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THE OPTIMAL AGING AND MIND-BODY-SPIRIT CURRICULUM SERIES: MODULES FOR MEDICAL AND HEALTHCARE PROFESSIONAL EDUCATION

MODULE 2: Demographics of Aging

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Learning Objectives

1. Identify the percentage of Michigan residents and the percentage of Americans who are older.

2. Recognize that many older persons have at least one chronic condition and many have multiple conditions and to understand the implications of this for the healthcare professional.

3. Identify the five most common chronic health conditions found among older persons.

4. Recognize that the rate of growth of the global older population is increasing faster than the rate of growth of the global total population.

5. Identify some of the ramifications of this rate of growth of the older population for society and for the healthcare professional.

Lecture

We are living in a time of incredible increasingly rapid demographic change. People are living longer, in Michigan, in the United States, and around the globe. This demographic change will have profound implications for societies, institutions, services, health care, and health care providers. We are already faced with the results of this change, and it will be increasingly significant in the years to come.

In its Annual Report for 2015, the Aging and Adult Services Agency in the Michigan Department of Health and Human Services compiled the following information about demographic changes in the state of Michigan and the nation. The United States has 314,107,084 citizens, of whom 43,177,961 (or 13.7%) are age 65 and older. Michigan has 9,889,024 residents, of whom 1,442,080 (or 14.6%) are 65 or older. Thus, Michigan has a somewhat higher percentage of residents age 65 and older than does the nation.

	TOTAL POPULATION		AGE 65 AND OVER POPULATION	
	United States	Michigan	United States	Michigan
Total Population	314,107,084	9,889,024	43,177,961	1,442,080
SEX				
% Male	49.2%	49.1%	43.6%	43.7%
% Female	50.8%	50.9%	56.4%	56.3%

Michigan is home to more than 2.1 million older adults, age 60 years or older. An unprecedented one-in-five state residents, or 21.9%, are therefore currently 60 years of age and older. A person who is 60 years or older resides in nearly 39% of all Michigan households. The majority of the state's older population is female, being comprised of 1,185,679 individuals, or 54.5%.

Population and Growth

Between 2010 and 2015, Michigan demographics showed that the cohort known as the Baby Boom Generation (those born between 1946 and 1964) was experiencing increased longevity. There were 243,423 more residents age 60 and older in 2015 than

in 2010, an increase of almost 13%. Michigan demographics also show there are 182,322 persons between age 85 and 95, and 1,729 who are age 100 and older. The 85-and-older age bracket has grown by 35 percent in the past several years and now represents nearly 10 percent of individuals age 60 and older. Greater detail is provided below.

Change 2000 to 2010				
Statewide Population	**2000**	**2010**	**Number**	**Percent**
60 years and older	1,596,162	1,930,341	334,179	20.90%
65 years and older	1,219,018	1,361,530	142,512	11.70%
75 years and older	576,138	636,821	60,683	10.50%
85 years and older	141,492	191,881	50,389	35.60%
100 years and older	1,535	1,729	194	12.60%
2000 Data: American Fact Finder, 2000 Census Summary File 1, Table PCT012; PCT12				

This profile describes characteristics of Michigan's older adult population based on information available as of January 2013. Most data is presented for the age 60 and older age group from the 2010 census. Note that in some cases, estimated 2011 data was used when available, and some census data was only available for those who are age 65 and older.

Estimated census data from 2015 (2014 American Community Survey 5 Year Estimates) shows the following changes. The number of Michigan citizens 65 years of age and older increased to 1,442,080, which was 14.6% of the population. Thus, you

can see the steady increase in Michigan citizens age 65 and older between 2000 and 2015.

Gender and Race

Between 2010 and 2015, there were small changes in the ratio of older men to women. The majority of Michigan's age 60 and older population is female – 1,185,679, or 54.5% and 988,085 or 45.5% are males. If we look at the United State population, a somewhat smaller percentage of citizens are female – 50.8%. However, this percentage of total population being female increases for both the US and Michigan by 2015. We can conclude that Michigan has a higher percentage of females to males than does the country as a whole and this percentage of females is increasing as residents of Michigan age.

The racial and ethnic makeup of the age 60 and older population has remained relatively steady. More than 13 percent of the state's population age 60 and older identify as something other than of white European ancestry. African Americans represent the largest of such groups at 10.5% of the state's population age 60 and older. The second largest group is comprised of Hispanics, which represent 1.7% of the age 60 and older population. American Indians and Alaska Natives comprise 0.4% of the age 60 and older population, while 0.8 % identifies as being two or more races.

In 2015, estimated data of the national, and Michigan, race and ethnic population age 65 and older showed some differences. Eighty-four and one-half percent of the national population and 87.4% of the Michigan population was estimated to be white. African-Americans were estimated to be 8.7% of the population nationally and 9.9% of the population in Michigan. The second largest group was Hispanics, which constituted 7.3% of the population 65 and older nationally, but only 1.5% in Michigan. It appears that the 65-and-older population, both nationally and in Michigan, has a higher percentage of individuals designated as white than does the general population.

NOTE: At end of lecture material, you can find detailed census data on aging demographics, comparing US and Michigan populations on several characteristics.

Sex and Race

	TOTAL POPULATION		AGE 65 AND OVER POPULATION	
	United States	Michigan	United States	Michigan
Total Population	314,107,084	9,889,024	43,177,961	1,442,080
SEX				
% Male	49.2%	49.1%	43.6%	43.7%
% Female	50.8%	50.9%	56.4%	56.3%
RACE				
White	73.8%	79.2%	84.5%	87.4%
Black or African American	12.6%	14.0%	8.7%	9.9%
American Indian and Alaska Native	0.8%	0.6%	0.5%	0.3%
Asian	5.0%	2.6%	3.8%	1.4%
Native Hawaiian and Other Pacific Is	0.2%	0.0%	0.1%	0.0%
Some other race	4.7%	1.1%	1.5%	0.3%
2 or more races	2.9%	2.6%	1.0%	0.8%
Hispanic	16.9%	4.6%	7.3%	1.5%
Population in Households	306,058,480	9,661,765	41,664,871	1,394,856
Population in Group Quarters	8,048,604	227,259	1,513,090	47,224

Source: 2014 American Community Survey 5 Year Estimates

The following highlights from national statistics are provided through the Administration on Aging and are compiled from several national data sources, including the United States Census. The National Center for Health Statistics and the Bureau of Labor Statistics.

- The older population (65+) numbered 41.4 million in 2011, an increase of 6.3 million or 18% since 2000.
- The number of Americans aged 45-64 – who will reach 65 over the next two decades – increased by 33% during this period.
- Over one in every 8, or 13.3%, of the population is an older American.
- Persons reaching age 65 have an average life expectancy of an additional 19.2 years (20.4 years for females and 17.8 years for males).
- Older women outnumber older men at 23.4 million older women to 17.9 million older men.

- In 2011, 21.0% of persons 65+ were members of racial or ethnic minority populations: 9% were African-Americans (not Hispanic), 4% were Asian or Pacific Islander (not Hispanic), less than 1% were American Indian or Native Alaskan (not Hispanic), and 0.6% of persons 65+ identified themselves as being of two or more races. Persons of Hispanic origin (who may be of any race) represented 7% of the older population.

- Older men were much more likely to be married than older women: 72% of men vs. 45% of women. Thirty seven percent of older women in 2012 were widows.

- About 28% (11.8 million) of non-institutionalized older persons live alone (8.4 million women, 3.5 million men).

- Almost half of older women (46%) age 75+ live alone.

- In 2011, about 497,000 grandparents aged 65 or more had the primary responsibility for their grandchildren who lived with them.

- The population 65 and over has increased from 35 million in 2000 to 41.4 million in 2011 (an 18% increase) and is projected to increase to 79.7 million in 2040.

- The 85+ population is projected to increase from 5.7 million in 2011 to 14.1 million in 2040.

- Racial and ethnic minority populations have increased from 5.7 million in 2000 (16.3% of the elderly population) to 8.5 million in 2011 (21% of the elderly) and are projected to increase to 20.2 million in 2030 (28% of the elderly).

- The median income of older persons in 2011 was $27,707 for males and $15,362 for females. Median money income (after adjusting for inflation) of all households headed by older people rose by 2% (not statistically significant) from 2010 to 2011. Households containing families headed by persons 65+ reported a median income in 2011 of $48,538.

- The major sources of income as reported by older persons in 2010 were Social Security (reported by 86% of older persons), income from assets (reported by 52%), private pensions (reported by 27%), government employee pensions (reported by 15%), and earnings (reported by 26%).

- Social Security constituted 90% or more of the income received by 36% of beneficiaries in 2010 (23% of married couples and 46% of non-married beneficiaries).
- Almost 3.6 million elderly persons (8.7%) were below the poverty level in 2011. This poverty rate is not statistically different from the poverty rate in 2010 (8.9%). During 2011, the US Census Bureau also released a new Supplemental Poverty Measure (SPM) that takes into account regional variations in the livings costs, non-cash benefits received, and non-discretionary expenditures but does not replace the official poverty measure. The SPM shows a poverty level for older persons of 15.1% (more than six percentage points higher than the official rate of 8.7%). This increase is mainly due to including medical out-of-pocket expenses in the poverty calculations.

Principal sources of data for the Profile are the US Census Bureau, the National Center for Health Statistics, and the Bureau of Labor Statistics. The Profile incorporates the latest data available but not all items are updated on an annual basis.

Health and Healthcare

The following information about the health status of older individuals will be of special interest to the medical and healthcare professional.

In 2012, 44% of non-institutionalized older persons assessed their health as excellent or very good (compared to 64% for persons aged 18-64 years). There was little difference between the sexes on this measure, but older African-Americans (not Hispanic) (25.8%), older American Indians/Alaska Natives (29%), older Asians (33%), and older Hispanics (29.7%) were less likely to rate their health as excellent or very good than were older Whites (not Hispanic) (44.7%). Older persons have at least one chronic condition and many have multiple conditions. In 2009-2011, the most frequently occurring conditions among older persons were diagnosed arthritis (51%), all types of heart disease (31%), any cancer (24%), diagnosed diabetes (20% in 2007-2010), and hypertension (high blood pressure or taking antihypertensive medication) (72% in 2007-2010).

In 2012, 68% of people age 65 and over reported that they received an influenza vaccination during the past 12 months and 60% reported that they had ever received a pneumococcal vaccination. About 28% (of persons 60+) reported height/weight combinations that placed them among the obese. Almost 45% of persons aged 65-74 and 29% of persons 75+ reported that they engaged in regular leisure-time physical activity. Only 9% reported that they are current smokers and 6% reported excessive alcohol consumption. Only 2% reported that they had experienced psychological distress during the past 30 days.

In 2010, about 13.6 million persons aged 65 and older were discharged from short stay hospitals. This is a rate of 3,326.4 for every 10,000 persons aged 65 and older; which is about three times the comparable rate for persons of all ages (which was 1,102 per 10,000). The average length of stay for persons aged 65-74 was 5.4 days; for ages 75-84 it was 5.7 days; and for ages 85 and over it was 5.6 days. The comparable rate for persons of all ages was 4.8 days. The average length of stay for older people has decreased by 5 days since 1980. Older persons averaged more office visits with doctors in 2011. Among people age 75 and over, 21 percent had 10 or more visits to a doctor or other health care professional in the past 12 months compared to 14% among people age 45 to 64. In 2012, almost 96% of older persons reported that they did have a usual place to go for medical care and only 2.4% said that they failed to obtain needed medical care during the previous 12 months due to financial barriers.

In 2011, older consumers averaged out-of-pocket health care expenditures of $4,769, an increase of 46% since 2000. In contrast, the total population spent considerably less, averaging $3,313 in out-of-pocket costs. Older Americans spent 12.2% of their total expenditures on health, almost twice the proportion spent by all consumers (6.7%). Health costs incurred on average by older consumers in 2011 consisted of $3,076 (64%) for insurance, $786 (16%) for medical services, $714 (15%) for drugs, and $193 (4.0%) for medical supplies.

Based on online data from the National Center for Health Statistics' 1) Health Data Interactive data warehouse; and 2) Early Release of Selected Estimates Based on Data from the January–September 2012 National Health Interview Survey. The Bureau of Labor Statistics' Consumer Expenditure Survey.

National Statistics on Aging

Recent statistics compiled by the Center for Disease Control and Prevention in the National Institute for Health, Department of Health and Human Services, paint a picture on a national level and on a state-by-state level of health of older persons. In 2014, 75% or more of individuals age 50 and older self-reported that their health as good to excellent. Approximately 20% self-reported their health as fair to poor. Approximately 7% reported some type of activity limitation. Most respondents indicated sufficient sleep, although it was interesting to see that as age went up, more respondents indicated sufficient sleep. About 12-15%, depending on age category, reported a fall with injury in the previous year. Across almost all age groups, respondents reported 5-6 days per year were physically unhealthy days. Disability status increased by age group, with about 25% of those ages 50 to 54 and almost 40% of those age 65 and older reporting some type of disability.

National statistics on individuals with disabilities from the US Census bureau in 2012 cover all age groups. It is interesting to note that between 2005 and 2010, disability rates for people aged 55-64 and for people age 65 and older decreased. It is likely that this is due to better economics, and better health and healthcare throughout their lifetime, even as individuals age.

The 2016 America's Health Rankings Senior Report from the United Health Foundation provides a comprehensive analysis of senior population health, both nationally and state-by-state, across 35 different measures of health. They conclude that growth in the percentage of the aging population will vary, state by state in the coming years. Twenty-five states are expected to see increases of 50% or more in their elderly residents by 2030.

Some of the national successes in the past 1-3 years include a 9% decrease in preventable hospitalizations, 8% decrease in full mouth teeth extractions, 5% decrease in hip fractures, 18% increase in availability of home health workers, 40% increase in hospice care use, and 29% decrease in hospital deaths. Overall, health status has also improved with 7% more seniors reporting very good or excellent health. Some of the

national challenges cited include a 7% decrease in community expenditures given to seniors living in poverty, a 7% decrease in home-delivered meals, a 5% increase in food insecurity, and a 9% increase in reports of obesity, all of which have implications for future health care needs.

Global Statistics on Aging

In a report prepared by the Population Division of the United Nations for a 2002 World Assembly on Ageing, global trends in population changes were described. The report concluded that:

- **Population ageing is unprecedented**, without parallel in human history; and the twenty-first century will witness even more rapid ageing than did the century just past.
- **Population ageing is pervasive**, a global phenomenon affecting every man, woman and child; but countries are at very different stages of the process, and the pace of change differs greatly. Countries that started the process later will have less time to adjust.
- **Population ageing is enduring:** we will not return to the young populations that our ancestors knew.
- **Population ageing has profound implications** for many facets of human life.

Somewhat startling statistics were provided, as summarized below.

- The older population is growing at a considerably faster rate than the world's total population. In absolute terms, the number of older persons has tripled over the last 50 years and will more than triple again over the next 50 years. In relative terms, the percentage of older persons is projected to more than double worldwide over the next half century.

- In another report entitled "An Aging World: 2015," prepared in collaboration between the US Census Bureau, the World Health Organization, and the

National Institute on Aging, the point was also made that the world population continues to grow older increasingly faster.

- In 2012, 8% of the world's population was 65 or older. Three years later, in 2015, the percentage had grown to 8.5%. It is anticipated that the next 10 years will witness an increase of about 236 million people aged 65 and older throughout the world. From 2025 to 2050, it is projected that the older population will double.

The pace of aging is not consistent across the globe. Age is more rapid in developed countries where healthcare is better and the standard of living is higher. The rate of growth in the aging population is slower in other parts of the world, such as Asia and Latin America. There are also huge variations within these areas as well. However, the bottom line is that even in countries experiencing slower aging will see large increases in their aging population over the next several decades.

Aging populations raise many issues for all societies. How long are people expected to live? What chronic diseases are going to be the most common? Can older people live independently? Will they need assistance in the form of community services, assisted living, or even communal care? How will older persons support themselves throughout their lifetime? A big question for every society is how will older persons afford the costs for the healthcare they will need? These are examples of the questions that countries, states, local communities and families will have to grapple with in the coming years.

Conclusions

With these demographic changes come huge benefits and challenges for individuals, families, medical personnel and other caregivers, communities, societies, and even countries. With advances in nutrition, disease prevention, and medical care, individuals have the opportunity to live longer lives, but a longer life does not necessarily guarantee a better, happier, or more rewarding life. Quality of life is as important as length of life, and more attention is being placed than ever before on how to improve quality of life for older individuals. A very large part of this effort is how to keep older people healthier longer. The payoff is that individuals will have fewer health problems, lower medical

costs, and reduced need for caregiver and family assistance. Therefore, these efforts contribute to optimal aging and improved quality of life.

COMPARISON OF US AND MICHIGAN AGING DEMOGRAPHICS ON SEVERAL CHARACTERISTICS

	TOTAL POPULATION			AGE 65 AND OVER POPULATION		
	United States	Michigan	Ingham County	United States	Michigan	Ingham County
Total Population	314,107,084	9,889,024	282,562	43,177,961	1,442,080	31,546
SEX						
% Male	49.20%	49.10%	48.50%	43.60%	43.70%	42.50%
% Female	50.80%	50.90%	51.50%	56.40%	56.30%	57.50%
RACE						
White	73.80%	79.20%	76.00%	84.50%	87.40%	87.70%
Black or African American	12.60%	14.00%	11.10%	8.70%	9.90%	7.40%
American Indian and Alaska Native	0.80%	0.60%	0.40%	0.50%	0.30%	0.20%
Asian	5.00%	2.60%	5.40%	3.80%	1.40%	2.50%
Native Hawaiian and Other Pacific Islander	0.20%	0.00%	0.00%	0.10%	0.00%	0.00%
Some other race	4.70%	1.10%	1.80%	1.50%	0.30%	1.10%
2 or more races	2.90%	2.60%	5.20%	1.00%	0.80%	1.20%
Hispanic	16.90%	4.60%	7.50%	7.30%	1.50%	3.40%
Population in Households	306,058,480	9,661,765	263,649	41,664,871	1,394,856	30,629
Population in Group Quarters	8,048,604	227,259	18,913	1,513,090	47,224	917
RELATIONSHIP IN HOUSEHOLDS						
% Householder or Spouse	56.30%	58.60%	58.20%	88.50%	91.90%	92.70%
% Parent	1.30%	0.90%	0.70%	5.60%	3.60%	3.40%
% Other Relative	36.50%	35.00%	30.90%	3.80%	2.70%	2.60%
% Non-Relative	5.90%	5.50%	10.20%	2.10%	1.80%	1.30%
% Non-Relative - Unmarried Partner	2.30%	2.30%	2.80%	0.80%	0.80%	0.80%
Householder Living Alone	27.60%	28.90%	32.80%	43.60%	44.50%	49.50%
MARITAL STATUS						
Now married, except separated	48.40%	48.40%	39.70%	54.60%	55.00%	52.40%
Separated	2.20%	1.40%	1.20%	1.20%	0.80%	1.00%
Widowed	5.90%	6.20%	4.40%	27.10%	27.30%	25.50%
Divorced	10.90%	11.60%	10.70%	12.20%	12.30%	15.80%
Never married	32.50%	32.40%	44.00%	4.90%	4.60%	5.40%
EDUCATIONAL ATTAINMENT						
Less than high school graduate	13.70%	10.70%	8.70%	20.00%	17.50%	14.30%
High school graduate, GED, or alternative	28.00%	30.20%	21.20%	33.40%	37.40%	28.60%
Some college or associate's degree	29.10%	32.70%	33.60%	23.30%	24.70%	25.60%
Bachelor's degree or higher	29.30%	26.40%	36.50%	23.20%	20.30%	31.50%
RESPONSIBILITY FOR GRANDCHILDREN UNDER 18 YEARS						
Living with grandchild(ren)	3.80%	2.90%	2.80%	5.00%	3.50%	3.30%
Living with grandchild(ren) - Responsible for grandchild(ren)	1.40%	1.10%	1.10%	1.20%	0.90%	0.90%
VETERAN	8.70%	8.50%	7.00%	21.60%	21.70%	21.20%
DISABILITY STATUS - Civilian noninstitutionalized population						
With a disability	12.30%	13.90%	12.10%	36.30%	36.40%	36.20%
Hearing disability	3.50%	3.80%	2.90%	15.00%	15.30%	14.50%
Vision disability	2.20%	2.20%	1.80%	6.70%	6.10%	6.20%
Cognitive disability	4.90%	5.90%	5.70%	9.30%	9.10%	10.10%
Ambulatory difficulty	7.00%	7.80%	6.50%	23.30%	22.90%	23.20%
Self-care difficulty	2.70%	3.00%	2.50%	8.60%	8.30%	8.40%
Independent living difficulty	5.70%	6.60%	5.20%	15.70%	15.60%	16.70%
LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH						
English only	79.10%	90.90%	88.10%	85.50%	93.10%	91.60%
Language other than English	20.90%	9.10%	11.90%	14.50%	6.90%	8.40%
Speak English less than "very well"	8.60%	3.20%	5.00%	8.50%	3.20%	3.50%
EMPLOYMENT STATUS						
Employed	57.90%	54.40%	56.80%	15.70%	12.10%	14.80%
Unemployed (seeking employment)	5.90%	7.00%	6.30%	1.00%	1.00%	0.80%
Not in labor force	36.30%	38.60%	36.90%	83.30%	86.90%	84.50%
INCOME						
% of Households with Earnings	77.90%	73.60%	78.00%	35.30%	29.90%	32.70%
Mean earnings (in dollars)	$76,303	$67,764	$61,282	$50,291	$40,700	$49,400
With Social Security income	29.30%	33.00%	27.20%	90.80%	93.60%	92.10%
With Supplemental Security Income	5.30%	6.10%	5.20%	6.40%	5.70%	6.00%
With cash public assistance income	2.80%	3.70%	3.10%	1.80%	2.10%	2.40%
With retirement income	17.80%	22.80%	20.50%	48.30%	57.50%	61.40%
With Food Stamp/SNAP benefits	13.00%	17.10%	17.60%	8.50%	9.80%	9.20%
POVERTY						
Below 100 percent of the poverty level	15.60%	16.90%	22.30%	9.40%	8.10%	6.30%
100 to 149 percent of the poverty level	9.60%	9.40%	9.40%	10.90%	10.10%	8.00%
At or above 150 percent of the poverty level	74.80%	73.70%	68.30%	79.70%	81.80%	85.70%
HOUSING						
Owner-occupied	64.40%	71.50%	58.20%	78.50%	82.60%	75.80%
Renter-occupied	35.60%	28.50%	41.80%	21.50%	17.40%	24.20%
No telephone service available	2.50%	2.70%	2.80%	1.50%	1.50%	1.70%

Source: 2014 American Community Survey 5 Year Estimates

Experiential Activities

1. Explore the Health Aging Data Portal available through the United States Center for Disease Control and Prevention. It provides easy access to CDC data on a range of key indicators of health and well-being, screening and vaccinations and mental health among older adults at national and state levels. This information can be useful in prioritizing and evaluating public health interventions. The Health Aging Data Portal can be found at:

    https://www.cdc.gov/aging/agingdata/index.html

2. You can also explore this data site for health information on older individuals on a state-by-state basis.

3. Journal your findings and be prepared to discuss with your colleagues in your next meeting.

Class Discussion of Experiential Activities

- Did you find the Health Aging Data Portal easy to use?
- What information did you find most interesting or useful?
- Did you explore other information available through the CEC? What did you find?
- Would you use this resource again? If so, how or when?

Lecture Discussion Questions

1. What is the fastest growing segment of Michigan's population?

2. What percentage of the US population is 65 or older?

3. What percentage of the Michigan population age 65 and older has some type of disability?

4. What percentage of non-institutionalized older persons in the US assess their health as good or better?

5. Older persons have at least one chronic disease, or more. What does this mean for you, as a health care professional?

6. Globally, what is the population trend regarding the elderly?

7. What do you think are the most important issues for all societies regarding the aging population?

8. In the years ahead, what will be the most important issues to you, as a healthcare professional, regarding the changing demographics and the growing older population?

Main Teaching Points

1. We are living in a time of incredible demographic change. People are living longer, in Michigan, in the United States, and around the globe.

2. One in five Michigan residents is now 60 years of age or older.

3. One in eight Americans is now 65 years of age or older.

4. The majority of older persons have at least one chronic condition and many have multiple conditions. In 2009-2011, the most frequently occurring conditions among older persons were:

   a. Diagnosed arthritis (51%)

   b. All types of heart disease (31%)

   c. Any cancer (24%)

   d. diagnosed diabetes (20% in 2007-2010)

   e. Hypertension, including having high blood pressure or taking antihypertensive medication (72 % in 2007-2010)

5. Globally the older population is growing at a considerably faster rate than that of the world's total population. In absolute terms, the number of older persons has tripled over the last 50 years and will more than triple again over the next 50 years. In relative terms, the percentage of older persons is projected to more than double worldwide over the next half century.

6. With these demographic changes, and with advances in nutrition, disease prevention, and medical care, individuals have the opportunity to live longer lives. However, longer lives do not necessarily lead to increased quality of life, unless emphasis is also placed on the principles of Optimal Aging. Advances in science must also include advances in efforts to improve all aspects of life, so that both the length of life and the quality of that life improve together. Healthcare

professionals much learn to include consideration of social, mental, and spiritual aspects of life, along with the physical, to provide the best possible services to their geriatric clients and patients.

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