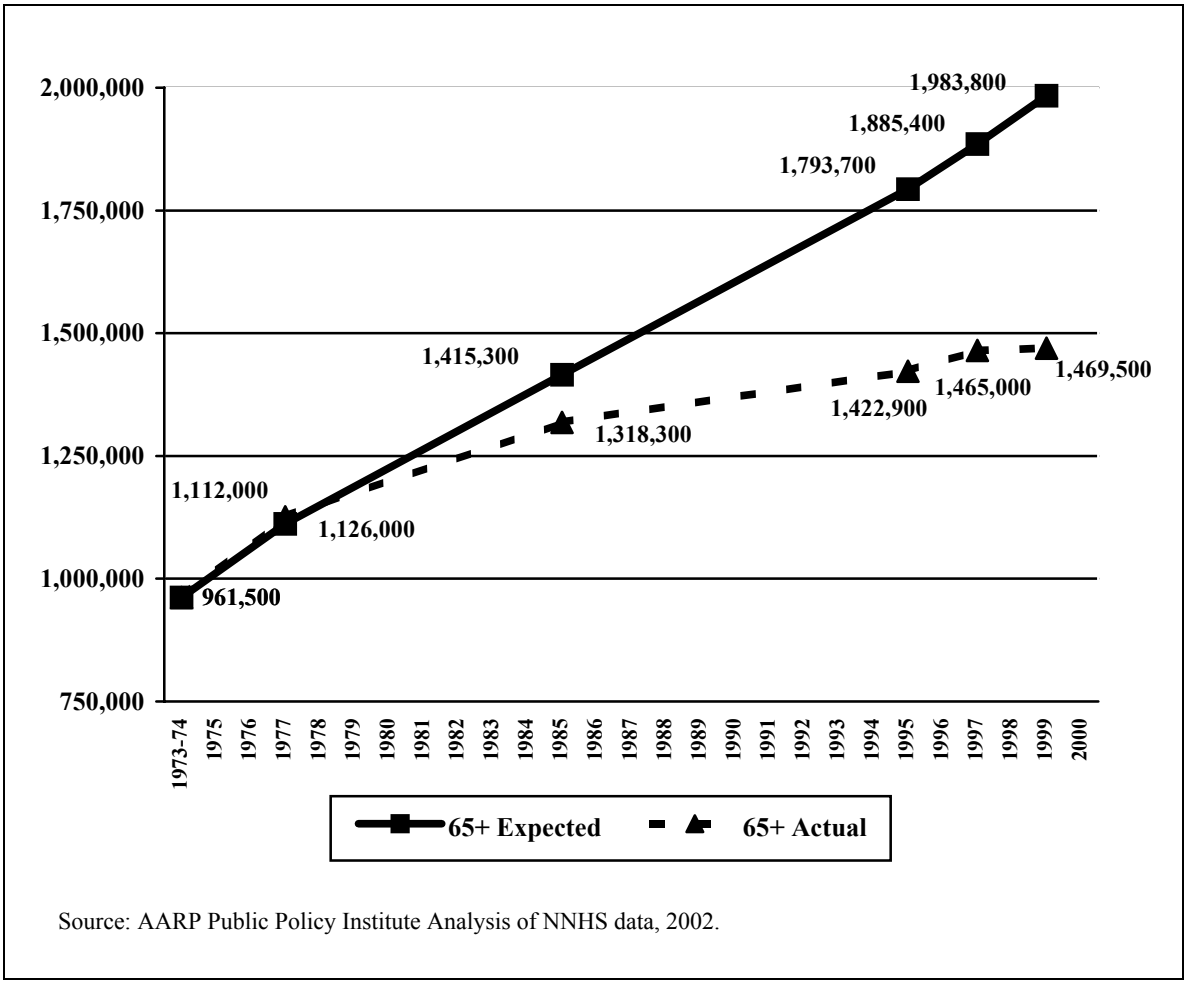
	1973-74	1977	1985	1995	1997	1999	Percent Change 1973-99
Age < 65	0.6	0.9	0.8	0.5	0.6	0.7	+16.6%
Ages 65-74	12.3	14.4	12.5	10.2	10.8	10.8	-12.2%
Ages 75-84	57.7	64.0	57.7	46.1	45.5	43.0	-25.5%
Age 85+	257.3	225.9	220.3	200.8	192.0	182.5	-29.1%
Total 65+, crude	44.7	47.1	46.2	42.8	43.4	42.9	-4.0%
65+, age-adjusted*	58.5	n.a.	54.0	45.9	n.a.	43.3	-26.0%

Source: Centers for Disease Control, National Center for Health Statistics, National Nursing Home Surveys 1973-74, 1977, 1985, 1995, 1997, and 1999. N.A. is not available.
* Age-adjusted by the direct method to the year 2000 population standard using the above age groups (NCHS, 2001).
Prepared by AARP Public Policy Institute, 2001.

Figure 2 illustrates the difference between the number of older persons in nursing homes at various waves of the NNHS and the number that would have been expected if utilization had remained at 1973-74 levels. The number of older persons in nursing homes in 1999 was more than half a million below the number that would have been expected if 1973-74 utilization rates had continued.

[2] Data from the Online Survey and Certification Assessment Reporting (OSCAR) system indicate that the number of persons 65 years of age and older in nursing homes rose slightly from 1,497,697 in 1993 to 1,532,188 in 1995 before receding to 1,490,155 by 1999-2000 (Dollard, 2001). Using data from the NLTCS standardized to the 1999 age structure, Manton and Gu report that use of institutional care by persons 65 years of age and older declined from 6.8 percent in 1982 to 6.1 percent in 1989, 5.7 percent in 1994, and 4.2 percent in 1999.

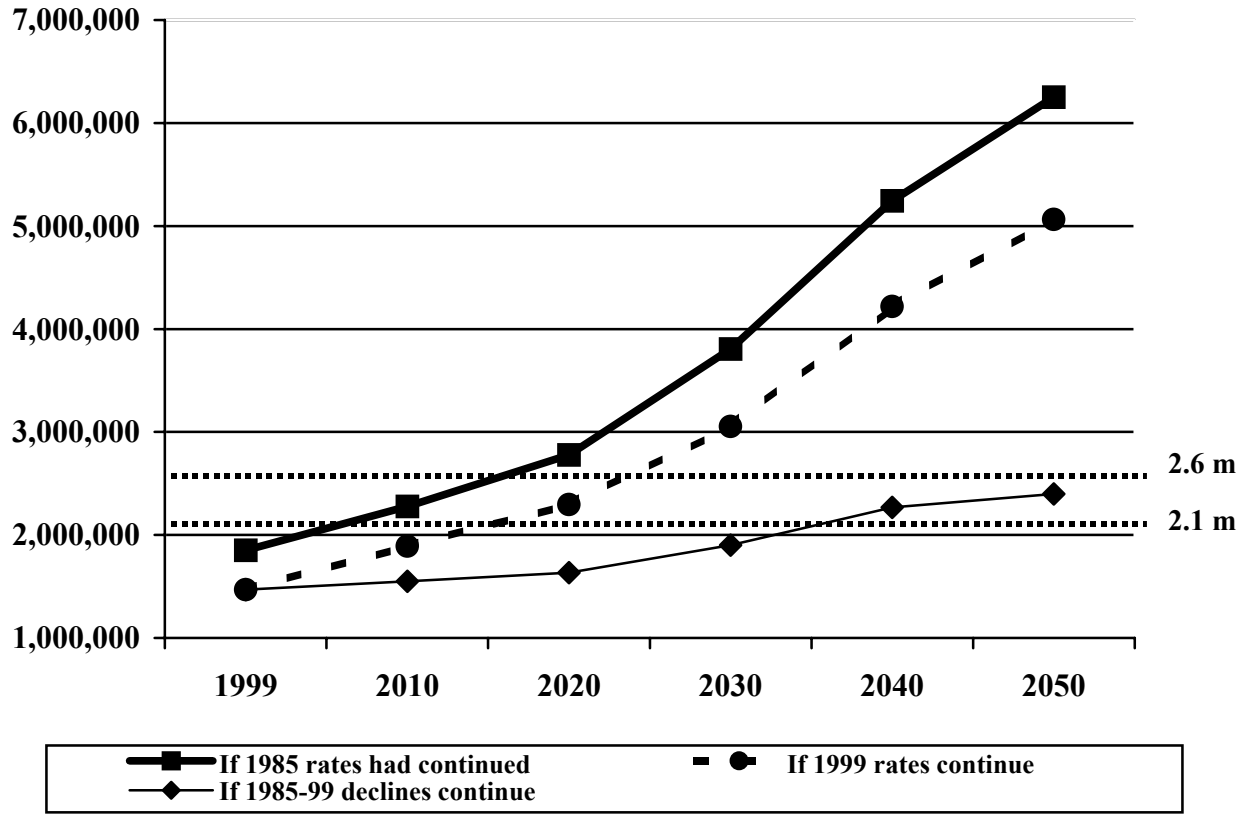
FIGURE 2:
Nursing Home Population 65 and Older, Actual and Expected Number if 1973-74 Utilization Patterns Had Continued



Source: AARP Public Policy Institute Analysis of NNHS data, 2002.

Figure 3 shows three potential future growth trajectories in the number of older persons in nursing homes based on three different assumptions: (1) that 1985 rates had remained unchanged; (2) that 1999 rates remain constant; and (3) that the rate of decline experienced between 1985 and 1999 continues indefinitely.

FIGURE 3:
Projections of Nursing Home Population 65 and Older (in millions) Under Different Assumptions, 1999-2050



Source: AARP Public Policy Institute Analysis of NNHS data, 2002.
NOTE: Two horizontal dotted lines have been added to enable the reader to see the points at which the number of older nursing home residents will reach the Senate Aging Committee's projected levels for 2005 (2.1 million) and for 2020 (2.6 million) under three different assumptions.

As Figure 3 shows,[3] the Senate Aging Committee's 1990 prediction of 2.1 million older persons in nursing homes by 2005 will be pushed back to 2017 if 1999 utilization rates remain constant and pushed back to 2034 if rates continue to decline at the current pace. Similarly, the Senate Aging Committee's projection of 2.6 million would be delayed from 2020 to 2026 if 1999 rates

[3] AARP Public Policy Institute analysis of NNHS data from 1985 and 1999 as well as Census Bureau projections of the population growth. AARP projections differ somewhat from Senate Aging Committee, possibly because of AARP's use of updated population data and more age-specific projections. AARP projects that the older nursing home population would reach 2.1 million in 2006 rather than 2005 based on 1985 rates. Similarly, AARP projections show the older nursing home population reaching 2.6 million in 2017 rather than 2020 based on 1985 patterns.

continue, but would not be reached until late in the twenty-first century (if ever) if the recent rate of decline continues indefinitely.[4] The wide range of estimates of the future nursing home population indicates the sensitivity of such projections to the assumptions upon which they are based. Determining which potential future is most plausible requires a more detailed look at the factors that contribute to nursing home utilization. The remainder of this report will focus on how these factors are likely to change over the next several decades in order to understand how the demand for long-term supportive services of all types may change.

V. AGE COHORTS BEFORE THE BOOM

Changes in the numbers of older persons are certain to affect the demand for nursing homes and other long-term supportive services. Different age cohorts have different life experiences due to the numbers of people born during a given historical period, different economic opportunities, and changing family situations all of which affect the demand for long-term supportive services in old age.

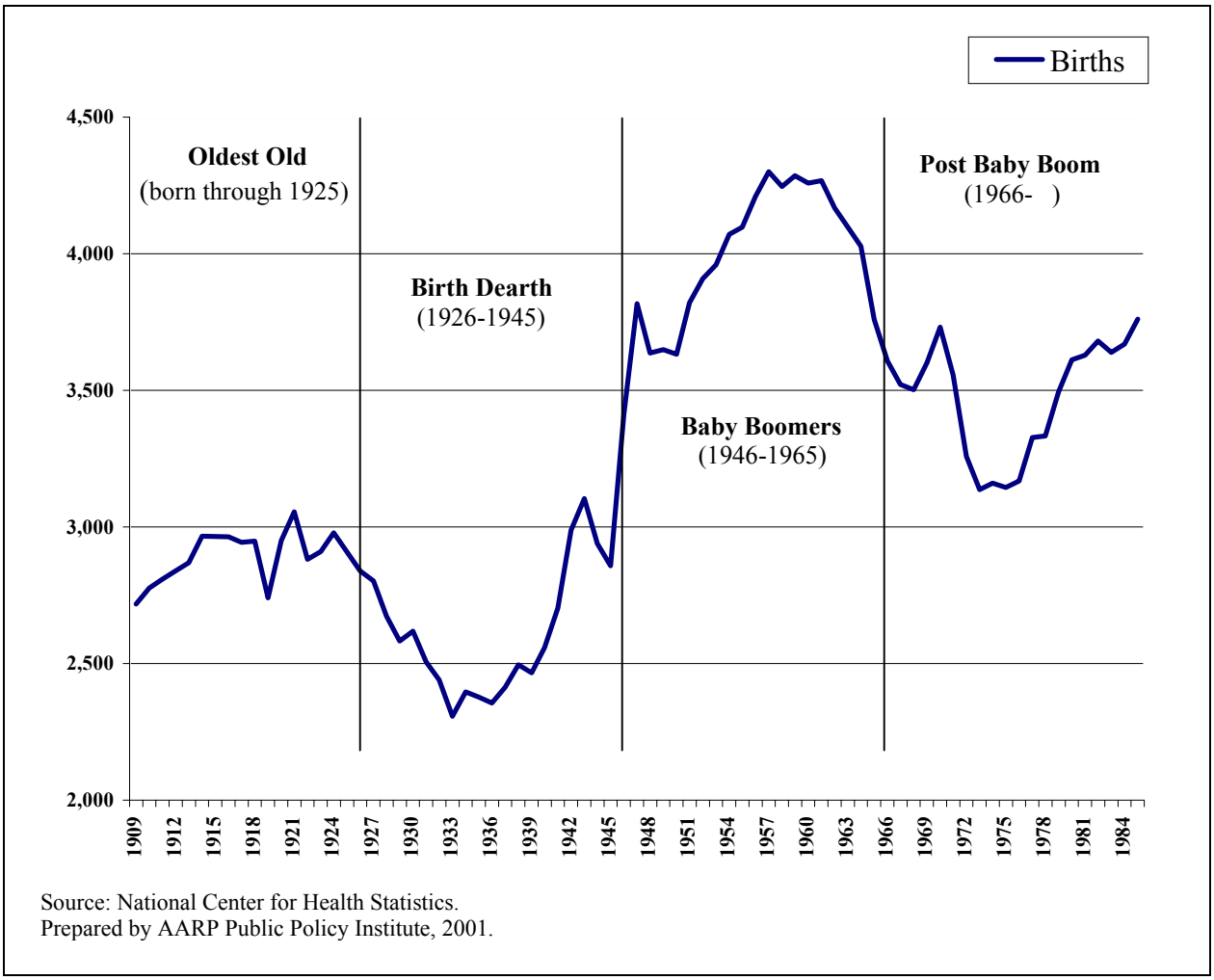
Trend #2 – Growth in the older population, which was heavily skewed toward the 75 and older age categories in the last decade, will shift to the younger old in the next two decades.

Advancing age is one of the strongest predictors of the need for long-term supportive services. For example, in 1999 the percentage of persons in nursing homes was 1.1 percent for people 65 to 74 years of age, 4.3 percent for people 75 to 84 years of age, and 18.2 percent for people 85 and older (National Center for Health Statistics, 2001). The popular press has tended to base its prediction of the exploding demand for long-term supportive services on the rising numbers of persons in the older population. Often their reports compare the current number of persons 65 years of age and older with the number that will be present when the Boomers have all reached this age in 2030. These reports frequently ignore important differences among cohorts entering old age between now and 2030, especially the declining growth rate of the age cohorts reaching ages 75 and older over the next two decades.

Figure 4 depicts the numbers of births per year since 1909. As the figure indicates, historical experiences have substantially altered the size of cohorts in ways that are now reflected in the changing age structure of the older population. The number of births per year rose early in the twentieth century, reaching a plateau of roughly 3 million around the years of World War I. Beginning in the mid-1920s, the numbers of births declined substantially and did not return to earlier levels until the end of World War II.

[4] *The Long-Term Care Financing Model* prepared by The Lewin Group also projects 2.6 million older persons receiving "institutional care" in 2020. However, this number includes assisted living and is, therefore, not comparable to projections based solely on NNHS data (Tilly, et al, 2001).

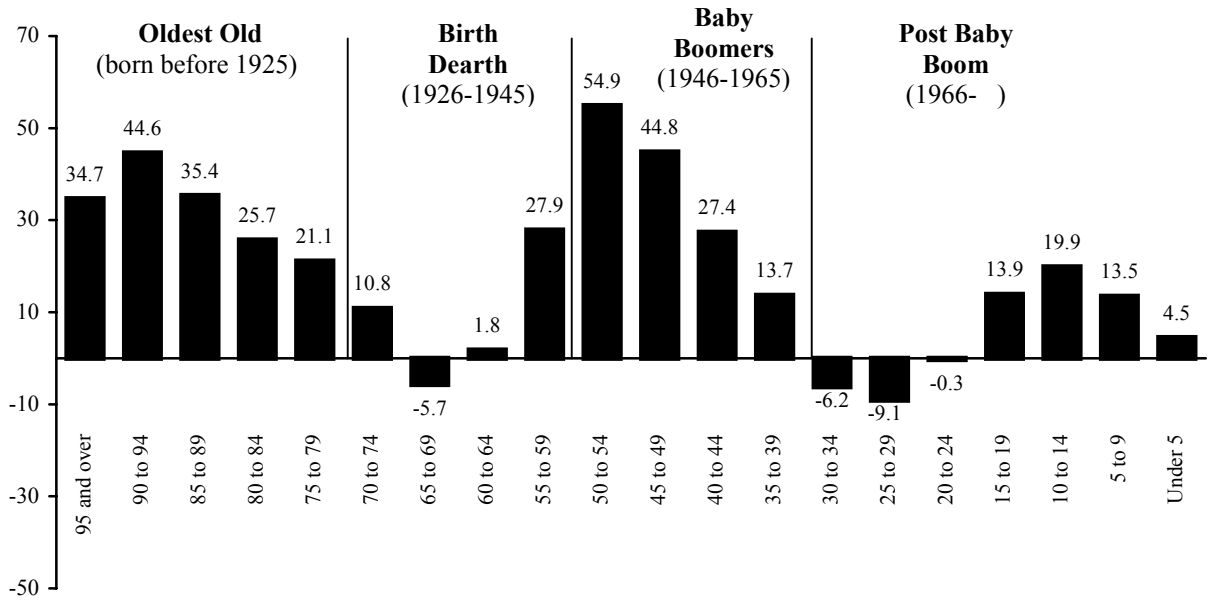
FIGURE 4:
Births in Thousands per Year



Source: National Center for Health Statistics.
Prepared by AARP Public Policy Institute, 2001.

Because of changing immigration patterns and declining mortality over time, today's older population is not a perfect mirror of past birth patterns. However, the age structure of today's older population is largely foreshadowed by the trends depicted in Figure 4. Figure 5 shows growth rates by age category during the 1990s. Recent population growth has been concentrated among the oldest old categories born before 1925 and in the Baby Boom cohorts now in middle age. Sandwiched in between are the slow to negative growth rates of the Birth Dearth cohorts. These smaller cohorts are the ones approaching the ages of higher risk of disability that will be driving demand for services over the next couple of decades.

FIGURE 5:
Percentage Change in Population by Age Group: 1990-2000

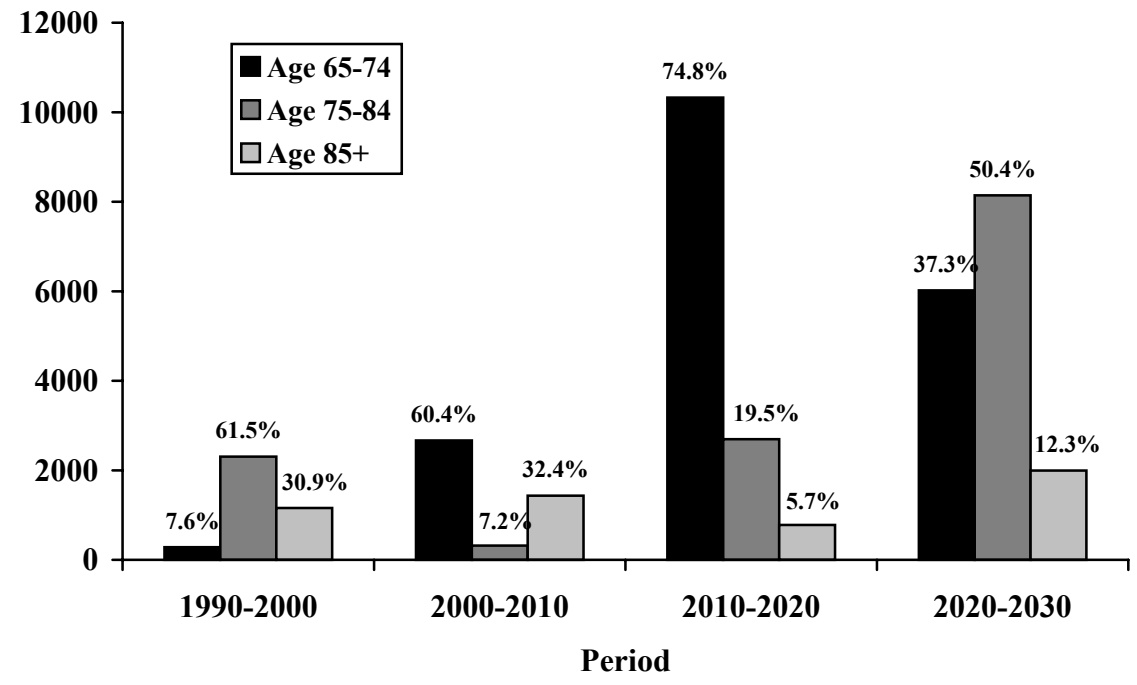


Source: U.S. Census Bureau, Census 2000 Summary file 1; 1990 Census Population, General Population Characteristics, United States (1990 CP-1-1).
Adapted from Meyer (2001) by AARP Public Policy Institute, 2001.

Because of the slow growth among those aged 65 to 74, "Census 2000 was the first time in the history of the Census that the 65 years and older population did not grow faster than the total population" (Hetzel and Smith, 2001). Figure 6 depicts projected population growth over the next three decades.[5] Due to the slow growth among the young old, 92.4 percent of the growth in the older population during the 1990s was among those 75 years of age and older. While the older population will grow significantly during the next two decades, most of the growth will be among those 65 to 74 years of age who are at a relatively low risk of needing long-term supportive services. Not until the 2020s, when the oldest Boomers start to turn 75, will growth in the 75+ population exceed growth among the young old.

[5] These Census projections were based on the 1990 Census. Updated projections based on the 2000 Census have not yet been made.

FIGURE 6:
Growth (in thousands) and Percentage Growth in the Older U.S. Population by Age



Source: AARP Public Policy Institute Analysis of U.S. Census Bureau (2000, 2001) data.

In short, no age-driven tidal wave of demand for long-term supportive services is likely for at least the next two decades even if current service utilization patterns remain constant. To the contrary, age-related growth in demand is more likely to slow considerably as the current decade progresses and is not likely to pick up substantially until well into the 2020s as the oldest Boomers begin to turn 75.

VI. DECLINING DISABILITY RATES AND THEIR CAUSES

The most obvious factor contributing to the need for long-term supportive services is disability. In general, two types of explanations have been offered for the declines in disability among older persons: (1) socioeconomic improvements affecting the general population; and (2) improvements in medical interventions to treat or prevent disabling conditions. The following sections explore declining disability rates as well as some of their causes.

Trend #3 – Disability rates among older persons have declined substantially.

In a recent review of five major data sets that track disability rates, Cutler (2001b) concludes "existing evidence generally suggests that disability among the elderly is falling over time." Although the surveys use different measures of disability, Cutler notes "… all of the surveys show a healthier elderly population by at least one measure." Indeed, some surveys indicate that disability among older persons may be declining at an accelerating rate in recent years.

A number of issues must be kept in mind when evaluating declines in disability rates among older persons. First, the rates of decline have been different for different types and levels of disability. Social scientists typically measure two types of disability among persons aged 65 and older: 1) limitations in activities of daily living (ADLs) that include basic activities such as bathing, dressing, transferring, toileting, and eating; and 2) limitations in instrumental activities of daily living (IADLs) that include activities related to managing one's affairs such as using the telephone, paying bills, cooking, and doing laundry. Surveys of disabilities, including the NLTCS, have generally found that declines have been most pronounced in the prevalence of IADL limitations. Declines have been more modest in the prevalence rates of higher levels of ADL limitations.

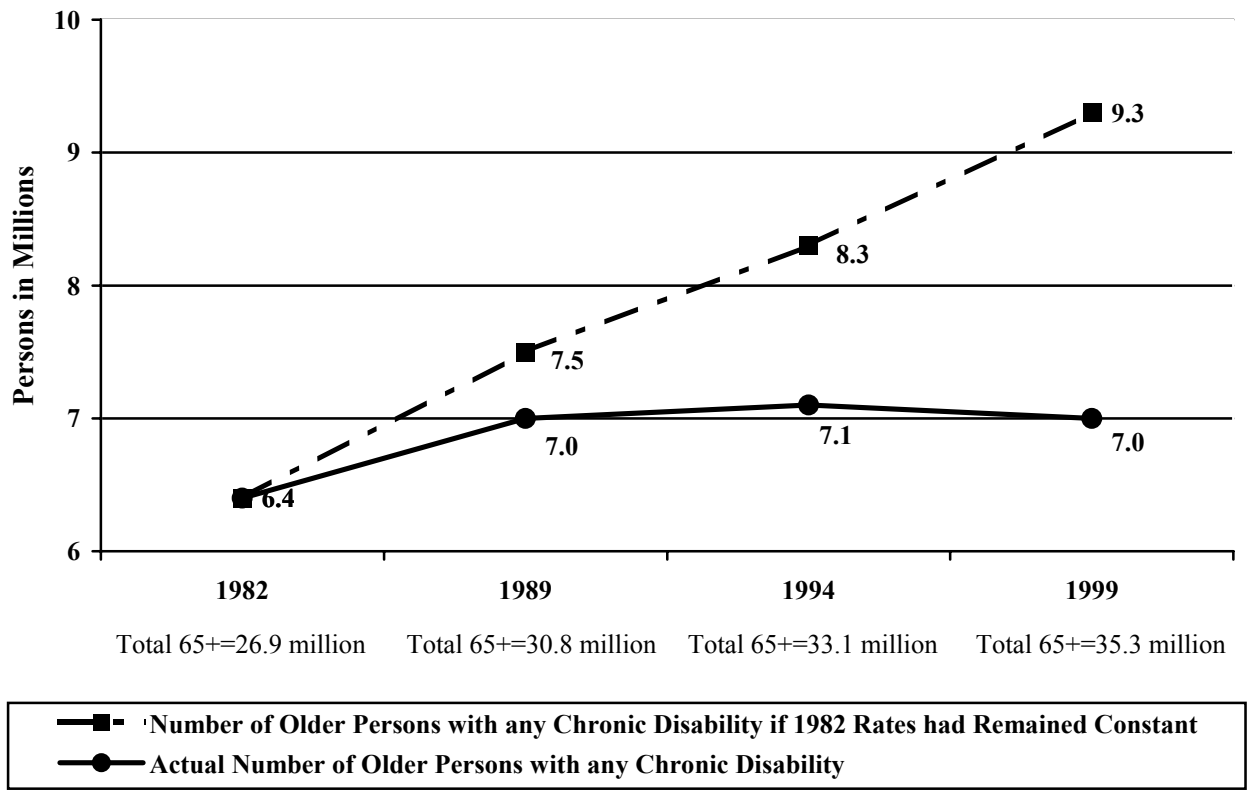
Second, health improvements have not been uniform among all segments of the older population. As discussed later in the report, declines in disability rates have been particularly pronounced among older persons with higher levels of education. Those with a high school or less of education have generally seen more modest improvements.

Finally, while historical evidence indicates major declines in potentially disabling chronic conditions over the long term, those declines have not been at a constant rate over time. Historical research (Costa, 2000) and survey-based studies (Schoeni et al., 2001; and Crimmins et al., 1997) have found that periods of sharp declines in chronic morbidity and disability may be followed by periods of stability or even increases. Extrapolating from periods of major decreases may exaggerate future declines if subsequent periods of stability occur.

Though declines in the prevalence of disability have not been uniform at all times and for all segments of the population, data over the long term and over the past two decades show substantial decreases in disability rates among older persons. Figure 7 uses data from the NLTCS to show the effects of declining disability rates since 1982. The top line shows the number of older persons with a chronic disability[6] that would have been expected if rates had remained at 1982 levels. The bottom line tracks the actual number of older persons with a disability from 1982 to 1999. As the figure shows, the number of older persons with at least one chronic disability has remained essentially unchanged at 7 million since 1989, resulting in 2.3 million fewer older persons with disabilities than would have been predicted based on 1982 rates (Manton and Gu, 2001).

[6] The National Long Term Care Survey defines "chronic disability" as (1) an inability to perform one or more of six activities of daily living (ADLs) **or** one or more of five instrumental activities of daily living (IADLs) that lasts at least 90 days **or** (2) living in a long-term care institution.

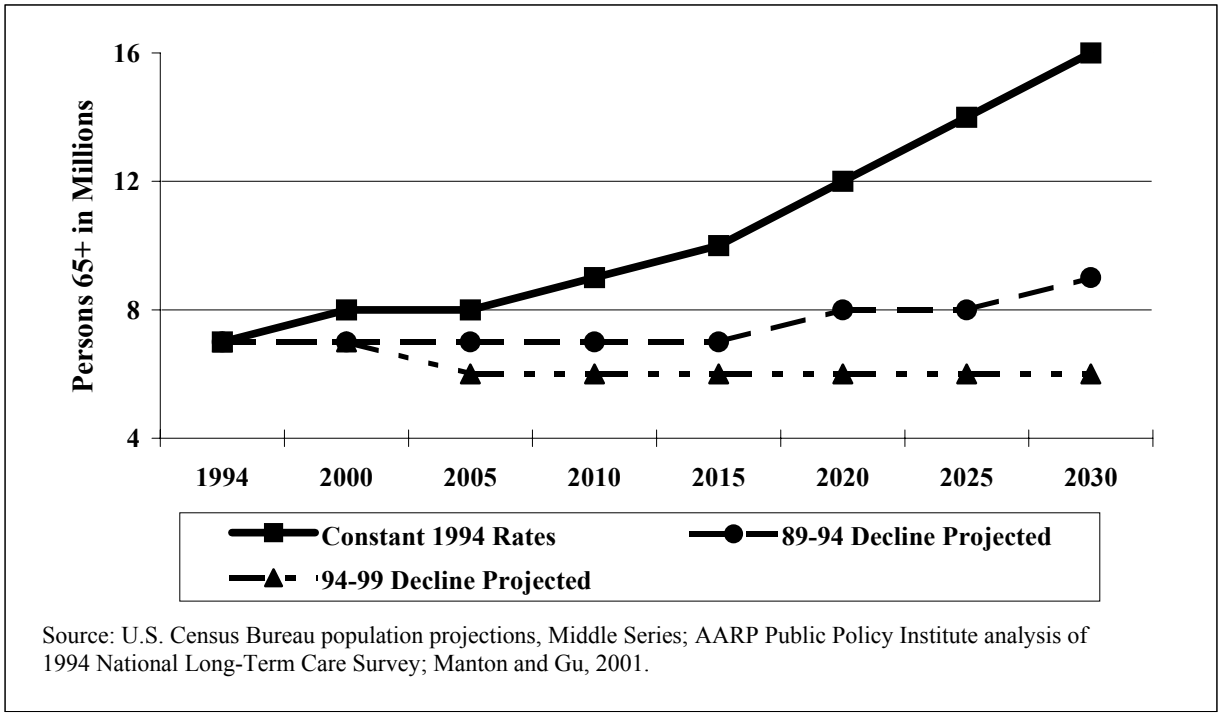
FIGURE 7:
Number of Americans 65 and Older (in millions) with Any Chronic Disability, by Selected Years



Source: Manton K., Corder L., and Stalland E. "Chronic Disability Trends in Elderly United States Populations: 1982-1994;" Manton K. and XiLiang, G. "Changes in the Prevalence of Chronic Disability in the United States Black and Nonblack Population Above Age 65 from 1982-1999."
Prepared by AARP Public Policy Institute, 2001.

Figure 8 uses data from the NLTCS survey to project the number of older persons with chronic disabilities under three different assumptions: (1) disability rates remain constant indefinitely at the 1994 level; (2) disability rates decline indefinitely at the 1989-94 rate (1.5 percent per year compounded); and (3) disability rates decline indefinitely at the 1994-99 rate (2.6 percent per year compounded). These projections show the enormous range of possible future scenarios based on different assumptions. By 2010, the number of older persons with chronic disabilities would increase from 7.0 million to 9.2 million if rates continue at 1994 levels, remain roughly constant at 7.1 million if rates decline 1.5 percent per year, and decrease to 6.0 million if rates continue to decline 2.6 percent per year. By 2030, the number of older persons with chronic disabilities would rise sharply to 15.9 million if rates stay at 1994 levels, rise to 8.9 million if rates decline 1.5 percent per year, and remain at 6.1 million if rates decline 2.6 percent per year.

FIGURE 8:
Projections of Persons 65+ with Disability



Source: U.S. Census Bureau population projections, Middle Series; AARP Public Policy Institute analysis of 1994 National Long-Term Care Survey; Manton and Gu, 2001.

Waidmann and Liu (2000) found similar trends using data from the MCBS. They report that "if they continue, declines in IADL and ADL disability prevalence …will be large enough to offset future increases in elderly population growth…." They project that the number of older persons with IADL limitations will remain constant at roughly 10 million and those with ADL limitations will remain steady at roughly 8 million until 2040.[7] In addition, Waidmann and Liu report that "we find that these trends are large enough that if they continue, the ratio of working aged adults to disabled elderly persons will not fall below current levels even after all baby-boom cohorts are 65 or older."

Other projections show somewhat higher levels of growth in the number of older persons with disabilities. For example, the widely used "Long-Term Care Financing Model" developed by the Lewin Group assumes mortality and disability declines of 0.6 percent per year. Using this model, Tilly et al. (2001) project that the number of older persons with at least one ADL or IADL disability will increase by more than one-third (37.5 percent) between the years 2000-2004 and 2030-2034—from 5.5 million to 8.8 million by their measure.

[7] Waidmann and Liu (2000) use the MCBS, which differs from the NLTCS definition of disability in three ways: (1) the survey asks about any difficulty in performing an activity of daily living rather than an inability to perform; (2) there is no requirement that the condition be chronic (i.e., lasting more than 90 days); and (3) the MCBS survey asks about the presence of help rather than the need for help. For these reasons, the number of older persons reported with a disability is significantly higher in the MCBS than it is in the NLTCS (35.3 percent vs. 19.7 percent) though the trends documented are similar.

Long range projections are made more difficult by the relative lack of research on disability trends among younger persons. For example, the NLTCS and other data sources are restricted to people who are 65 and older. The scant research on disability trends among younger persons is mixed. Using data from the National Health Interview Survey (NHIS) on persons not in institutions, Lakdawalla et al. (2001) note that the reported need for personal care increased from 2.5 percent to nearly 3.5 percent between 1984 and 1996 among persons in their 40's, even while the percentage of older persons reporting such need was declining. While a one percent increase may seem small, it represents a 35 to 40 percent relative increase in the number of persons in their 40's with a disability, which the authors attribute to increases in the prevalence of diabetes and asthma (Lakdawalla, et al., 2001). These data may raise a warning signal that declines in disability cannot be taken for granted in the future.

On the other hand, the revised NHIS found substantial declines in reported activity limitations caused by chronic conditions at all ages in the short period between 1997 and 2000 (National Center for Health Statistics, 2002a) as shown in Table 2.

Table 2: Limitation of Activity Caused by Chronic Conditions by Age

Ages	1997	2000
18-24	5.1%	3.6%
25-44	7.6%	6.5%
45-54	14.2%	12.4%
55-64	22.2%	19.7%
65-74	30.0%	26.6%
75+	50.2%	45.1%
Source: NHIS for 1997 and 2000, (NCHS, 2002)		

Clearly more research is needed on disability among younger cohorts in order to project future trends. Moreover, much more research is needed on the causes of change in disability rates at all ages. In his evaluation of trends in disability, Cutler (2001a) concludes that "overall, the weight of the evidence suggests large disability reductions [among the older population], as shown in the NLTCS." He adds, "…the basic facts about disability change are now complete. The next few years should turn to research considering why disability has changed.…" Examining in greater detail the factors that have driven disability declines in the past can help in projecting the likelihood of those trends continuing for the future. Two types of explanations have been offered for declining disability rates: those emphasizing socioeconomic improvements and those emphasizing medical interventions. The following sections of this report will examine the evidence of each of these factors and the likelihood of whether recent improvements will continue.

Trend #4 – Socioeconomic improvements have reduced disability rates among older persons.

Socioeconomic improvements are among the strongest predictors of declines in disability rates. The term "socioeconomic status" includes a variety of factors such as occupation, education, income, and wealth, which affect outcomes such as health and longevity. Historical research has

focused on these social and economic factors in explaining declines in disabling chronic conditions that predate effective medical interventions. Indeed, Costa (2000) argues that medical interventions may increase disability rates as much as reduce them. "Although the increased efficacy of medical procedures may improve health, it may do so only for those who would have survived in any event while keeping alive, in a poor state of health, those who would have died. The latter effect may even offset or overwhelm the former."

Costa's research (2000) indicates that the prevalence of chronic conditions, such as heart and respiratory disease, and musculoskeletal disorders, has been declining since the beginning of the twentieth century. Comparing data from the Union Army pension plan for aging Civil War veterans to more recent data sets, she found an average decline in these chronic conditions of 66 percent between 1910 and the 1970s. In addition, rates of blindness among those aged 65-84 were four times as high in the 1930s as in the 1990s. Not only has the prevalence of chronic conditions declined, but the disabling effects of such conditions have declined, as measured by the ability to walk. By that measure, Costa estimates that disability rates have declined by between 0.3 and 0.7 percent per year since 1900 (Costa, 2000).

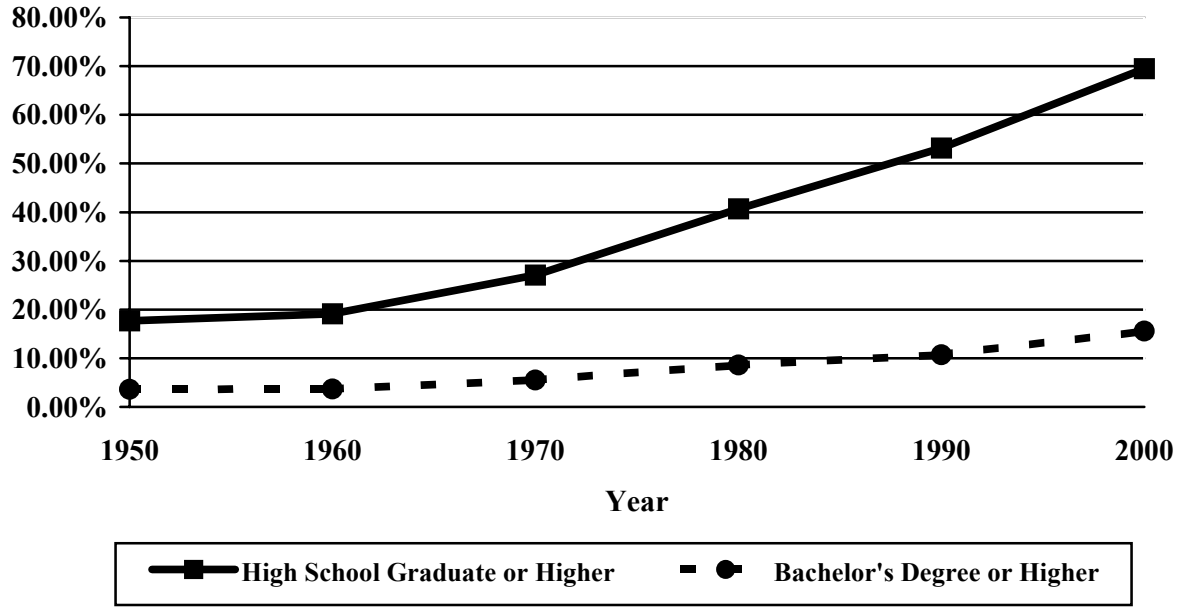
She suggests that the strongest historical predictor of declines in the prevalence of chronic conditions has been the shift from manual labor to white-collar occupations and the resulting decreased exposure to occupational hazards and infectious diseases. Technological changes in agriculture, food preservation, and sanitation have also enabled successive cohorts to enjoy better nutrition and less exposure to pathogens and infectious diseases that are related to morbidity and disability later in life (Costa, 2000; Manton, Corder, and Stallard, 1997). Costa (2000) suggests that the full impact of these public health improvements may not be felt until 2035 or later when the oldest Boomers reach advanced old age.

Recent survey data also indicate continued declines in disability related to socioeconomic improvements. Such research often uses educational attainment as a surrogate for socioeconomic status because, unlike other components of socioeconomic status, such as occupation, income, or wealth, educational attainment is generally fixed early in adulthood and remains constant in old age (Freedman and Martin, 1999). As a result, education levels are easily tracked over time and allow for projections of future trends. In addition, education is related to factors that affect disability rates, such as exposure to occupation-related risks, insurance coverage and access to health care, and likelihood of health-related behaviors such as smoking and alcohol consumption. Finally, education appears to have direct effects on some disabling conditions, most notably the significant declines in cognitive disability in recent years (Cagney and Lauderdale, 2002; Freedman et al., 2002; Freedman et al., 2001).

Survey data indicate that declines in disability have been concentrated among older persons with the highest levels of education (Freedman and Martin, 1999; Manton and Gu, 2001; Schoeni et al., 2001; and Waidmann and Liu, 2000). Schoeni et al. (2001) found that two-thirds (65 percent) of the decline in disability rates between 1982 and 1996 could be explained by increasing educational levels. Indeed, they found that only those with more than 12 years of education experienced significant declines in disability rates. Manton and Gu (2001) found that more highly educated older people have a disability rate that is about half of that experienced by

less educated people. Figure 9 documents increases in education levels among older persons since 1950.

FIGURE 9:
Percentage of the Population Age 65 and Older with a High School Diploma or Higher and Bachelor's Degree or Higher, 1950-2000



Source: Population Census Volumes 1950, 1960, 1970, and 1990; March Current Population Survey, 1980 and 2000.

Additional improvements in educational attainment are virtually certain given the levels attained by succeeding cohorts who will reach age 65 over the next two decades as indicated in Table 3. Based on such data, Waidmann and Liu (2001) project further educational improvements until at least 2020 when a quarter of the older population will have a bachelor's degree and more than 85 percent will have at least a high school education. Freedman and Martin (1999) indicate that higher levels of education will continue to contribute to decreasing disability over the next three decades, though they conclude that the rate of decline in disability due to education is likely to slow.

TABLE 3: Percentage with a High School Diploma or Higher and Bachelor's Degree or Higher by Age, 2000

	45-49	50-54	55-59	60-64	65-69	70-74	75+
High School Grad or Higher	89.5	88.3	84.0	78.8	75.4	71.6	64.6
Bachelor's Degree or Higher	30.3	30.2	25.0	21.6	18.5	16.4	13.4
Source: U.S. Census Bureau, Current Population Survey, March 2000.							

Trend #5 – Medical advances have also played a role in reducing disability rates.

Davis (2000) has argued that "even without major breakthroughs in medical research or biotechnology, tomorrow's elderly will be healthier and better educated." In other words, disability rates are likely to decline in the coming decades even in the absence of medical breakthroughs in the treatment of age-related disabling conditions. Medical improvements have clearly played a role in increasing longevity for older persons, although the relationship between improved medical care and disability is somewhat more complex.

Crimmins (2001) argues that medical interventions have allowed many people to survive lethal diseases only to experience nonlethal or slowly developing illnesses that have the potential to increase disability such as arthritis, vision loss, and Alzheimer's disease. She points to data indicating that the prevalence of chronic disease is increasing even while mortality rates are falling, which may increase disability rates unless these disabling nonlethal diseases can be effectively treated.

Freedman and Martin (2000) tracked the rates of nine chronic conditions between 1984 and 1995 and found that rates increased in eight of those conditions. However, Freedman and Martin also found that disability rates declined during that time among older persons. They conclude that even though the prevalence of chronic conditions has been increasing, the debilitating effects of those conditions have been reduced, especially for arthritis. Both Crimmins and Freedman and Martin conclude that treatment rather than prevention is the key to decreasing disability rates caused by age-related chronic conditions.

Lubitz et al. (2001) also note the importance of medical interventions in reducing the disabling effects of chronic conditions. Restorative procedures and medical technology barely in use in the 1970s—such as angioplasty, coronary artery bypass, and knee replacement—have become relatively commonplace. Widespread use of screening and diagnostic procedures has led to earlier detection of diseases, allowing doctors to treat diseases before they become disabling. Pharmacological interventions have lessened the disabling effects of chronic conditions such as arthritis. Much improvement in age-related disability could occur by extending the use of currently existing medical treatments. As Davis (2000) notes, too many older women and minorities are not receiving readily available treatments or diagnostic procedures.

Other improvements will await the development of new medical interventions, where even modest breakthroughs in the treatment or prevention of age-related disabling conditions could have an enormous impact. For example, the National Academy on an Aging Society (2000) reports that a 1-year delay in the onset of Alzheimer's disease could reduce the number of persons with the disease by more than 200,000 and reduce annual costs for care by $10 billion. Cures or effective treatments for Alzheimer's disease, Parkinson's disease, osteoporosis, arthritis, diabetes, heart disease, cancers, and other age-related diseases could greatly amplify declining rates of disability and the resulting demand for long-term supportive services. While it is difficult to predict medical breakthroughs, the Institute for the Future (2000) projects that the next 10 years will see breakthroughs in medical and information technologies that could transform the practice of medicine. Genetic screening could not only permit early detection of susceptibility to genetically linked chronic diseases, but also allow the "rational design" of drugs specific to the individual's needs. Vaccines may be developed to prevent and treat many viruses and tumors. Transplantation of organs from non-human sources may become possible. Medical developments in these and other areas could greatly affect projections of future disability rates.

VII. CHANGES IN SERVICE UTILIZATION DUE TO CHANGES IN THE OLDER POPULATION

In addition to the declining rates of disability, other changes in the older population will affect the utilization of long-term supportive services. The following sections explore the potential impact of changes in socioeconomic improvement, spousal survival, numbers of children, and ethnic diversity on the utilization of services.

Trend #6 – Socioeconomic improvement is increasing the service options available to older persons with disabilities.

Socioeconomic factors are not only related to disability rates, but they also play a major role in the choices older people make with respect to long-term supportive services. Improved socioeconomic status enhances the consumer's power to control decisions regarding long-term supportive services. Some evidence for the effects of this economic empowerment comes from the NNHS. Table 4 compares the actual number of residents with various primary payment sources in 1999 with the numbers that would have been expected if 1985 utilization patterns had remained constant.

TABLE 4: Nursing Home Residents 65+ in 1985 and 1999, Actual and Expected, by Primary Source of Payment[8]

	1985	1999, if 1985 rate continued	1999, Actual	Actual – Expected
Private	575,500 (43.7%)	808,300 (44.1%)	370,100 (25.2%)	-438,200 (-54.2%)
Medicaid	652,200 (49.5%)	906,600 (49.4%)	835,400 (56.8%)	-71,200 (-7.8%)
Medicare	20,300 (1.5%)	27,100 (1.5%)	227,400 (15.5%)	+200,300 (+739.1%)
Other	70,300 (5.3%)	92,200 (5.0%)	36,700 (2.5%)	-55,500 (-60.2%)
Total	1,318,300 (100.0%)	1,834,200 (100.0%)	1,469,600 (100.0%)	-364,600 (-19.9%)

The declines in nursing home utilization have been so dramatic that they prompted Bishop (1999) to ask, "Where Are the Missing Elders?" The data in Table 4 may well have led Bishop to ask, "Where Are the Missing 'Privately Paying' Elders?" The number of nursing home consumers paying privately dropped by more than half (54 percent) from the expected level. Indeed, the number of older nursing home consumers paying privately dropped in absolute terms from 575,500 in 1985 to 370,100 in 1999, a decline of more than a third (36 percent) despite the growth in the older population.

Bishop (1999) explores some potential explanations for this decline. She rules out limited nursing home capacity because occupancy rates declined during the period between 1985 and the present, indicating excess capacity in most areas of the country. Moreover, since providers generally favor the admission of private pay consumers, any limits on capacity would more than likely show up in fewer consumers receiving public payments. Some portion of the decline may be due to the selective impact of the demographic factors noted above—declining disability rates and stronger family supports are more common among those able to pay privately.

Some portion of the decline in private payment may also be due to a shift to public sources of payment. However, the lower-than-expected numbers receiving support from Medicaid and other sources do not support the notion that increasing numbers of older persons are spending down their assets to benefit from welfare programs. The percentage of residents receiving Medicaid has risen due to the precipitous decline in the private pay portion rather than higher than expected growth in Medicaid.

Having explored these other options, Bishop concludes that older persons with the means to pay privately appear to be voting with their feet—and their wallets—for alternatives that they

[8] Analysis by AARP Public Policy Institute based on data from the National Nursing Home Survey. The total expected number for 1999 differs from Figure 3 above because this table uses 1985 rather than 1973-74 as the baseline. The percentage distributions under 1985 and 1999 expected are slightly different because of different patterns among different age categories and the different age distributions in the 2 years.

experience as meeting their needs better. Many are staying in their homes and receiving home care services. Others are opting for assisted living, an option that many view more favorably than nursing homes as the next best thing to home (Lehrer, 2001).

Education appears to be a good measure for choice in the marketplace of long-term care services. To the extent that more highly educated consumers are more sophisticated about options available and are more likely to have the means to pay for them, they will have greater control over long-term care services. For example, Hawes et al. (2000) found that residents in high privacy and/or high service assisted living facilities had higher levels of education than peers their age. Only 26.8 percent of assisted living residents in these facilities had less than a high school education compared to 35.4 percent of the general population 75 years of age and older. On the other hand, 20.3 percent of assisted living residents were college graduates compared to 13.4 percent of the general population 75 years of age and older.

Trend #7 – The narrowing ratio of men to women in old age has contributed to the declining use of institutional care and will likely continue to do so over the next few decades.

Age and disability are not the only predictors of utilization patterns for long-term supportive services. Family support is also a very strong predictor of the types of services used. According to a report by the National Academy on Aging, only 7 percent of older persons with long-term care needs who have family supports are living in nursing homes compared to 50 percent of those who have no family supports (Stone, 2000).

Informal caregivers provide the overwhelming majority of supportive services to older family members or friends. A national survey conducted by the National Alliance on Caregiving and AARP (1997) found that 23 percent of U.S. households (22 million) contain at least one caregiver. According to data from the 1994 National Health Interview Survey of Disability, 61 percent of persons 50 years and older needing help with two or more ADLs received help only from unpaid caregivers. Another 25 percent received help from both paid and unpaid sources. Only 14 percent received paid services (Kassner and Bectel, 1998).

Demographic evidence points to increased availability of family support for older persons with disabilities for the next two decades or more. Philipson and Lakdawalla (2002) argue that simplistic arguments that associate increased longevity with increased nursing home usage ignore important changes in the family support experienced by successive cohorts of older persons. They note that nursing home demand may decline faster than disability rates because "… disability reduction has not only a direct negative effect on nursing home demand, but also an *indirect* supply effect, because it expands the supply of nonmarket [informal] care by other elderly people" (Lakdawalla and Philipson, 2002). In other words, greater longevity accompanied by declining disability rates may mean *less* demand for paid long-term supportive services (especially nursing home services) if more surviving spouses are able to provide assistance in the home.

In the 1960s and 1970s, the number of women aged 75 years and older grew at twice the rate of men that age, which resulted in more widows. Indeed, the growing gender imbalance led to 900,000 more widowed older women in 1980 than would have been predicted based on 1970

rates (Lakdawalla and Philipson, 1999). As noted earlier, longevity increases during this period may have been accompanied by increases in disability. The selective growth of those most at risk of nursing home services—that is, widowed women with higher rates of disability—led to growth in the nursing home population that outpaced the growth in the older population as a whole. Lakdawalla and Philipson (2002, p. 297) argue that the growing gender imbalance in the older population was the most important factor in explaining increasing nursing home utilization during the 1970s:

> We estimate that 60 percent of the per capita growth [in nursing home utilization] during the 1970's was caused by the relative growth in elderly females, while 70 percent of the per capita decline during the 1980's was caused by improvements in the health of the elderly. The next most significant force, the dramatic expansion in Medicaid subsidization, explained only 15 percent of the per capita growth during the 1970's and played no role during the 1980's.

These trends reversed in the 1980s and 1990s as the gender ratio narrowed and nursing home utilization declined. In contrast to the 1970s, declines in mortality during subsequent decades were more rapid for men than women. Between 1979-81 and 1995-97, death rates for men 65 years of age and older declined more than twice as rapidly as for women of the same ages (Sahyoun et al., 2001a). Table 5 shows the effects of declining mortality among men during the 1990s in the narrowing of the gender ratios among those aged 45 and older. Using 1990 Census projections, Schafer (2000) projected that the ratio of men to women age 75 and older will continue to rise from 54 men per 100 women in 1994 to 76 in 2030.

TABLE 5: Ratio of Males to Females (Number of Males per 100 Females)

Ages	1990	2000
45-54	95.6	96.4
55-64	89.4	92.2
65-74	78.1	82.3
75-84	59.9	65.2
85+	38.6	40.7

Source: U.S. Census 2000 Summary File 1; 1990 Census of the Population, General Population Characteristics: United States (1990 CP-1-1); See Smith and Spraggins (2001).

When mortality rates fell and the gender ratio narrowed, nursing home utilization rates fell despite the rapid increase in the number of people in the oldest age groups. Lakdawalla and Philipson (2002, p. 297) conclude that "a ten-percentage-point increase in the ratio of men per woman appears to reduce the per capita stock of nursing home residents by as much as 16 percent." Increased longevity among men and the narrowing of the gender ratio results in declining rates of widowhood, especially among women. More surviving spouses increases the supply of informal caregiving and decreases institutional usage according to their argument.

Table 6 documents significant changes in widowhood rates and numbers among women between 1980 and 2000. The dark-shaded area in the lower left of the table shows the experience of the "Oldest Old" cohorts. While the number of widows in the oldest age categories increased by 1.8 million, the total number is still roughly a million less than the number that would have occurred if 1980 rates had remained constant. The white background diagonals in the middle show the experience of the "Birth Dearth" cohorts. Reflecting the smaller cohort sizes, the number of women aged 55-74 who were widowed in 2000 was nearly a million less than twenty years earlier when the "Oldest Old" cohorts were in those age categories. The total would have been more than 1.7 million higher if 1980 rates had remained constant. The lightly shaded cells in the upper right of the table represent the experience of the oldest half of the Boomer cohorts. Even though the number of women aged 45-54 was 62.7 percent higher in 2000 than it was in 1980, the number of widowed women was 12.5 percent fewer. Among all women aged 45 and older in 2000, there were 3.3 million fewer widows than would have been expected based on 1980 rates.

TABLE 6: Widowhood Numbers and Rates for Women by Age for Select Years, 1980-2000

Ages	1980	1990	2000	Absolute Change (2000 minus 1980)	Expected 2000 (at 1980 rates)	2000 Actual Minus Expected
45-54	815,634 6.9%	665,565 5.2%	713,433 3.7%	-102,201 (-12.5%)	1,321,559 (6.9%)	-608,126 (-46.0%)
55-64	2,104,980 18.2%	1,776,893 15.9%	1,503,712 11.9%	-601,268 (-28.6%)	2,294,081 (18.2%)	-790,369 (-34.4%)
65-74	3,482,027 39.2%	3,587,808 35.3%	3,127,546 30.8%	-354,481 (-10.2%)	3,977,065 (39.2%)	-849,519 (-21.4%)
75-84	3,149,496 64.8%	3,832,368 60.9%	4,088,476 54.6%	+938,980 (+29.8%)	4,856,012 (64.8%)	-767,536 (-15.8%)
85+	1,246,552 81.8%	1,805,814 81.2%	2,117,108 71.6%	+870,556 (+69.8%)	2,418,977 (81.8%)	-301,869 (-12.5%)

Source: U.S. Census population characteristics for 1980, 1990, and 2000.

As Table 7 shows, the improvements in rates of widowhood have been less dramatic for men than for women. While the totals represent declines from the expected rates, the large absolute increases in the numbers of widowed men aged 75 and older reflect the increased longevity among men.

TABLE 7: Widowhood Numbers and Rates for Men by Age for Select Years, 1980-2000

Ages	1980	1990	2000	Absolute Change (2000 minus 1980)	Expected 2000 (at 1980 rates)	2000 Actual Minus Expected
45-54	152,424 1.4%	134,155 1.1%	190,753 1.0%	+38,329 (+25.1%)	257,958 (1.4%)	-67,205 (-26.0%)
55-64	367,249 3.6%	347,468 3.5%	323,367 2.8%	-43,882 (-11.9%)	416,138 (3.6%)	-92,771 (-22.3%)
65-74	602,790 8.9%	701,651 8.8%	696,981 8.4%	+94,191 (+15.6%)	734,257 (8.9%)	-37,275 (-5.1%)
75-84	323,432 21.0%	732,438 19.5%	877,008 18.2%	+553,656 (+171.2%)	1,012,918 (21.0%)	-135,910 (-13.4%)
85+	292,825 43.8%	347,413 40.5%	425,198 35.3%	+132,373 (+45.2%)	504,565 (43.8%)	-79,367 (-15.7%)
Source: U.S. Census population characteristics for 1980, 1990, and 2000.						

Lower rates of widowhood have resulted in lower rates of women living alone. Consistent with the historical pattern described above where widowhood rates increased during the 1970s, the percentage of older women living alone increased dramatically during that time as indicated in Table 8. The percentage of women living alone crested in 1980 for women aged 65-74 and in 1990 for women aged 75 and older and has declined since. The percentage of men living alone increased slightly over the same thirty-year period.

TABLE 8: Percent Living Alone By Age and Sex for Select Years

		1970	1980	1990	2000
Men	**65-74**	11.3%	11.6%	13.0%	13.8%
	75+	19.1%	21.6%	20.9%	21.4%
Women	**65-74**	31.7%	35.6%	33.2%	30.6%
	75+	37.0%	49.4%	54.0%	49.4%
Source: Current Population Surveys for 1970, 1980, 1990, and 2000 (see Federal Interagency Forum on Aging Related Statistics, 2000; and Fields and Casper, 2001).					

Finally, two additional observations are needed to understand the potential effects of the narrowing gender ratio in old age. In the first place, the benefits are likely to continue to be gender specific; that is, older women are more likely to see improvement in spousal support than are men according to projections from the SSA.[9] As Table 9 indicates, the rate of widowhood is

[9] The data in this table were based on 1995 Census estimates (Bell, 1997). However, the SSA projections overestimated the number of widowed women age 75 and older in 2000 by 10.1 percent and the number of widowed men by nearly 18.7 percent. The 2000 Census numbers show that 21.8 percent of men age 75 and older were widowed rather than the 25.0 reported in Table 7. For older women, 59.4 percent were widowed in 2000 (see Table

projected to decline from two-thirds (67.1 percent) to less than half (47.6 percent) among older women by 2040 while the rate of widowhood among men is projected to decline by a much more modest amount (from 25.8 to 21.2 percent).

Second, optimism about the effects of the narrowing of the gender ratio must be tempered somewhat by other important changes in marital status documented in Table 9. Among men, modest declines in the rate of widowhood are balanced by increases in the rates of divorce so that marriage rates after age 75 vary little through 2030 and then decline by 2040. The more substantial decline in widowhood projected for older women means that marriage rates among older women are likely to increase, although they will remain significantly below that of men. Adding to the complexity is the growing number of long-term unmarried relationships. Unmarried couple households increased from 523,000 in 1970 to 4 million in 1996. In 2000, there were roughly 1.2 million same-sex unmarried couples (Chen, 2002). The implications of these unmarried relationships on support in old age have not been extensively studied, but rates of marriage alone may not be an adequate measure of partner support.

TABLE 9: Projections of the Percentages of Persons 75 and Older by Marital Status and Gender

	Males				Females			
	Married	**Single**	**Widowed**	**Divorced**	**Married**	**Single**	**Widowed**	**Divorced**
1990	65.9	5.1	25.8	3.2	23.3	6.3	67.1	3.3
2000	66.1	4.5	25.0	4.4	25.6	5.6	64.8	4.0
2010	65.4	4.2	24.5	5.9	26.5	4.5	62.5	6.4
2020	66.4	3.9	22.8	6.9	28.8	4.2	57.0	10.0
2030	65.3	5.1	21.4	8.2	31.5	4.9	49.8	13.8
2040	61.9	8.1	21.2	8.8	31.5	6.2	47.6	14.7
2040 high	68.5	7.0	18.8	5.6	35.6	5.6	46.6	11.9

Source: AARP PPI analysis of Social Security Area Population Projections (Bell, 1997). Projections from the intermediate assumption tables are used. For the year 2040, "high cost" projections are also shown.

The projections in this table are based upon SSA's intermediate assumption regarding declining mortality rates. The final row in Table 9 shows what the projections would be for 2040 under the "high cost" assumption; that is, under the assumption that death rates decline more rapidly, an assumption consistent with more optimistic projections of disability rates. Based on this assumption, rates of widowhood would decline and rates of marriage would increase more rapidly than they would under the intermediate alternative—especially for men.

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8) rather than the 64.8 percent projected by SSA. Similar overestimates of widowhood at younger ages suggest that the projections of the percentages of widowhood presented in this table are almost certainly on the high side. The projections serve, however, to illustrate the direction that trends may take in future years.

Trend #8 – Cohorts of older persons reaching the high-risk years of 75 and older during the next two decades have more adult children than previous cohorts.

In addition to changes in marital status, cohort differences in childbearing will also have a strong impact on informal supports later in life. Women who reached age 75 in the 1970s and 1980s not only experienced high rates of disability and widowhood, they also had high rates of childlessness. Having come into adulthood during the Great Depression and World War II, a period not conducive to family formation, today's oldest cohorts were the parents of the Birth Dearth Cohort. In contrast, subsequent cohorts born during the Birth Dearth years reached adulthood in the post-World War II era and are the parents of the Baby Boom. Not only do the Birth Dearth cohorts have low rates of childlessness, they also have high average numbers of children as noted in Table 10.

TABLE 10: Number of Children among Women by Birth Cohort in 2000

	AGE in 2000	PERCENTAGE DISTRIBUTION BY NUMBERS OF CHILDREN			AVERAGE NUMBER OF CHILDREN
		0	1-3	4+	
Boomers	**40-44**	19.0	70.5	10.5	1.91
	45-49	17.5	71.3	11.3	1.96
	50-54	16.0	71.3	12.8	2.04
Birth Dearth	**55-59**	12.7	66.5	20.9	2.45
	60-64	10.8	57.8	31.5	2.90
	65-69	11.4	52.7	36.0	3.20
	70-74	11.6	55.1	33.2	3.08
Oldest Old	**75-79**	14.1	57.8	28.2	2.86
	80-84	17.2	58.0	24.8	2.57
	85-89	22.5	57.0	20.5	2.35
	90-94	24.2	54.9	21.0	2.29
	95-99	23.9	52.9	23.2	2.44
	100+	21.9	50.1	28.0	2.68

Source: AARP PPI analysis of women age 40 and older in 1990 decennial public use microdata for women 60 and older. For Boomer cohorts, the data come from the Current Population Survey data on fertility of women aged 40-44 at various points in time (Bachu and McConnell, 2001, historical tables). Otherwise the data are from Congressional Budget Office (1988).

The data on fertility show that the trends toward lower childlessness and more children have reversed for the Boomers. Research based on the Current Population Survey (Bachu and O'Connell, 2001) shows that the percentage of childlessness among women aged 40 to 44 nearly

doubled from 10.1 percent in 1980[10] (among women in the Birth Dearth cohorts) to 19.0 percent in 2000 (among women in the Boomer cohorts). The increase in childlessness places the Boomer cohorts in the same range as the Oldest Old cohorts. Using simulations to predict future family patterns, Wachter (1997) projects that the average number of living biological children among persons 70 to 85 years of age, which has been rising since 1980, will crest around 2005. After that time, the average number of biological children will gradually decline below the 1980 level of about two biological children by 2030.

Using data on mortality rates and divorce rates from 1980, Himes (1992) projected the percentage of persons 85 years and older who will be both unmarried and have no children over the next couple of decades. As Table 11 indicates, the percentage of the very old who have no spouse or children was projected to crest in 1990 and then decrease by more than half by 2020.

TABLE 11: Percentage of Persons 85 and Older With No Spouse and No Children by Gender and Race, Select Years 1980 to 2020

	1980	1990	2000	2010	2020
White Females	21.8%	22.1%	19.2%	12.2%	8.7%
Black Females	24.9%	31.5%	30.1%	21.2%	14.0%
White Males	9.6%	10.2%	8.4%	6.1%	4.8%
Black Males	15.7%	17.6%	16.6%	12.7%	9.2%

Source: Himes (1992)
Prepared by AARP Public Policy Institute, 2001.

In the short-term, changes in mortality and fertility will likely mean greater availability of family caregivers for at least the next two decades. But the longer term picture is less clear because of declining fertility among Boomer cohorts, increasing divorce rates, and changes in the roles of women. An unprecedented number of women are entering and remaining in the workforce. According to the Bureau of Labor Statistics (cited in Wagner 2001), nearly 80 percent of women between the ages of 25 and 54 participate in the labor force. The proportion of women involved in paid work today is almost three times that in 1950. More than half (64 percent) of family caregivers are employed part- or full-time, creating the need for caregivers to juggle their work and caregiving responsibilities (National Alliance for Caregiving and AARP, 1997).

Citing population projections along with data on divorce rates and willingness to support older parents, Wolf (2001) argues that improvements in informal supports will run their course in the next two decades and that Boomers will have fewer supports when they reach old age. Wachter (1995, 1997) takes a more optimistic view. He concludes that, when all Boomers are 65 and older (in 2030) with their higher divorce rates and lower childbearing rates, the reality of fewer biological children and grandchildren will be offset by substantially more step-children and step-

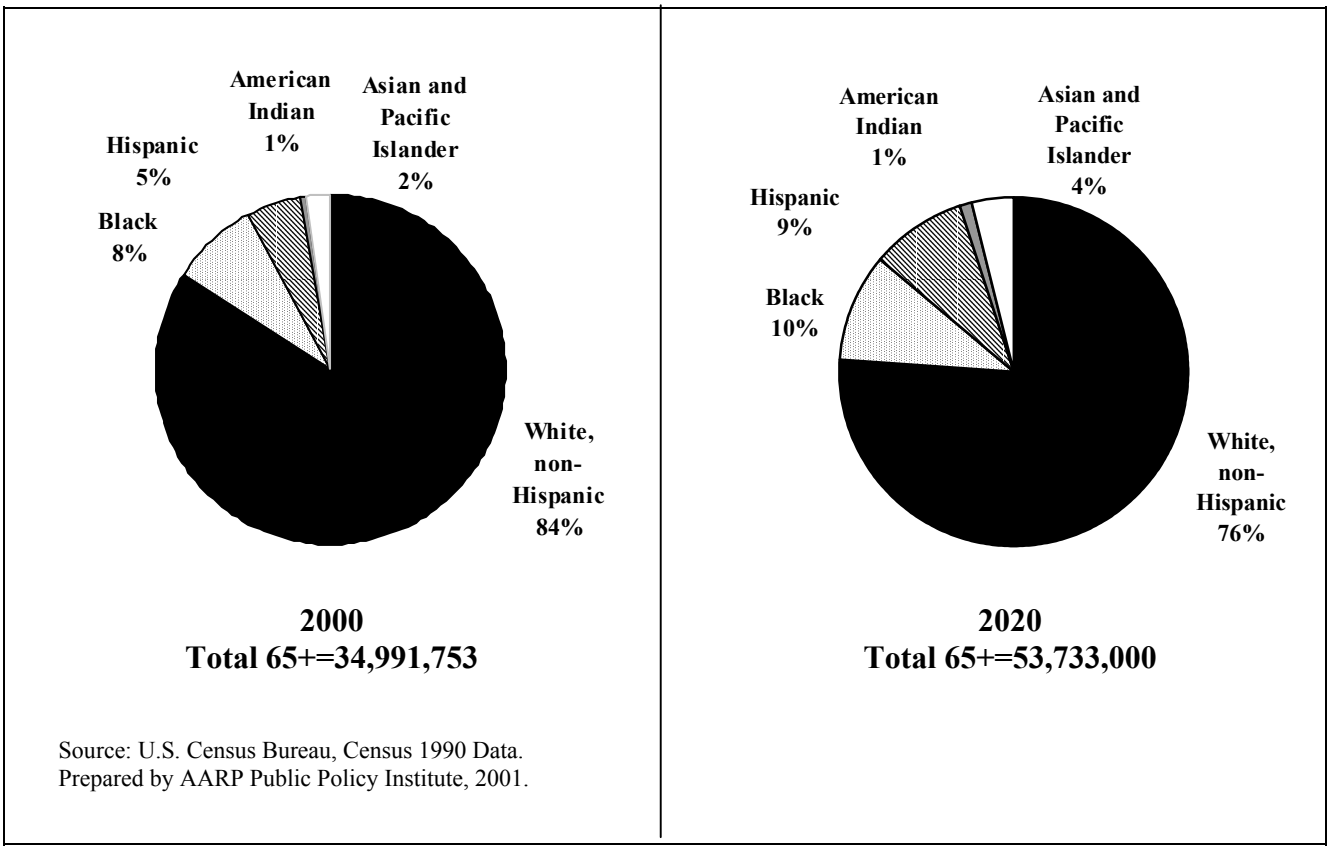
[10] Census data reported in Table 10 indicate that the percentage of childlessness was 10.8 percent among this cohort of women. Current Population Survey data were used for Boomer cohorts because the 2000 Census discontinued fertility questions. The 1990 Census found that 16.0 percent of women 40-44 were childless, identical to the Current Population Survey reported in Table 10 among women 50-54 in 2000.

grandchildren than the elderly of 1980. He notes that step relationships have proven to be less reliable support than biological kin in the past, especially for older men. But Wachter (1995) argues that on the whole, "the kin will be there" if families are willing to adapt to take care of their older members.

Trend #9 – Utilization trends for long-term supportive services differ substantially among racial/ethnic groups.

The ethnic and racial makeup of the older population is becoming more diverse. In 1990, ethnic minorities represented 13 percent of the population 65 years of age and older—a percentage that rose to 16 percent in 2000. According to the U.S. Census Bureau 2000 Census, the non-Hispanic White population is significantly older than other ethnic groups. The percentage of Whites 65 years of age and older was almost twice (14.1 percent) that of Blacks (7.9 percent) and Asians (7.2 percent) and almost three times that of Hispanics or Latinos (4.9 percent). The older population will become increasingly diverse over the next two decades as the number of older minorities grows more rapidly than does the population of older Whites. As Figure 10 indicates, the number of non-Hispanic Whites is projected to drop from 84 percent to 76 percent of the population 65 and older between 2000 and 2020 as the number of older persons from ethnic minorities increases.

FIGURE 10:
Racial and Ethnic Composition of the U.S. Population Age 65 and Older, 2000 and 2020



Source: U.S. Census Bureau, Census 1990 Data.
Prepared by AARP Public Policy Institute, 2001.

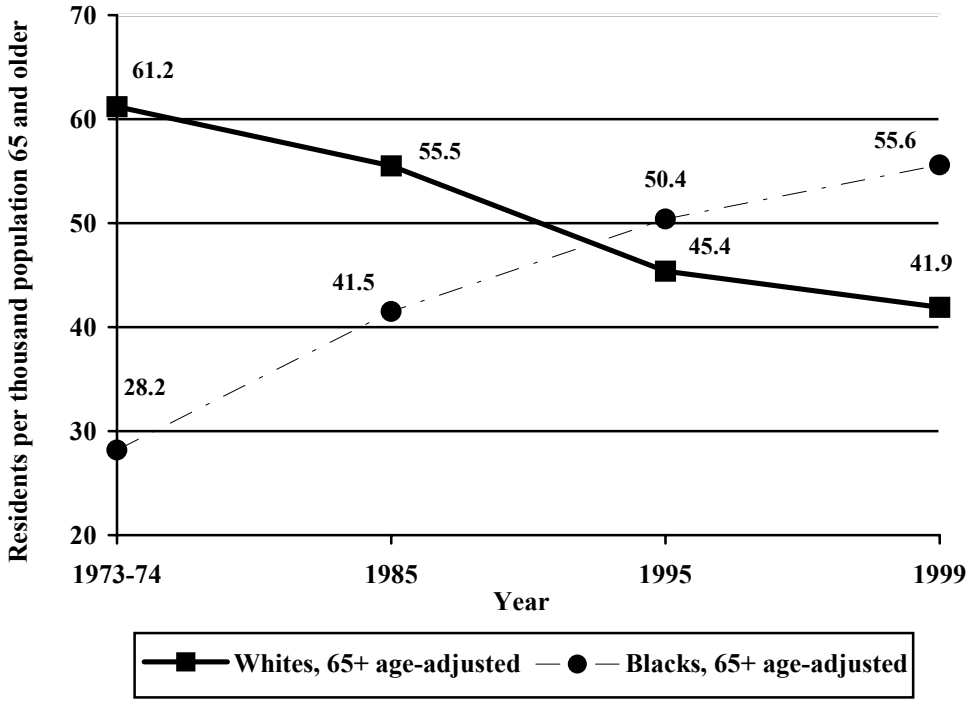
Supportive service use differs across racial and ethnic groups, reflecting cultural and socioeconomic differences as well as patterns of discrimination and cultural insensitivity (Dilworth-Anderson et al., 2002). Cultural explanations have emphasized consumers' attitudes, background, beliefs, and behaviors (Wolf, 2001). Among these patterns of cultural differences are household and living arrangements that affect informal care patterns and formal service use. Older Whites are more likely to live alone or with a spouse only than are older persons from other racial and ethnic groups. On the other hand, minority elders are more likely to live with family members other than a spouse (Himes et al., 1996).

Cultural patterns may also be reflected in the higher use of informal support and the lower use of formal supports among racial and ethnic minorities (Dilworth-Anderson et al., 2002). According to a 1997 national survey of informal caregivers sponsored by the National Alliance on Caregiving and AARP, the prevalence of informal caregiving is higher among Asian and Black households (31.7 percent and 29.4 percent, respectively) than among White households (24 percent) (National Alliance for Caregiving and AARP, 1997).

Past studies have shown that the use of formal long-term supportive services by older Blacks, Hispanics, and Asian Americans has been substantially lower than that of non-Hispanic Whites (Wallace et al., 1998; Damon-Rodriguez et al., 1994; Dilworth-Anderson et al., 2002). This historic pattern has changed dramatically for Blacks as anti-discrimination laws and public funding have provided greater access to home health and nursing home services. According to the 1996 National Home and Hospice Care Survey (NCHS, 1997), home health care use is much higher among older Blacks (69.0 per thousand population) than among older Whites (40.2 per thousand population). Similarly, trend data from the NNHS indicate that while nursing home utilization rates have declined for Whites, they have increased substantially for Blacks and are now higher for Blacks as shown in Figure 11.[11]

[11] In contrast to the NNHS, Manton and Gu (2001) report that the institutionalization rate of Blacks has declined in recent years according to the NLTCS, although not as rapidly as the decline for Whites. Some of this difference may be due to difference in the survey instruments. The most recent wave of the NLTCS includes some assisted living residents among the institutionalized population. This inclusion makes comparisons between the two surveys more difficult, because nearly all of assisted living residents (96.7 percent) are White (NIC, 1998).

FIGURE 11:
Nursing Home Residents Per Thousand Population (Age-Adjusted*) by Race and Selected Years, 1973-74 to 1999



*Note: Age adjusted by the direct method to the year 2000 population standard using the following three age groups: 65-74, 75-84, and 85 years and older.
Source: The National Nursing Home Survey 1973-74, 1985, 1995, and 1999, National Center for Health Statistics, 2001.
Prepared by AARP Public Policy Institute, 2002.

Several factors may be involved in the countertrends between older Whites and Blacks. One major factor may be that the gender ratio is much nearer to parity among Whites than it is among Blacks (Smith and Spraggins, 2001). Another factor may be the disproportionate reliance on public reimbursements among older Blacks. The privately paying residents who are disappearing from nursing homes are mostly White, while a growing proportion of residents who rely on public subsidies are Black. Table 12 shows racial differences in the primary source of payments in nursing homes.

TABLE 12: Primary Source of Payment Among Nursing Home Residents by Race, 1999 NNHS

	Private	Medicare	Medicaid	Other
White	26.5%	14.7%	56.2%	2.7%
Black	4.9%	15.2%	75.7%	4.3%

Source: 1999 National Nursing Home Survey, National Center for Health Statistics (2002c).

The 1999 NNHS also documented some important racial differences in the ages of the nursing home population. As shown in Table 13, Black nursing home residents are significantly younger than White residents. These differences may reflect differential longevity, as well as earlier onset of various disabilities among older Blacks.

TABLE 13: Race and Age of the Nursing Home Population, 1999 NNHS

AGE	Whites	Blacks	Other Non-Whites	Total
< 65	8.3%	18.4%	16.6%	9.7%
65-74	11.3%	17.0%	15.0%	12.0%
75-84	31.6%	32.8%	33.8%	31.8%
85+	48.9%	31.8%	34.6%	46.5%
Total	100.1%	100.0%	100.0%	100.0%

Source: 1999 National Nursing Home Survey, National Center for Health Statistics (2002c) with additional analyses by Esther Hing at NCHS. Note: Respondents who reported White race and another race are included in the "other non-Whites" category. The percentages in the "other non-Whites" category are less reliable because of the small number of cases upon which the analysis is based.

Trend data on Asian-Americans and Hispanic Americans are much sketchier because of the small numbers in national surveys. Himes et al. (1996) note that institutional utilization rates continue to be much lower among Hispanics and Asians than among Whites or Blacks. Using 1990 Census data on persons 60 years of age and older they found that institutionalization was 3.3 percent for Whites, 3.1 percent for Blacks, 2.3 percent for Native Americans, 1.6 percent for Hispanics, and 1.2 percent for Asians. They argue that the lower rates for Native Americans, Asians, and Hispanics strongly suggest a cultural preference for family caregiving. Very likely, language barriers and the lack of culturally sensitive services have also contributed to low utilization rates. Whether these groups follow the pattern of Blacks by increasing use of nursing homes in future years remains an open question.

VIII. CHANGES IN THE DELIVERY OF LONG-TERM SUPPORTIVE SERVICES

In response to the growing diversity and sophistication of older consumers of long-term supportive services, providers of care have diversified their services. Scarcely in existence 15 years ago, the assisted living industry now serves more privately paying clients than do nursing homes. Driven in large part by an increasing role of Medicare as a payer, home health care grew dramatically in the 1990s, surpassing the number of older persons served in nursing homes until cuts in Medicare reimbursements due to the Balanced Budget Amendment of 1997 sent utilization rates tumbling. Increased competition from assisted living and home health care combined with shorter hospital stays are forcing the nursing home industry to become more diversified, specialized, and medicalized.

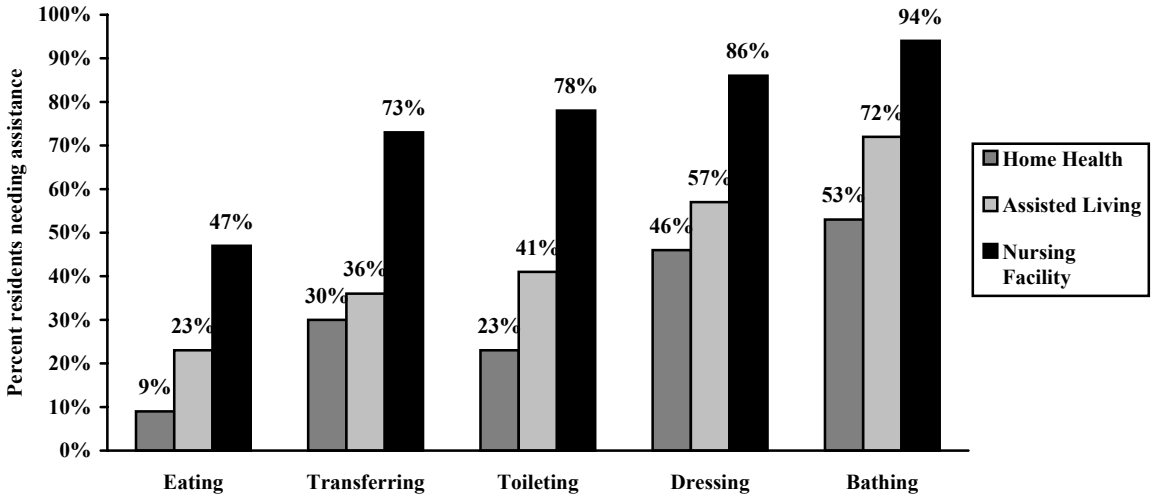
Trend #10 – Assisted living has grown substantially over the past decade, although the extent to which it has replaced nursing home services is not well documented.

When Bishop rhetorically asked, "Where are the missing elders?" with respect to nursing homes, one partial answer she offered was the growth in assisted living. Recent studies of assisted living offer a range of estimates on its size—from 585,735 "units" (National Investment Center, 2000) to 611,300 "beds" (Hawes et al., 1999) to 795,391 "units or beds" (Mollica, 2000) to 987,000 "beds" (NCAL, 2001). From 1991 to 1999, the number of facilities providing assisted living services increased by 49.4 percent (NIC, 2000).

But the question of how much assisted living has actually replaced nursing home care has not been well documented. Indeed, a number of methodological roadblocks make research on this issue very difficult. The first obstacle to researching the replacement potential of assisted living is definitional. While federal regulations have established a floor of uniformity with respect to defining nursing homes, no such uniformity exists with respect to assisted living. Twenty-nine states and the District of Columbia had a licensing category or statute that uses the term "assisted living" as of July 2000, but even these states vary considerably in how they define this type of setting (Mollica, 2000).

Reflecting this diversity of definitions, assisted living facilities vary enormously in terms of size, services offered, and amenities provided (National Center for Assisted Living, 2001). Not surprisingly, assisted living facilities also differ considerably in the level of disability they are able to serve. In some states, assisted living facilities may not serve persons with certain types or levels of disability; other states require higher levels of services in an attempt to promote aging-in-place. In general, however, assisted living facilities serve a less disabled population than do nursing homes. Research by the National Center for Assisted Living (NCAL, 2001) compares the disability levels of assisted living residents to persons living in nursing homes or using home health care. The average assisted living resident needs assistance with 2.3 (on a scale of five) activities of daily living (ADLs) compared to 3.8 for residents in nursing homes and 1.6 for those receiving home health services. Figure 12 compares the types of disabilities for these three services.

FIGURE 12:
Assistance Needs of Clients Among Various Long-Term Care Supportive Services



Source: National Center for Assisted Living (2001). The figure compares data from NCAL's Survey of Assisted Living Facilities, 2000, HCFA's 2000 OSCAR report, and the 1996 National Home and Hospice Care Survey.
Prepared by AARP Public Policy Institute, 2001.

On the other hand, the same NCAL survey of assisted living found that 42 percent of residents needed assistance with three or more ADLs, a level sometimes used as a benchmark for needing nursing home services (NCAL, 2001). The level of disability found in the NCAL study was higher than a national survey done for HHS in which assisted living administrators estimated that 24 percent of their residents had limitations in three or more ADLs (Hawes et al., 1999). Either level is considerably less than the 74 percent of nursing home residents needing such assistance (Gabrel and Jones, 2000), but both surveys indicate considerable overlap in the populations being served.

Disability levels have been increasing in nursing homes—from an average of needing help with 3.8 ADLs in 1985 (on a scale of 6 ADLs) to 4.4 in 1997 according to the NNHS (Sahyoun et al., 2001b). Disability levels may also be rising in assisted living facilities as residents age-in-place. The combination of increasing disability in both settings may indicate that assisted living is serving more people who would have been served in nursing homes in the past, while nursing homes become increasingly focused on higher levels of disability and more medical services.

Another way to measure the extent to which assisted living may be replacing nursing homes is to look at admissions to and discharges from assisted living. The NCAL survey found that 10 percent of assisted living admissions were from nursing homes, while 33 percent of discharges were to nursing homes (NCAL, 2001). These discharge data are similar to a nationally representative survey that followed assisted living residents for a year. Of the approximately 24

percent who left their facility, roughly one-third died, one-third went to a nursing home, and the rest went to other settings including their own homes or those of relatives or other assisted living facilities (Phillips et al., 2000). What these data indicate is that a substantial number of assisted living residents are able to live in such settings until their deaths or very near their deaths. However, at least as many assisted living residents had to leave to get more care, indicating that assisted living is replacing nursing home services only up to a point.

In at least one respect, assisted living has not replaced nursing home services to any great degree. Those who need public subsidies have not been able to access assisted living in large numbers. According to a 1998 survey of assisted living residents, only 7.9 percent received Medicaid assistance (NIC, 1998) compared to the 57 percent who received such assistance in nursing homes. A 2000 survey found that 58,544 assisted living residents were receiving Medicaid assistance (Mollica, 2000). Although that number was 50 percent higher than a comparable survey in 1998, it is still only 7 percent of the 835,000 served by Medicaid in nursing homes according to the 1999 NNHS. In contrast, substantially more older persons paying privately were in assisted living—roughly 600,000 in assisted living compared to only 370,000 in nursing homes (comparing nursing home data from 1999 NNHS and assisted living data from Mollica, 2000).

In short, assisted living is a replacement for some residents who might have been in nursing homes—especially older Whites paying privately with relatively low levels of disabilities. However, most assisted living facilities cannot serve those with complex medical conditions and are not serving large numbers of persons who need public subsidies, largely because of state and federal limitations on those subsidies.

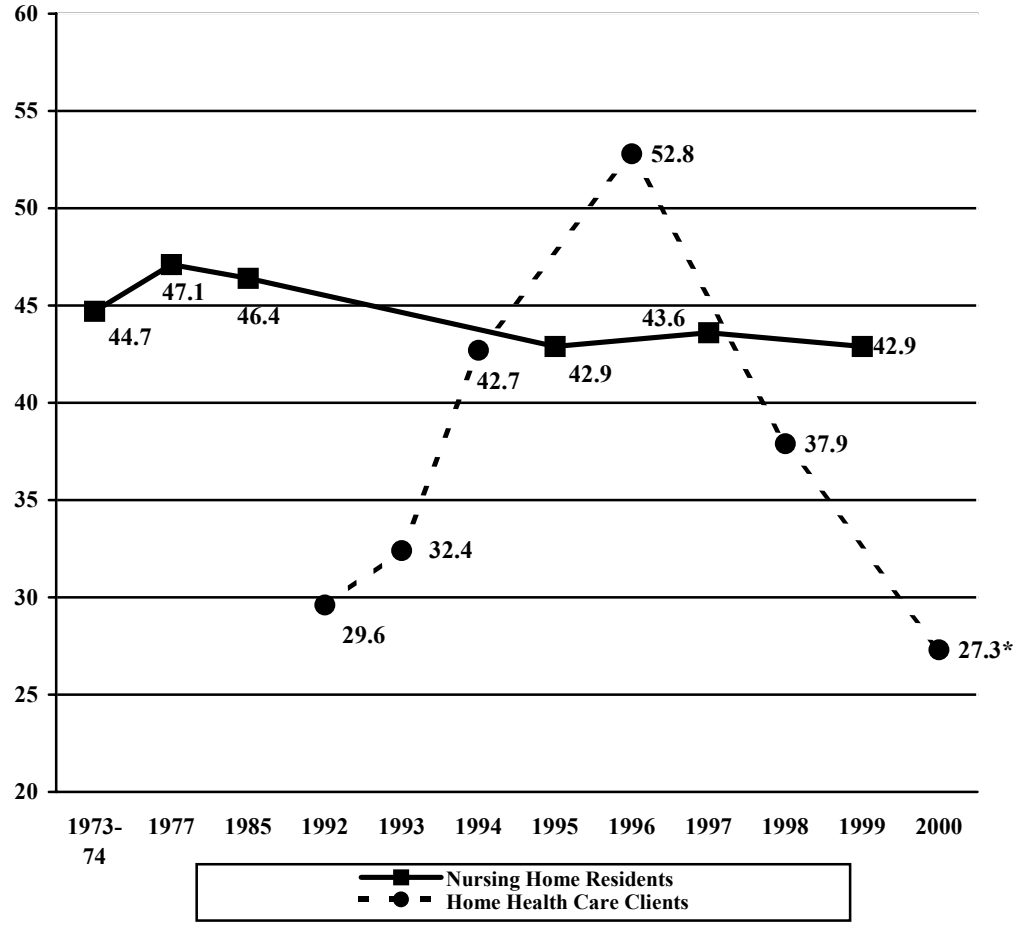
Although assisted living has grown rapidly in recent years, future growth is uncertain. According to Mollica (2000), the number of licensed units or beds grew by 30 percent between 1998 and 2000. But recent research and industry experience indicates that the growth in the supply of assisted living may now be outstripping the growth in demand. Doctrow et al. (1999) estimated that the effective demand for new units of assisted living was about 12,000 to 22,000 per year, although the number of assisted living units coming on line in 1999 was estimated at 43,500 to 50,000. The NCAL report (NCAL, 2001) estimates a very slow growth in demand—at least over the short term. They estimated the number of assisted living "beds" at 987,000 in 2000, which they project to rise only to 1,059,931 by 2010 based on the rise of the population 75 and older. They project more rapid growth after 2015, although they acknowledge that changes in the health and socioeconomic status of the older population could significantly alter demand as could changes in government regulation or reimbursement policies (NCAL, 2001).

Trend #11 – Home health care utilization grew rapidly then declined precipitously following cuts in Medicare reimbursements in the late 1990s.

Figure 13 compares the growth in utilization rates for nursing homes and home health care. As the figure indicates, the utilization rate for home health care services nearly doubled in the years 1992-1996 before plummeting in the wake of the Balanced Budget Amendment of 1997 that curtailed Medicare funding for home health care. Those rates translate into growth from 941,000 older home health care clients (all primary sources of payment included) in 1992 to 1,775,000 in

1996 before declining almost back to 1992 levels with 955,200 older clients in 2000 (NCHS, 2002b).

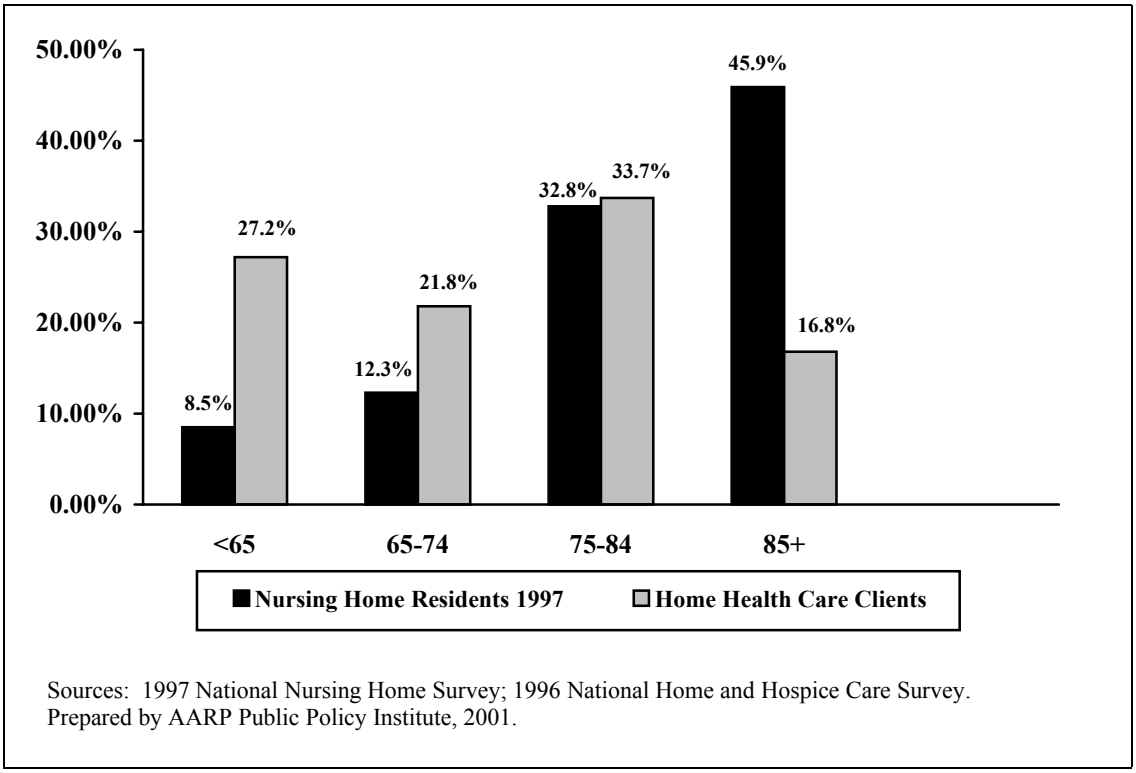
FIGURE 13:
Number of Nursing Home Residents and Current Home Health Care Clients, Age 65+, per 1,000 Population, United States, Selected Years 1973-2000



Source: Centers for Disease Control, National Center for Health Statistics, National Nursing Home Surveys 1973-74, 1977, 1985, 1995, 1997, 1999; Strahan, GW. Overview of home health and hospice care patients: Preliminary data from the 1993 National Home and Hospice Care Survey; Unpublished estimates from the National Home and Hospice Survey.
Prepared by AARP Public Policy Institute, 2001.
NOTE: Data were interpolated between 1985 and 1995, for 1996 and 1998 for nursing home residents; data were interpolated for 1995 and 1997 for home health clients
*To arrive at the number of older persons receiving home health services per thousand in 2000, the number of older persons receiving home health services according to the NHHCS (955,200) was divided by the number of persons 65 and older according to U.S. Census Bureau (34,991,753)

As the data in Figure 12 (preceding section) show, the disability levels of those served through home health services are, on average, considerably below those using either nursing homes or assisted living. Nevertheless, the 1996 NHHCS found that 37.5 percent of older persons in their survey needed help with 3 or more ADLs (on a scale of 6 ADLs that included walking) (Munson, 1999). Home health care clients are also younger than their counterparts in nursing homes as indicated in Figure 14.

FIGURE 14:
Percentage of Nursing Home Residents and Home Health Care Clients, By Age and Selected Years



Sources: 1997 National Nursing Home Survey; 1996 National Home and Hospice Care Survey.
Prepared by AARP Public Policy Institute, 2001.

A significant amount of the growth in home health care was funded by Medicare for post-acute nursing services. Expenditures for home health care increased from 1 percent of Medicare spending on those 65 years of age and older in 1967 to 10 percent in 1997, before retreating to 6 percent in 1998 after passage of the Balanced Budget Amendments of 1997 (Lubitz et al., 2001). Overall, Medicare funded 45 percent of home health care in 1996, with 14 percent coming from Medicaid, and 41 percent coming from various private sources (Kassner and Bectel, 1998). Although most older persons with disabilities live at home, the proportion relying solely on informal caregivers declined from 74 percent to 64 percent between 1982 and 1994 (Liu et al., 2000). Lui, et al. argue that the greater use of professional services does not, however, indicate a decline in family support. Rather, it indicates a growing use of professional services to support informal caregivers. Projecting the future of home health care utilization is obviously very

difficult given the large fluctuations in recent demand and the variability of public policy on reimbursements.

Trend #12 – Many nursing homes have responded to the changing long-term supportive service market by becoming increasingly diversified, specialized, and medicalized.

The nursing home industry has begun to respond to changing markets for supportive services by diversifying their services, often adding services on the same campus or as wings in their skilled nursing facilities. On the "light" end of care, many have added assisted living services. A 1999 survey by the National Investment Center found 1,413 properties offering both assisted living (59,709 units) and skilled nursing (159,898 beds) (NIC, 2000).

The 1996 Medical Expenditure Panel Survey (MEPS) indicates that nursing homes are becoming increasingly specialized by diagnosis. This trend is particularly evident in the growth of special care units for residents with Alzheimer's disease. In 1996, 12.6 percent of skilled nursing homes offered 73,400 beds for Alzheimer's care, the largest category of specialized care units. While no earlier data exist for comparison, the 1996 survey found that more than half of the Alzheimer's units had been in operation for 5 years or less. And only 10 percent had been in operation for 11 or more years (Rhoades and Krauss, 1999). Other special care units provided 18,500 units for ventilator, hospice, HIV/AIDS, and brain injury services. On the more medicalized end of care, the MEPS survey found that 5 percent of nursing homes had a distinct rehabilitation and/or subacute special care unit with 28,500 beds (Rhoades and Krauss, 1999).

IX. CHANGES IN PUBLIC POLICY REGARDING LONG-TERM SUPPORTIVE SERVICES

This report has discussed little about the role of public policy in the changing arena of long-term supportive service options. Public policies have, however, helped to reinforce some of the trends away from nursing home utilization and toward more home and community-based service options. Tracking trends in public and private financing shows how the map of supportive service options is being redrawn.

Trend #13 – Medicaid's institutional bias in favor of funding nursing home services is slowly shifting toward increased funding for home and community-based services.

Medicaid's bias in favor of funding institutional services has long been discussed and debated (Kane et al., 1998). Because nursing home services are an entitlement for persons meeting strict financial and functional eligibility requirements, but most home and community-based services are not, states have put the bulk of their supportive services dollars into institutional care. However, the proportion of spending on home and community-based services has been slowly growing, mostly under federally approved waivers giving states more flexibility to provide noninstitutional services. From 1990 to 2000, the share of Medicaid dollars going to home and community-based services doubled from 13.2 percent ($3.9 billion) to 26.9 percent ($18.2 billion) (GAO, 2001). Most states also contribute some additional funds for home and

community-based services, especially for those who do not qualify for Medicaid (Kassner and Williams, 1997).

Despite the increased funding for home and community-based services, older persons have not benefited from aggressive efforts to provide services in noninstitutional settings to the same degree as younger persons with disabilities. As a result, older persons remain disproportionately among those receiving institutional services. Older persons represent roughly one-third to one-half of the population with some form of chronic condition or disability (Institute of Medicine, 2001; AARP, 2001), but they make up more than three-fourths of the 1.8 million persons with disabilities still served in institutional settings (GAO, 2001). While older persons who have the means to pay privately are finding alternatives such as home care and assisted living, those who rely on public programs generally have only institutional options for services.

States vary considerably in the degree to which they fund alternatives to nursing homes (GAO, 2001; Harrington et al., 2000; Kane et al., 1998). During fiscal year 2000, three states (OR, VT, and AK) spent 50 percent or more of their Medicaid long-term care dollars on home and community-based options. Another 20 states spent between 30 and 49 percent on such options. On the other hand, Mississippi and the District of Columbia spent less than 10 percent, and another 26 states spent between 10 and 29 percent on home and community-based options (O'Shaughnessy and Kelly, 2001).

Some evidence indicates that states can save money by moving aggressively to provide home and community-based alternatives to nursing homes (Alecxih et al., 1996). However, others have concluded that savings from individuals who avoid nursing homes through such programs are outweighed by the increased utilization that results when alternatives to nursing homes are more readily available (Kane et al., 1998). With or without savings, states are likely to experience more pressure to provide home and community-based services after the Supreme Court ruled in *Olmstead v. L.C.* (U.S. Supreme Court, 1999) that unnecessary institutionalization could be a form of discrimination (GAO, 2001).

Trend #14 – Increased public and private payments for home and community-based alternatives have combined with Medicare changes to reinforce the increased specialization and medicalization of nursing homes.

The growth of home and community-based options on the low acuity end of care, combined with Medicare changes, is reshaping the nursing home industry. Medicare's prospective payment system has shortened hospital stays and shifted much post-acute and higher acuity care to nursing homes, while more "long-term" care is shifting to home and community-based settings.

The shift in nursing home focus from long-term supportive services to short-term post-acute care is most clearly illustrated in the West, which includes states that have been most aggressive in restructuring their approaches to health care and long-term supportive services. Six of the top eight states in the percentage of Medicaid spending for home and community-based options are in the West (O'Shaughnessy and Kelly, 2001)—Oregon (61.9 percent), Alaska (50.0 percent), Colorado (48.6 percent), Washington (44.9 percent), Wyoming (44.9 percent), and New Mexico (42.0 percent). In 1987, the West region had 141 nursing home beds per 1,000 population aged

75 and older, right at the national average. By 1996, the number of nursing home beds had dropped to 98 per 1,000 population 75 and older, lowest among the four regions and well below the national average of 117 (Rhoades and Krauss, 1999).[12]

As utilization rates have plummeted, the remaining nursing homes in the West have refocused their services toward more Medicare-funded, post-acute care. In 1987, Medicaid paid for 41.9 percent of nursing home costs in the West, while Medicare paid only 4.1 percent. By 1996, Medicaid paid only 29.8 percent of nursing home costs in the region, while Medicare paid 34.7 percent (Rhoades and Sommers, 2001). Table 14 shows the regional variation in payment source in 1996, reflecting different state approaches to funding long-term supportive services options.

TABLE 14: Percentage of Nursing Home Costs Paid by Various Sources by Region[13]

	Northeast	Midwest	South	West	Total
Medicaid	52.8%	41.4%	46.5%	29.8%	44.0%
Medicare	10.4%	17.3%	19.4%	34.7%	18.9%
Self-payment	29.1%	35.8%	28.4%	26.2%	30.3%
Private Insurance	2.5%	3.3%	3.0%	6.4%	3.5%
Other	5.2%	2.1%	2.7%	3.0%	3.3%
Source: MEPS 1996 survey data (Rhoades and Sommers, 2001).					

The West may be a harbinger of changes coming throughout the country. Table 15 uses NNHS data to show increases over time in the percentage of nursing home residents for whom Medicare payments are the primary source of payment (from 1.4 percent in 1985 to 14.7 percent in 1999) and the rapid decline in the percentage paying privately (from 41.6 percent to 23.7 percent).[14]

[12] The 1997 NNHS also found that nursing home utilization was lowest in the West. In the West, the rate was 28.3 per thousand population aged 65 and older compared to 40.3 in the South, 48.1 in the Northeast, and 56.2 in the Midwest.

[13] Data in this table are for percentage of ***costs*** from different payment sources in contrast to Table 4 above, which present data on the percentage of ***residents*** with different payment sources. The effect is that the percentages of payments from private sources is higher and from Medicaid lower in Table 4 than the percentage of residents with each as the primary payment source in Table 15. This difference is likely due to higher rates paid by private payers.

[14] Data differ from Table 4 above because nursing home residents of all ages are included. According to the MEPS data, Medicare's share of total nursing home costs rose nationwide from 1.9 percent in 1987 to 18.9 percent in 1996 (Rhoades and Sommers, 2001).

TABLE 15: Percentage of Nursing Home Residents (All Ages) with Primary Source of Payment at Time of Survey, 1973-1999

	1973-74	1977	1985	1995	1997	1999
Private	36.7%	38.4%	41.6%	27.0%	24.5%	23.7%
Medicare	1.1%	2.0%	1.4%	12.1%	14.4%	14.7%
Medicaid	47.9%	47.8%	50.4%	57.8%	57.9%	58.7%
Other	14.3%	11.7%	6.6%	3.0%	3.2%	2.9%
Source: National Nursing Home Surveys 1973-74, 1977, 1985, 1995, 1999.						

Table 16 shows the same changes in absolute numbers. The number of nursing home residents paying privately declined 38 percent between 1985 and 1999 while the number of residents whose primary source of payment was Medicare increased more than tenfold.[15]

TABLE 16: Numbers of Nursing Home Residents (All Ages) by Primary Payment Source, 1973-1999

	1973-74	1977	1985	1995	1999	% Change 1985-1999
Private	317,700	500,900	620,800	418,200	386,500	-38%
Medicare	10,800	26,200	20,900	188,300	238,700	+1042%
Medicaid	484,300	623,300	751,300	895,300	955,700	+27%
Other	145,100	152,600	98,500	46,800	47,500	-52%
Total	1,012,000	1,303,100	1,491,400	1,548,600	1,628,200	+9%
Total Minus Medicare	1,001,200	1,276,900	1,470,500	1,360,300	1,389,500	-6%
Source: National Nursing Home Surveys 1973-74, 1977, 1985, 1995, 1999.						

But even those numbers do not fully convey the shifting role of nursing homes in providing Medicare-funded post-acute care because they are a "snapshot" at the time of the survey and do not convey the relative number of people served over time. Since Medicare skilled nursing homes services focus on post-acute care, average stays are much shorter and turnover is much higher. Table 17 shows the numbers and percentages of discharges over the year previous to the NNHS survey as well as the average length of stay by payment type. As these data indicate, Medicare beneficiaries accounted for nearly half of all discharges.

[15] The totals are higher in this table than the totals in Table 4 because all ages are included. These data are consistent with the OSCAR data, which show a decrease in private pay and other residents from 382,678 in 1993 to 347,625 in 1998 – with a slight increase in 1999-2000 to 350,743 (Dollard, 2001) in the wake of the Balanced Budget Act of 1997 and its cuts to some Medicare services in nursing homes (Heffler et al., 2001).

TABLE 17: Discharges and Length of Stay in Nursing Homes for 65+ Residents by Primary Source of Payment, 1999

	Number of discharges	Percentage of discharges	Average length of stay at discharge in days
Medicaid	667,200	26.5	609.4
Private	616,300	24.4	202.3
Medicare	1,136,700	45.1	107.9
Other	102,200	4.0	303.3
Total	2,522,300	100.0	271.5
Source: 1999 National Nursing Home Survey, National Center for Health Statistics (2002c).			

In short, much of "long-term" supportive services, at least for those who can pay privately, is shifting to other venues—the person's home or a more homelike environment such as assisted living. On the other hand, as hospital stays shorten due to changes in Medicare reimbursements, "short-term" post-acute care, rehabilitation, and end-of-life care have shifted to nursing homes. This evolution of the nursing home industry is likely to intensify—driven by demographic, socioeconomic, and public policy changes.[16]

X. CONCLUSIONS AND IMPLICATIONS FOR THE FUTURE

Predictions based on past trends can lead to inaccurate conclusions if they fail to take into account the factors driving social change and the unique characteristics of each successive cohort of older persons. Projecting past utilization patterns for long-term supportive services onto future population profiles of older persons is likely to exaggerate potential demand for services and their costs. The experiences of the cohorts of persons who reached old age in the 1970s and early 1980s proved to be an inadequate basis upon which to project current demand for long-term supportive services. Those large age cohorts were disproportionately made up of widowed women who came of age during the Great Depression and World War II years and had relatively few economic and family resources to draw upon in their later years. High rates of disability, widowhood, and childlessness combined with low rates of wealth accumulation to create a demand for publicly subsidized long-term supportive services that outpaced the growth of the older population. The enactment of Medicaid in 1965 became the means for financing the enormous growth in nursing home services in the 1970s to address this increased demand

Friedland and Summer (1999) note that the relationship between aging, disability, and institutional services is not inevitable—that "demography is not destiny." Many of the factors that drove rapid growth in nursing home utilization reversed course in the mid-1980s. In

[16] Some observers (see Stone, 2000) have questioned how much of the growth of Medicare expenditures in nursing homes is the result of a new emphasis on post-acute and sub-acute care, and how much is cost shifting from private pay and Medicaid for the same services that traditionally have been provided in nursing homes.

particular, the pattern of increasing longevity leading to increased disability was reversed. Successive cohorts, who spent more of their adult years in the prosperous post-World War II years, have experienced declining disability rates in old age even as longevity has continued to increase substantially. Moreover, as longevity for men improved more rapidly than for women, fewer women are widowed for long periods of time. With more financial and family resources, these cohorts have demanded more service options, spurring dramatic growth in home health care and assisted living. As a result, nursing home utilization rates have declined steadily since the late 1970s.

While predicting the future is an uncertain art, the characteristics of the cohorts who will enter late old age during the next two decades suggest that demand for long-term supportive services—especially those offered in institutional settings—will grow very slightly, if at all, during that time. Favorable demographic and socioeconomic characteristics of the cohorts entering late life and medical improvements should moderate demand. Indeed, if disability rates continue to decline at the current pace, the number of older persons with a disability could be fewer at the end of the decade than it is now.

These favorable demographic and socioeconomic trends—relatively small cohorts with substantial financial and familial resources—will create a more consumer-driven market that will demand not only higher quality services but also a much higher quality of life (Redfoot, 2002). Stone (2000) has declared, "The 1990s may someday be referred to as the period when the health care and long-term care consumer came of age." The next two decades, before the Boom, could strengthen the consumer's bargaining power even more.

And what will happen with the Boomers with regard to long-term supportive services as they age? Suggesting what might happen 30 or more years from now, when the Boomers hit their peak years of likely demand for long-term supportive services, is very speculative at best (Knickman and Snell, 2002). On the positive side, Boomers will be more highly educated than previous cohorts and are likely to have more economic resources. On the negative side, their cohort sizes dwarf all previous cohorts. Moreover, because of lower fertility rates and higher divorce rates, they may have weaker informal supports than did their parents. The changing role of women in the labor force and the narrowing gender gap in old age will mean less gender imbalance among informal caregivers and in the recipients of professional services. Long-term supportive services may become as much a men's issue as a women's issue as more men survive longer and are disproportionately affected by weaker informal supports (Wachter, 1997).

In short, the aging of the Boomers will almost certainly increase demand for many long-term supportive services beginning 20 to 30 years from now, but it is not possible to predict the magnitude of increased demand and the types of services that will be offered at that time with any certainty (Knickman and Snell, 2002). What is more certain is that changes now taking place will continue to reshape long-term supportive service options. Cohen (1998) has noted that:

> What we call a "nursing home" today may look very different in just a few years. The growth in assisted living facilities, continuing care retirement communities, and subacute care units in nursing homes have all led to a blurring of the distinction between acute and

long-term care services, between formal and informal caregiving, and between institutional and home-based care.

The factors blurring these old distinctions are raising new opportunities and new issues for public policy decisionmakers. But public policy regarding long-term supportive services has been slow to adjust to the new realities and possibilities introduced by demographic, socioeconomic, and technological change. Those changes will transform the delivery of long-term supportive services with or without new policy direction. However, public policies could make a big difference in promoting or inhibiting innovative developments, especially for those who depend on public programs for support and have too often lacked opportunity for new service options such as assisted living.

Unfortunately, the current patchwork of federal and state responsibilities for health and supportive services programs, combined with budget constraints, is mitigating against positive change. Despite the fact that the non-Medicare segment of the nursing home population declined slightly between 1985 and 1999, the Medicaid funded segment increased by more than a quarter (27.2 percent, see Table 16 above). Moreover, increasing acuity levels and medical inflation have driven up costs more rapidly than have increases in the number of residents. Between fiscal years 1990 and 2000, Medicaid-funded nursing home costs increased by 120 percent from $18.0 to $39.6 billion (in constant 2000 dollars). Medicaid home and community-based services increased even more rapidly—rising 366.7 percent from $3.9 to $18.9 billion between fiscal years 1990 and 2000 (O'Shaughnessy and Kelly, 2001). In recent testimony on behalf of the nation's governors, Governor Paul E. Patton of Kentucky warned (Patton, 2002), "The demand for long-term care services under Medicaid will bankrupt state budgets unless another form of financing is found."

Predicting future costs of long-term supportive services is very difficult given the number of variables that can affect utilization patterns. As the Congressional Budget Office (Hagen, 1999) noted in offering its own projections, "Both the population and the per capita spending projections depend critically on the researchers' underlying assumptions. Small changes in those assumptions can greatly affect the projections. For example, changes take place every year in the delivery of long-term care, and the demand for such services and their means of provision could differ greatly in 20 years in ways that researchers cannot predict."

Based on the assumptions that inflation for long-term supportive will outpace general inflation by 2.6 percent each year and that disability rates will decline 1.1 percent per year, CBO (Hagen, 1999) has estimated that the cost of long-term supportive services for older persons from all sources of payment will rise from $121 billion in 2000 to $195 billion in 2020 and $346 billion in 2040 (2000 dollars). Demonstrating the sensitivity of this estimate to assumptions about disability rates, the CBO report noted that 2040 cost estimates would have been about 40 percent higher ($484 billion) under an assumption that disability rates remain unchanged. The Long-Term Care Financing Model developed by The Lewin Group for the Assistant Secretary for Planning and Evaluation (ASPE) at the Department of Health and Human Services uses somewhat different assumptions in projecting future costs. Assuming a decline in disability and mortality rates of 0.6 percent per year and an inflation rate of 1.2 percent per year above general inflation, their model projects increases in total costs of services for older persons from all

sources of $98.1 billion in 2000, $207.9 billion in 2025, and $379.5 billion in 2050 in 1999 dollars (Tilly et al., 2001).

These cost projections are probably the most commonly used in policy discussions, and yet several cautions should be noted about them. First, as the CBO estimates illustrate, any estimates are highly sensitive to assumptions about declining disability rates. Cost estimates may be high if disability rates continues to decline at a relative rate of more than 2 percent per year as indicated by three recent national surveys from the mid to late 1990s (Manton and Gu, 2001; Shoeni et al., 2001; and Waidmann and Liu, 2000). On the other hand, cost estimates may be low if disability rates were to plateau or rise.

Second, demographic and socioeconomic changes—such as changing family structures, improved socioeconomic status, and the changing ethnic composition of the older population—may affect not only the total costs of long-term supportive services but the mix of services and payment sources more than either model can measure or anticipate. Finally, neither model builds in any assumptions for less predictable changes—such as innovations in medical technology, pharmacology, and other changes in service delivery—that could dramatically alter service utilization and costs.

Further complicating policy discussions is the fact that decisions about spending on long-term supportive services cannot be divorced from the costs of other age-related public programs, most notably Social Security and Medicare. Even if age-related demand for long-term supportive services is relatively soft for the next 20 or 30 years, substantial increases in expenditures for Social Security and Medicare are certain to occur much sooner and with much greater impact on the federal budget and the general economy. If current policies for Social Security, Medicare, and Medicaid remain unchanged, the Congressional Budget Office (CBO) estimates that entitlement spending would nearly double as a percentage of the gross domestic product (GDP) from the current level of 7.8 percent to 14.7 percent by 2030 (CBO, 2002).

Clearly, public policy discussions regarding long-term supportive services cannot be divorced from the larger discussions regarding entitlement reforms. Indeed, some of the factors that are cause for optimism regarding long-term supportive services—such as declining disability and the related trend toward greater longevity—may increase the financial pressures on Social Security and Medicare. On the other hand, by improving the health and economic well-being of older persons, those programs have surely contributed to the recent improvements in the disability levels of older persons (Lubitz, et al., 2001).

In short, policy decisionmakers will have to make politically difficult decisions affecting long-term supportive services to older persons with disabilities with a great deal of uncertainty about some of the major factors that could affect future demand. Perhaps the most certain thing one can say about future cohorts of older persons is that they will be more diverse in almost every way. Currently overwhelmingly White, tomorrow's older population will become more ethnically diverse, with growth especially strong among Hispanic and Asian elders. The gender gap in old age will narrow so that caregivers and care receivers will be less overwhelmingly female.

Unfortunately, despite the overall economic improvement likely for older persons, the gap between haves and have-nots is likely to widen in the future (Stone, 2000). Large numbers of older persons will continue to rely on public benefit programs to finance needed long-term supportive services even under the most optimistic scenarios. Public policy will need to adapt to the greater diversity of needs and preferences of older persons with disabilities, so that innovative approaches to long-term supportive services that enhance consumer control, autonomy, and dignity are not restricted to those who are relatively wealthy. Current demonstrations and programs using "consumer direction" for public benefits may be the first step in this direction (Tilly and Wiener, 2001).

Kane (2001) has called for "serious and creative attention" to new possibilities for long-term supportive services. Despite the uncertainty inherent in projecting the future, recent trends suggest that policy innovations need not be impeded by the fear of an impending tidal wave of demand driven by the aging of the Baby Boom. Indeed, the next 20 years offer a rare window of opportunity to make needed changes in the nation's system for delivering and financing long-term supportive services—before Boomers enter the age of high risk in large numbers. Building on socioeconomic improvements and medical/technological developments, public policy decisionmakers have the opportunity to lay the foundation for a new generation of services that will enhance consumer choice and quality of life for all those who face disability in their later years.

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