

# International Brief Gender and Aging



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BUREAU OF THE CENSUS

## Mortality and Health

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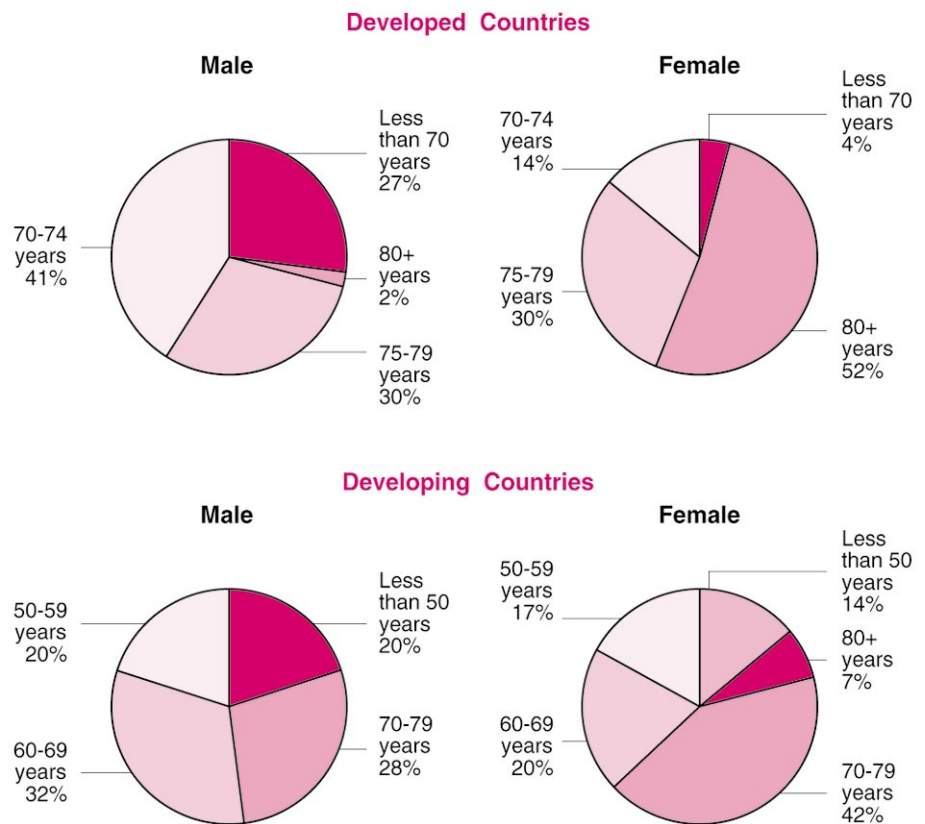
Countries around the world are in the midst of demographic aging. While the pace of aging varies, all nations are, or soon will be, faced with important issues regarding the health of and health care provision for their expanding older<sup>1</sup> populations.

In particular, countries need to plan for the health needs of older women. Although the elderly are as diverse demographically, socially, and economically as the nonelderly, one notable difference between these broad groups is the relative number of men and women. While boys outnumber girls in all countries, gender differences in mortality eventually produce a changing sex balance within a population. By age 30 or 35, women start to outnumber men, and the absolute female advantage increases with age. Elderly women greatly outnumber elderly men in most nations, and therefore the health and socioeconomic problems of the elderly are, to a large extent, the problems of elderly women.

### Female Survival Advantage is Nearly Universal

With a handful of national exceptions, life expectancy worldwide is higher for females than for their

Figure 1.  
**Global Distribution of Life Expectancy at Birth: 1998**  
(Percent of countries in each category)



Source: U.S. Census Bureau, 1998.

male counterparts. In developed<sup>2</sup> countries, an average female life

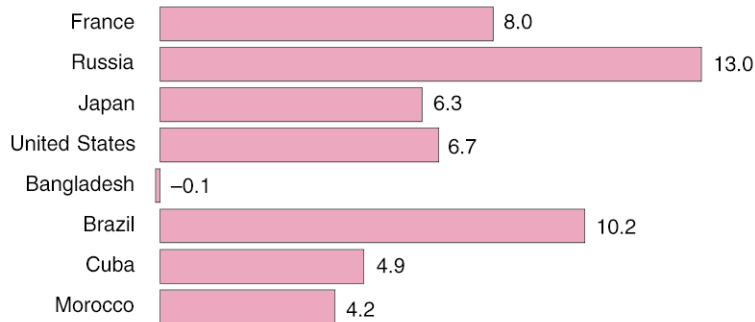
expectancy at birth of at least 80 years has become the norm, whereas few countries can boast of the same level for men (Figure 1). The average gap in life expectancy between the sexes is roughly 7 years in developed countries, but can be as great as 13 years in parts of the former Soviet Union as a result of unusually high levels

<sup>2</sup> The "developed" and "developing" country categories used in this brief correspond to the "more developed" and "less developed" classification employed by the United Nations. Developed countries comprise all nations in Europe and North America, plus Japan, Australia, and New Zealand. The remaining nations of the world are considered to be developing countries.

<sup>1</sup> The term "older" is an arbitrary concept used only for cross-national comparative purposes. In this brief, "older" generally refers to ages 60 and over.

Figure 2.  
**Female Advantage in Life Expectancy  
at Birth: 1998**

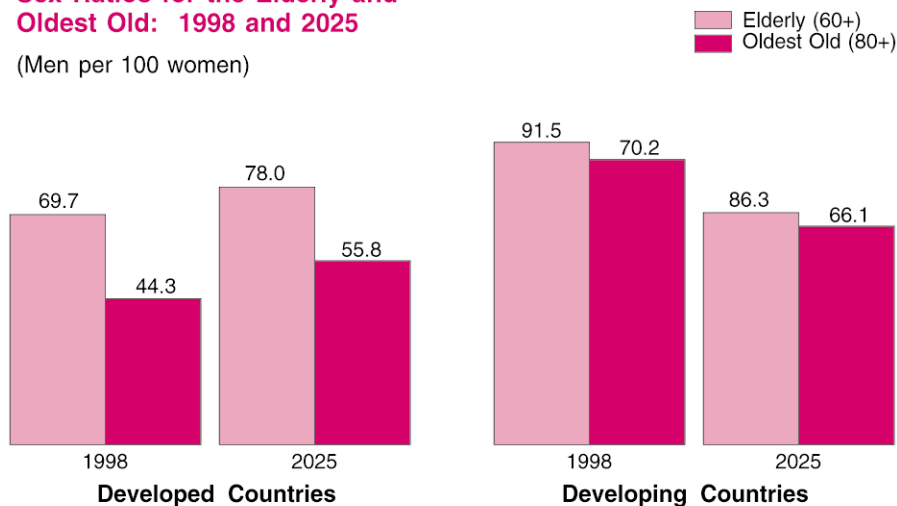
(Difference in years between females and males)



Source: U.S. Bureau of the Census, 1998.

Figure 3.  
**Sex Ratios for the Elderly and  
Oldest Old: 1998 and 2025**

(Men per 100 women)



Source: U.S. Bureau of the Census, 1998.

of current adult male mortality (Figure 2). In developing countries, the average gender gap in life expectancy at birth is only 3 years, due at least in part to high levels of maternal mortality in some nations. Nevertheless, girls born today in nearly half of all developing countries may anticipate living at least 70 years; boys can expect to reach age 70 in only 28 percent of developing countries.

### Will the Gender Differential in Life Expectancy Converge?

Table 1 depicts the spectacular increases in human life expectancy

that have occurred in many parts of the world during the last 50-100 years. Since the beginning of this century, industrialized countries have made great progress in extending life expectancy at birth. Japan enjoys the highest life expectancy of the world's major nations—the average Japanese born today can expect to live 80 years—and the level in numerous European nations approaches or exceeds 79 years.

Three observations can be made concerning the developed-country trends in Table 1: (1) the relative difference among countries has narrowed with time; (2) the pace of

improvement has not been linear, especially for males;<sup>3</sup> and (3) the difference in female versus male longevity, which universally has been in favor of women in this century, has widened with time.

Changes in overall life expectancy in developing regions of the world have been more uniform. Practically all nations have shown continued improvement, with some exceptions in Latin America and more recently in Africa, the latter due to the impact of the HIV/AIDS epidemic. Given the small average gender gap in life expectancy relative to developed nations, most demographers expect to see a widening of the female/male difference in upcoming decades, along the lines of the historical trend in industrialized nations. One factor that may promote such a widening is education, which is positively related to survival. As women “catch up” to men in terms of educational attainment, we might expect to see relative improvements in survival and health status (Liu, Hermalin and Chuang, 1998).

Precise explanations of the gender difference in life expectancy still elude scientists because of the apparent complex interplay of biological, social, and behavioral conditions. Greater male exposure to risk factors such as tobacco use, alcohol consumption, and occupational hazards often is cited as a source of higher male mortality rates (Statistics Canada, 1997). This suggests that the gender gap in life expectancy might decrease as a result of increased female tobacco/alcohol use, and greater levels and longer durations of female labor force participation, compared with previous generations. However, data from industrialized countries still show no clear pattern of change in the gender gap; the gap is widening in most of

<sup>3</sup> From the early 1950s to the early 1970s, for example, there was little or no change in male life expectancy in Australia, the Netherlands, Norway, and the United States, while in Eastern Europe and much of the former Soviet Union, male life expectancy declined in the 1970s and 1980s.

Eastern Europe and the former Soviet Union, and tends to be narrowing in other developed countries. But in some nations with very high overall life expectancy (e.g., France, Germany, Japan), gains in female longevity continue to outpace those of males.

### Female Share of Older Population Rises with Age

Gender differences in longevity in developed countries translate into a preponderance of women at older ages. Among all persons aged 60 and over in 1998, the developed-country sex ratio was 70 (i.e., there were 70 men aged 60 and over per every 100 women aged 60 and over). Because women have lower mortality rates than men throughout life, the proportion female rises with age. Among the oldest old (80 and over) in developed countries, the 1998 sex ratio was only 44. As noted above, demographers expect that life expectancy will increase somewhat faster for men than for women; hence, these sex ratios are projected to rise considerably by the year 2025.

Current sex ratios in developing nations are much higher than in the developed world: 92 among persons aged 60 and over, and 70 among the oldest old. If the trend in developing-country mortality approximates what has been observed in industrialized nations, the future gap between male and female life expectancy might be expected to widen somewhat. One likely result would be a decline in sex ratios at older ages over the next three decades (Figure 3).

### Life After 60

Where infant mortality rates are still relatively high, as in many developing countries, most of the improvement in life expectancy results from infants surviving the high-risk initial years of life. As infant and childhood mortality reach lower levels, as in developed countries, improvements in average life expectancy are achieved primarily by declines in mortality among older segments of the population.

Table 1.  
**Life Expectancy at Birth for Selected Countries: 1900 to 1998**

(In years)

#### DEVELOPED COUNTRIES

Region/country	Circa 1900		Circa 1950		1998	
	Male	Female	Male	Female	Male	Female
<b>Western Europe</b>						
Austria	37.8	39.9	62.0	67.0	74.1	80.7
Belgium	45.4	48.9	62.1	67.4	74.1	80.7
Denmark	51.6	54.8	68.9	71.5	73.6	79.1
France	45.3	48.7	63.7	69.4	74.6	82.6
Germany	43.8	46.6	64.6	68.5	73.8	80.3
Norway	52.3	55.8	70.3	73.8	75.4	81.2
Sweden	52.8	55.3	69.9	72.6	76.5	82.0
United Kingdom	46.4	50.1	66.2	71.1	74.8	80.1
<b>Southern and Eastern Europe</b>						
Czech Republic	38.9	41.7	60.9	65.5	70.8	77.7
Greece	38.1	39.7	63.4	66.7	75.8	81.0
Hungary	36.6	38.2	59.3	63.4	66.5	75.4
Italy	42.9	43.2	63.7	67.2	75.3	81.7
Spain	33.9	35.7	59.8	64.3	73.8	81.6
<b>Other</b>						
Australia	53.2	56.8	66.7	71.8	77.0	83.0
Japan	42.8	44.3	59.6	63.1	76.9	83.3
United States	48.3	51.1	66.0	71.7	72.9	79.6

#### DEVELOPING COUNTRIES

Region/country	Circa 1950		1998	
	Male	Female	Male	Female
<b>Africa</b>				
Egypt	41.2	43.6	60.1	64.1
Ghana	40.4	43.6	54.8	58.9
Mali	31.1	34.0	45.7	48.4
South Africa	44.0	46.0	53.6	57.8
Uganda	38.5	41.6	41.8	43.4
Congo (Brazzaville)	37.5	40.6	45.3	48.9
<b>Asia</b>				
China	39.3	42.3	68.3	71.1
India	39.4	38.0	62.1	63.7
Kazakhstan	51.6	61.9	58.1	69.3
South Korea	46.0	49.0	70.4	78.0
Syria	44.8	47.2	66.5	69.1
Thailand	45.0	49.1	65.4	72.8
<b>Latin America</b>				
Argentina	60.4	65.1	70.9	78.3
Brazil	49.3	52.8	59.4	69.6
Costa Rica	56.0	58.6	73.5	78.5
Cuba	57.8	61.3	73.0	77.9
Mexico	49.2	52.4	68.6	74.8
Venezuela	53.8	56.6	69.7	75.9

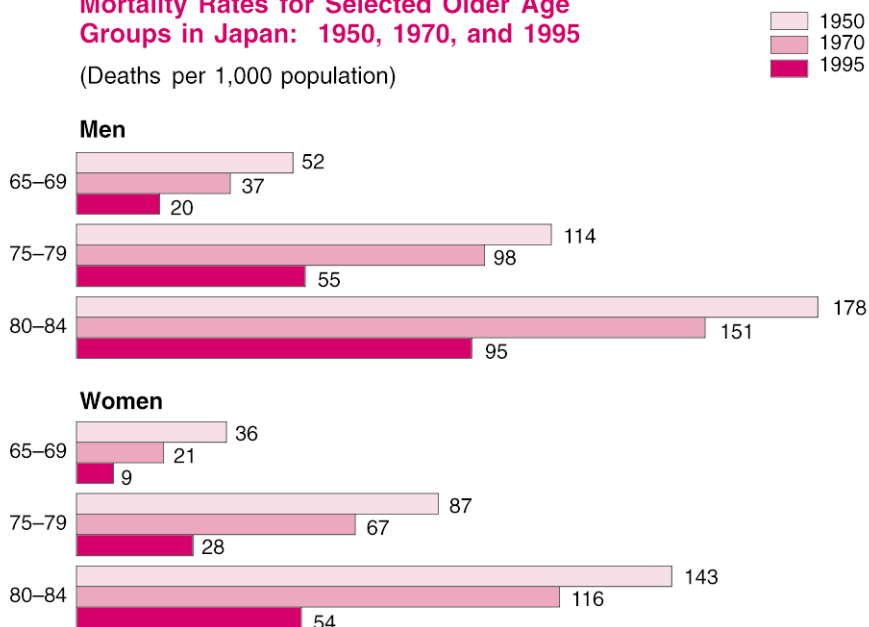
Notes: Figures for Germany and Czech Republic prior to 1998 refer to the former West Germany and Czechoslovakia, respectively.

Reliable estimates for 1900 for most developing countries are unavailable.

Sources: Siampos, G., 1990, "Trends and Future Prospects of the Female Overlife by Regions in Europe," Statistical Journal of the United Nations Economic Commission for Europe, Vol. 7, pp. 13-25; United Nations Department of Economic and Social Information and Policy Analysis (UNDESIPA), 1995, World Population Prospects: The 1994 Revision, Annex Tables, New York; United Nations Department of International Economic and Social Affairs (UNDIESA), 1988, "Sex Differentials in Survivorship in the Developing World: Levels, Regional Patterns and Demographic Determinants," Population Bulletin of the United Nations, Vol. 25, pp. 51-64; and U.S. Bureau of the Census, International Programs Center, International Data Base.

Figure 4.  
**Mortality Rates for Selected Older Age Groups in Japan: 1950, 1970, and 1995**

(Deaths per 1,000 population)



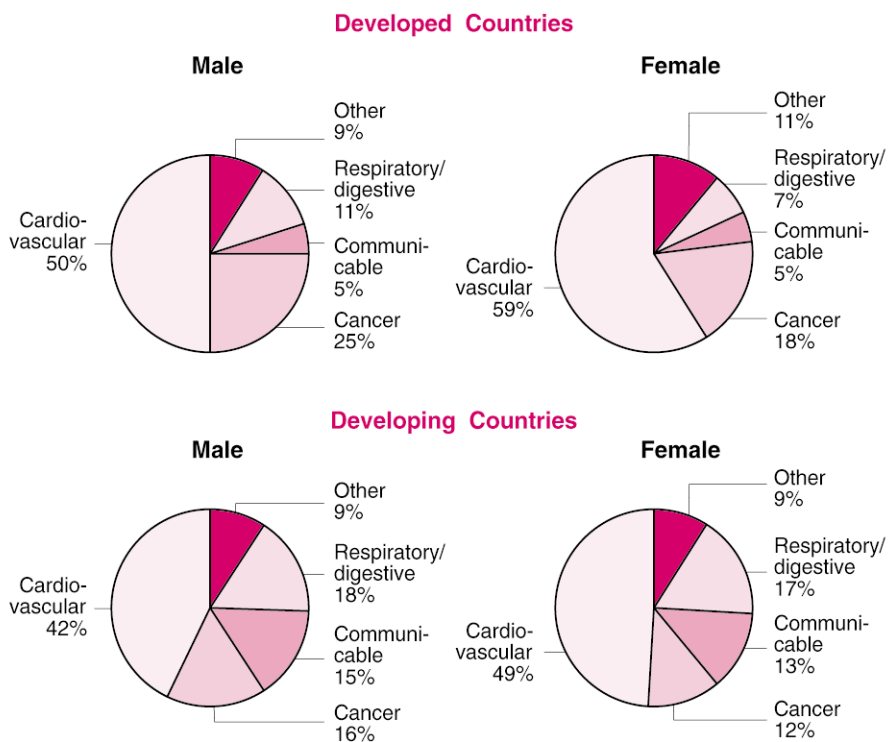
Source: Japan Statistics Bureau, various issues of the annual Statistical Yearbook.

Data from Japan (Figure 4) illustrate the rapid declines in old-age mortality that characterize many industrialized nations. Among the relatively young elderly aged 65-69, death rates for men and women plummeted between 1950 and 1995; the female level in 1995 was only one-fourth of that in 1950. Major declines can be seen at older ages as well. As a consequence of these steep drops, life expectancy at age 60 rose 9 years for women and nearly 7 years for men during the period 1950-95. Under the mortality conditions of 1995, the average Japanese woman aged 60 could expect to live an additional 25 years, and the average Japanese man an additional 20.

**The Importance of Cardiovascular Disease**

Death rates due to heart disease and stroke have declined at older ages in many developed countries in recent years. Nevertheless, cardiovascular disease remains the primary killer at older ages. One comprehensive analysis (Murray and Lopez, 1996) attributes nearly 60 percent of all deaths among women aged 60 and over in the early 1990s to cardiovascular disease; the corresponding figure for older men was 50 percent. Cancer deaths at older ages rank a distant second, but may be more worrisome in the public eye; in the 1995 Canadian Women's Health Test, most women believed breast cancer to be the number one killer of women of all ages. Only 16 percent of those surveyed correctly stated that heart disease is the number one killer (Wiesenberg, 1996). Although deaths from cardiovascular disease are expected to remain most prominent in the future, a major concern of health practitioners in the industrialized world is the rise in lung cancer among older women as a result of increased tobacco use since World War II.

Figure 5.  
**Cause-Specific Distribution of Deaths at Ages 60 and Over: Circa 1990**



Source: Murray and Lopez, 1996.

The epidemiologic transition from the primacy of infectious and parasitic diseases to chronic and degenerative diseases that has characterized industrialized nations



has occurred in most developing nations as well. Cardiovascular disease is by far the leading cause of death at older ages in developing countries, although the impact of communicable diseases remains considerable. The share of cancer deaths at older ages is less pronounced than in the industrialized world (Figure 5), but is expected to increase in importance during the next two decades, again driven largely by increased cigarette consumption (Robles, 1993).

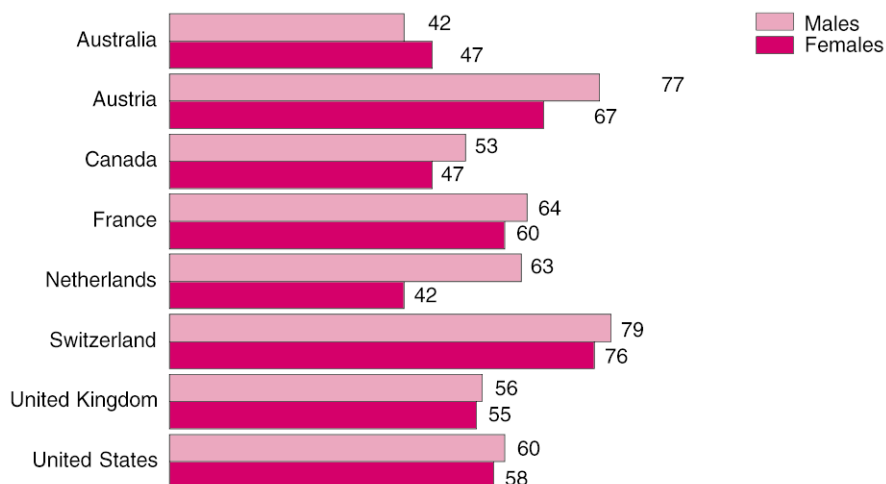
### Does Living Longer Mean Living Better?

As life expectancy at birth and at older ages lengthens, the quality of that longer life becomes a major issue. The concept of healthy life expectancy (also called active life expectancy or disability-free life expectancy) refers to the average number of years that a person may expect to be free of limitation of function due to one or more chronic disease conditions. Measures of healthy life expectancy often focus on the ability of persons to complete activities of daily living (ADLs) such as bathing, dressing, eating, getting in and out of bed, and toileting. More refined measures also consider instrumental activities of daily living (IADLs) which include preparing meals, shopping for personal items, managing money, using the telephone and doing light housework (Crimmins, Hayward, and Saito, 1996).

To facilitate and promote analyses of healthy life expectancy, the International Research Network for Interpretation of Observed Values of Healthy Life Expectancy (REVES) was formed in 1989 to bring together researchers concerned with measuring changes and inequalities in health status within and among nations. It is as yet difficult to precisely compare such measures among nations because of computational and conceptual differences, though researchers are working toward the development of integrated measures (Verbrugge, 1997). One commonality that has emerged from various studies is that women who reach older age can expect to

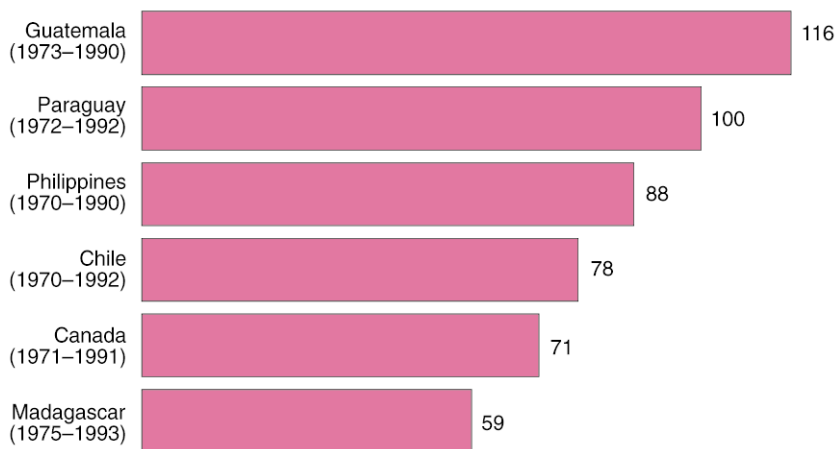
Figure 6.  
**Disability-Free Portion of Life Expectancy at Age 65: Circa 1991**

(Percent of remaining years lived without disability)



Source: Robine and Romieu, 1993.

Figure 7.  
**Percent Increase in Number of Widows Aged 60 and Over**



Source: U.S. Bureau of the Census, 1998.

live more disability-free years than their male counterparts. However, because women have longer life expectancies at any given older age than do men, the proportion of remaining years that are free of disability tends to be somewhat greater for older men (Figure 6).

### Widowhood and Health

Older women are much more likely to be widowed than are older men;

not only do they live longer on average, but they tend to marry men older than themselves, and remarry much less frequently in the case of divorce or spousal death. Thus it has become a truism that most women must anticipate a period of widowhood in their later years. Numbers of widows are rising rapidly in most parts of the world (Figure 7), as are numbers of never-married older women.

Research has documented a positive relationship between longer life and marriage (see, for example, Lillard and Waite, 1995), which likely can be attributed to the heightened financial well-being that accompanies being married. The death of a spouse may necessitate a number of adjustments in the realms of living arrangements, financial security and personal relationships. In developed countries, where formal support mechanisms usually are strong, most older women appear to cope with such adjustments without a negative impact on their health (Bonita, 1996). In developing countries, the extended family typically has provided support for elderly widows. However, the forces of urbanization, migration and lowered fertility threaten to undermine traditional social roles. Older women, many of whom are illiterate and poor, are increasingly vulnerable, particularly in societies where social custom and family law discriminate against women.

### Gender Differences in Morbidity Still Poorly Understood

Reliable, comprehensive data on the health of older women (and often on the health of women in general) is sorely lacking in most countries of the world. There are numerous methodological problems related to the determination of health status at older ages (Ebrahim, 1996), many of which have been compounded by the exclusion of older persons from large-scale studies. A reluctance to study health status in later life has been attributed to difficulties surrounding the multiplicity of pathological conditions that exist in old age, and also to ageism (Sen, 1996). And even though women live longer than men in virtually all countries, health research on aging has tended to focus on the ills of men (Freedman and Maine, 1993).

Research has begun to document the relationship between lifelong health, beginning as early as the intrauterine period, and health at older age (Barker, 1995; Elo and Preston, 1992; Smith and Kington,

1997). This life cycle approach to health and health care has different implications for women and men, particularly in countries where gender bias pervades all realms of life. Women's health and access to health care often are disproportionately affected by high levels of poverty and economic dependence, violence, gender inequities in nutrition and food distribution, limited decisionmaking power, and negative cultural attitudes toward women and girls. The World Health Organization (1998) has issued a "gender challenge" to nations and international organizations, a call for: a better appreciation of risk factors involving women's health; the development of preventive strategies to lessen the impact of diseases that disproportionately plague older women (e.g., coronary heart disease, osteoporosis, and dementia); and an increased emphasis on understanding why men die sooner than women.

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This is the second profile in a four-part series on gender and aging. The initial profile focused on demographic dimensions; the next two profiles will examine the topics of economic security and caregiving, and consider how the world's societies have different responses to the lives and needs of older persons. The Gender and Aging series is produced with the support of the Office of the Demography of Aging, Behavioral and Social Research Program, U.S. National Institute on Aging.

Table 2.  
**Population and Health Indicators**

Country	Percent female among persons aged 60 and over	Percent female among persons aged 80 and over	Female advantage in life expectancy at birth (in years)	Health expenditure per capita US\$	Persons per physician	Percent of population with access to:	
						Safe water	Adequate sanitation
	1998			Circa 1990-1995			
Afghanistan	48	43	-1	NA	7001	10	8
Algeria	53	54	2	149	2330	57	40
Argentina	57	64	7	137	373	64	89
Australia	55	65	6	1294	415	100	100
Bangladesh	46	37	0	7	5309	83	30
Brazil	58	67	10	146	746	92	73
Canada	56	66	7	1945	450	100	NA
China	52	63	3	11	798	72	79
Colombia	54	58	8	51	952	96	70
Egypt	54	59	4	28	1320	90	50
Ethiopia	54	58	2	NA	32650	18	17
France	58	69	8	1869	350	100	96
Germany	59	74	7	1511	313	100	100
India	49	49	2	21	2460	63	29
Indonesia	55	60	5	12	7030	63	45
Italy	57	67	6	1426	210	100	100
Japan	57	67	6	1538	610	96	NA
Kenya	56	57	1	16	10130	49	43
Malaysia	55	61	6	71	2700	90	94
Mexico	54	60	6	89	935	87	70
Morocco	54	54	4	26	4840	59	63
Nepal	50	52	0	7	16830	48	22
Pakistan	50	51	2	12	2940	60	30
Peru	53	59	4	61	939	60	47
Philippines	55	56	6	15	8120	84	75
Poland	60	71	9	84	490	89	100
Romania	57	64	8	58	560	95	97
Russia	66	80	13	159	210	94	NA
South Africa	58	67	8	141	1750	74	46
South Korea	59	73	4	365	1370	93	90
Spain	57	67	8	831	280	99	97
Sri Lanka	52	51	6	18	5927	57	66
Sudan	45	43	2	34	10000	34	12
Taiwan	48	53	6	NA	910	NA	NA
Tanzania	54	56	4	4	24880	52	77
Thailand	55	63	7	72	5000	81	87
Turkey	53	62	5	76	1260	92	94
Ukraine	65	77	12	131	230	97	93
United Kingdom	57	69	5	1039	687	100	100
United States	58	67	7	2765	420	100	98
Uzbekistan	58	70	7	116	280	74	53
Venezuela	53	58	6	88	630	88	87

NA - Not available

Source: Demographic data from U.S. Bureau of the Census, International Programs Center, International Data Base; Health indicators as reported by or calculated from World Bank, World Development Reports 1993, 1994, and 1997, New York; World Bank, 1996, Social Indicators of Development 1996, New York; World Health Organization, World Health Report 1995, 1996, and 1997, Geneva; and country sources. Due to definitional differences among sources, strict comparisons of health indicators may not be warranted.