

## 93e World Demography of Aging

Richard M. Suzman, John G. Haaga

Population aging is transforming the world in dramatic and fundamental ways. The age distributions of populations have changed and will continue to change radically, due to long-term declines in fertility rates and improvements in mortality rates (Table 93e-1). This transformation, known as the Demographic Transition, is also accompanied by an epidemiologic transition, in which noncommunicable chronic diseases are becoming the major causes of death and contributors to the burden of disease and disability. A concomitant of population aging is the change in key ratios expressing “dependency” of one form or another—the ratio of adults in the workforce to those typically out of the workforce, such as infants, children, retired “young old” (those still active but in ways other than paid work), and the oldest old. Global aging will affect economic growth, migration, patterns of work and retirement, family structures, pension and health systems, and even trade and the relative standing of nations. Both absolute numbers (the size of an age group) and ratios (the ratio of those in working ages to dependents such as the young or retired, or the ratio of children to older people) are important. The size of age groups might affect the number of hospital beds needed, whereas the ratio of children to older people could affect the relative demand for pediatricians and geriatricians.

Although the increase in life expectancy, resulting from a series of social, economic, public health, and medical victories over disease, might very well be considered the crowning achievement of the past century and a half, the increased length of life coupled with the shifts in dependency ratios present formidable long-term challenges.

The pace of the change is accelerating. In countries where the Demographic Transition began earlier, the process was slower: it took France 115 years for the proportion of the age group 65 and older to

increase from 7 to 14% of the total population, and the United States will soon have completed this same increase in 69 years. But in countries that started the transition later, the process is occurring much more rapidly: Japan took 26 years to go from 7 to 14% age 65 and older, while China and Brazil are projected to require just 24 years.

Sometime around the year 2020, for the first time ever, the number of people age 65 and older in the world is expected to exceed that of children under the age of 5. Around the middle of the twentieth century, the under-5 age group constituted almost 15% of the total population and the over-65 age group 5%. It took about 70 years for these two to reach equal proportions. But demographers predict it will take only another 25–30 years for the 65 and older age group to equal about 15% and be about double the number of children under age 5. By the middle of their careers, medical students in most countries should expect to be practicing in far older populations. Preparations for these changes need to begin decades in advance, and the costs and penalties for delay can be very high. Although some governments have started planning for the long term, many, if not most, have yet to begin.

### HISTORICAL

Population aging around the world in recent decades has followed a broadly similar pattern, starting with a decline in infant and childhood mortality that precedes a decline in fertility; at later stages, mortality at older ages declines as well. Declining fertility began as early as the beginning of the nineteenth century in the United States and France and extended to the rest of Europe and North America and parts of East Asia by the middle of the twentieth century. Since World War II, fertility declines have started in all other world regions. In fact, more than half the world’s population now lives in countries or provinces with fertility rates below the replacement level of just over two live births per woman. Mortality rates also began to change, relatively slowly at first, in Western Europe and North America during the nineteenth century. At first, changes were most evident at the youngest ages.

**TABLE 93e-1** SELECTED INDICATORS OF POPULATION AGING, ESTIMATES FOR 2009, AND PROJECTIONS TO 2050; SELECTED REGIONS AND COUNTRIES

	Population Age 60+ (in millions)		Percentage of Population 60+		Life Expectancy at Birth		Life Expectancy at 60		Old Age Support Ratio <sup>a</sup>	
	2012	2050	2012	2050	Male	Female	Male	Female	2012	2050
<b>World</b>	809	2031	11	22	65.4	69.8	18.1	21.2	8	4
More developed regions	279	418	21	32	73.6	80.5	19.6	23.7	4	2
Less developed regions	530	1613	9	20	63.9	67.4	17.3	19.6	11	4
Least developed countries	46	181	5	11	54.7	57.2	15.3	16.8	16	9
<b>Africa</b>	60	215	6	10	52.9	55.3	15.2	17.1	16	10
<b>Asia</b>	446	1252	11	24	67.1	75.7	17.6	20.3	10	4
China	181	439	13	34	71.3	74.8	18.2	20.7	8	2
Japan	40	45	32	41	79	86.2	22.1	27.8	3	1
Republic of Korea	8	18	17	39	75.9	82.5	19.7	24.6	6	2
India	100	323	8	19	62.1	65	16	17.9	13	5
<b>Europe</b>	166	242	22	34	71.1 <sup>b</sup>	79.1 <sup>b</sup>	18.3	22.6	4	2
Russian Federation	26	39	19	31	60.3	73.1	14.3	19.2	6	3
United Kingdom	14	22	23	29	77.2	81.6	20.4	24	4	3
Italy	15.8	22.3	26	39	78.1	84.1	21.5	25.9	3	2
Germany	21.1	27.9	26	40	77.1	82.4	20.4	24.6	3	2
France	14.1	22.0	23	33	77.6	84.7	21.6	26.6	4	2
<b>Americas</b>										
United States	56.2	110.5	18	27	76.9	81.4	21.2	24.6	5	3
Canada	6.5	14.1	20	32	78.3	82.9	21.7	25.2	5	2

<sup>a</sup>UN Population Division defines Old Age Support Ratio as the number of people age 15 to 64 years for every person age 65 or older. <sup>b</sup>The UN includes all European regions in its overall statistics; life expectancy at birth for males ranges from 63.8 years in Eastern Europe to 77.4 years in Western Europe. For women it ranges from 74.8 to 83.1 years in Western Europe.

**Source:** United Nations Population Division, *World Population Ageing* 2012.