A Health Profile of Older Women with Comparisons to Older Men

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This article discusses the physical health status of contemporary older women (aged 65 and over) in comparison to older men, using data from ongoing national health surveys and vital statistics. The article reviews older women's and men's life expectancy after 65 and recent trends in their mortality rates. It then looks extensively at data on physical health, especially the prevalence of chronic conditions and long-term disabilities. Leading ailments at different "stages" are discussed: health problems in daily life, the presence of chronic conditions (whether symptomatic or not), ambulatory care visits, hospital stays, and causes of death. The data show that older women are more frequently ill than older men, with both acute and chronic conditions, but that their problems are less life-threatening than men's. The article concludes with thoughts about the health of future older cohorts.

The United States population is becoming demographically older and, among the elderly, more feminine. The rising number and percentage of older women has prodded scientists to study their problems and satisfactions, and policymakers to consider how the well-being of contemporary and future women aged 65 and over can be enhanced.

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This article discusses the physical health status of contemporary older women, along with important comparisons to men of the same age. We begin with longevity and mortality, reviewing the life expectancy of women and men who reach older ages and the recent trends in their mortality rates. This tells us about the length of life older people can expect and their risks of its termination. To get a better view of the quality of life, we then look extensively at data on physical health, especially chronic conditions and long-term disabilities due to chronic problems. We do not discuss mental or nutritional health, even though the three aspects of health (physical, mental, nutritional) are certainly entwined (probably more closely for elderly persons than younger ones), because our goal is to offer a comprehensive view of one aspect of aging. Comparing the mortality and physical health data, we find that older women often have worse health status than older men, yet they live longer. The explanation for this seeming contradiction is actually a simple one. Finally, we speculate about the health of older women and men in the future. Compared to contemporary persons, how will future cohorts feel on a daily basis? Can they anticipate longer lives and less disability before death?

Studies of older women are enhanced if we compare them to other age-sex groups. For example, differences between older women's and older men's health reflect risks from their different roles and health habits throughout life and also from biological vulnerabilities related to sex. Differences between older women's and middle-aged women's health can reflect typical changes as people age and also different life experiences and habits than cohorts have had (Riley, 1984). In this article, we have chosen to emphasize sex differences and will point out aspects of older men's and women's lives that have led to different health outcomes for them.

Data are drawn mainly from national vital statistics and national health surveys. The mortality data encompass the entire population of people 65 and over whether or not they are in institutions at time of death. The health data refer to noninstitutionalized people. About 5% of older people reside in institutions,

often due to health problems. (For data on the health status of nursing home residents, see Hing, 1981). If institutionalized people were included in national health surveys, prevalence and disability rates would increase.

Mortality of Older Women and Men

Women who reach age 65 can expect to live about 18 more years (Table 1). Life expectancy at this age and older is very similar for white women and all other women. The similarity at very elderly ages is a new situation. Until the 1980s, all other women aged 75 and over had a higher life expectancy than white women, a reversal from all earlier ages. The same phenomenon appeared for men. This crossover effect is attributed to age inflation on death certificates of all other nonwhite persons and possibly to the special hardiness of all other persons who survived to those ages (Manton et al., 1979; Nam et al., 1978; Rosenwaike and Logue, 1983; Vaupel et al., 1979).

Older men's life expectancy is lower at all ages; they have an average of fourteen more years at age 65 and nine more at age 75. Even at age 85, men's life expectancy is 1½ years less than comparable women. These differences are the direct outcome of men's higher mortality rates at older ages. Currently, men 65-69 die at twice the rate women those ages do. In their seventies and eighties, men's excess risk diminishes; for the age group 85 and over, men's rates are only 27% higher than women's. Higher mortality rates for males pertain to all ages under 65 as well. Thus, out of 100,000 males born, a smaller percent ever reach age 65 (70% versus 83% for females using current mortality rates).

As people enter their seventies and eighties, death rates steeply rise. They actually rise more sharply for women than for men; it is as if women catch up as they approach the limits of human life.[1] Although women's risk of dying at every age remains less than men's, the pace quickens more rapidly from year to year for them. The subjective impact must be quite striking; elderly women see their female friends dying especially rapidly after age 70, and they probably become keenly aware of their own accelerating risks.

TABLE 1
Morality of Older Women and Older Men by Race: United States 1980

	Life Expectancy[a]				
	$\overset{o}{e}_{65}$	$\overset{o}{e}_{70}$	$\overset{o}{e}_{75}$	$\overset{o}{e}_{80}$	$\overset{o}{e}_{85}$
All Races					
Females	18.3	14.8	11.5	8.6	6.4
Males	14.1	11.3	8.8	6.7	5.0
Sex Difference (F-M)	4.2	3.5	2.7	1.9	1.4
Whites					
White Females	18.5	14.8	11.5	8.6	6.3
White Males	14.2	11.3	8.8	6.7	5.0
Sex Difference	4.3	3.5	2.7	1.9	1.3
All Other					
All Other Females	17.3	14.2	11.4	9.0	7.0
All Other Males	13.5	11.1	8.9	6.9	5.3
Sex Difference	3.8	3.1	2.5	2.1	1.7

	Mortality Rates for All Causes (Deaths per 100,000 persons per year)				
	Ages 65-69	70-74	75-79	80-84	85+
All Races					
Females	1718	2673	4257	7260	14747
Males	3394	5078	7480	11240	18801
Sex Ratio (M/F)	1.98	1.90	1.76	1.55	1.27
Whites					
White Females	1643	2585	4189	7236	14980
White Males	3312	5023	7468	11267	19097
Sex Ratio	2.02	1.94	1.78	1.56	1.27
All Other					
All Other Females	2368	3523	4950	7556	11922
All Other Males	4139	5599	7589	10946	15775
Sex Ratio	1.75	1.59	1.53	1.45	1.32

SOURCE: National Center for Health Statistics, Advance Report, Final Mortality Statistics, 1980. Monthly Vital Statistics Report, Vol. 32, No. 4, August 11, 1983.

a. Life expectancy ($\overset{o}{e}_x$) is the average remaining years of life for a person age x.

Looking at trends since 1940, mortality rates have dropped more for older women than for older men. From 1940 to 1980, the death rates for women 65 and over declined by almost half (47.3%, age-adjusted rates). The gains occurred at all older ages (65-69, 70-74, etc.) and mainly in two time periods (1940-1954 and 1968-present). For older men, rates dropped 30.7% from 1940 to 1980. As for women, their gains occurred in all age groups and were concentrated in the same two time periods. (For a detailed analysis of the period 1940-1978, see Fingerhut, 1982.) Because of these declines, life expectancy for older people has risen markedly

since 1940: women now age 65 can expect 4.7 years more than their peers in 1940, and women age 75, 3.5 years more. The gain is smaller for men, being 2.0 years for those age 65 and 1.6 for those age 75. (For the 1940 data, see Grove and Hetzel, 1968: Table 50.)

After decades of continuous decline, U.S. mortality rates stabilized in the 1950s. Then in the late 1960s, the rates began to drop again, and there is no sign they will stop soon. From 1968 to 1980, death rates (of all ages) dropped 23% for females and 19% for males (age-adjusted rates). Older people have benefited greatly in this recent period: for women, rates fell 20% (at ages 65-74), 22% (75-84), and 20% (85 and over); for men, 19%, 14%, and 13% for the same age groups (Table 2). Absolute changes in the rates are considerable; for example, mortality rates for women 65-74 dropped from 2681 per 100,000 to 2145. That means about 500 more women per 100,000 those ages survive each year now, compared to a decade ago.

These recent gains appear for all but one of the leading causes of death for older people; namely, for diseases of heart, cerebrovascular diseases, pneumonia/influenza, chronic obstructive pulmonary diseases, atherosclerosis, diabetes mellitus, accidents, nephritis/nephrosis, and chronic liver disease/cirrhosis. The changes for heart diseases and cerebrovascular diseases are shown in Table 2. The one exception is malignant neoplasms. After a period of stable rates, cancer mortality is now rising for older women, which is especially due to rises in lung cancer (Table 2). Older men's cancer rates have been rising for decades; the recent period continues that trend with especially large increases in colon cancer. Lung cancer mortality also climbed for men, but less rapidly than in prior decades and less rapidly than women's. In sum, the pace of rising cancer mortality has slowed for older men but accelerated for older women. In the midst of good news for all other leading causes of death, this is an important piece of bad news.

Older women and men die from the same main problems: the top three causes of death for both sexes are heart disease, cancer, and cerebrovascular disease (stroke). These account for about three-fourths of women's deaths at ages 65-74, 75-84, and 85 and over; the same is true for men (see Table 3). Note that at ages

TABLE 2

Mortality Rates for Older Women and Older Men for all Causes and the Three Leading Causes: United States, 1968 and 1980

	Deaths per 100,000 persons per year						Percent change (1968-1980)		
	1968			1980					
	Ages 65-74	75-84	85+	65-74	75-84	85+	65-74	75-84	85+
All Causes									
Females	2681	6978	18425	2145	5440	14747	-20%	-22%	-20%
Males	5049	10215	21732	4105	8817	18801	-19	-14	-13
Diseases of Heart									
Females	1141	3259	8850	829	2497	7350	-27	-23	-17
Males	2258	4653	10078	1728	3834	8753	-23	-18	-13
Malignant Neoplasms									
Females	553	869	1224	607	903	1256	+10	+ 4	+ 3
Males	998	1520	1936	1093	1790	2370	+10	+18	+22
Cancer of Lung									
Females	39	50	55	102	93	90	+162	+86	+64
Males	306	293	194	402	486	363	+ 31	+66	+87
Cerebrovascular Diseases									
Females	352	1249	3618	189	742	2328	-46	-41	-36
Males	483	1418	3593	259	868	2199	-46	-39	-39

SOURCES: For 1968 rates: Fingerhurt, L.A. Changes in Mortality among the Elderly: United States, 1940-1978. *Vital and Health Statistics,* Series 3, No. 22. Hyattsville, MD: National Center for Health Statistics, 1982. For 1980 rates: Unpublished tabulations provided by the National Center for Health Statistics.

65-74, heart disease figures more often in men's deaths; this switches for age 75-84 and 85 and over because women's heart disease mortality rates rise much more swiftly than men's at older ages. Comparing other percentages in Table 3, note that larger percentages of women than men die from diabetes and atherosclerosis at all older ages; consistently smaller percentages die from chronic obstructive pulmonary diseases, other arterial diseases, and pneumonia/influenza; and very similar percentages from accidents, liver disease, and nephritis/nephrosis.

The statements above are for underlying causes of death (the most significant health problem at time of death), as designated on the death certificate. The certificates also list contributing and immediate causes; for example, the underlying cause may be coronary heart disease with diabetes as a contributing cause and pneumonia as an immediate cause. Recently, researchers have been studying all of the causes listed to see how often people die from several causes rather than just one and to compute prevalence rates of diseases at time of death. Three results are pertinent for this health profile. First, female decedents are more likely to have several causes of death recorded than male decedents are. In 1969, 60.7% of white female deaths had two or more causes, compared to 52.4% of white male deaths (Manton, 1980). The situation is similar for blacks (48.7% for black females, 40.2% for black males). (Note that these percentages are for all ages, not just for older persons.) Second, arteriosclerosis (now called atherosclerosis) is often present even when it is not the primary cause of death. Looking just at underlying causes, it ranks fourth or fifth for people 75 and over, but when all causes are considered, it becomes the second-ranked cause for white men and women 75 and over and the third-ranked one for black men and women those ages (Manton, 1980). Thus, using all results, the three leading causes of death are circulatory problems (ischemic heart disease, arteriosclerosis, stroke), so cancer moves to fourth or fifth place. Third, using all mentions, mortality rates rise for most diseases. They rise by about the same magnitude for women and men; thus, the relative risks of death for the sexes remain the same as in the underlying cause data.

TABLE 3
Leading Causes of Death for Older Women and Older Men: United States 1980

	Percent of all deaths and Rank among the top 10 causes					
	Ages 65-74		Ages 75-84		Ages 85+	
	Percent	Rank	Percent	Rank	Percent	Rank
WOMEN						
Diseases of heart	38.7%	1	45.9%	1	49.8%	1
Malignant neoplasms	28.3	2	16.6	2	8.5	3
Cerebrovascular diseases	8.8	3	13.6	3	15.8	2
Chronic obstructive pulmonary diseases and allied conditions	3.1	4	1.8	7	0.9	8
Diabetes mellitus	3.1	5	2.4	5	1.5	7
Accidents	1.8	6	1.7	8	1.7	6
Pneumonia and influenza	1.8	7	3.1	4	5.2	4
Chronic liver disease and cirrhosis	1.3	8	-	-	-	-
Other diseases of arteries, arterioles, and capillaries[a]	0.9	9	0.9	10	0.8	10
Nephritis, nephrotic syndrome, and nephrosis	0.9	10	1.0	9	0.9	9
Atherosclerosis	-	-	2.1	6	4.4	5
All other causes	11.3		10.9		10.5	
Total	100.0%		100.0%		100.0%	
MEN						
Diseases of heart	42.1%	1	43.5%	1	46.6%	1
Malignant neoplasms	26.6	2	20.3	2	12.6	2
Cerebrovascular diseases	6.3	3	9.8	3	11.7	3
Chronic obstructive pulmonary diseases and allied conditions	5.1	4	5.0	4	3.1	6
Diabetes mellitus	1.6	8	1.5	9	1.2	9
Accidents	2.0	5	1.8	6	2.0	7
Pneumonia and influenza	1.9	6	3.5	5	6.1	4
Chronic liver disease and cirrhosis	1.5	9	-	-	-	-
Other diseases of arteries, arterioles, and capillaries[a]	1.6	7	1.6	8	1.1	10
Nephritis, nephrotic syndrome, and nephrosis	0.8	10	1.1	10	1.4	8
Atherosclerosis	-	-	1.6	7	3.5	5
All other causes	10.5		10.3		10.7	
Total	100.0%		100.0%		100.0%	

SOURCE: Unpublished tabulations provided by the National Center for Health Statistics.

a. In vital statistics publications, this collection of diseases is excluded from leading causes lists. We include it here because death rates for the group are relatively high among older persons. If it were excluded, the tenth ranked causes for women are atherosclerosis (0.5%) for ages 65-74, hypertension (0.5%) for ages 75-84, and hypertension (0.5%) for 85+; for men, they are atherosclerosis (0.8%) for ages 65-74, chronic liver disease and cirrhosis (0.5%) for 75-84, and hypertension (0.6%) for 85+.

In summary, older women have had a longevity advantage over older men throughout this century. Women's rates dropped faster than men's, so their longevity advantage increased. Even in the 1950s when older men's rates were at a standstill, older women's continued to fall a little. This situation of lower female rates plus increasing sex differences occurred at all other ages too. These trends cannot continue indefinitely because there are certainly lower limits to mortality rates and an upper limit to human life span. In fact, the recent mortality declines have been more similar for older women and men than declines of earlier decades; so although the gap continues to widen, it does so more slowly than before (Verbrugge, 1980).

As a direct result of these mortality trends, the older population is largely female. For ages 65 and over, there are 68 men per 100 women; for ages 85 and over, there are 45 men per 100 women. These sex ratios will continue to widen in the next 50 years, but not as fast as during the past 50 years. This is an important point. Population aging has been a prominent feature of the twentieth century. In our lifetimes, we have felt the rapid population increase of older persons, especially older women, and we are in the midst of cultural and programmatic reactions. But most of the population aging and feminizing of the elderly that the United States will experience has already occurred. Youngsters born in the 1970s and 1980s will find an older population already existing, and they will not experience the dramatic increases in older persons our current adults did.

Physical Health of Older Women and Older Men

The quality of life is as important as its quantity. Increasing a population's life expectancy is a fine achievement, but a compromised one if it means many years of symptoms and disability for older people. How older people feel on a daily basis, how prevalent chronic diseases are among them, and how much their social and physical activities are hampered by health problems are now key concerns of health researchers and health planners.

In this section, we present a profile of the health status and disabilities of older women and men. The data come from health interviews with older persons and medical records. The indicators reflect "poor health" rather than "good health." This is a common feature of health statistics, and it can cause an exaggerated impression of morbidity for the elderly, many of whom have no serious diseases or limitations. Hopefully, future health surveys will contain more items that emphasize wellness, in accord with Riley's recommendations of positive views toward older people (1981, 1984). The profile is contemporary, reflecting health in the 1970s and 1980s. Trends in older persons' health since the 1950s are discussed elsewhere (Verbrugge, 1983a, 1984a). For profiles of health services used by older people, see Hing and Cypress (1981) and Kovar (1977a, 1977b).

GENERAL HEALTH STATUS

About 9% of older women consider their health "poor" and 22% rate it as "fair" (National Center for Health Statistics, 1978). On the positive side, 29% and 40% report "excellent" and "good" health, respectively. Older men are very similar in their evaluations, with 9% reporting "poor" health and 23% "fair." But this similarity masks very different kinds of diseases and symptoms for the sexes, as the next sections will reveal.

DAILY HEALTH

There is very little information about daily discomforts and symptoms that elderly people (or any other age group) feel. A 1957 national survey asked older people to name health troubles experienced in the past four weeks. The leading problems for women were general discomforts (not associated with any specific conditions), followed by circulatory disease symptoms, digestive symptoms, and musculoskeletal symptoms, in that order (Shanas, 1962). For older men, general discomforts also ranked first, followed by circulatory, ear, and musculoskeletal symptoms. In a more recent 1978 survey in Detroit, respondents recorded daily

symptoms for six weeks (Verbrugge, 1979). Among older women and men, musculoskeletal problems were most frequent, followed by respiratory, general, and eye/ear symptoms for women, and by general, skin/nails/hair, and respiratory symptoms for men. We suspect that a national survey conducted now would show rankings more like the Detroit survey than the 1957 national one. In summary, daily life for the elderly has many ill-defined aches and pains, besides symptoms of specific chronic diseases.

ACUTE CONDITIONS AND SHORT-TERM DISABILITY

Older people have acute illnesses (such as infections, colds, stomach upsets) less often than middle-aged people, but the illnesses that do occur are more debilitating for them and require more care. Lower physical resistance and weaker recuperative capacities may account for this.

Older women have more frequent acute illnesses than do older men, and they average more days of bed rest for each illness (Table 4). This may indicate that women's illnesses are more severe, but it can also reflect greater concern among women to take curative actions when ill. Older men opt to partially reduce their activities without going to bed. (The data often show that men have more total restricted activity days per condition but fewer bed days; thus, more of them are nonbed days.)

Each year, about 20% of older women suffer an injury that requires medical care or restricted activity (Metropolitan Life Foundation, 1982). Their injury rates are higher than older men's; this is a notable change from younger ages when men's rates are much higher. The majority of older women's injuries occur at home, compared to half of men's. Injuries are less frequent than respiratory illnesses for older persons, but they cause more restricted activity per occurrence. Injured older women have more days in bed than injured men, but a similar or lower number of nonbed days. Again, this may reflect more serious injuries among the women or their greater propensity to take curative actions.

In summary, older women suffer more acute illnesses and injuries than older men. They also have more bed disability for

TABLE 4
Acute Conditions and Short-Term Disability for Older Women and Older Men in the United States

	Women 65+	Men 65+
	(Rates are per 100 persons per year)	
Acute Conditions (1980)		
Incidence of acute conditions (rate)	126	97
Infective and parasitic diseases	8	7
Respiratory conditions	67	51
Digestive system conditions	7	-
Injuries	22	14
All other acute conditions*	22	-
Restricted activity days for acute conditions (rate)	1179	886
Average days of restricted activity per condition	9.4	9.1
Bed disability days for acute conditions (rate)	486	325
Average days of bed disability per condition	3.9	3.4
Injuries (1978)		
Percent injured per year	26.0	16.1
Moving motor vehicle	1.5*	2.6*
At work	0.9*	---
At home	16.3	8.0
Other	7.7	6.1*
Restricted activity days for injuries (rate)	827	412
Average days of restricted activity per injured person[b]	31.8	25.6
Bed disability days for injuries (rate)	193	117
Average days of bed disability per injured person	7.4	7.3

SOURCES: For acute conditions, tabulations from the 1980 National Health Interview Survey were prepared for the Metropolitan Life Foundation in the *Statistical Bulletin*. 63 (1), 1982. Annual reports from the National Center for Health Statistics show age-sex specific rates for all acute conditions but not for the five categories. For injuries, data from the 1978 National Health Interview Survey published by the National Center for Health Statistics in *Vital and Health* Series 10, No. 130, Hyattsville, MD, 1979. Acute conditions are counted if they caused restricted activity or medical attention and if they lasted less than three months. Examples are ear diseases, headaches, genitourinary disorders, and skin diseases. This is the average days of injury-related disability for people who suffered injury; it can cover several injury episodes. It is not the average days of disability per injury. In all sources, rates are available for 65 and over but not for narrower age groups of older persons.

each illness and injury, but whether the reason is medical (more severe conditions) or psychosocial (belief in the benefits of bed rest) is not known.

CHRONIC CONDITIONS AND LONG-TERM DISABILITY

Health Interviews. Table 5 shows the leading chronic conditions reported by older women and men in the National Health and Nutrition Examination Survey and the National Health Interview Survey. Columns 1 and 2 show prevalence rates, and

Column 3 shows limitation rates. Despite differences in the survey questions, the same key health problems stand out for older persons. First, for each survey, the top five conditions are identical for men and women (with one exception). But the rank orders differ: arthritis, hypertension, and allergies rank higher for women, whereas heart disease, respiratory disease, and hearing impairments rank higher for men. Second, hypertension and hearing impairments are very prevalent for older people, but they do not cause much long-term disability. (To see this easily, look at ratios of prevalence to limitations.) By contrast, heart disease, orthopedic impairments, and cerebrovascular disease are especially likely to cause major restrictions. Third, several leading causes of death are not very prevalent as chronic conditions but they are very life-threatening when they do occur. Malignant neoplasms, cerebrovascular disease (stroke), asthma, and arteriosclerosis seldom appear in Table 5. Rates for these are higher for men than for women, and larger percentages of men are limited by the conditions.

In regard to older women, arthritis stands out clearly as the most common condition. Fifty-three percent (53%) say they have diagnosed arthritis; a similar percentage (45%) report having arthritis in the past year. Arthritis persistently limits activities for 13% of older women. High blood pressure ranks second in importance; about one-quarter to one-third of older women have it (24% in one survey, 34% in another). It is less disabling than arthritis; only 5% of older women say they must limit housework or jobs because of it. Eight percent (8%) report a heart attack in their lifetime, and 20% report current heart conditions. Heart disease often requires changes in daily life, and 10% of the women report limitations from it. Other musculoskeletal and circulatory problems also affect older women: about 9% have leg or hip impairments; 12% have varicose veins; 14% have corns and callosities, and 8% report hemorrhoids. The leg and hip problems cause some major restrictions (3%), but the other conditions seldom cause them. Sensory problems are very prevalent; 22% of older women report visual impairments and 26% report hearing impairments. Of the two, visual problems are more severe; even

TABLE 5
Leading Chronic Conditions Among Older Women and Older Men, Based on Respondent Reports in Health Interviews: United States [a,b]

WOMEN 65+

Currently have condition (percent)	Had condition in past 12 months (percent)	Condition which limits activity (percent)
Arthritis, 52.9%	Arthritis, NEC, 45.0%	Arthritis and rheumatism, 12.7%
High blood pressure, 34.3	Hearing impairments, 26.3	Heart conditions, 9.6
Other allergies,[c] 15.9	Hypertensive disease, NEC,[e] 24.1	Hypertension without heart involvement,[e] 4.7
Diabetes, 9.3	Visual impairments, 22.0	Visual impairments, 4.6
Chronic bronchitis or emphysema, 6.7	Heart conditions, 19.8	Diabetes, 3.3
Hay fever, 6.7	Chronic sinusitis, 14.7	Impairment of lower extremity or hip,[f] 3.0
Hiatus hernia of the diaphragm, 6.6	Corns and callosities, 14.3	Other circulatory system conditions,[h] 2.7
Food allergies, 6.1	Varicose veins, 12.4	Other digestive system conditions,[i] 1.9
Heart murmur, 5.4	Frequent constipation, 12.2	Cerebrovascular disease,[j] 1.9
Thyroid disease, 4.9	Diabetes, 9.1	Mental and nervous conditions,[k] 1.6
Benign tumor, 4.2	Orthopedic impairment of lower extremity or hip,[f] 9.0	Other musculoskeletal disorders,[l] 1.5
Low blood pressure, 4.0	Hemorrhoids, 8.0	Impairment of back or spine,[g] 1.4
Ulcerative colitis, spastic colon, or mucous colitis, 3.7	Orthopedic impairment of back or spine,[g] 7.6	Complete or partial paralysis, 1.4
Heart attack,[d] 3.6	Diseases of the urinary system, 7.2	Hernia of abdominal cavity, 1.0
Asthma, 3.5	Bunion, 6.6	Hearing impairments, 0.9
		Malignant neoplasms, 0.8

Ever had condition (percent)	NOT IN RANK ORDER
Heart attack, 8.4%	
Malignant tumor, 6.1	
Stroke, 3.7	
Wrist fracture, 7.9	
Hip fracture, 3.2	
Spine fracture, 1.5	

MEN 65+

Currently have condition	Had cond. in past 12 months	Cond. which limits activity
Arthritis, 32.7%	Hearing impairments, 33.8%	Heart conditions, 12.5%
High blood pressure, 20.0	Arthritis, NEC, 28.7	Arthritis and rheumatism, 7.7
Chronic bronchitis or emphysema, 10.8	Heart conditions, 19.9	Visual impairments, 4.3
Other allergies,[c] 9.7	Visual impairments, 18.3	Emphysema, 3.9
Diabetes, 7.4	Hypertensive disease, NEC,[e] 14.1	Hypertension without heart involvement,[e] 3.0
Low blood pressure, 6.7	Chronic sinusitis, 12.2	Cerebrovascular disease,[j] 2.9
Hay fever, 6.0	Hernia of abdominal cavity, 8.1	Diabetes, 2.9
Chronic cough, 5.7	Diseases of prostate, 6.7	Other circulatory system conditions,[h] 2.7
Peptic, stomach, or duodenal ulcer,[d] 5.0	Corns and callosities, 6.6	Impairment of lower extremity or hip,[f] 2.5
Heart attack, 4.9	Hemorrhoids, 6.5	Complete or partial paralysis, 2.1
Asthma, 4.7	Orthopedic impairment of lower extremity or hip,[f] 6.5	Other respiratory system conditions,[m] 1.6
Hiatus hernia of the diaphragm, 4.6	Frequent constipation, 6.2	Hernia, 1.6
Gout, 4.4	Diabetes, 6.0	Impairment of back or spine,[g] 1.6
Heart murmur, 4.0	Emphysema, 5.9	Mental and nervous conditions,[k] 1.5
Food allergies, 3.7	Orthopedic impairment of back or spine,[g] 5.5	Other musculoskeletal disorders,[l] 1.5
	Cerebrovascular disease,[j] 5.4	

Ever had condition
Heart attack, 14.3%
Stroke, 5.4
Malignant tumor, 3.4
Wrist fracture, 5.4
Spine fracture, 2.1
Hip fracture, 1.5

Malignant neoplasms, 1.4
Asthma, with or without hay fever, 1.4

TABLE 5 Notes (Continued)

SOURCES: For "currently have condition" and "ever had condition": Unpublished tabulations from the National Health and Nutrition Examination Survey I (1971-74), provided by the National Center for Health Statistics. For "had condition in past 12 months": Supplements to the National Health Interview Surveys of 1968-1973. See National Center for Health Statistics. *Vital and Health Statistics,* Series 10, Nos. 83, 84, 92, 94, 99, 109. For "condition which limits activity": Standard Questionnaire for the 1974 National Health Interview Survey. Rates are calculated from data in National Center for Health Statistics. *Vital and Health Statistics,* Series 10, No. 111, Table 4. In all sources, rates are available for 65+ but not for narrower age groups of older persons.

NEC = Not elsewhere classified.

a. All of the surveys (see SOURCES) query a wide range of chronic conditions, but tabulations of prevalence rate have some restrictions. Column 1: rages for the Health and Nutrition Examination Survey are available for 36 specific titles, which is a subset of those queried. Impairments are not included in the survey, so no rates for vision and hearing dysfunctions are available. Column 2: rates for the National Health Interview Survey Supplements have few restrictions. The titles are numerous, specific, and encompass virtually all chronic conditions except neoplasms and mental disorders. Column 3: rates for the 1974 National Health Interview Survey are available for 30 titles. These encompass all chronic conditions but many titles are wide groupings (e.g., "other respiratory system conditions").

b. For Column 1, all conditions are diagnosed by a physician ("Has a doctor ever told you that you had . . .?" and "Do you still have . . .?"). For Columns 2 and 3, diagnosis status is not determined for the conditions. For Column 3, "limits activity" means difficulty doing one's usual main activity (housework or a paid job) or one's secondary activities (church, clubs, errands, etc.).

c. Excludes hay fever and food allergies.

d. A current ("still have") condition according to the respondent.

e. Commonly known as hypertension or high blood pressure.

f. Except paralysis or absence.

g. Except paralysis.

h. Includes pulmonary embolism, phlebitis/thrombophlebitis, and several other titles.

i. Includes oral and salivary gland diseases, gastritis/duodenitis, intestine and peritoneum diseases, cirhosis of liver, cholelithiasis, pancreas disease, and several other titles.

j. Commonly known as stroke.

k. This category is for mental disorders; it does not include nervous system conditions.

l. Includes osteomyelitis and other bone diseases, vertebrogenic pain syndrome, bunion, synovitis/bursitis/tenosynovitis, and several other titles.

m. Includes chronic pharyngitis, chronic laryngitis, pleurisy, bronchiectasis, and several other titles.

with corrective care such as glasses, 5% of older women report serious trouble seeing things. In contrast, only 1% report limitations due to deafness or hearing loss. Nine percent (9%) report having diabetes, which limits activities for 3% . Chronic respiratory conditions (diseases or allergies) are quite common but they seldom cause limitations for older women. In sum, the leading health problems for older women are musculoskeletal, circulatory, respiratory conditions, and diabetes. Diseases of the skin and of the nervous, urinary, and digestive systems tend to rank lower in prevalence and limitations.

Comparing older men with older women, men are much less likely to have arthritis (33% in one survey, 29% in the other) or to be limited by it (8%). They report much less arthritis pain, swelling, and stiffness (Maurer, 1979). The most common site for arthritis is the knees for both sexes but women's cases are especially concentrated there. Although arthritis is a very common chronic condition for older men, note how it does not stand out so strikingly for them as for women. Heart disease is men's second-ranking disease. More men (14%) than women have suffered a heart attack, and more (13%) have limitations due to heart disease. Men also have more stroke history and limitations. Overall, they have more cardiovascular problems of all kinds except high blood pressure. Men report more hearing impairments than women do, and they are more limited by them (not shown in Table 5). By contrast, visual impairments are slightly less prevalent and limiting for men than for women; this will be buttressed by medical data in the next section. Men are more likely to have serious respiratory diseases and to be limited by them. Chronic bronchitis, emphysema, and asthma appear more often in Table 5 for men, and routinely rank higher for them. On the other hand, allergies of all kinds are less common for older men than for older women.

Medical Examinations. Examinations were conducted during the National Health and Nutrition Examination Survey (1971-1974) and its predecessor, the National Health Examination Survey (1960-1962).[2] The examination data concur with older

people's self-reports of chronic problems. Looking at the 1971-1974 survey, 25% of older women ages 65-74 have osteoarthritis of the knees; and 7% have moderate or severe cases as judged by clinicians (Table 6). One-third (36%) have definite hypertension and another third (33%) have borderline hypertension. Forty-one percent (41%) have elevated serum cholesterol (260 mg/100 ml or higher), which is a risk factor for circulatory diseases.

Compared to men ages 65-74, women are more likely to have severe arthritis, high blood pressure, and elevated cholesterol. They have more vision dysfunctions but less hearing loss and less skin pathology. They show more signs of previous dental work, and this may partly explain their better current dental health (less periodontal disease or other clinical signs of dental needs).

Treated Conditions. Information about health care for chronic conditions comes from the National Ambulatory Medical Care Survey and the National Hospital Discharge Survey. Rates from these surveys refer to visits or discharges, and they are not adjusted for multiple visits or stays for a condition during the survey year.

Ambulatory care for older women focuses on their musculoskeletal aches and pains, acute respiratory illnesses, cardiovascular diseases, and vision problems (Table 7). The complaints that older women present to physicians (column 1) mirror the most prevalent conditions (Table 5). But diagnoses (columns 2 and 3) show some shifts in importance. Because arthritis and hearing dysfunctions tend to need less care than other chronic conditions, they are less prominent as reasons for ambulatory care visits than in prevalence rates. Note also that circulatory diagnoses are much more common than circulatory complaints; apparently, a wide variety of complaints (respiratory, digestive, general, etc.) are presented for these diseases. Looking at specific diagnoses, the most common conditions seen by physicians are high blood pressure, heart disease, and diabetes.

Hospitalization is prompted by life-threatening diseases and serious injuries. Here the array of conditions looks quite different from daily symptoms and office visits. The leading causes of

TABLE 6
Prevalence of Chronic Conditions and Risk Factors for Chronic Diseases Among Older Women and Older Men Based on Medical Examinations, United States

	Women 65-74	Men 65-74
Arthritis		
Osteoarthritis of knees	24.9%	13.7%
Moderate or severe	6.6%	2.0%
Osteoarthritis of hips	3.1%	6.2%
Moderate or severe	1.2%	2.3%
Sacroiliitis	2.1%	2.0%
Moderate or severe	0.4%	0.6%
Hypertension		
Definite hypertension	36.0%	31.8%
Borderline hypertension	32.8%	29.8%
Cholesterol		
Mean serum cholesterol (mg/100 ml)	262	236
Percent with serum cholesterol of 260 mg/100 ml or higher	40.7%	20.9%
Vision		
Poor distance vision (20/50 or worse in better eye, with usual correction)	14.5%	13.5%
Hearing		
Can hear and understand everyday speech at 20dB amplicfication	36.6%	28.9%
Skin		
Significant skin pathology	36.6%	46.8%
Needs care ("not now under best care")	8.5%	11.6%
Dental		
One arch edentulous	15.3%	15.5%
Both arches edentulous	47.0%	43.6%
Average number of decayed/missing/filled teeth (incl. edentulous persons)	22.5	21.9
Has periodontal disease	56.8%	72.8%
Has one or more specific dental needs (as determined by examination)	55.5%	68.2%

SOURCE: Data from the National Health and Nutrition Examination Survey I (1971-1974) published at the National Center for Health Statistics, *Vital and Health statistics* Series 11, Nos. 201, 205, 212, 213, 214, 215, 211. The survey covered age 18-74.

hospital stays for older women are heart disease, cancer, fractures, and stroke (Table 7, column 4).

Similar shifts in importance of conditions appear for older men and some are quite striking. Although men seldom complain of cardiovascular symptoms, the main diagnoses given to them during office visits are cardiovascular diseases. Respiratory problems (largely chronic at older ages) are more prominent in ambulatory care for men than they are for women, but musculo-

TABLE 7

Leading Complaints and Diagnoses for Ambulatory Care Visits and Leading Diagnoses for Hospital Discharges Among Older Women and Older Men, United States

Principal complaints for office visits (general types) (Percent of symptomatic visits)[a]	Principal diagnoses for office visits (general types) (Percent of "sick" visits)[b]	Principal specific diagnoses for office visits (Percent of all visits)[c]	Principal specific diagnoses for hospital discharges (Discharges per 100,000 pop.)[d]
		WOMEN 65+	
Muscle/Bone, 22.6%	Circulatory, 25.0%	Hypertension[g], 11.0%	Ischemic heart disease, 41.3
Respiratory, 15.7	Musculoskeletal, 12.4	Chronic ischemic heart disease, 6.1	Malignant neoplasms, 27.4
Digestive, 12.7	Nervous System/Sense Organs[f], 10.2	Diabetes mellitus, 4.0	Fractures, all sites 20.6
Cardiovascular, 8.9	Respiratory, 8.5	Osteoarthritis and allied conditions, 3.3	Cerebrovascular disease, 19.6
Eyes/Ears, 8.0	Endocrine/Nutritional/ Metabolic, 6.8	Cataract, 3.0	Cataract, 11.7
General[e], 7.8	Digestive, 5.9	Arthritis, unspecified, 2.1	Diabetes mellitus, 10.6
Genitourinary, 7.0	Genitourinary, 5.7	Symptomatic heart disease, 1.8	Arthritis/rheumatism, 10.1
Nervous, 7.0	Accidents/Poisoning/ Violence, 5.1	Other diseases of eye[g], 1.7	Pneumonia, all forms, 9.9
		MEN 65+	
Muscle/Bone, 21.5%	Circulatory, 28.2%	(Not available)	Ischemic heart disease, 51.9
Respiratory, 20.3	Respiratory, 12.0		Malignant neoplasms, 42.8
Digestive, 11.0	Nervous System/Sense Organs, 9.4		Cerebrovascular disease, 21.1
Skin/Hair, 8.6	Muscle/Bone, 7.9		Hyperplasia of prostate, 17.8
Genitourinary, 8.3	Endocrine/Nutritional/ Metabolic, 6.9		Pneumonia, all forms, 13.1
General, 7.8	Genitourinary, 6.5		Congestive heart failure, 9.7
Eyes/Ears, 7.4	Neoplasms, 5.6		Fractures, all sites, 9.7
Cardiovascular, 6.8	Accidents/Poisoning/ Violence, 5.4		Cataract, 9.4

TABLE 7 Notes (Continued)

SOURCES: For principal complaints (general types) and principal diagnoses (general types): Unpublished data for the 1975 National Ambulatory Medical Care Survey. For information about the survey, see National Center for Health Statistics, *Vital and Health Statistics,* Series 13, No. 33. Hyattsville, MD 1978. For principal spevific/diagnoses for office visits data is from the 1978 National Ambulatory Medical care Survey, published at the National Center for Health Statistics, *Vital and Health statistics,* Series 13, No. 59. Hyattsville, MD, 1981. For hospital discharges data is from the 1975 National Hospital Discharge Survey, published at the National Center for Health Statistics, *Vital and Health Statistics,* Series 13, No. 35. Hyattsville, MD 1978.

a. There are thirteen general types of complaints (12 are for symptoms in different body sites, 1 is for all nonsymptomatic visits). Up to three complaints may be coded for a visit. The percents here refer to the principal (first=listed) complaint and are based on symptomatic visits (thus, nonsymptomatic ones are excluded). For details about the symptom classification used for the 1975 survey see National Center for Health Statistics, *Vital and Health Statistics,* Series 2, No. 63. Hyattsville, MD, 1974 (the classification has been revised since then).

b. Diagnoses are coded according to the International Classification of Diseases (ICD-8), which has eighteen general categories (17 are for illness and injury diagnoses, 1 is for exams surgical after care are other nonsick visits). Up to three diagnoses may be coded for a visit. The percents here refer to the principal (first=listed) diagnosis and are based on "sick" visits (those within illness/injury diagnosis). For details about the ICD=8 see National Center for Health Statistics, Eighth Revision International Classification of Diseases, PHS Pub. No. 1963, Washington, D. C., 1967 (the classification has been revised since then).

c. The ICD-8 has several hundred specific diagnosis codes. The table shows the most common specific illness/injury diagnoses (3 digit codes). The percents here refer to all visits, whether "sick" or nonsick."

d. Patients can be alive or dead at the time of discharge in this survey. Several diagnoses may be involved in a hospital stay: the percents here refer to the principal diagnosis.

e. Examples are chills, fatigue, fluid imbalance, weight gain, and generalized pain.

f. Examples are multiple sclerosis, epilepsy, migraines, neuralgia/meirotos. amd sciatica.

g. The ICD-8 title is essential benign hypertension (code 401).

skeletal and eye/ear problems are less prominent. Genitourinary (mainly prostate) conditions are more common for men and they lead to hospital stays more often. Men's lower hospital rates for fractures may be due to two factors. First, fall injuries are less common for older men than for older women (Hogue, 1982) and, second, women's falls may result in fractures more often than men's because of osteoporosis among women.

From Daily Life to Death. As we vary our perspective from daily symptoms to prevalent conditions, then to treated conditions, and finally to causes of death, the importance of specific chronic problems shifts. Musculoskeletal and sensory problems are important in daily life for older women but they seldom cause hospitalization or death. Cardiovascular problems are more common at all stages, but there is a shift from hypertension (a risk factor for heart disease) to heart failure itself. Reflecting its early asymptomatic nature and rapid course, cancer scarcely appears in the array of daily or ambulatory care problems but it is a prominent cause of hospitalization and death. Similarly, influenza and pneumonia are acute conditions seldom present in daily life, but they are life-threatening for older women when they do occur. Diabetes has consistently ranked across all stages; it has moderate prevalence, needs some medical monitoring, and can be fatal. (Diabetes' importance in mortality is actually masked in death statistics because it often figures as an associated cause of death.) In sum, daily life for older women has many aches and pains that are bothersome but not life-threatening. Ultimately, the "killer" conditions of heart disease, cancer, and stroke do manifest themselves and lead to death.

In contrast, older men tend to be more bothered in daily life by precisely the problems (circulatory and respiratory) that often cause their deaths. Readers will find less difference across the stages of daily symptoms, prevalent conditions, treated conditions, and causes of death for them than for older women.

One difference between the sexes merits special note: older women report more current and past cancer, but older men are hospitalized more often for it and have higher cancer mortality rates. A national surveillance program has found that men have higher incidence rates for all types of malignant cancers except breast and endocrine, whereas women have higher incidence rates of benign cancers (National Cancer Institute, 1981). The health survey rates we show thus reflect women's frequent experience of benign cancers, generally lower experience of malignant cancers, possibly earlier diagnosis and treatment of cancers, and better prognosis for the types of malignancies they do develop.

Overall, older women have more chronic health problems than older men. The evidence is scattered but consistently suggests that older women have higher prevalence rates for many more chronic conditions than men do (Verbrugge, 1983b, 1984b). Their rates are higher for hypertension, arthritis, diabetes, anemia, migraine, sciatica, hypertensive disease, varicose veins, most digestive and urinary problems (except ulcer and hernia), allergies, and most orthopedic problems. These conditions are often symptomatic but seldom fatal. In contrast, the list of conditions with higher male rates is shorter but it contains most of the leading causes of death for older people. The list includes heart disease, cerebrovascular disease, arteriosclerosis, pneumonia, and emphysema/asthma. An early National Health Interview Survey (1957-1958) showed that older women had three or more chronic ailments more often than older men did (34% versus 28%) (Public Health Service, 1959). (Public Health Service, 1959). More recent national figures are not available. We noted earlier that female decedents have more causes listed on their death certificates than male decedents. This suggests they have more health problems at the time of death. (Other factors may be important however; namely, women's older ages at death, which is not adjusted in the results, and medical examiners' more extensive knowledge of female decedents' health problems.)

Social, Physical, and Mobility Limitations. Virtually all disability statistics show that older women are more limited than older men. More often, women report trouble in physical activities like climbing stairs and lifting objects and also in personal care activities like bathing and eating (Table 8). They have more mobility problems too; 6% report trouble getting around alone, another 7% need help in getting around, and 5% are confined to their home. Altogether, 19% of older women have mobility problems as compared to 15% of older men. More older women use aids such as canes, special shoes, walkers, and wheelchairs; but more older men have artificial limbs or use braces (Black, 1980). Eight percent (8%) of elderly women say they are limited in their secondary activities such as church, clubs,

TABLE 8
Social, Physical, and Mobility Limitations Among Older Women and Older Men in the United States

	Women 65+	Men 65+
	(Percents)	
Limitation of activities due to chronic condition (1978)		
Limited in major activity	34.9%	43.2%
Limited in secondary actvities, but not in major activity	7.8	5.0
Difficulty in doing common tasks (1962)		
Walking up and down stairs	35%	24%
Getting around the hosue	8	4
Washing/bathing	13	7
Dressing/putting on shoes	9	7
Cutting toenails	22	15
Limitation of mobility due to chronic condition (1972)		
Has trouble getting around alone	6.1%	5.4%
Needs help in getting around	7.2	6.0
Confined to house	5.4	4.9
Disability days for chronic conditions (1977)[a]	(Average days per person per year)	
Restricted activity days (bed + nonbed)	27.6	22.8
Bed disability days	11.2	8.2

SOURCES: For limitation of activities, limitation of mobility, and disability days: National Center for Health Statistics, *Vital and Health Statistics*, Series 10, Nos. 96, 126, 130. For sifficulty in doing common tasks: Shanas et al. *Old People in Three Industrial Societies*. New York: Atherton Press, 1968.
a. Estimated from Total Disability Days (1977) minus Disability Days for Acute conditions (July 1977-June 1978).

and social events (but not in their major activities), compared to 5% of the men. Older women average about 28 days of restricted activity for chronic problems each year, and 11 of those days are spent in bed; the comparable figures for older men are 23 days and 8 days. Greater overall disability for older women reflects the kinds of health problems they have (often musculoskeletal), their severity (more serious musculoskeletal ones), and possibly women's caretaking behavior.[3]

There is one striking exception to this picture. A larger percentage of older men say they are limited in their major activities because of a chronic condition (43% versus 35% for women in Table 8). It is difficult to interpret this because the men are asked about problems in getting a paid job, whereas most older women are asked about housework. A given health problem is more likely to limit job performance than housework, and this

certainly boosts men's reports of limitation. Thus, men's responses may reflect physical demands of jobs compared to housework, more than the prevalence or severity of their chronic conditions.

SUMMARY

Older women are bothered by chronic health problems more than older men are, largely because their conditions are different. The women typically have conditions that are persistently symptomatic and cause partial limitations, but are not life-threatening, whereas the men typically have life-threatening conditions. In one sense, older women have poorer health status than older men do because their daily lives are more troubled by symptoms (acute as well as chronic) and they find it more difficult to perform their social, physical, and mobility activities. In another sense, older men have poorer health, but this is less visible in health surveys because they have fewer daily symptoms and possibly less diagnosis and treatment before death.

Links Between Morbidity and Mortality

The health profile of older women is quite different from their death profile. The basic reason is that women's typical symptoms are from "nonkiller" conditions; that is, diseases that seldom cause death. Ultimately, women die from the same diseases as men do, but at later ages. The delay allows them to accumulate nonkiller conditions, which often cause more daily bother than any "killer" conditions they have.

Why are prevalence rates for life-threatening conditions lower for women than for men? Four explanations are possible. First, females may have greater biological resistance to most cardiovascular diseases and possibly to malignant neoplasms as well. Second, during life, women's roles may expose them less to the causal factors for heart disease, cancer, and stroke, and hence, women may respond to those causes in less health-damaging ways. For example, employed women generally have less expo-

sure to noxious chemicals than employed men do, and employed women may vent job stresses with family and friends rather than internalize them. This is a capsule statement for many specific hypotheses about risk factors, male-female differences in those factors, and the etiological links between risk factors and specific chronic conditions. Third, women probably have their chronic conditions diagnosed and treated earlier than men do. If so, women slow the progress of their chronic diseases sooner. In contrast, when men's conditions are diagnosed, it may often be too late for effective medical intervention. Fourth, women's personal health practices throughout life may also help them. Years of paying more attention to illness (as in more bed rest) and more preventive actions (such as vitamin use) may actually give them greater resistance in their older ages. Thus, what counts as poor health in the short run may promote good health in the long run.

These four explanations are discussed in more detail elsewhere (Verbrugge, 1982). Scientific evidence on them is accumulating and generally supports the statements above (see Belloc, 1973; Belloc and Breslow, 1972; Berkman, 1975; Berkman and Syme, 1979; Mossey and Shapiro, 1982; Palmore, 1969a, 1969b; Pfeiffer, 1970; Waldron, 1976, 1982; Wiley and Camacho, 1980; Wingard, 1982; Wingard et al., 1983). We may never fully know the relative importance of biological role, medical care, and health habit factors in women's longevity advantage, and their importance may actually change over the decades as adults' roles, health care practices, and health attitudes change.

Why are prevalence rates for nonkiller conditions higher for women than for men? Two explanations are plausible. First, females may be more biologically vulnerable to bone and joint deterioration, eye diseases, vision loss, and hypertension. Second, by living longer, women have more of an opportunity to wear out. Musculoskeletal and sensory problems increase with age for virtually all people, and they may be natural companions of the aging body. Within any age group (such as 65-69), women tend to be older so their chances of having musculoskeletal and sensory problems are greater. Health statistics can seldom adequately take this age composition effect into account. In sum, the two

explanations are biological and artifactual ones, they are speculative, and scientific evidence on them is incomplete. Hypotheses about roles, medical care, and health habits are not stated here; it is hard to see how women's behaviors in those areas would increase their risks of developing nonkiller conditions over men's risks.

The Future Health Profile of Older Women and Older Men

For most of this century, public health efforts have been aimed at reducing mortality rates so that individuals live more years. Mortality rates are now low, and although they may continue to drop for some diseases, this will not increase life expectancy much (because older people who survive one disease are at a high risk of dying soon from a different one) (Keyfitz, 1977, 1978; Tsai et al., 1978). Public health attention is therefore turning toward the quality of life rather than its length. The goal is to help individuals maintain vigor and good physical functioning; in other words, to postpone disability as well as death (Office of the Assistant Secretary for Health, 1979).

Public policy and programs alone cannot realize this goal. Individuals must also have health attitudes and habits that minimize their risks of serious illness and injury. The importance of individual responsibility for health is now being emphasized (Knowles, 1977), and adults are devoting more time and attention to diet, exercise, moderation of smoking and drinking, and stress reduction.

Changes like these make it very difficult to predict how healthy future cohorts of older people will be compared to contemporary ones. When they reach their sixties and seventies, the coming cohorts will have had lifetimes that differ greatly from current cohorts. More women will have long employment experience, a divorce sometime during life, prolonged stresses, and also prolonged satisfactions from multiple roles (wife, mother, and worker). They will have had more years of modern medical care, including use of therapeutic and preventive drugs, and also

prompt hospital care for illness. And they will probably have made more personal investments in their health through attentive health habits and lifestyles. Moreover, medical care may be even more effective than now so that diseases are arrested more completely and sometimes even cured. Men will experience many of the same changes over their lifetime. Most of the social, medical, and personal changes named bode well for the health of women and men who will be elderly in future decades.

A likely health profile for future cohorts is outlined below. First, older women and men will feel better on a daily basis compared to their contemporaries. Symptoms will be alleviated more easily because of better drugs and other therapies and because of better health habits during older and earlier ages. More healthful lifetimes should actually reduce the chances of developing chronic diseases by a given age, especially the "killer" conditions. The kinds of problems older people have will probably shift toward "nonkiller" conditions, especially musculoskeletal and sensory ones, whereas "killer" conditions will recede. Second, older people will have fewer functional disabilities compared to people of the same age now. They will be able to work and socialize more easily, lift and manipulate objects, climb stairs, perform personal care activities (bathing, dressing, cutting toenails, etc.), and move about freely at home and outdoors. Again, this will be the result of better medical care and better lifetime health habits. Third, older people will live longer. Those who reach age 65 can expect several more years of life than those now reaching 65. Greater longevity at older ages will be due to more healthful milieux and behaviors throughout life and to better preventive and curative medical care. Fourth, the death process may be shorter and may involve the simultaneous breakdown of several body functions. Thus, severe morbidity may be compressed into a short time just before death; this is especially possible if diseases are prevented or arrested better for future cohorts (see Fries, 1983 and Fries and Crapo, 1981 for further discussion of the compression of morbidity, and Manton, 1982 and Verbrugge, 1984a for critiques). In sum, older people will have longer lives that are more free of serious discomfort and disability.

The profile above pertains to individuals. In other words, comparing a person currently 75-years-old with one that age in 2010, the future man or woman will probably feel better each day, have fewer disabilities, live longer, and die more rapidly. In contrast, if we ask about health for the whole population of older women or men, the situation may differ. Some health statistics may show worsening health over the coming decades. There are two reasons for this. First, the older population is itself aging, and a larger percentage of persons 65 and over will be elderly. Because health problems sharply increase with age for people 65 and over, this shift in age composition will boost statistics on symptoms, diseases, and limitation. Second, future mortality declines will mainly occur at older ages. People "rescued" from death will usually be ill, and their retention in the living population will boost illness statistics (Verbrugge, 1984a). In sum, although individual chances of good health may increase, population statistics may show worsening health. Policymakers and scientists who monitor health trends should be aware of this possibility.

Will older men and women differ in their health and mortality as much as now? We have noted many gender differences for contemporary older people; these will probably become smaller in the future but never completely disappear. The shift toward more similar health and mortality will come from changes made by both sexes in their roles, medical care behavior, and health habits. Higher labor force participation is exposing women to risks that were mainly felt by men in the past. It is speculated that cardiovascular disease rates will increase for women, but the truth is not yet known. On the other hand, men will probably improve their health habits and use more medical care during middle-age so they will become more similar to women in these respects. In general, the roles and habits of adult men and women may become more similar—but hopefully not identical—in the coming decades. This means that morbidity and mortality risks will also become more similar. Still, older women will probably continue to have more daily symptoms (especially musculoskeletal ones) and greater longevity because of their different biological vulnerabilities and strengths.

NOTES

1. The maximum possible age a human can live is probably about 110 (Fries and Crapo, 1981). This is called the human life span, and it will not change much even if mortality rates continue to fall. More people will simply die near this limiting age than before. A different notion is maximum life expectancy; this is the average age at death for a population with the lowest possible death rates. It is probably about 85. The current U.S. mortality projections assume that mortality rates will continue to drop but not reach their lowest possible levels. Using the projections, U.S. females born in 2050 would have a life expectancy of 81 years, and males 72 years (Bureau of Census, 1977).

2. A second National Health and Nutrition Examination Survey (1976-1980) has been conducted, but data are not yet available.

3. For further disability data on older persons, based on a community survey, see Branch and Jette (1981) and Jette and Branch (1981).

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