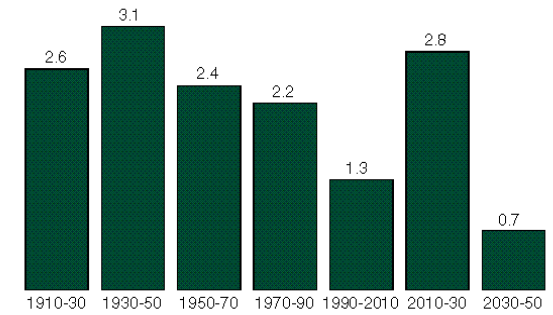


Geriatric Population Is It a Nightmare for Public Health: Opportunities and Challenges to Public Health

Fifteen Years From Now, Elderly Population Growth Will Explode

Average annual growth rate (in percent) of the elderly population:
1910-30 to 2030-50



All the figures are taken from web sources referenced where ever available and to be used only for educational purposes to explain the concepts to the students not for commercial use

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Selamat Pagi

- Apa Kabar
- Mohon Maaf
- Saya Tidak Bisa Bicara Bahasa Indonesia
- Selamat (Congratulations) to be Public Health Professional
- Selamat Belajar

Kenalkan

- Nama Saya Yashwant Pathak
- Saya Berasal dari Tampa Florida, Muluk India
- Saya Bekerja University of South Florida, College of Pharmacy
- Saya Professor and Associate Dean for Faculty Affairs



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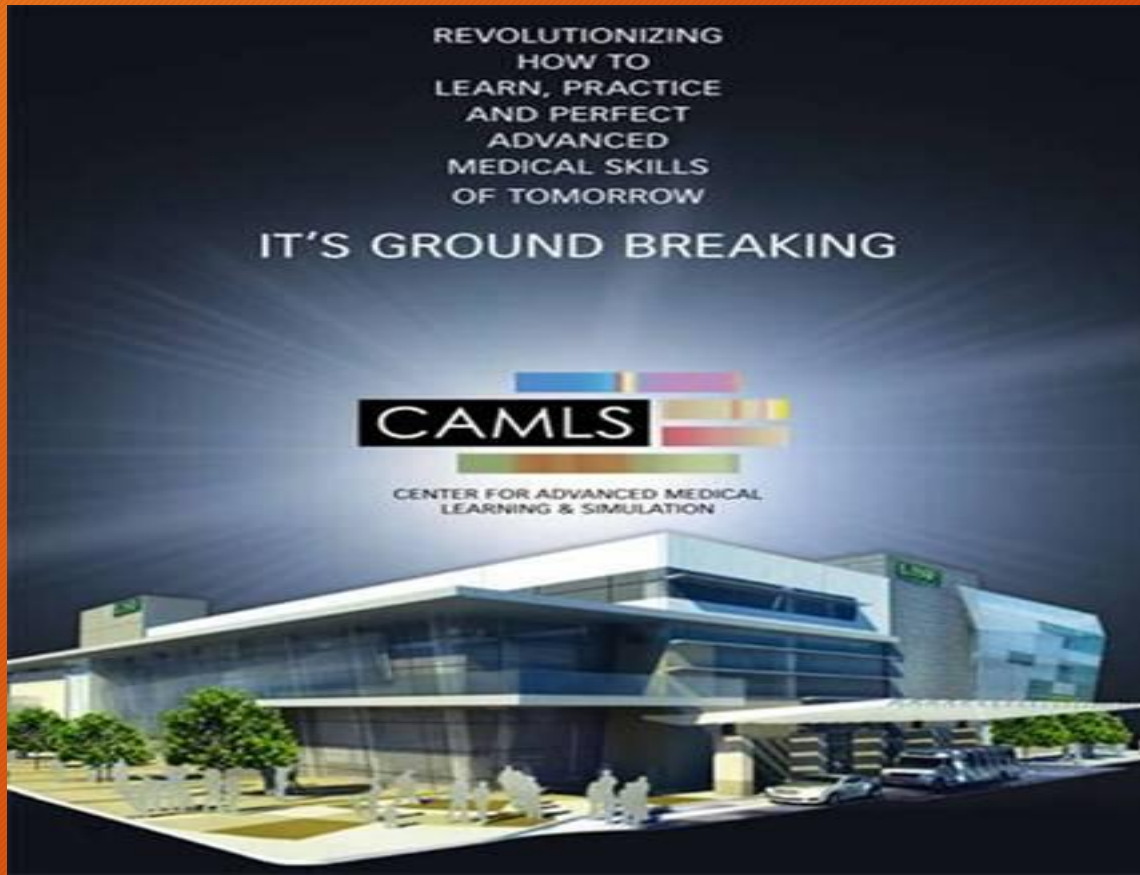
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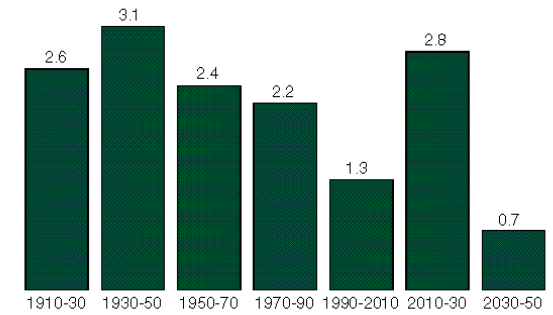


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10 COMMON ELDERLY HEALTH ISSUES

Well, the **pink** pill protects my heart from the side effects of the **green** pill that prevents potential liver failure due to the **orange** pill that minimizes the risk of stroke posed by the **blue** pill that reduces the blood clots caused by the **pink** pill.



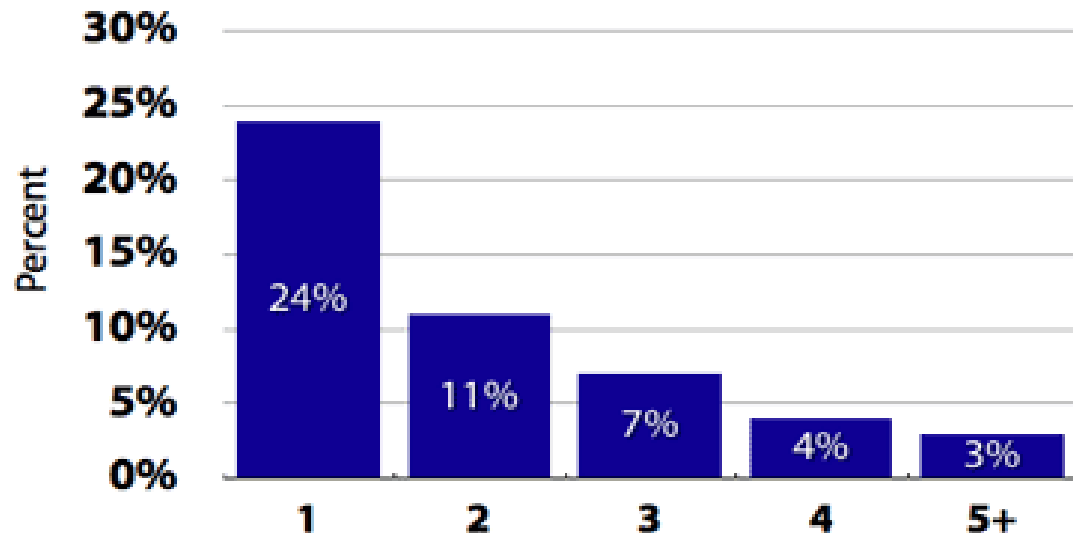
The problem is I can't remember what the illness was that started all this...

- **1. Chronic health conditions**
- According to the National Council on Aging, about 92 percent of seniors have at least one chronic disease and 77 percent have at least two. Heart disease, stroke, cancer, and diabetes are among the most common and costly chronic health conditions causing two-thirds of deaths each year. The National Center for Chronic Disease Prevention and Health Promotion recommends meeting with a physician for an annual checkup, maintaining a healthy diet and keeping an exercise routine to help manage or prevent chronic diseases. Obesity is a growing problem among older adults and engaging in these lifestyle behaviors can help reduce obesity and associated chronic conditions.

10 COMMON ELDERLY HEALTH ISSUES

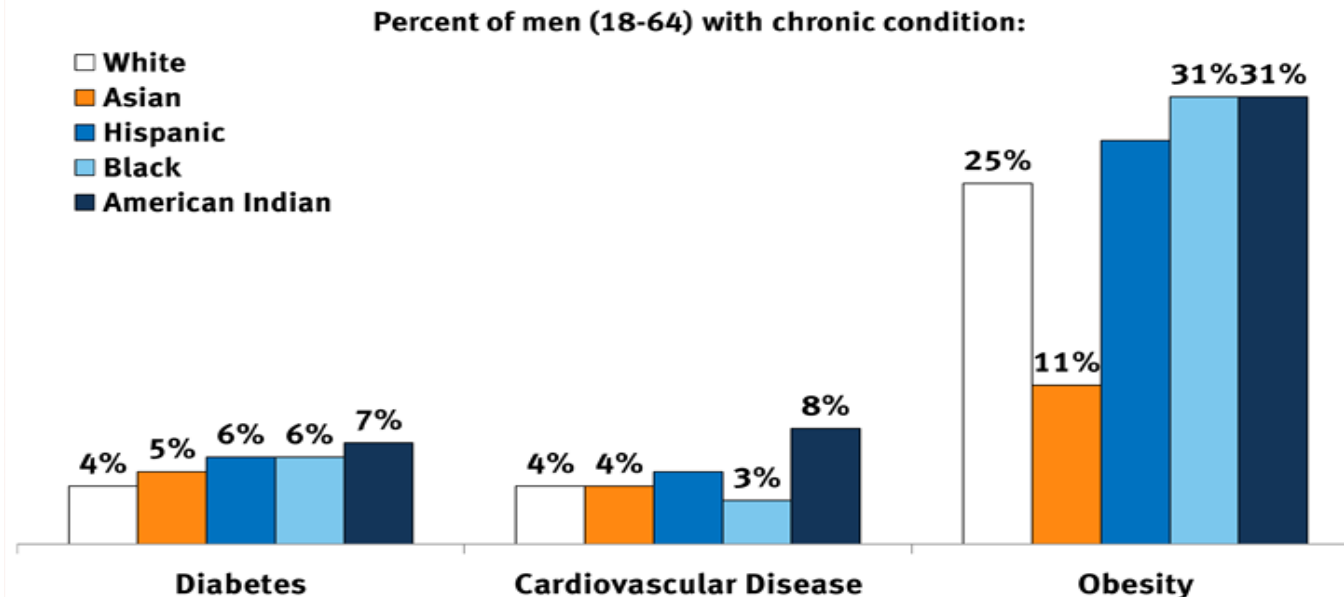
1. Chronic health conditions

Number of chronic conditions suffered by Americans



Source: Johns Hopkins University, Partnership for Solutions. 2001. Medical Expenditure Panel Survey,

Prevalence of Selected Chronic Conditions Among Men, by Race and Ethnicity, 2006-2008



Among men 18 to 64 years. Asian group includes Pacific Islanders. American Indian group includes Aleutian Eskimos. SOURCE: Kaiser Family Foundation, Putting Men's Health Care Disparities on the Map, Examining Racial and Ethnic Disparities at the State Level, 2012.

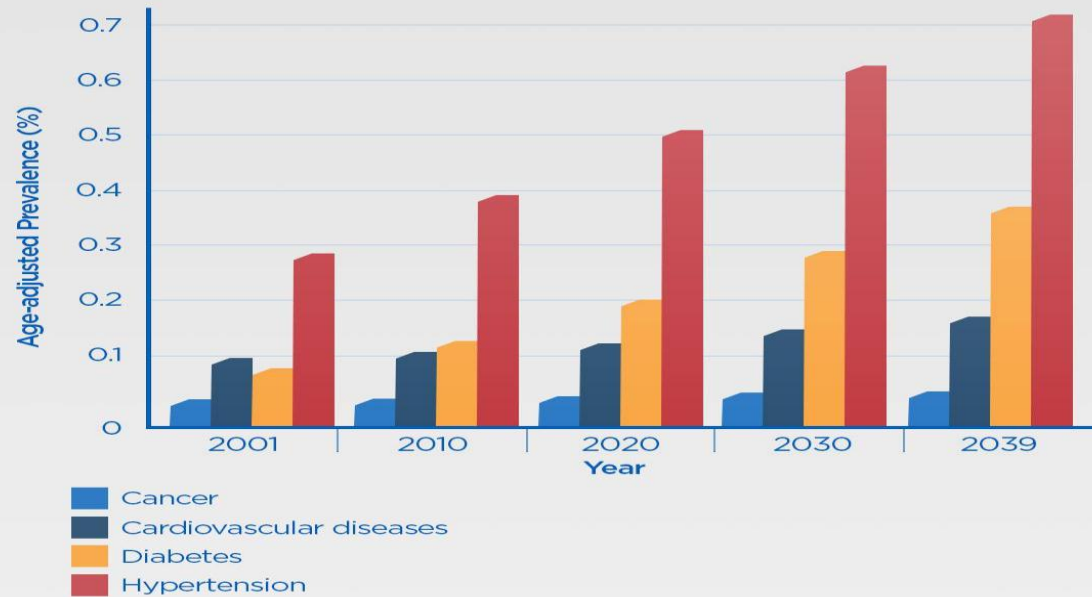


<https://www.kff.org/disparities-policy/slide/prevalence-of-selected-chronic-conditions-among-men-by-race-and-ethnicity-2006-2008/>

10 COMMON ELDERLY HEALTH ISSUES

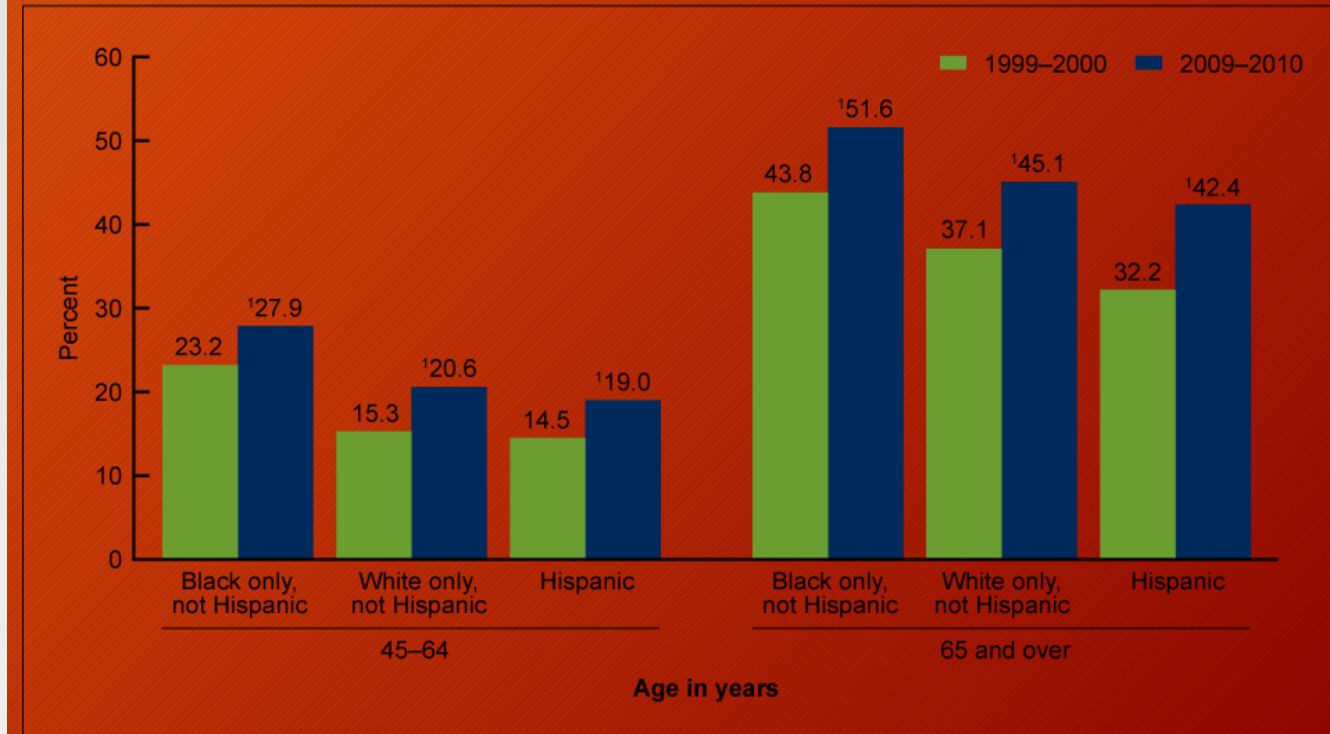
1. Chronic health conditions

Increasing Rates of Chronic Diseases



Source: Public Health Agency Of Canada
*From the 2010 report "Against the Growing Burden of Disease" by the Public Health Agency of Canada
© Global News

Figure 2. Prevalence of two or more of nine selected chronic conditions among adults aged 45 and over, by age and race and Hispanic origin: United States, 1999–2000 and 2009–2010

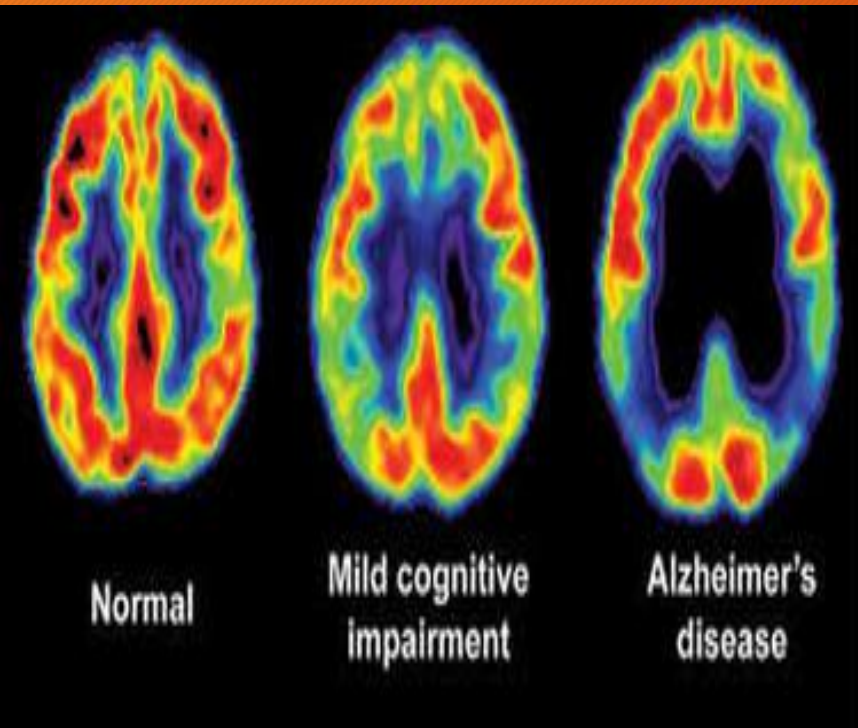


*Significantly different from 1999–2000, $p < 0.05$.

NOTE: Access data table for Figure 2 at: http://www.cdc.gov/nchs/data/databriefs/db100_tables.pdf#2.

SOURCE: CDC/NCHS, National Health Interview Survey.

10 COMMON ELDERLY HEALTH ISSUES

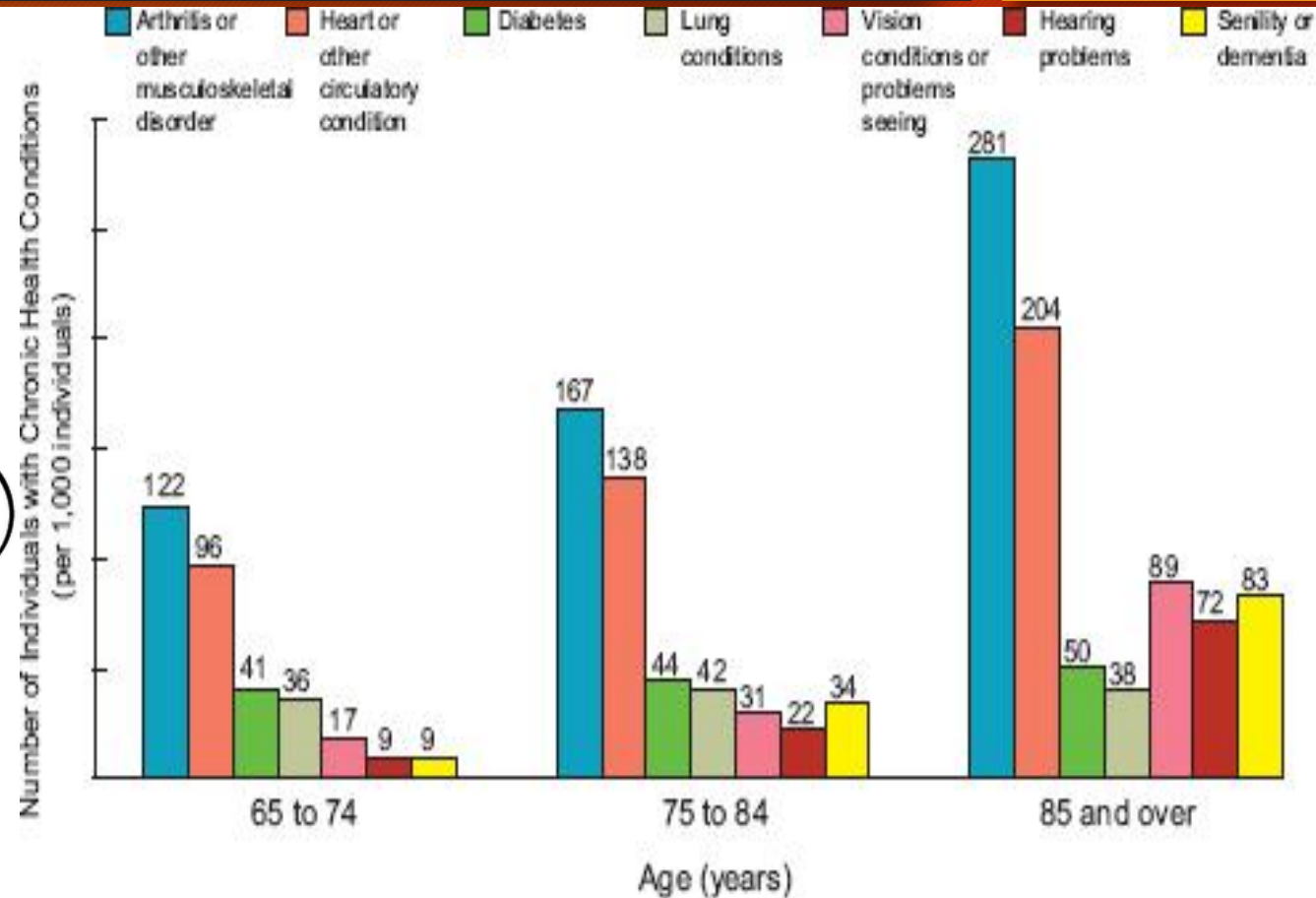
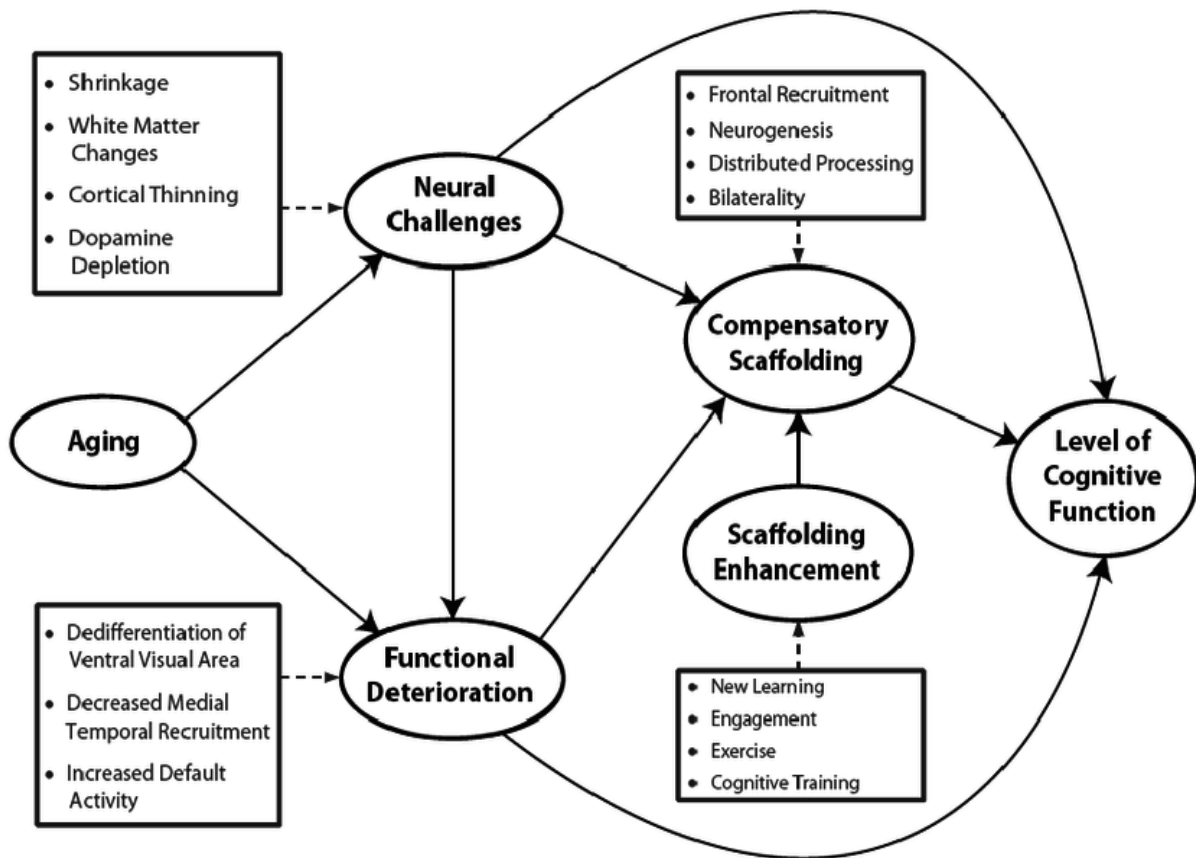


- **2. Cognitive health**

- Cognitive health is focused on a person's ability to think, learn and remember. The most common cognitive health issue facing the elderly is dementia, the loss of those cognitive functions. Approximately 47.5 million people worldwide have dementia—a number that is predicted to nearly triple in size by 2050. The most common form of dementia is Alzheimer's disease with as many as five million people over the age of 65 suffering from the disease in the United States. According to the National Institute on Aging, other chronic health conditions and diseases increase the risk of developing dementia, such as substance abuse, diabetes, hypertension, depression, HIV and smoking. While there are no cures for dementia, physicians can prescribe a treatment plan and medications to manage the disease.

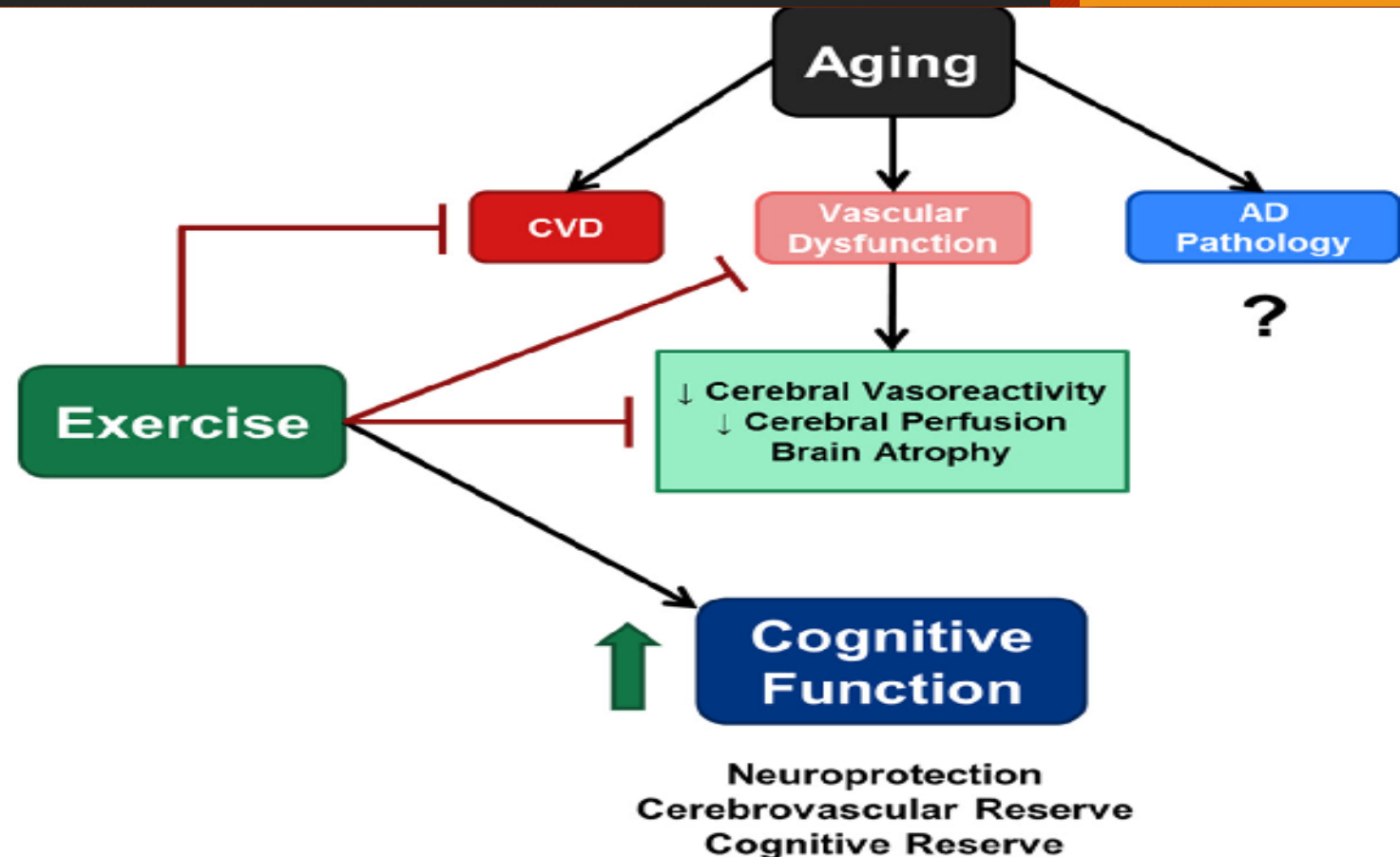
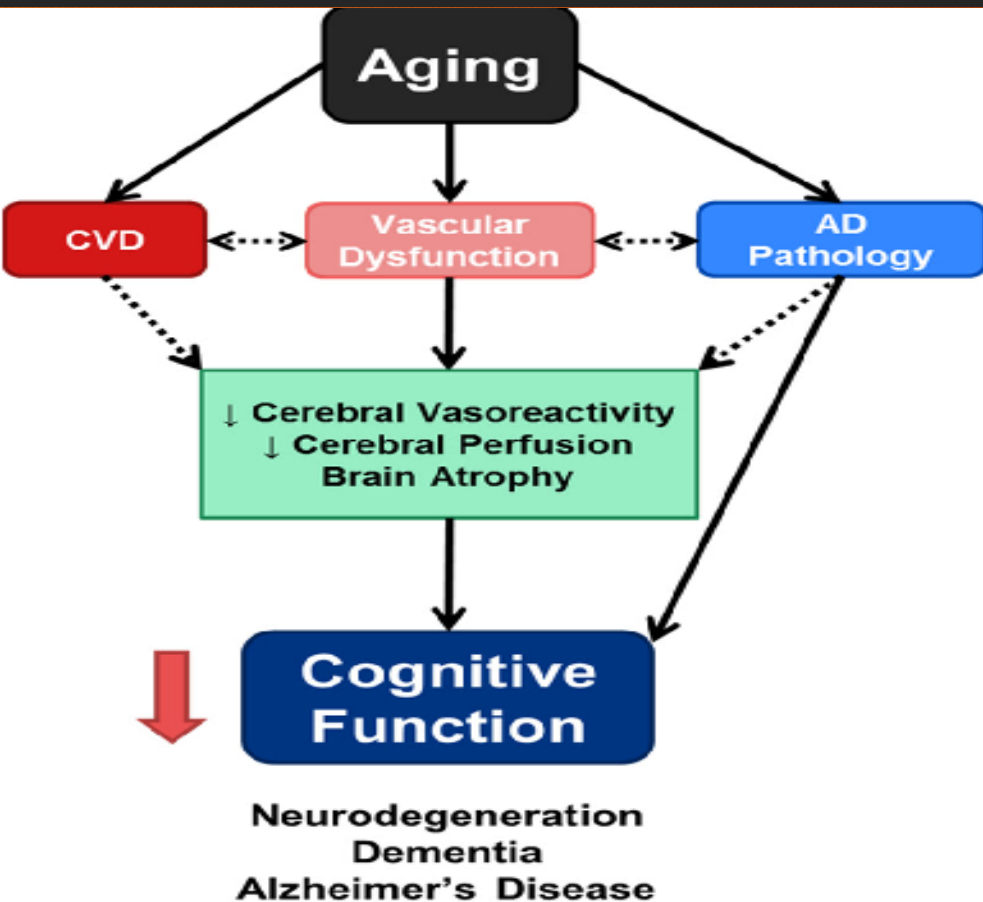
10 COMMON ELDERLY HEALTH ISSUES

2. Cognitive health



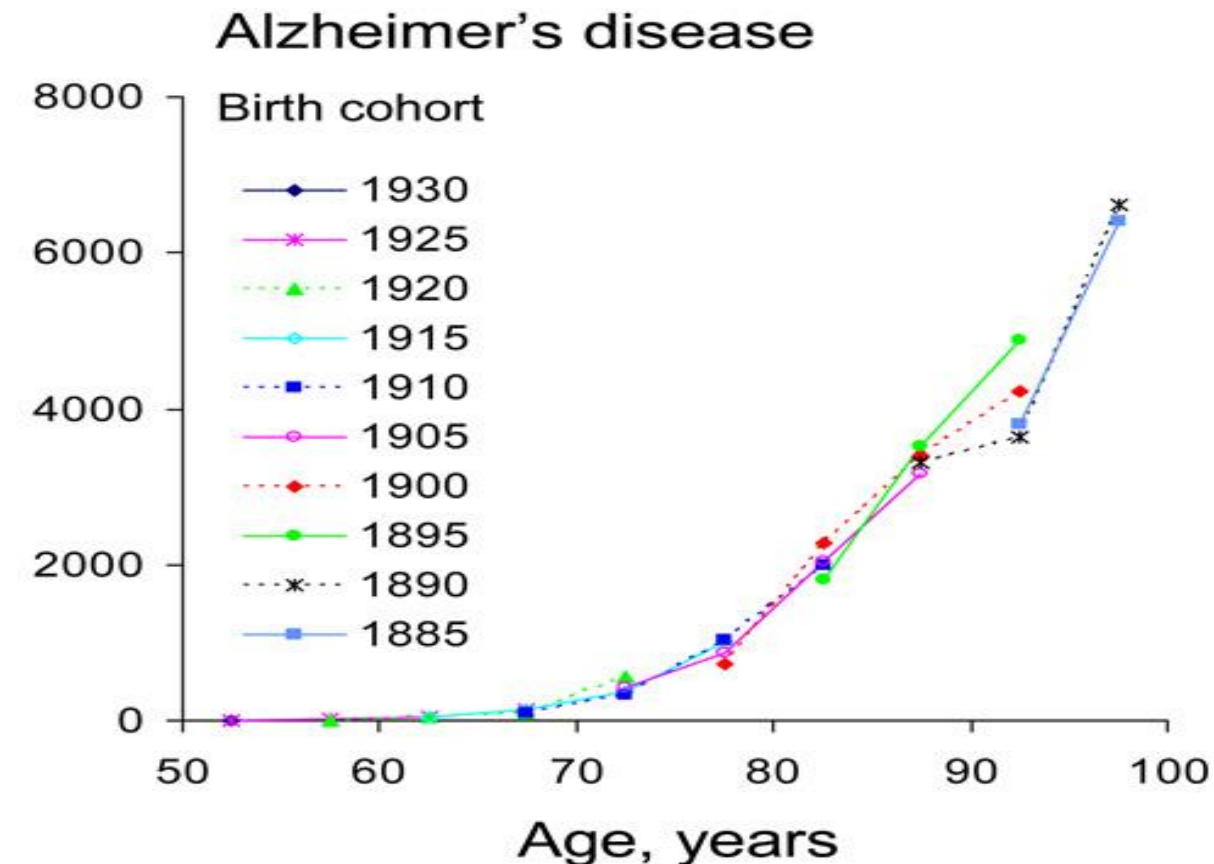
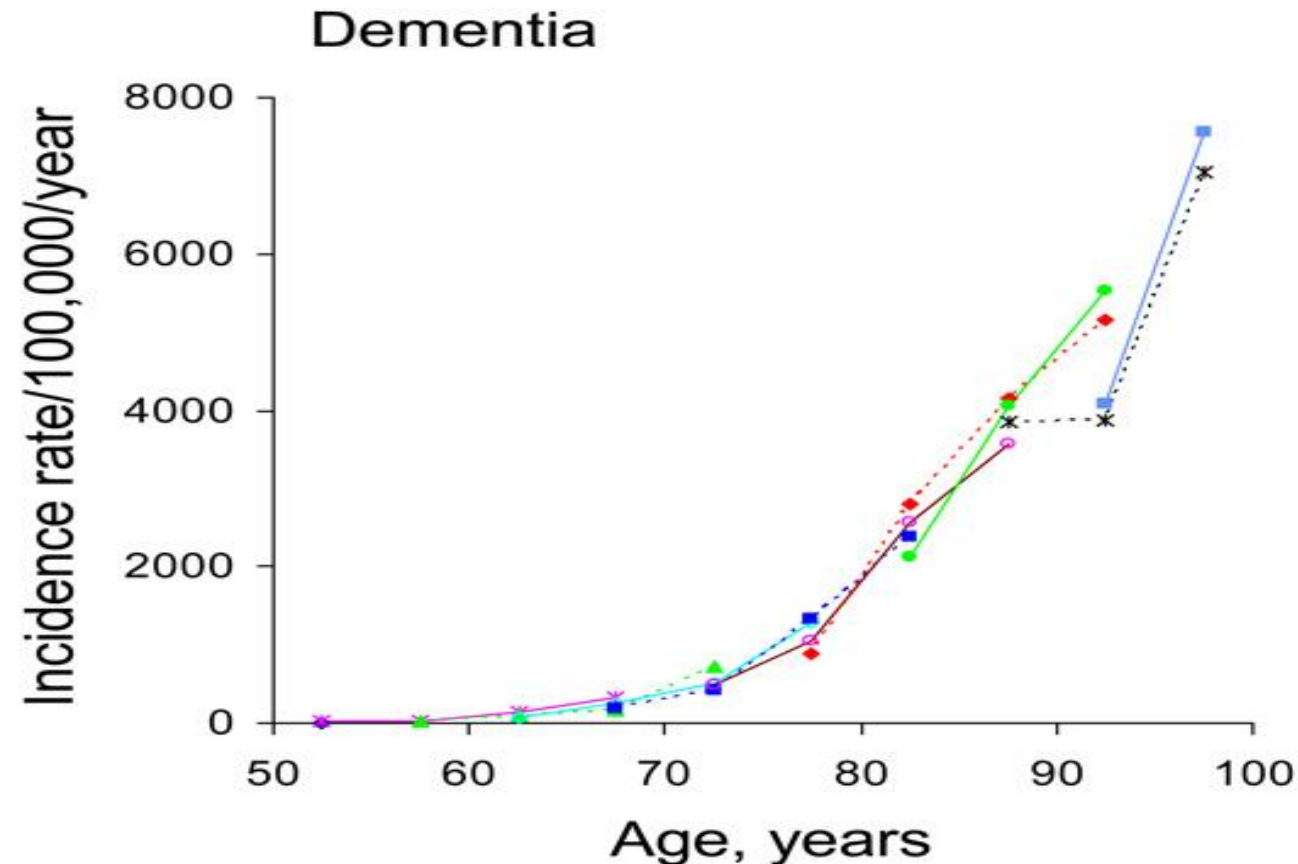
10 COMMON ELDERLY HEALTH ISSUES

2. Cognitive health



10 COMMON ELDERLY HEALTH ISSUES

2. Cognitive health



10 COMMON ELDERLY HEALTH ISSUES



American adults
has a mental illness



Mental illnesses are
the leading cause of
disability worldwide



1 in 10 full-time
employees
has an addiction

40%

of employees with a
mental illness take time
off because of it –
up to 10 days a year

35%

more than 35% of
managers feel they
receive no formal
support or resources
to help employees

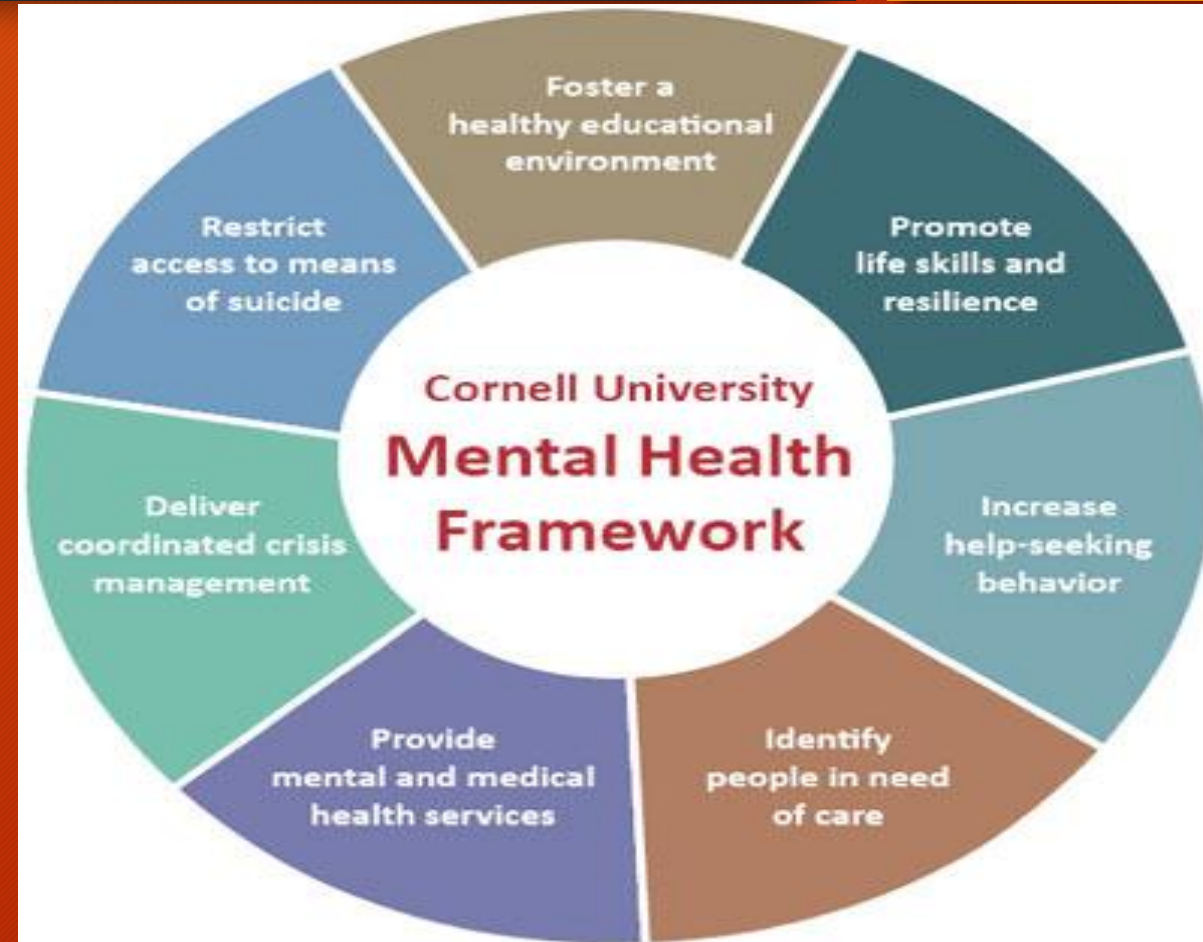
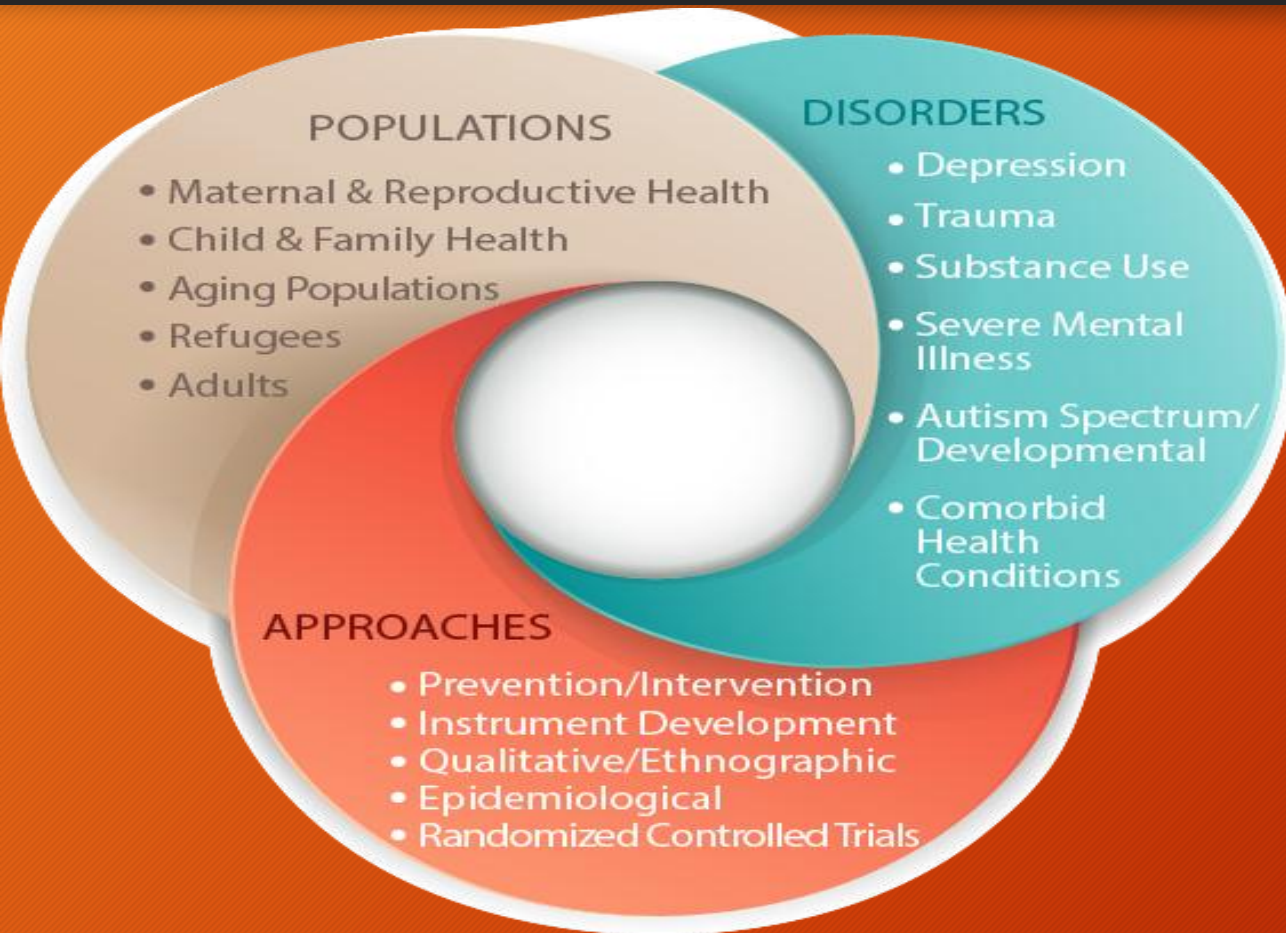
HR managers know the
toll mental illness can
take on the company.
Yet, only **15%** feel
managers are training
to recognize the
problem and share
support and resources.

• 3. Mental health

- According to the World Health Organization, over 15 percent of adults over the age of 60 suffer from a mental disorder. A common mental disorder among seniors is depression, occurring in seven percent of the elderly population. Unfortunately, this mental disorder is often underdiagnosed and undertreated. Older adults account for over 18 percent of suicides deaths in the United States. Because depression can be a side effect of chronic health conditions, managing those conditions help. Additionally, promoting a lifestyle of healthy living such as betterment of living conditions and social support from family, friends or support groups can help treat depression.

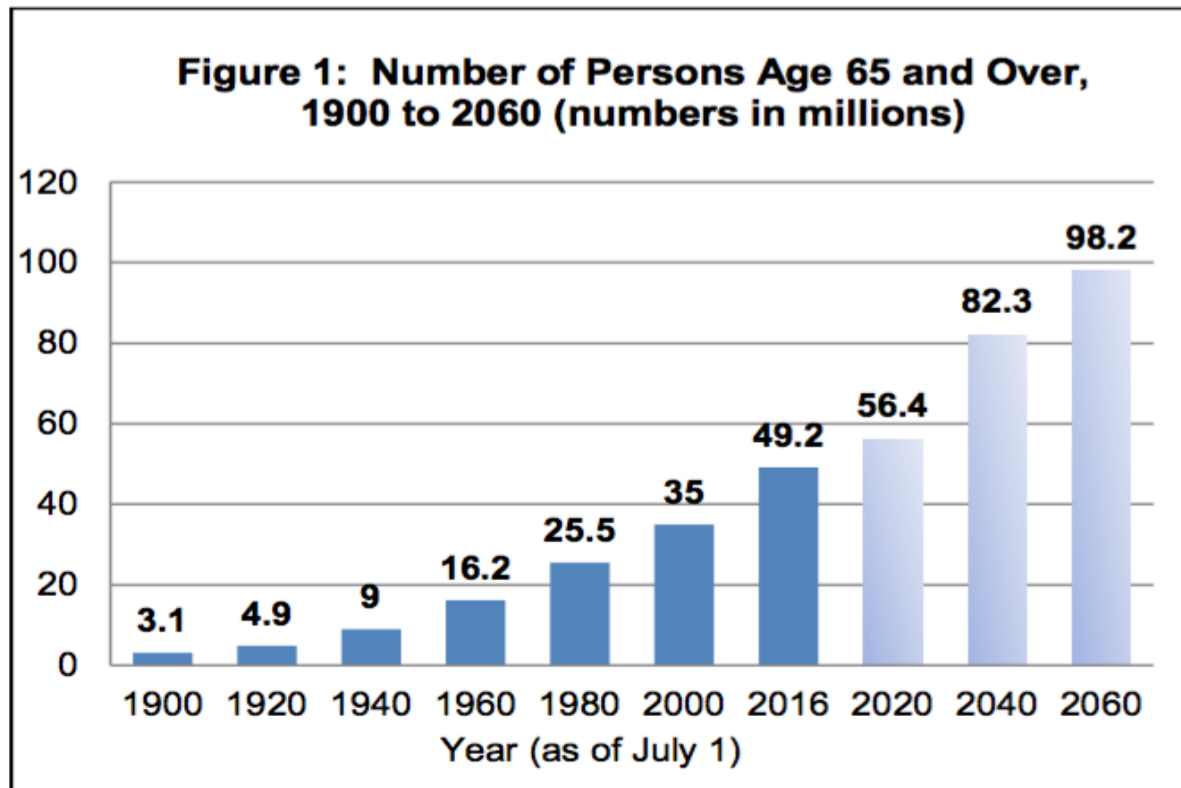
10 COMMON ELDERLY HEALTH ISSUES

3. Mental health



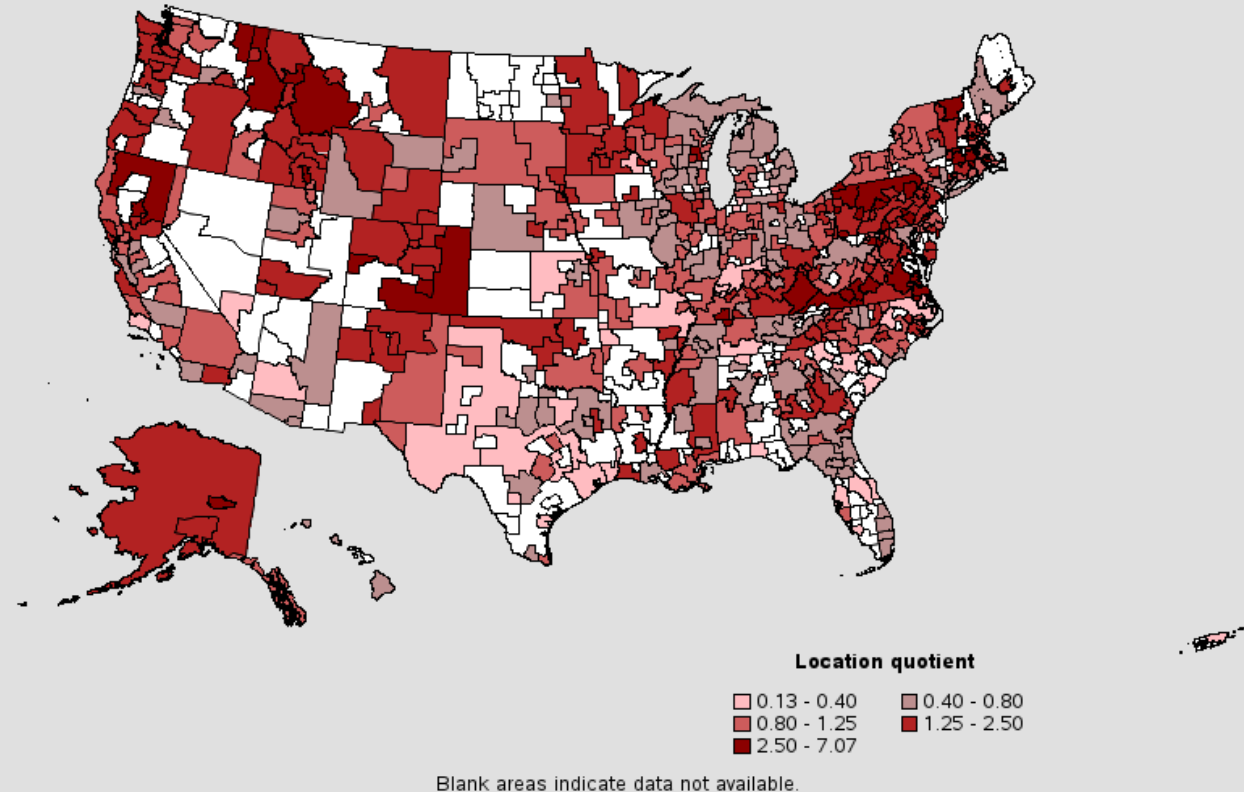
10 COMMON ELDERLY HEALTH ISSUES

3. Mental health



Note: Increments in years are uneven. Lighter bars indicate projections.
Source: U.S. Census Bureau, Population Estimates and Projections.

Location quotient of mental health counselors, by area, May 2016



10 COMMON ELDERLY HEALTH ISSUES



www.alamy.com - B8EW73



- 4. Physical injury
- Every 15 seconds, an older adult is admitted to the emergency room for a fall. A senior dies from falling every 29 minutes, making it the leading cause of injury among the elderly. Because aging causes bones to shrink and muscle to lose strength and flexibility, seniors are more susceptible to losing their balance, bruising and fracturing a bone. Two diseases that contribute to frailty are osteoporosis and osteoarthritis. However, falls are not inevitable. In many cases, they can be prevented through education, increased physical activity and practical modifications within the home.

10 COMMON ELDERLY HEALTH ISSUES

4. Physical injury

Leading type of injury and age group,
fall-related hospitalizations, ages 65+, BC, 2016/17

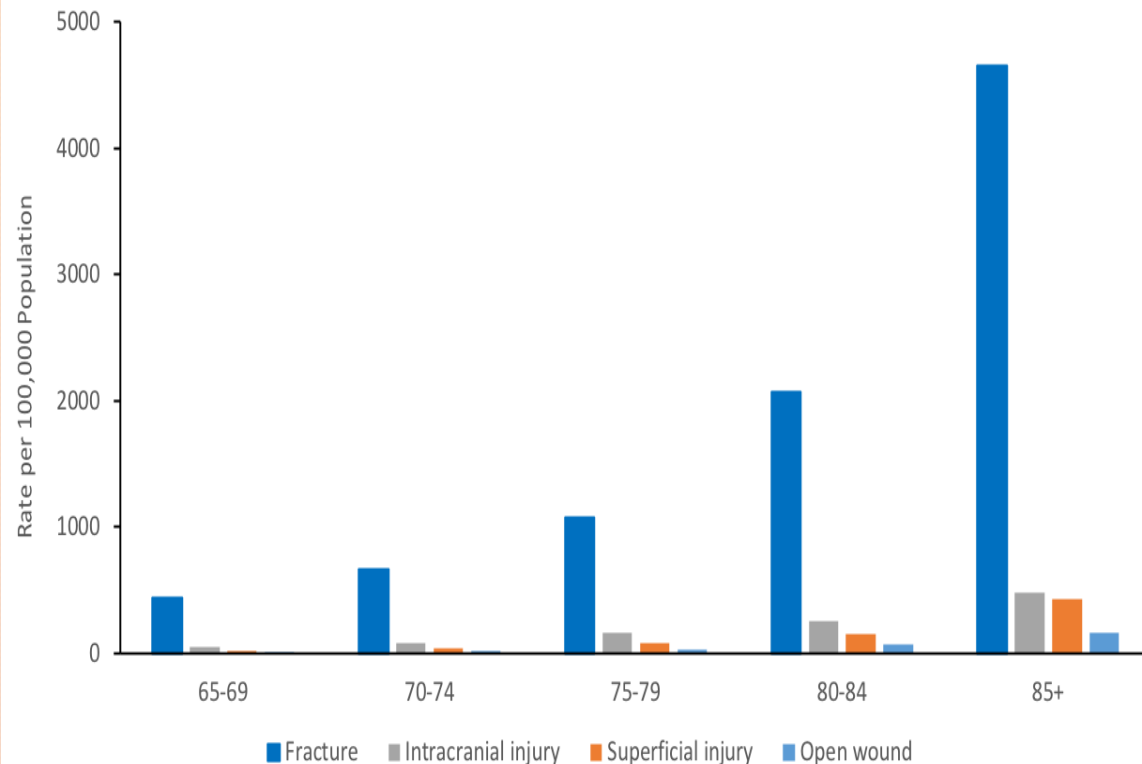
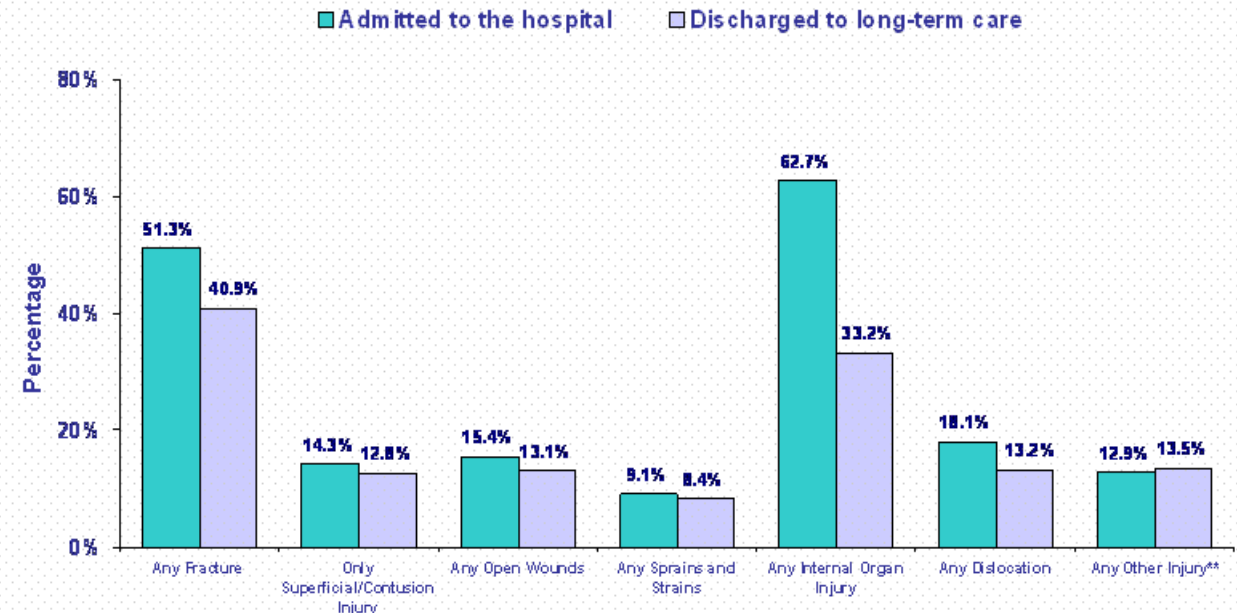


Figure 4. Percentage of ED visits admitted to the hospital and discharged to long-term care among elderly patients treated for injurious falls, by nature of injury, 2006*



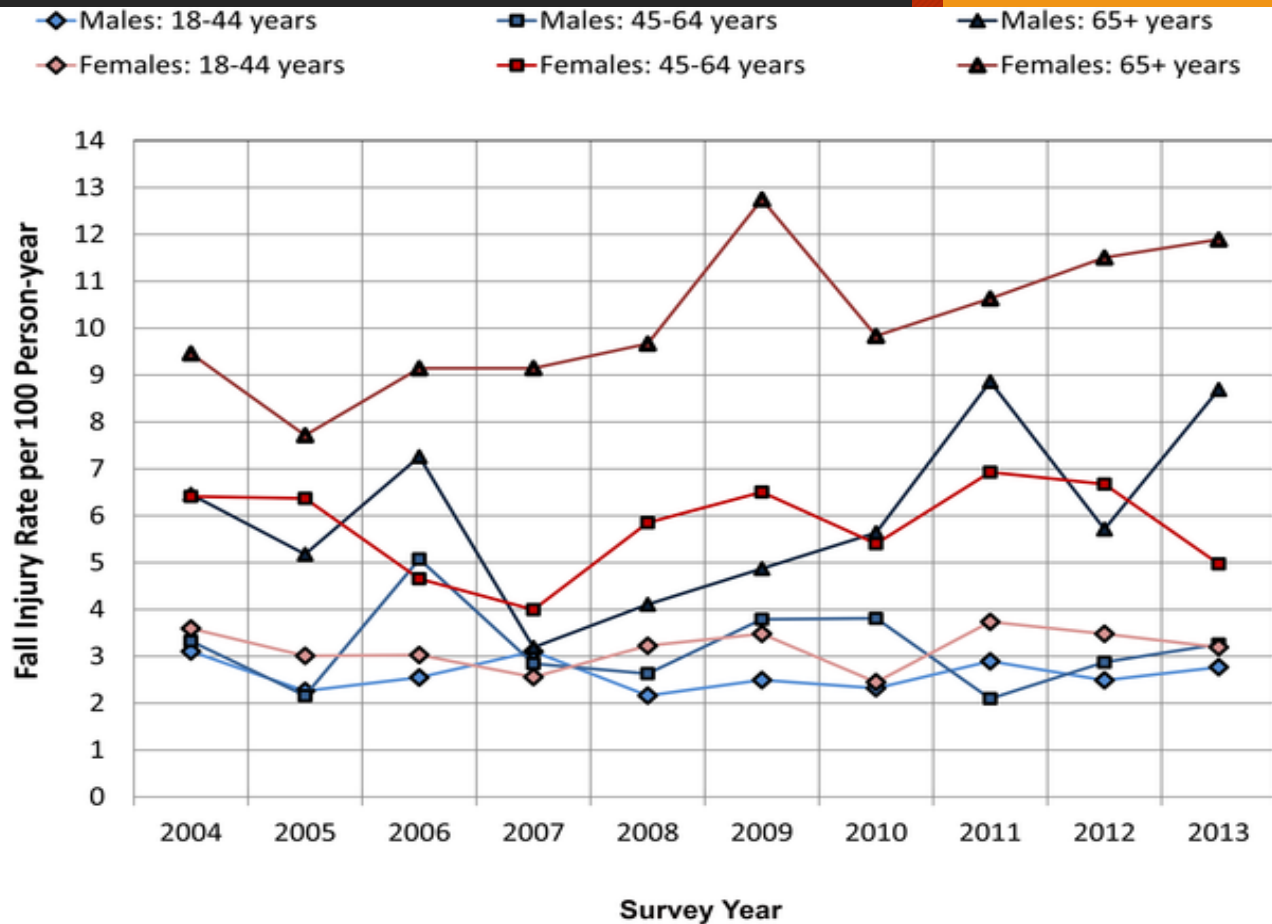
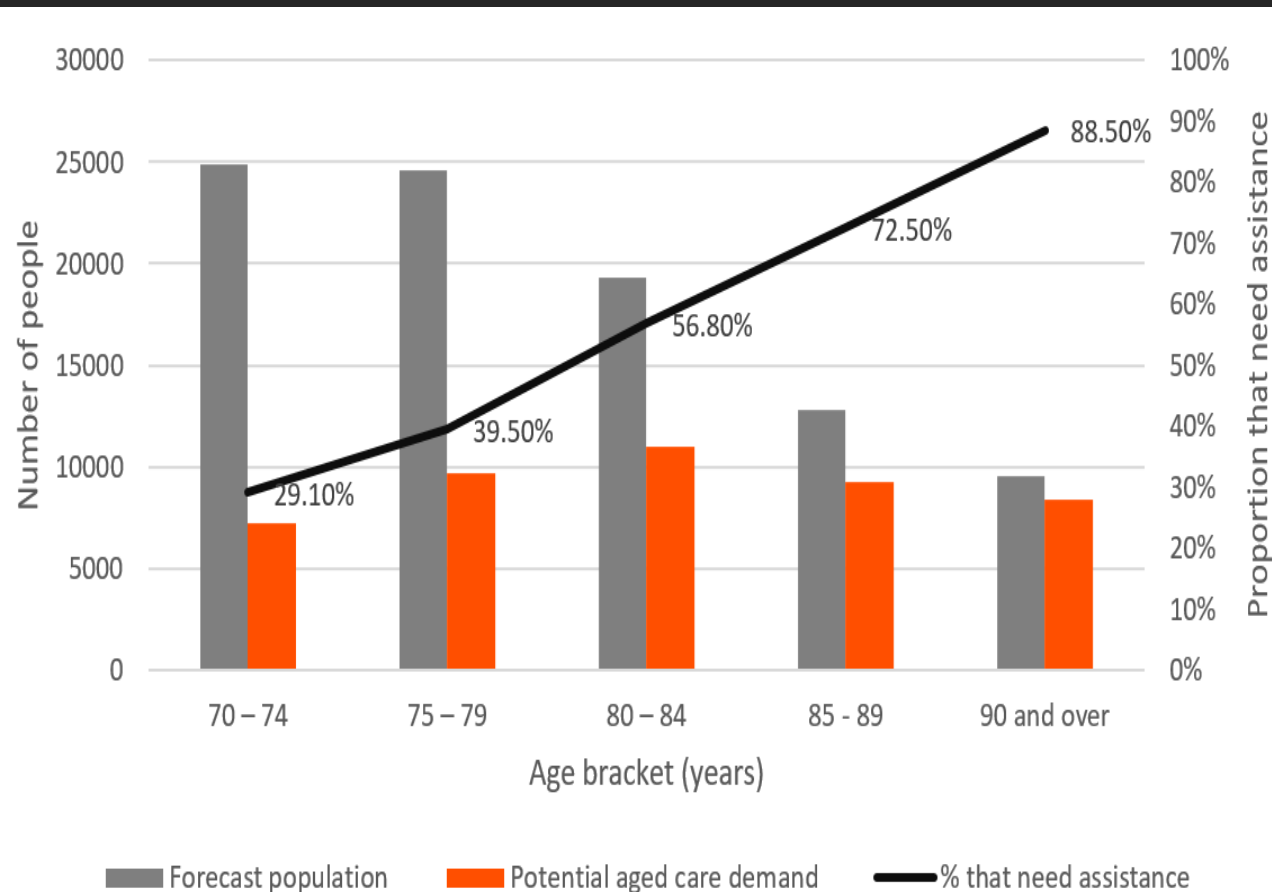
* An ED visit for injurious falls is categorized as a specific nature of injury if the injury is present in any diagnosis field.

**Includes unspecified injuries, system-wide and late effects, nerve injuries, burns, injuries to the blood vessels, crushing injuries, and amputations.

Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2006

10 COMMON ELDERLY HEALTH ISSUES

4. Physical injury



10 COMMON ELDERLY HEALTH ISSUES



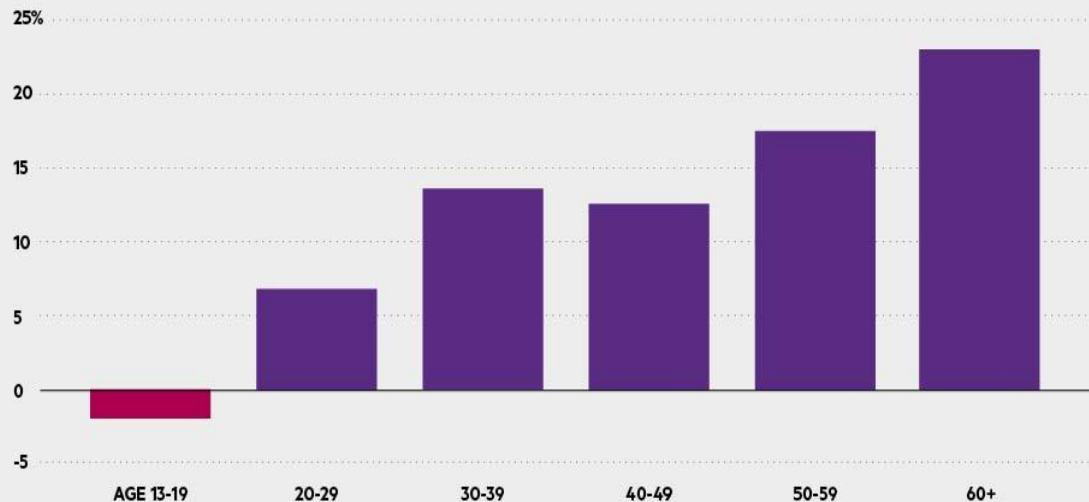
- 5. HIV/AIDS and other sexually transmitted diseases
- In 2013, the Centers for Disease Control and Prevention (CDC) found that 21 percent of AIDS cases occurred in seniors over the age of 50 in the United States, and 37 percent of deaths that same year were people over the age of 55. While sexual needs and ability may change as people age, sexual desire doesn't disappear completely. Seniors are unlikely to use condoms, which, when combined with a weakened immune system, makes the elderly more susceptible to contracting HIV. Late diagnosis of HIV is common among older adults because symptoms of HIV are very similar to those of normal aging, making it more difficult to treat and prevent damage to the immune system.

10 COMMON ELDERLY HEALTH ISSUES

5. HIV/AIDS and other sexually transmitted diseases

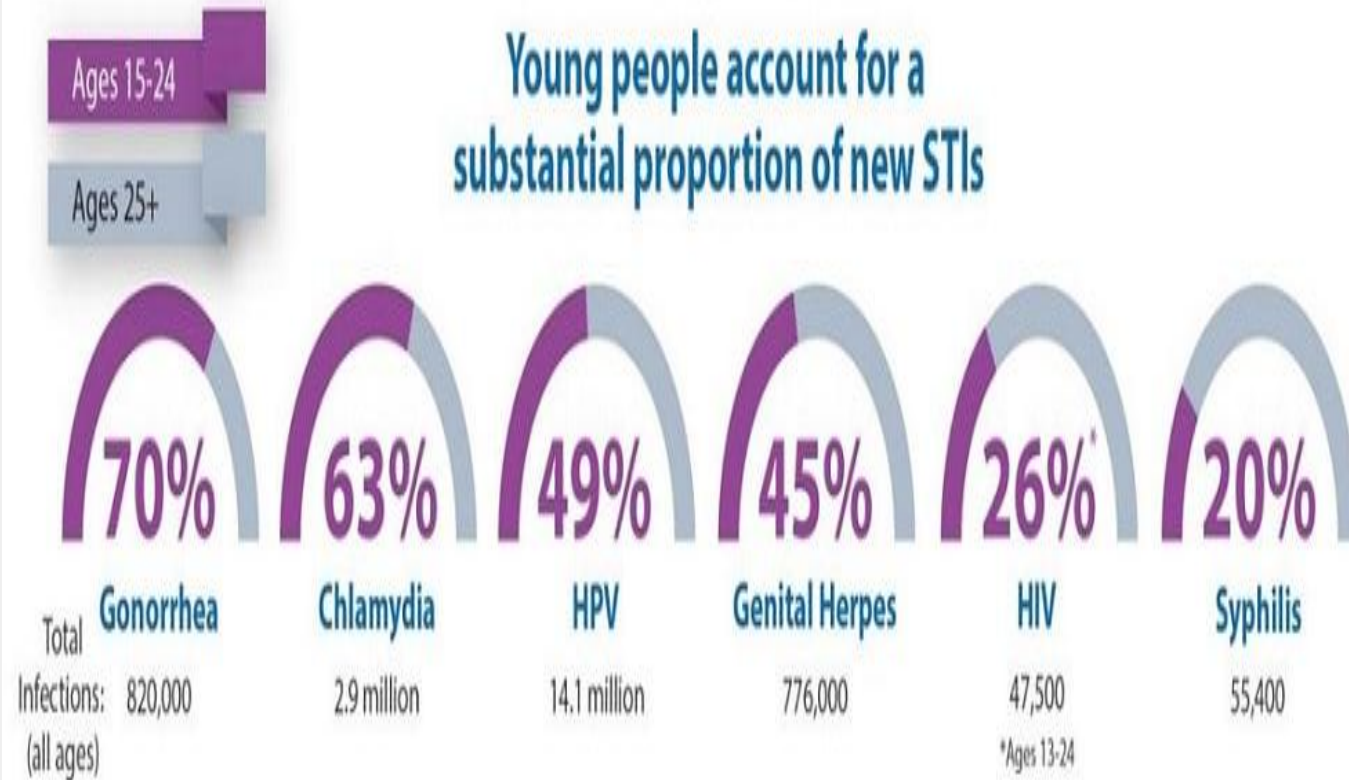
Older patients represent the largest increase in in-office treatment of STIs

Percent change in treatment rate per 100,000 people, 2014 - 2017



Source: athenahealth

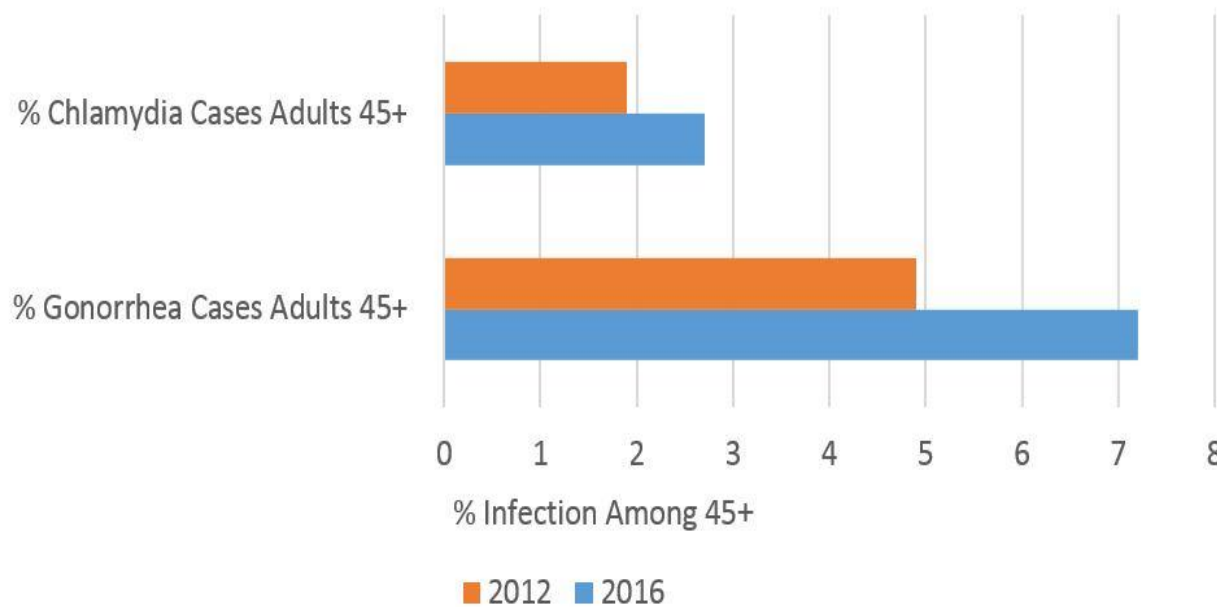
Sample: Over 7 million patients ages 13 and up seen in January – October each year from 2014 to 2017 by primary care providers. Limited to practices on athenahealth since 2014.



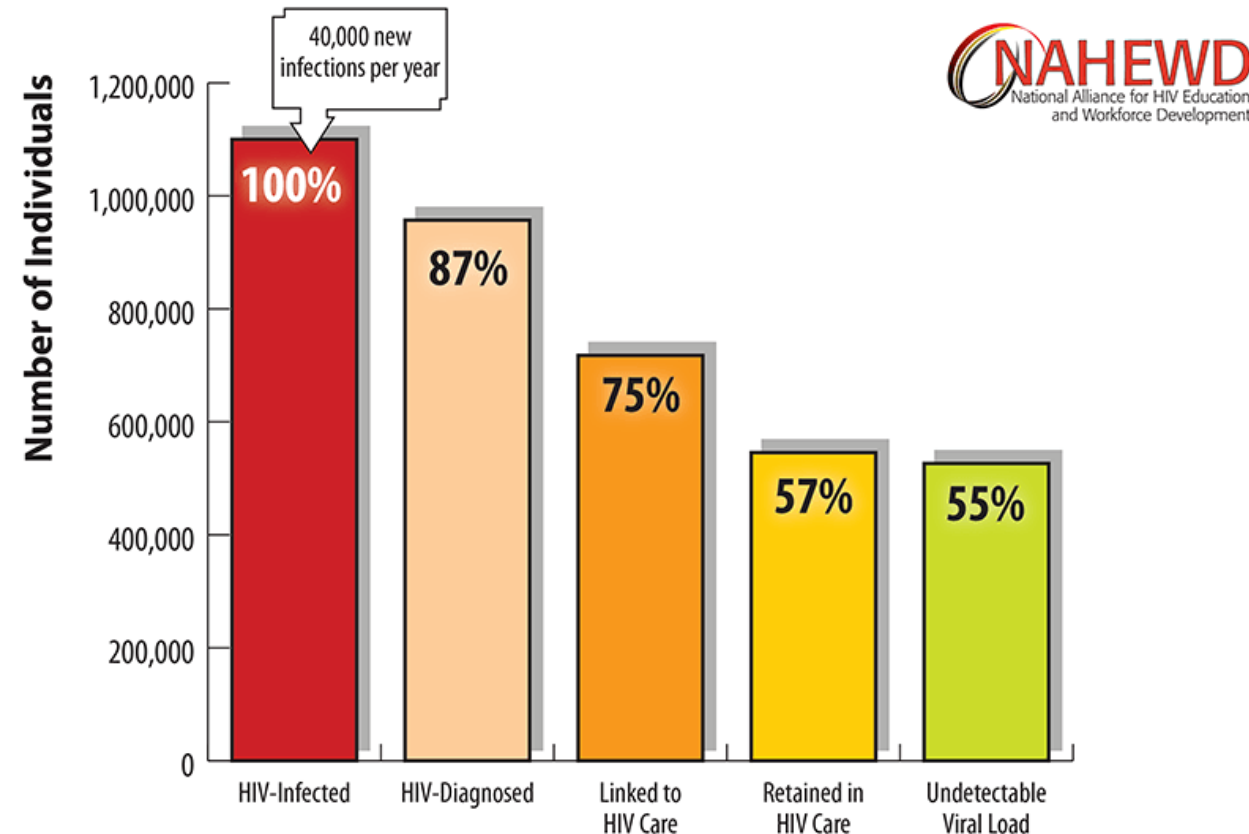
10 COMMON ELDERLY HEALTH ISSUES

5. HIV/AIDS and other sexually transmitted diseases

Fig 1 - Increase in STIs Among Adults
45 years and older (US)

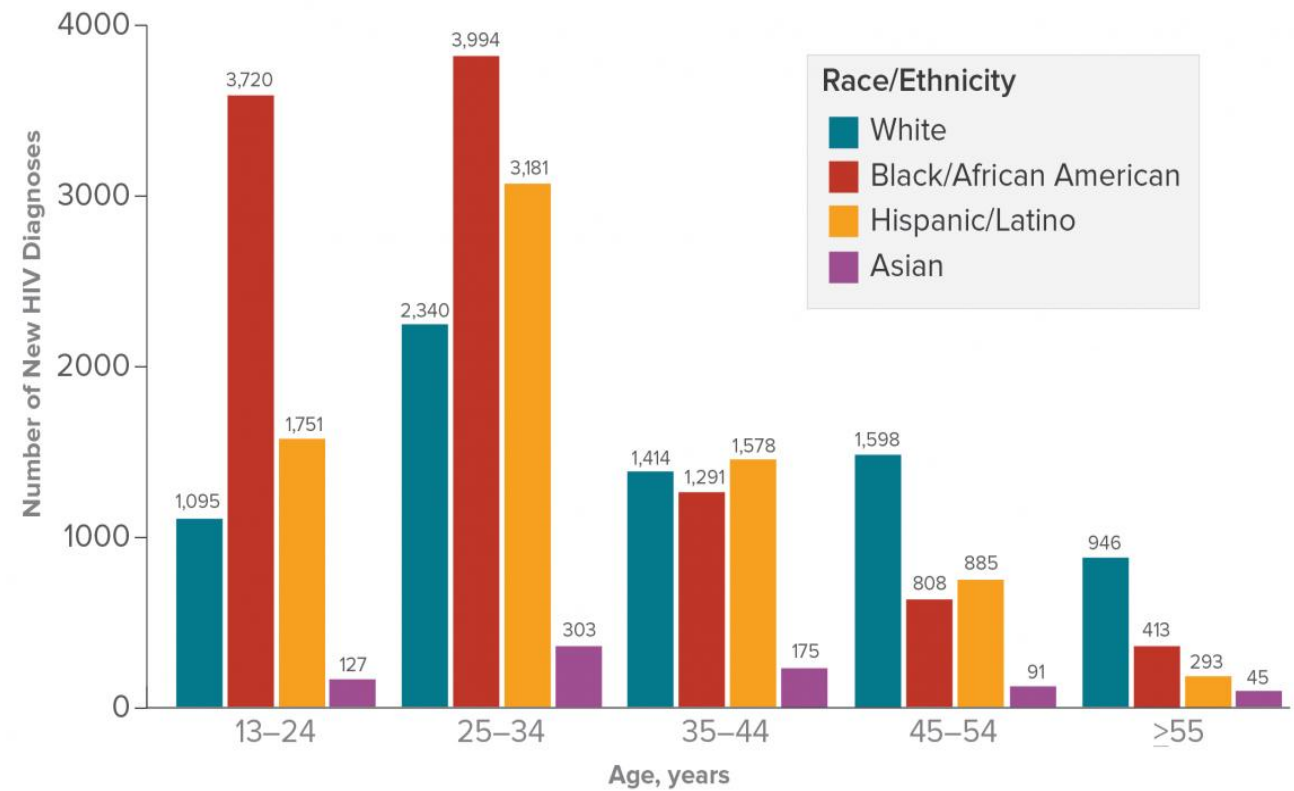
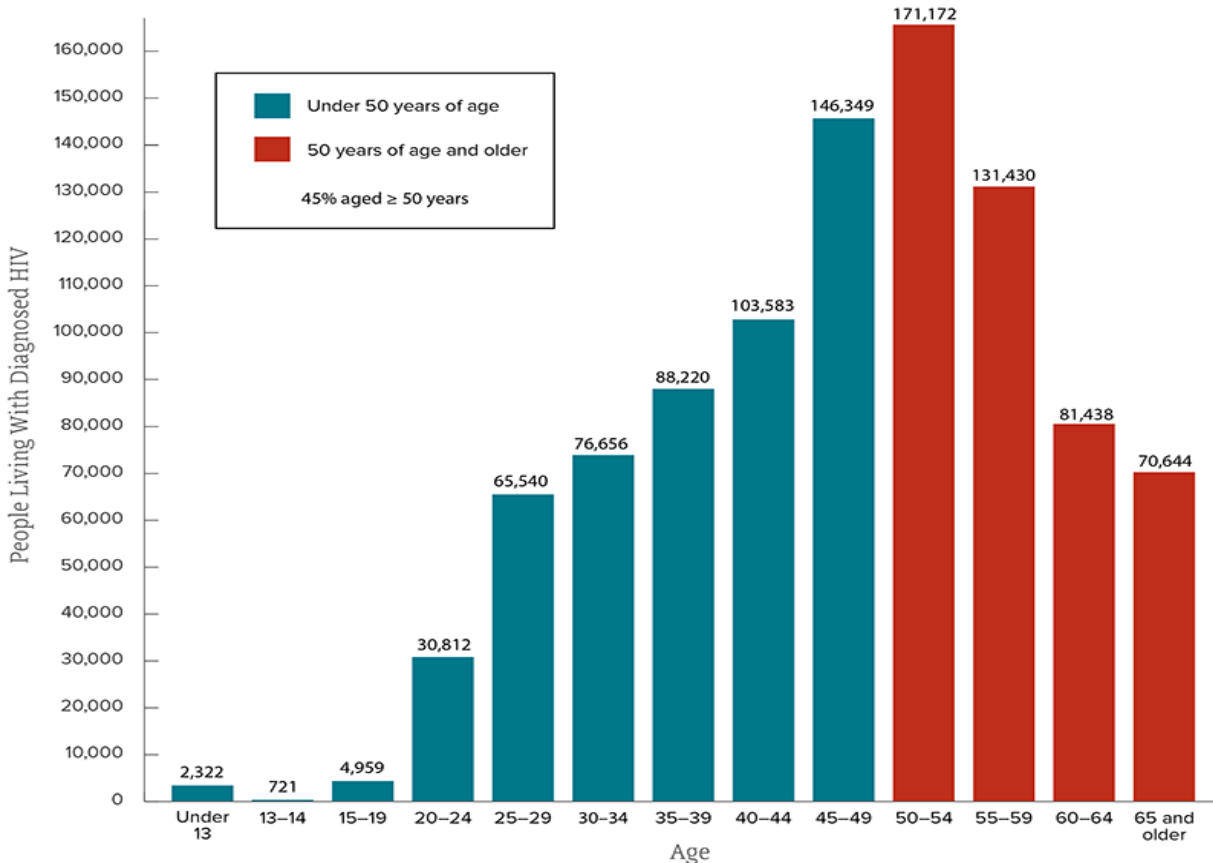


The U.S. HIV Care Continuum¹



10 COMMON ELDERLY HEALTH ISSUES

5. HIV/AIDS and other sexually transmitted diseases



10 COMMON ELDERLY HEALTH ISSUES



• 6. Malnutrition

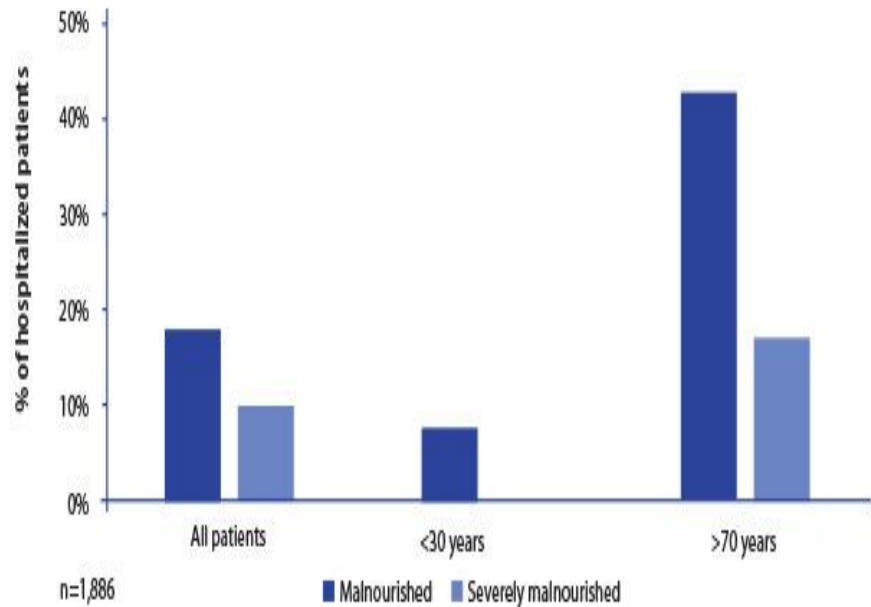
- Malnutrition in older adults over the age of 65 is often underdiagnosed and can lead to other elderly health issues, such as a weakened immune system and muscle weakness. The causes of malnutrition can stem from other health problems (seniors suffering from dementia may forget to eat), depression, alcoholism, dietary restrictions, reduced social contact and limited income. Committing to small changes in diet, such as increasing consumption of fruits and vegetables and decreasing consumption of saturated fat and salt, can help nutrition issues in the elderly. There are food services available to older adults who cannot afford food or have difficulty preparing meals.

In a nation where people die from complications of too much food, some die from having too little. Although malnutrition is often thought of as a killer in the developing world, it's also a problem for the elderly in the United States, according to research published in the May issue of the Annals of Epidemiology.

<http://thechart.blogs.cnn.com/2010/06/02/malnutrition-killing-elderly-in-u-s/>

10 COMMON ELDERLY HEALTH ISSUES:

Malnutrition



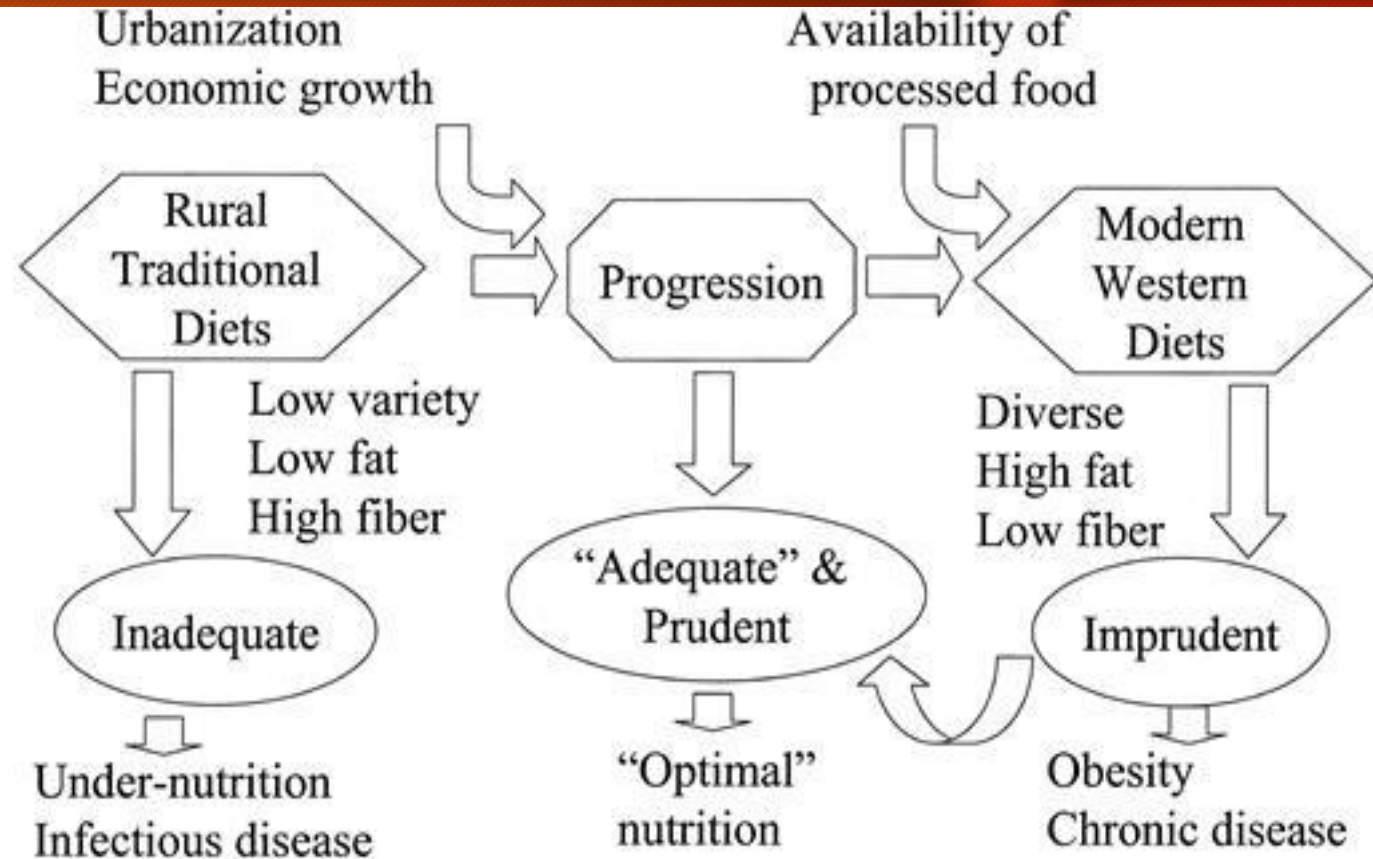
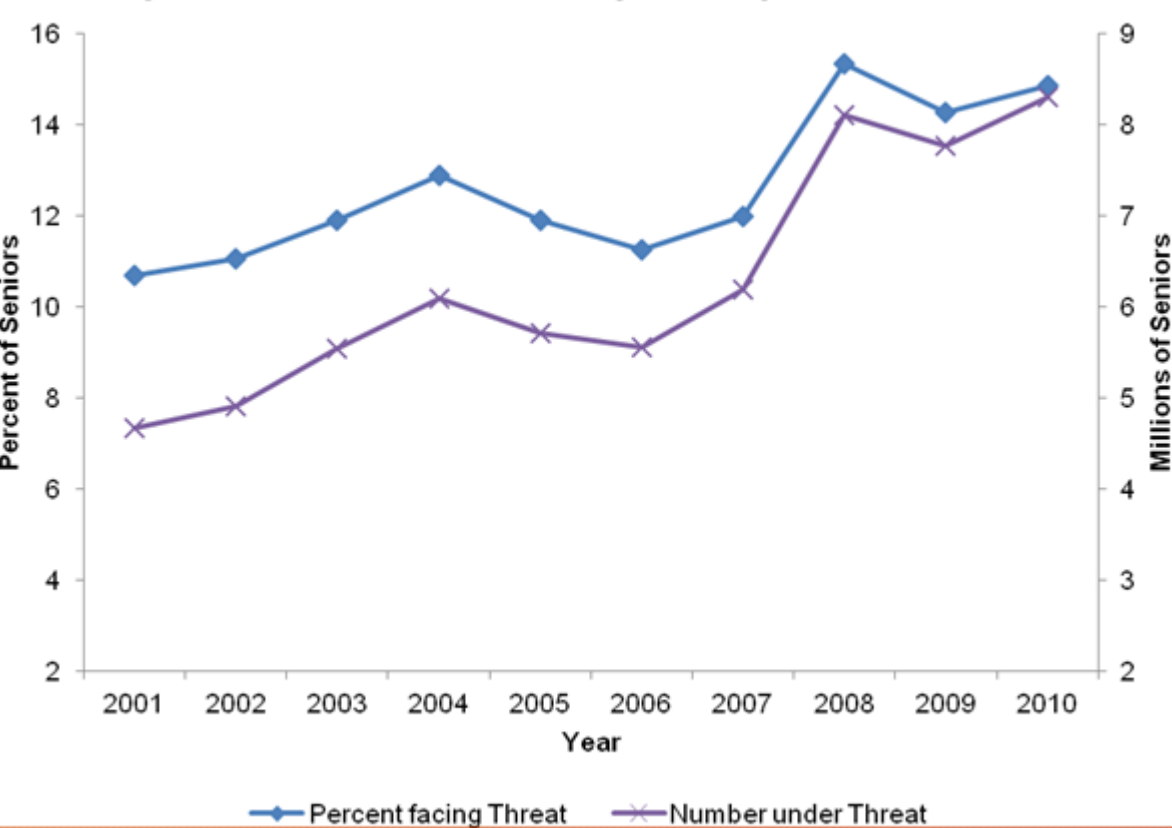
Among hospitalized patients, malnutrition is more frequent in the elderly than in the younger patients.⁴

- Researchers from Louisiana State University examined data from 3,141 counties and older adult malnutrition mortality using Centers for Disease Control and Prevention data. Between 2,000 and 3,000 older adults die from malnutrition each year, according to CDC data from 2006.
- Malnutrition is more prevalent among older adults, especially over the age of 70. They may eat too little, lack nutrition or have digestion problems related to aging. This can stem from certain medications, trouble chewing due to dental issues, problems swallowing or difficulty absorbing nutrients, according to the Mayo Clinic.

10 COMMON ELDERLY HEALTH ISSUES

6. Malnutrition

Figure 1. Trends in Threat of Hunger among Senior Americans



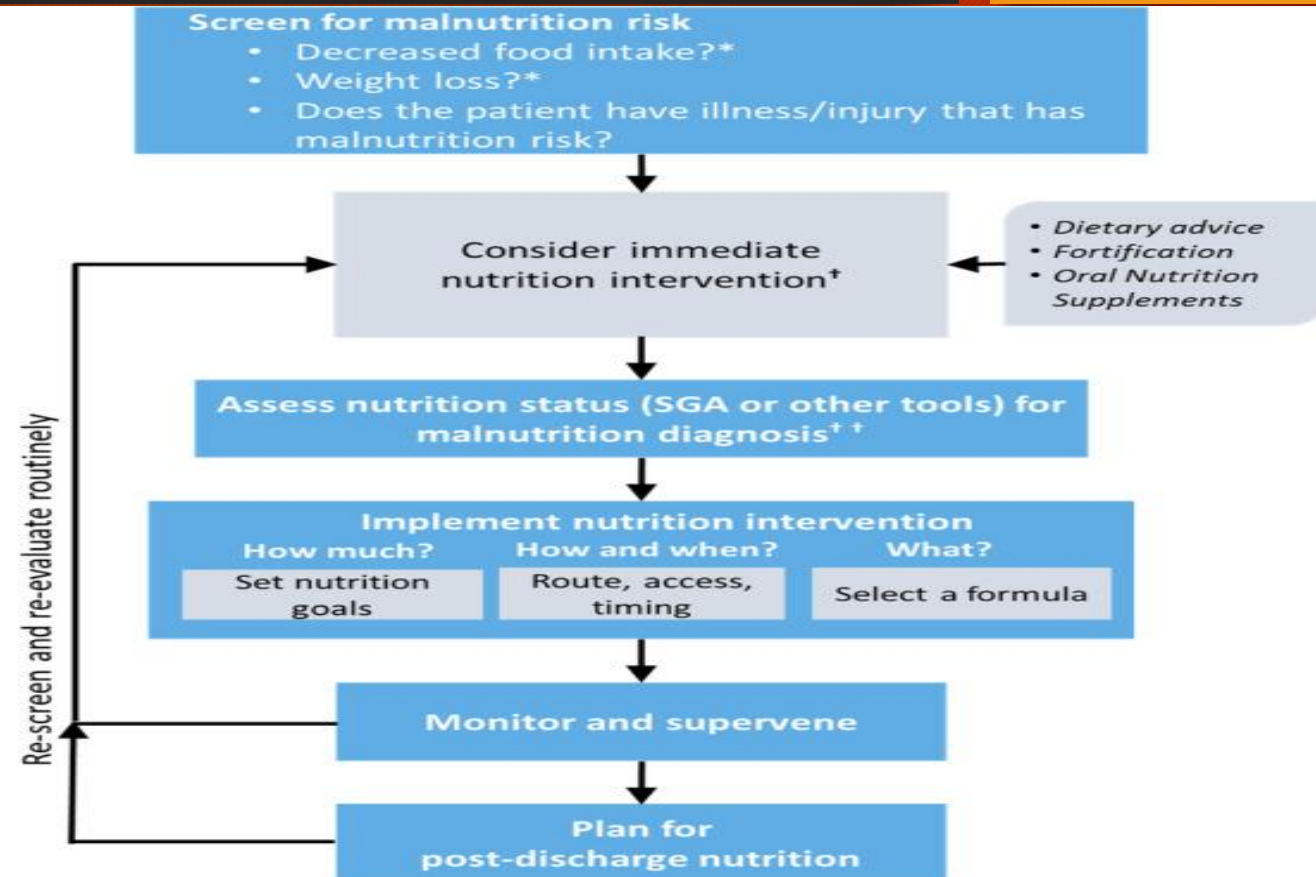
10 COMMON ELDERLY HEALTH ISSUES

6. Malnutrition

Figure 3.
Risk factors of dehydration
in the elderly



	Body water stores
Physiology:	lean masse, fat masse
	Water intake
Physiology:	Decrease in thirst sensation
Diseases:	Mental disorders Fear of incontinence Malnutrition
Functional:	Decreased mobility Reduced swallowing efficiency
Environment:	Inadequate medical assistance
	Water losses
Physiology:	Decline in renal function
Diseases:	Diarrhoe, fever, vomiting, diabetes
Environment:	Warm temperatures
Drugs:	Laxatives, diuretics ...
	Other
	Ethnicity, gender



10 COMMON ELDERLY HEALTH ISSUES

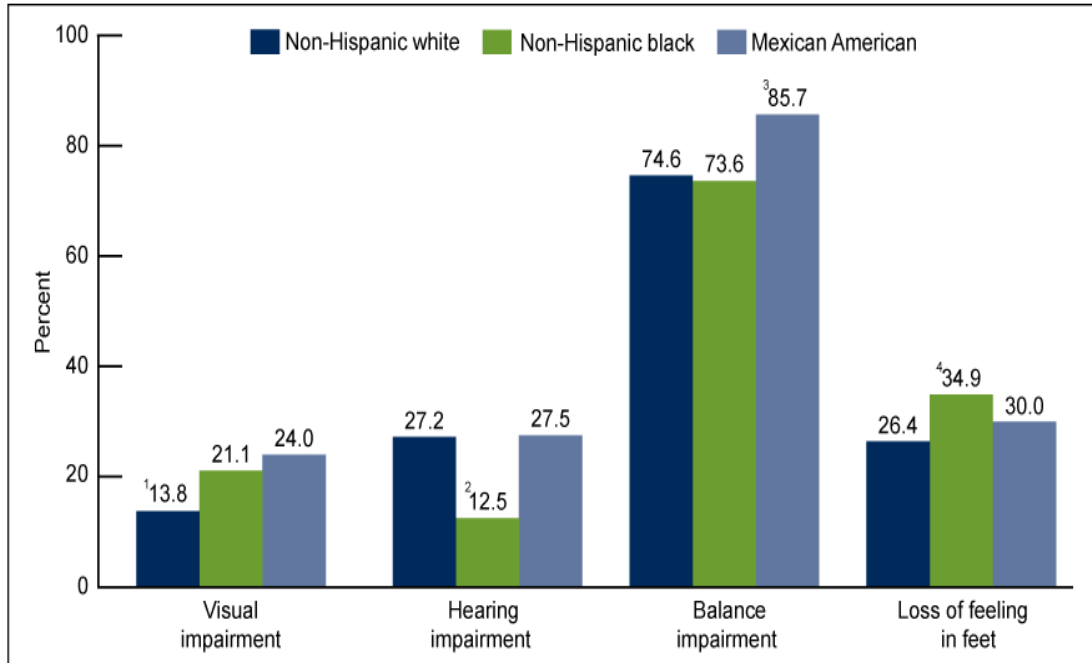


- **7. Sensory impairments**
- Sensory impairments, such as vision and hearing, are extremely common for older Americans over the age of 70. According to the CDC, one out of six older adults has a visual impairment and one out of four has a hearing impairment. Luckily, both of these issues are easily treatable by aids such as glasses or hearing aids. New technologies are enhancing assessment of hearing loss and wearability of hearing aids.

10 COMMON ELDERLY HEALTH ISSUES

7. Sensory impairments

Figure 4. The prevalence of sensory impairments among older Americans, by race and ethnicity: United States, 1999–2006



¹Significantly different from Non-Hispanic black and Mexican-American persons.

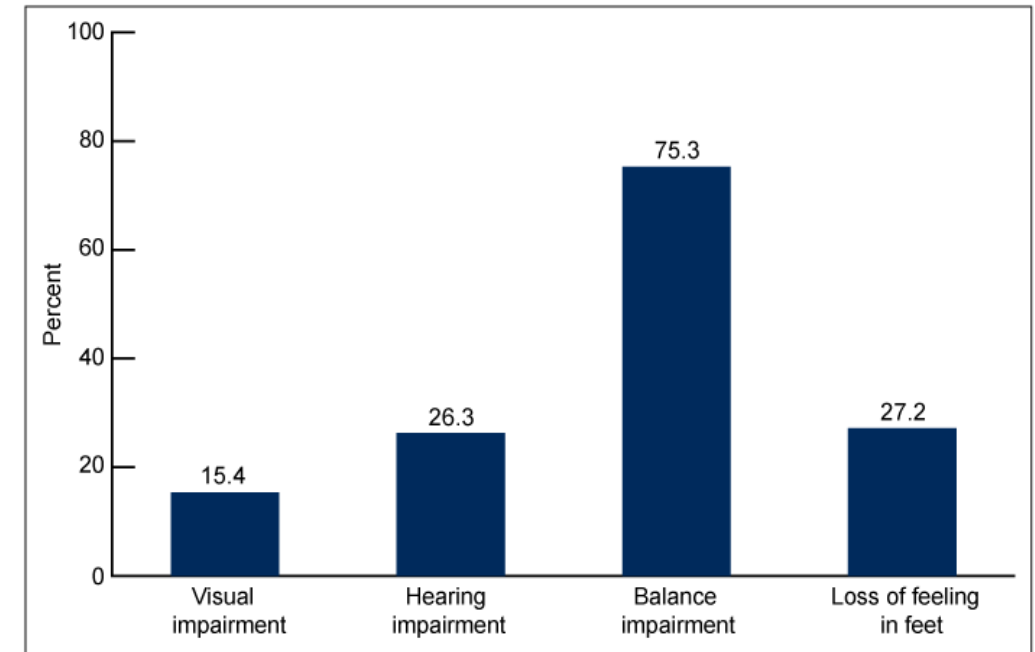
²Significantly different from Non-Hispanic white and Mexican-American persons.

³Significantly different from Non-Hispanic black and Non-Hispanic white persons.

⁴Significantly different from Non-Hispanic white.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

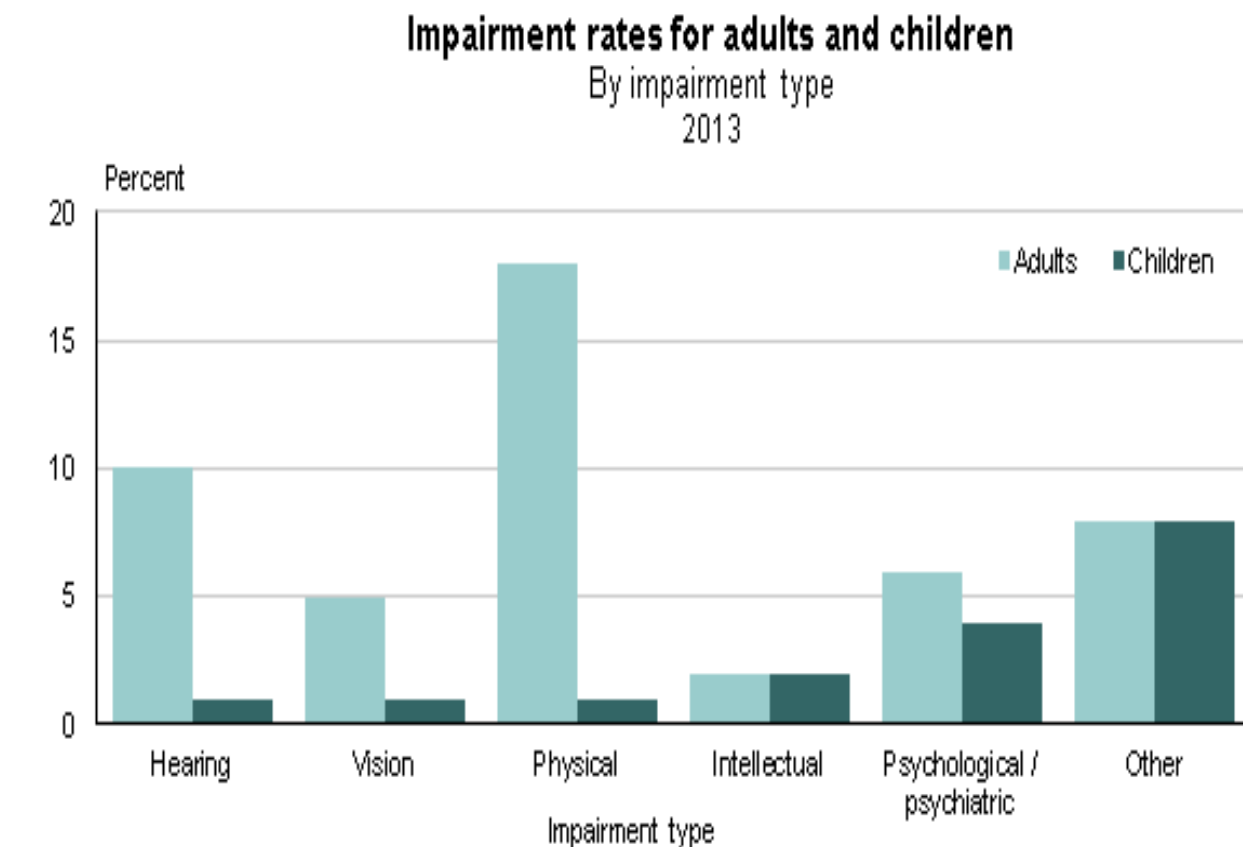
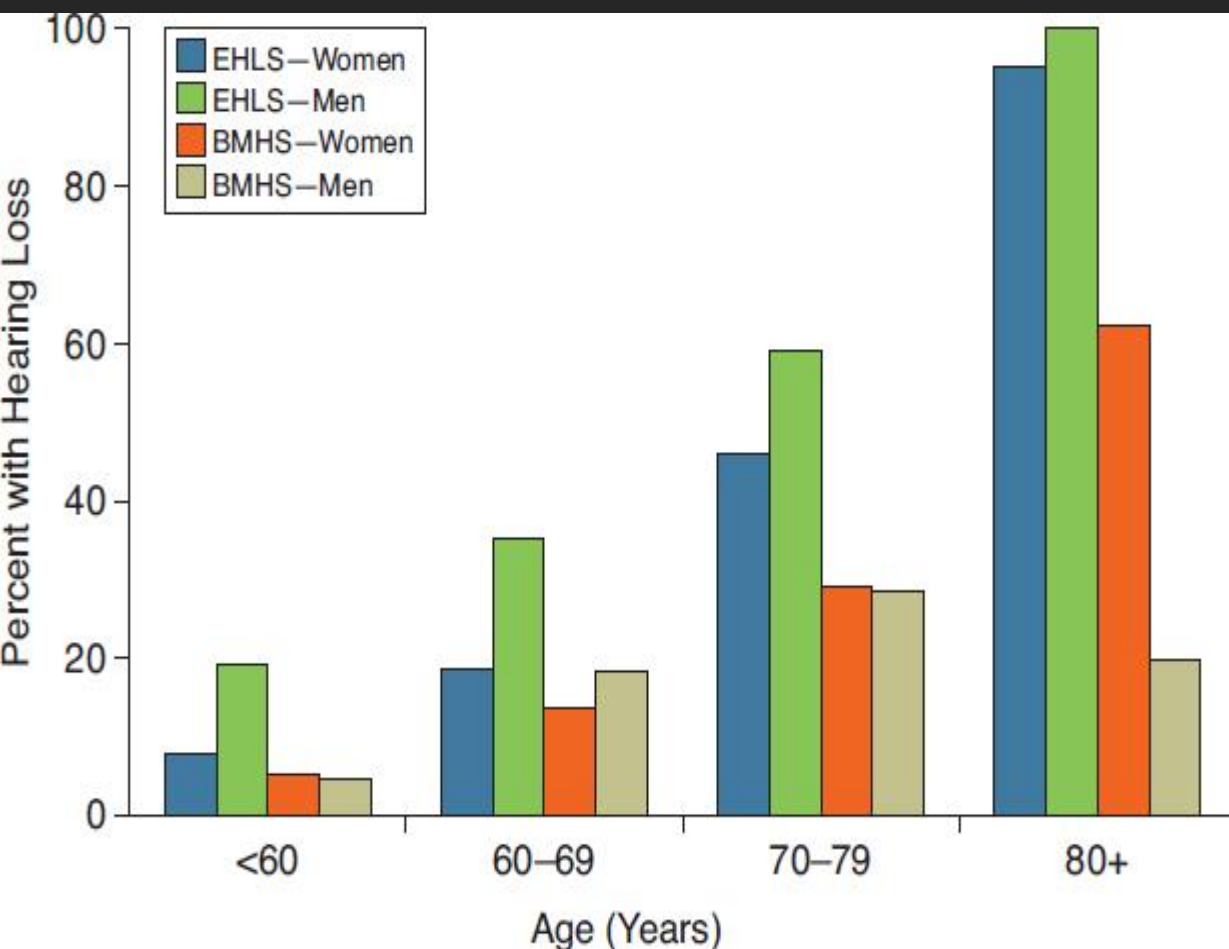
Figure 1. The prevalence of sensory impairments among persons aged 70 years and over: United States, 1999–2006



SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

10 COMMON ELDERLY HEALTH ISSUES

7. Sensory impairments



Source: Statistics New Zealand

10 COMMON ELDERLY HEALTH ISSUES



Common Oral Diseases in the Elderly:

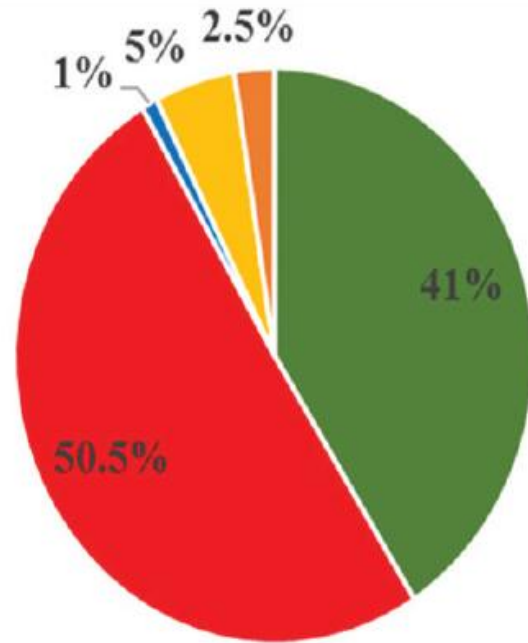
Tooth Loss or Edentulism



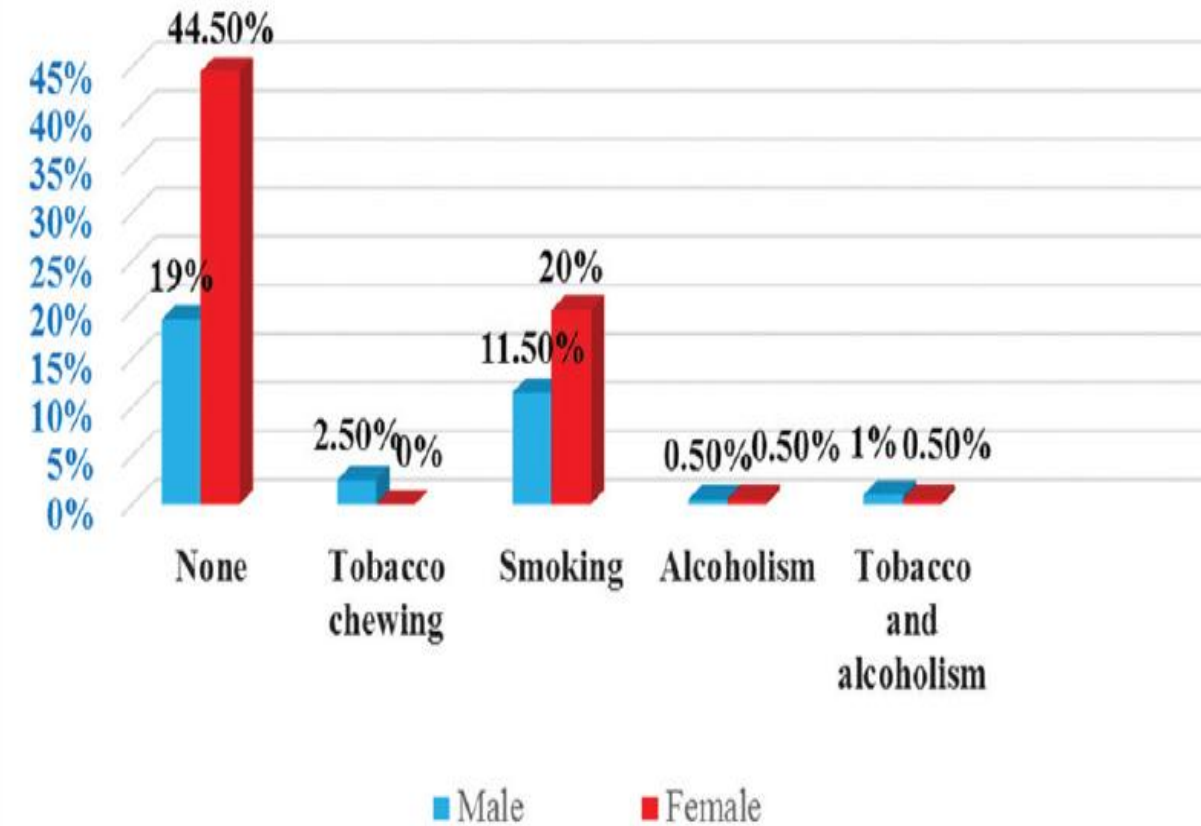
- 8. Oral health
- Often overlooked, oral health is one of the most important issues for the elderly. The [CDC's Division of Oral Health](#) found that about 25 percent of adults over the age of 65 no longer have their natural teeth. Problems such as cavities and tooth decay can lead to difficulty maintaining a healthy diet, low self-esteem, and other health conditions. Oral health issues associated with older adults are dry mouth, gum disease and mouth cancer. These conditions could be managed or prevented by making regular dental check-ups. Dental care, however, can be difficult for seniors to access due to loss of dental insurance after retirement or economical disadvantages.

10 COMMON ELDERLY HEALTH ISSUES

8. Oral health



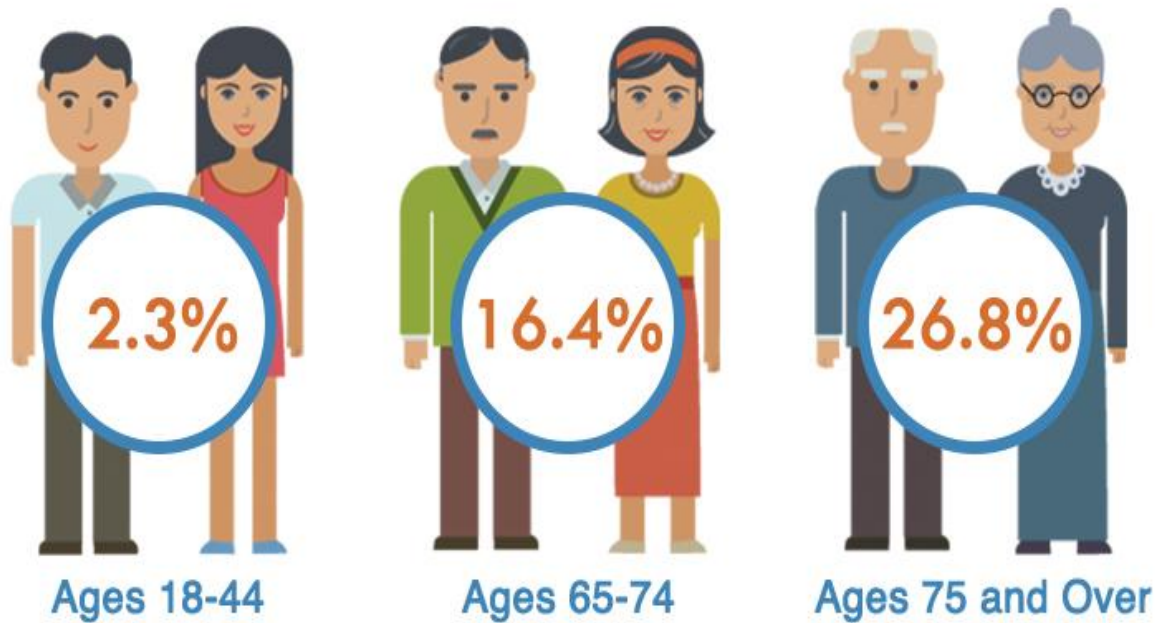
■ None ■ Brush and toothpaste ■ Brush and toothpowder
■ Finger and toothpaste ■ Any other



10 COMMON ELDERLY HEALTH ISSUES

8. Oral health

Percentage of Americans with total tooth loss in 2014 by age:



Statistics from the Center for Disease Control

IMPACT OF TOOTH LOSS ON NUTRITION

Chewing Dysfunction Cascade:

Caries And Periodontal Disease

Tooth Loss

Chewing Problems

Malnutrition

Source: Douglas Berkey

10 COMMON ELDERLY HEALTH ISSUES

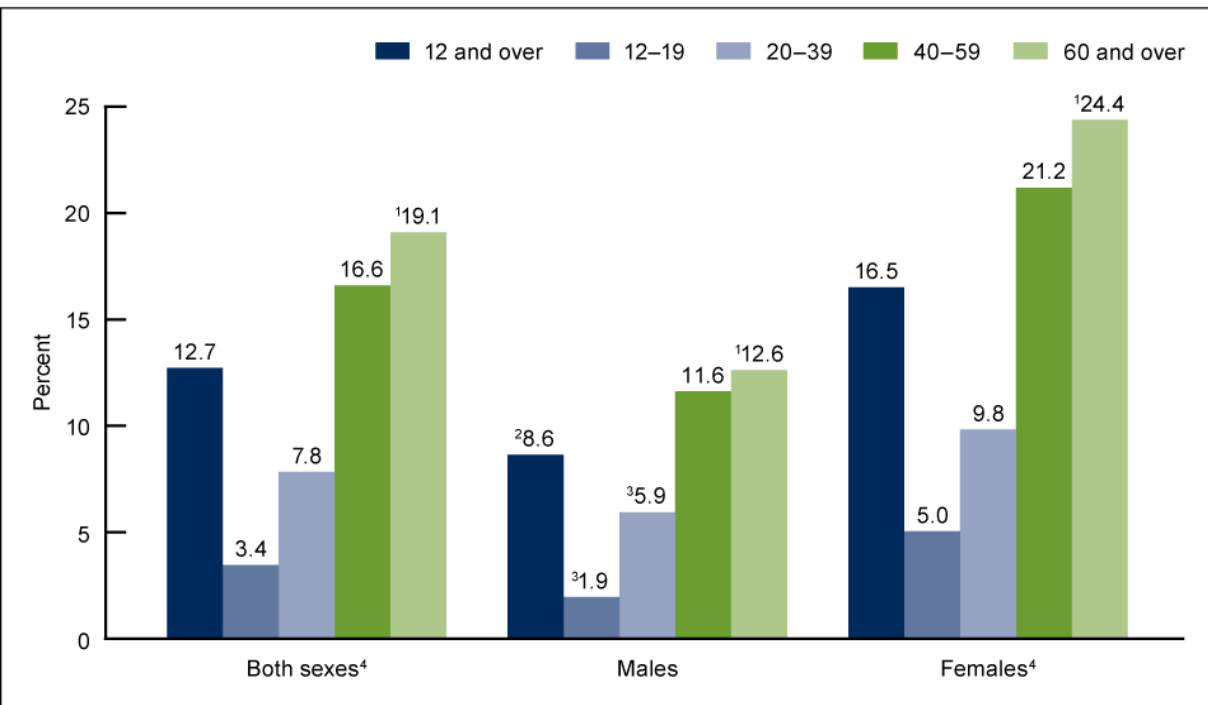


- **9. Substance abuse**
- Substance abuse, typically alcohol or drug-related, is more prevalent among seniors than realized. According to the [National Council on Aging](#), the number of older adults with substance abuse problems is expected to double to five million by 2020. Because many don't associate substance abuse with the elderly, it's often overlooked and missed in medical check-ups. Additionally, older adults are often prescribed multiple prescriptions to be used long-term. The [National Institute on Drugs](#) finds that substance abuse typically results from someone suffering mental deficits or taking another patient's medication due to their inability to pay for their own.

10 COMMON ELDERLY HEALTH ISSUES

9. Substance abuse

Figure 1. Percentage of persons aged 12 and over who took antidepressant medication in the past month, by age and sex: United States, 2011–2014



¹Statistically significant trend by age.

²Significantly lower than females in all age groups.

³Significantly lower than the older age groups.

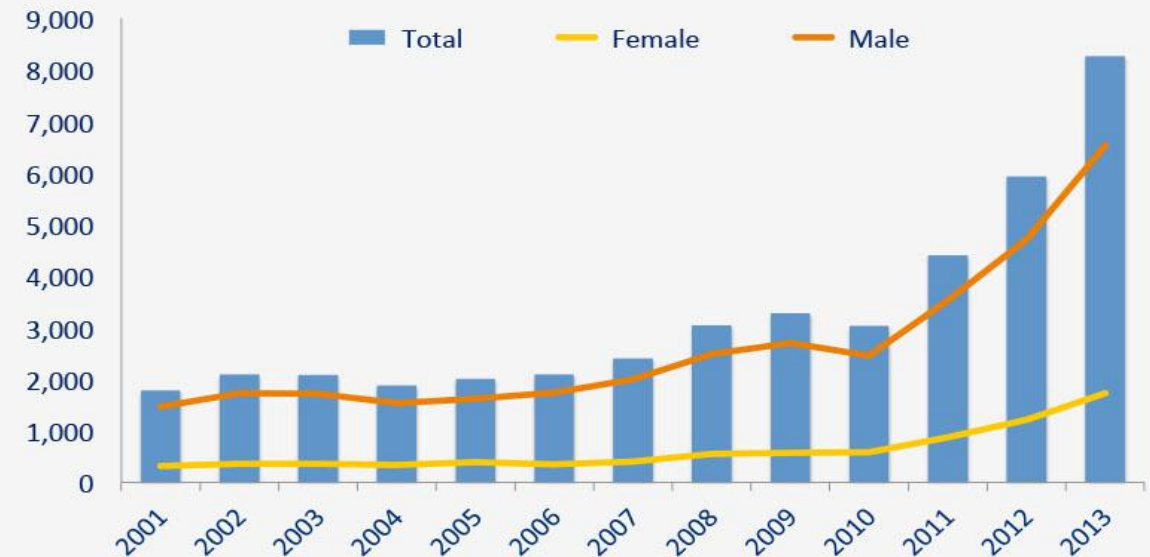
⁴Each age group is significantly different from all other age groups.

NOTE: Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db283_table.pdf#1.

SOURCE: NCHS, National Health and Nutrition Examination Survey, 2011–2014.



National Overdose Deaths Number of Deaths from Heroin

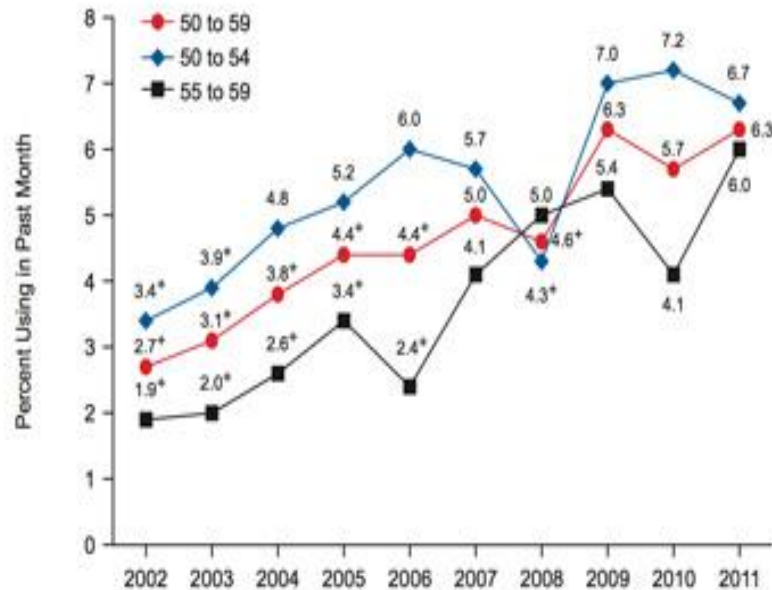


Source: National Center for Health Statistics, CDC Wonder

10 COMMON ELDERLY HEALTH ISSUES

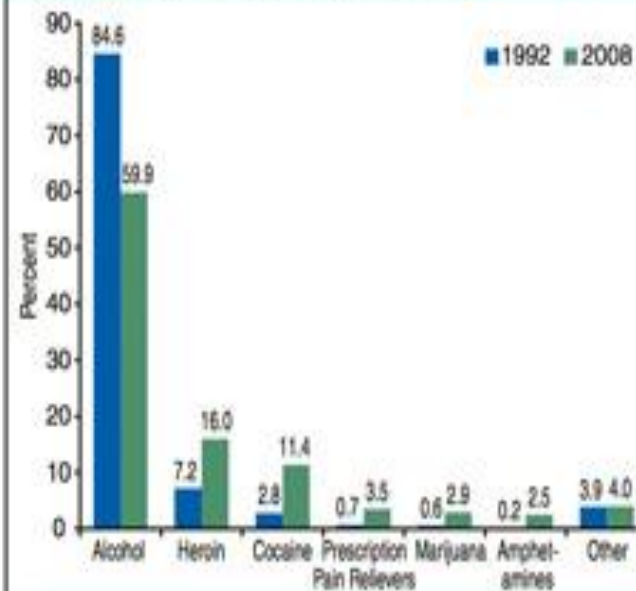
9. Substance abuse

Figure 2.9 Past Month Illicit Drug Use among Adults Aged 50 to 59: 2002-2011



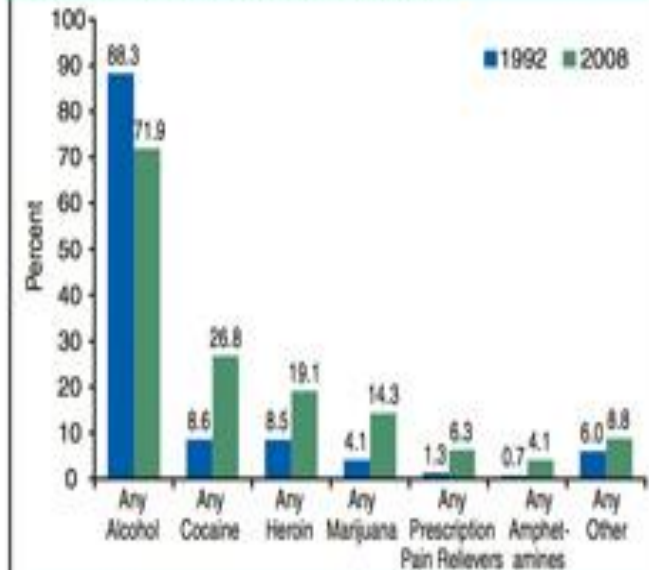
* Difference between this estimate and the 2011 estimate is statistically significant at the .05 level.

Figure 1. Substance Abuse Treatment Admissions Aged 50 or Older, by Primary Substance of Abuse: 1992 and 2008



Note: Percentages may not sum to 100 percent due to rounding.
Source: SAMHSA Treatment Episode Data Set (TEDS), 1992 and 2008.

Figure 2. Substance Abuse Treatment Admissions Aged 50 or Older, by Any Substance Abuse: 1992 and 2008*



*Any substance abuse refers to primary, secondary, or tertiary abuse of a substance.

Source: SAMHSA Treatment Episode Data Set (TEDS), 1992 and 2008.

10 COMMON ELDERLY HEALTH ISSUES

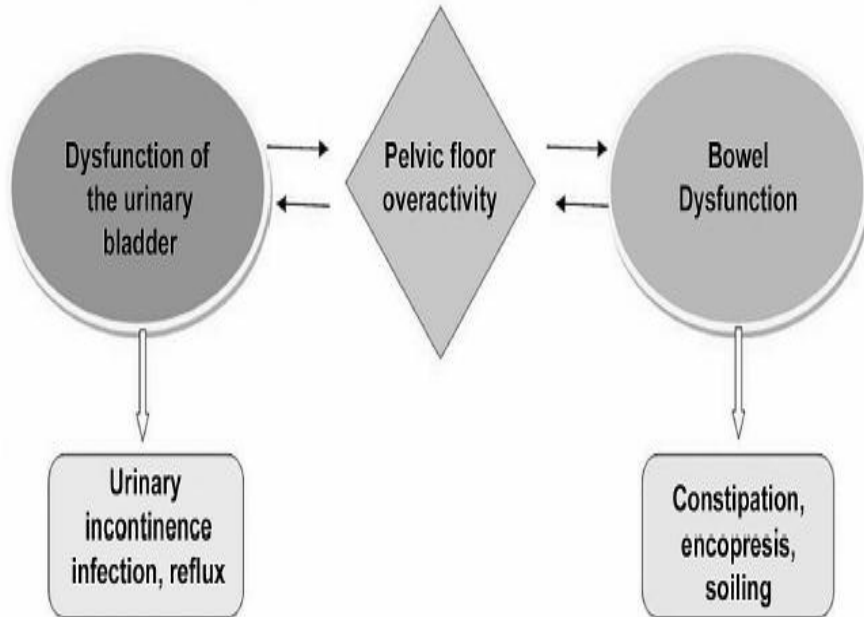


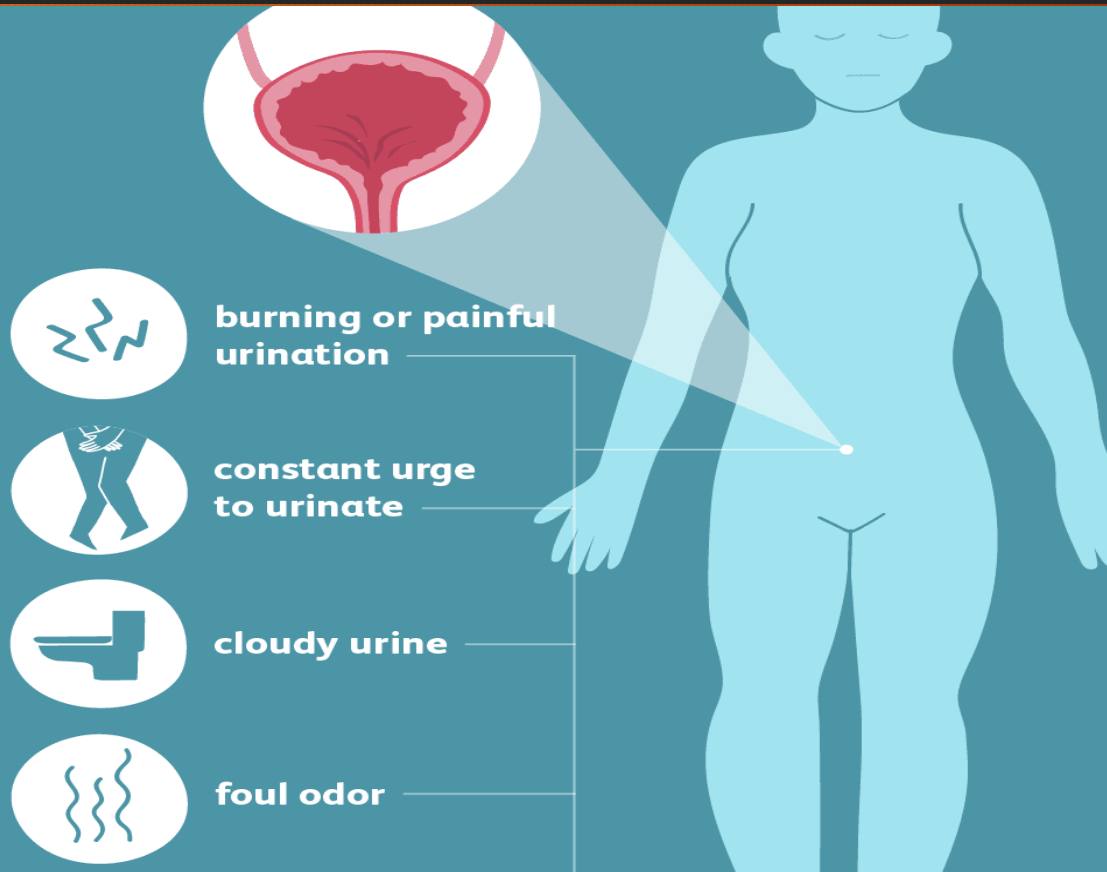
Figure 1 – Overactivity of pelvic floor muscles following bladder and bowel dysfunction*

* Modified according to De Paeppe et al. (16)

- **10. Bladder control and constipation**
- Incontinence and constipation are both common with aging, and can impact older adults quality of life. In addition to age-related changes, these may be a side effect of previous issues mentioned above, such as not eating a well-balanced diet and suffering from chronic health conditions. The [Mayo Clinic](#) suggests maintaining a healthy weight, eating a healthy diet and exercising regularly to avoid these elderly health issues. There are often effective medical treatments, and older adults should not be embarrassed to discuss with their physicians.

10 COMMON ELDERLY HEALTH ISSUES

10. Bladder control and constipation



Common urinary problems

Stress incontinence: this is urine leakage during physical exertions (eg, coughing, sneezing, exercising or lifting) that raise abdominal pressure. This can force urine out of the urethra in people with pelvic floor and urethral muscles.

Urge incontinence: also known as overactive bladder. It means a person has a sudden, strong urge to urinate if bladder emptying is delayed, which results in uncontrolled leakage. This is often due to involuntary bladder overactivity.

Overflow incontinence: this occurs when the bladder cannot empty properly. This causes it to become too full, overflow and then leak regularly in small amounts, with no real trigger or warning.

Some people can have a combination of these types of incontinence.

10 COMMON ELDERLY HEALTH ISSUES

10. Bladder control and constipation

Approximately 1 in 3 women who have had a child and 1 in 10 men will have some form of problem with bladder control during adulthood.

In women, bladder control problems are associated with pregnancy, childbirth, menopause and ageing.

For men, urinary problems are most commonly related to ageing. Other causes include some medical conditions, medications, obesity, chronic cough, constipation and inappropriate exercises.

The production of urine is not under our voluntary control. However, as adults, we have developed the ability to recognise when our bladder is full, and to be able to hold on to urine until we reach a toilet. This means we have control over when and where we will pass urine.

This control is possible because of messages passing between the brain and the bladder, and our ability to interpret these messages. We can learn to use this mechanism to delay passing urine.



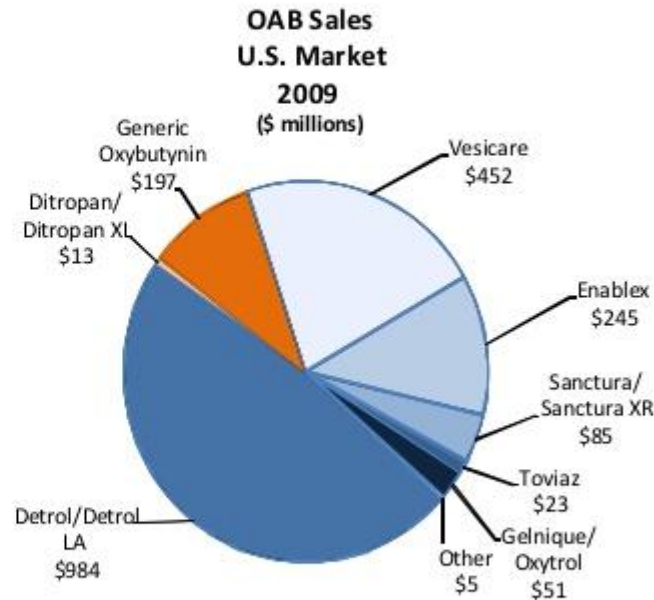
Over reactive bladder common in Old age populations

10 COMMON ELDERLY HEALTH ISSUES

10. Bladder control and constipation

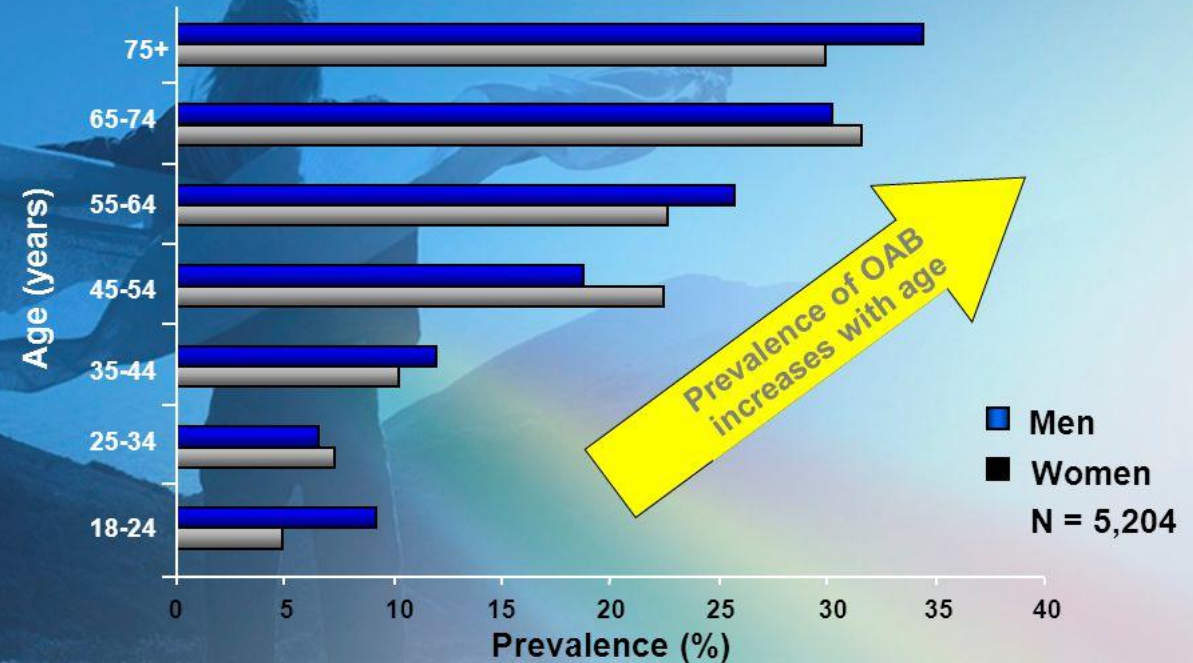
Anturol®: Overactive Bladder Market Overview (OAB)

- U.S. OAB market was \$2.1 billion in 2009 (18.3 MM TRX, Oxybutynin 34%) and projected to be greater than \$2.3 billion in 2014
- Affects an estimated 16% of mature Western population – 90% of patients are women
- Major AEs for OAB drugs include dry mouth and constipation resulting in poor compliance
- Unmet market need for an **efficacious product with low side effects** profile
- **Anturol has demonstrated similar efficacy but better safety than newer oral OAB drugs**



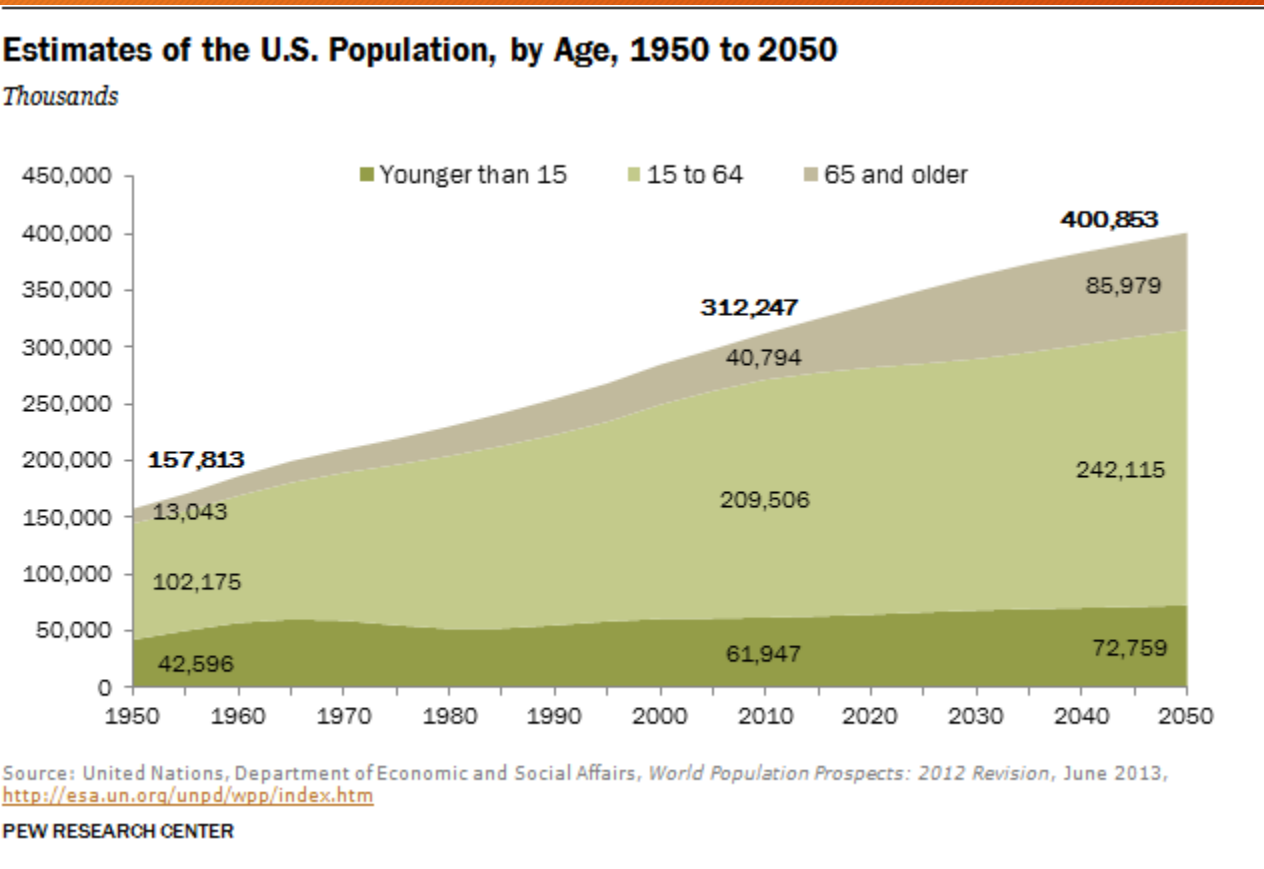
Sources: IMS Health National Sales Perspective, Cowen & Co. Therapeutic Categories Report, March 2010.

Prevalence of OAB in the United States: Estimated to Impact ~33 Million Americans



National Center for Health Statistics. *Vital Health Stat.* 2002;10:209.
Stewart W et al. *World J Urol.* 2003;20:327-336.

Opportunities and Challenges to Public Health



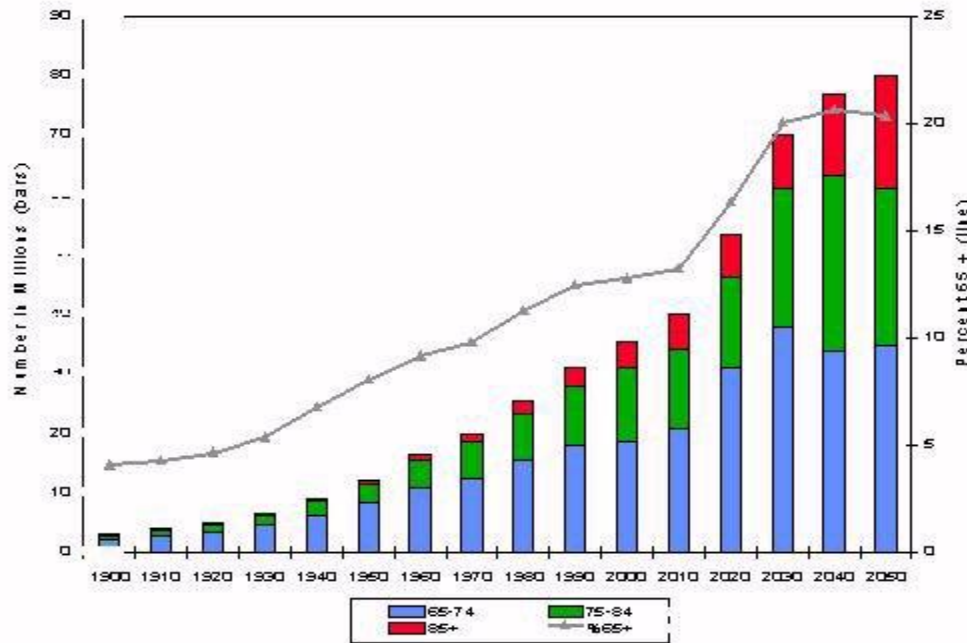
- Never before has the global population included as many older adults as it does today. Over the past century in the United States alone, the proportion of persons aged 65 years or older increased more than threefold, from 4.1% to 12.9%.
- The U.S. population is projected to increase from 312.2 million in 2010 to 400.9 million in 2050.³³ For this four-decade period, that is an increase of 28% at an average annual rate of 0.6%. The anticipated annual rate of growth in the U.S. population is significantly slower than in the past. In the six decades from 1950 to 2010, the U.S. population had increased from 157.8 million to 312.2 million, a total gain of 98% at an average annual rate of 1.1%. Thus, the projected annual rate of growth in the U.S. population is only about half the rate of growth experienced in the recent past.

Taken from <http://www.pewglobal.org/2014/01/30/chapter-4-population-change-in-the-u-s-and-the-world-from-1950-to-2050/>

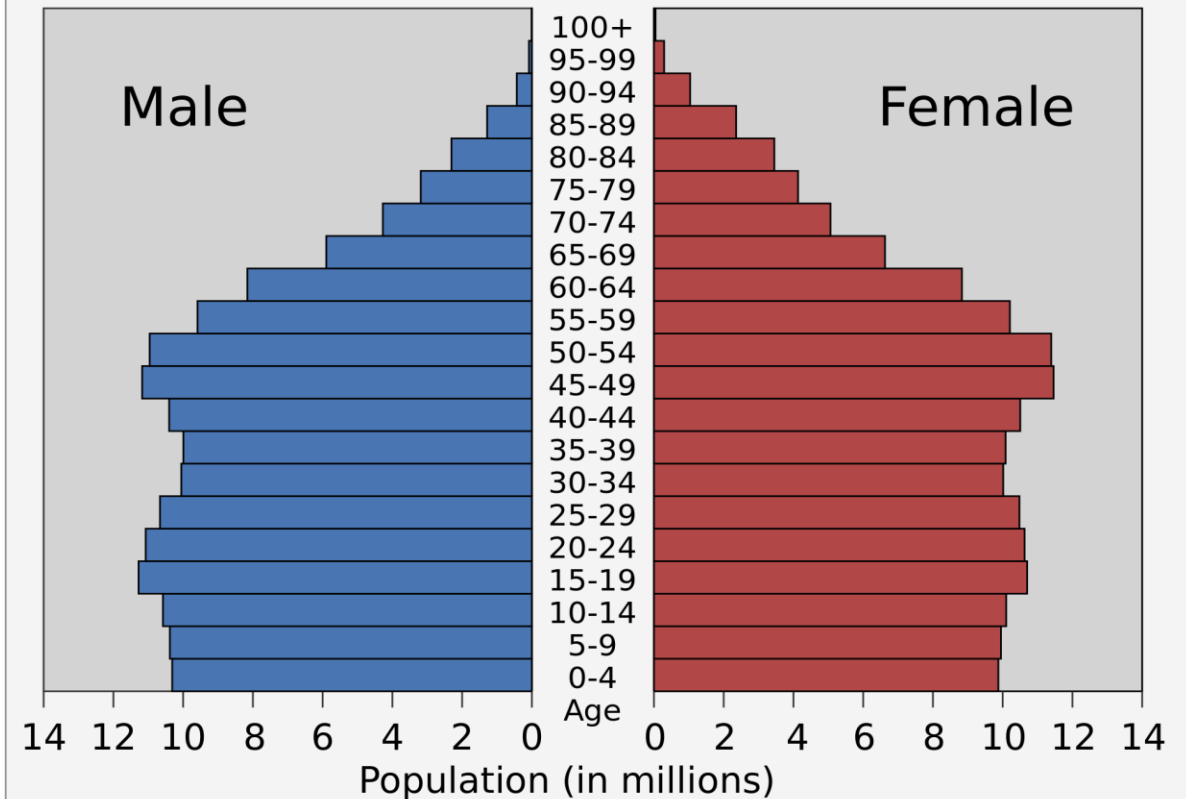
Opportunities and Challenges to Public Health

Source: U.S. Bureau of the Census. Current Population Reports, Special Studies P-23-190, 65+ in the U.S. U.S. Government Printing Office, 1996.

Growth of the 65+ Population,
by Age Group: 1900 to 2050



United States Population (2010)



Taken from <http://www.pewglobal.org/2014/01/30/chapter-4-population-change-in-the-u-s-and-the-world-from-1950-to-2050/>

What influences health in older people

Older people at high risk

Consultations for the World Humanitarian Summit found that many older people:



WHAT INFLUENCES HEALTH IN OLDER AGE

INDIVIDUAL

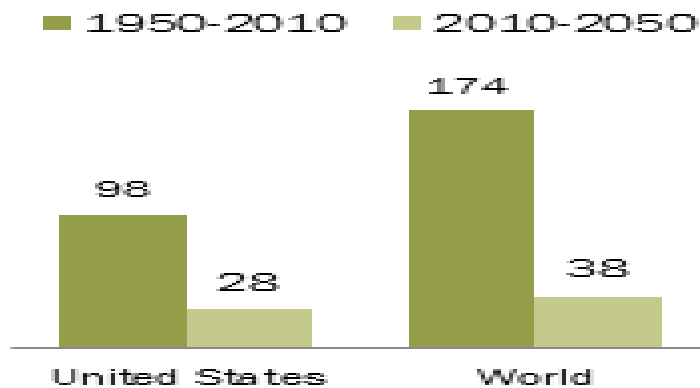
ENVIRONMENT THEY LIVE IN



Changing scenario in population in USA

Estimated Change in the U.S. and Global Populations, 1950 to 2050

%

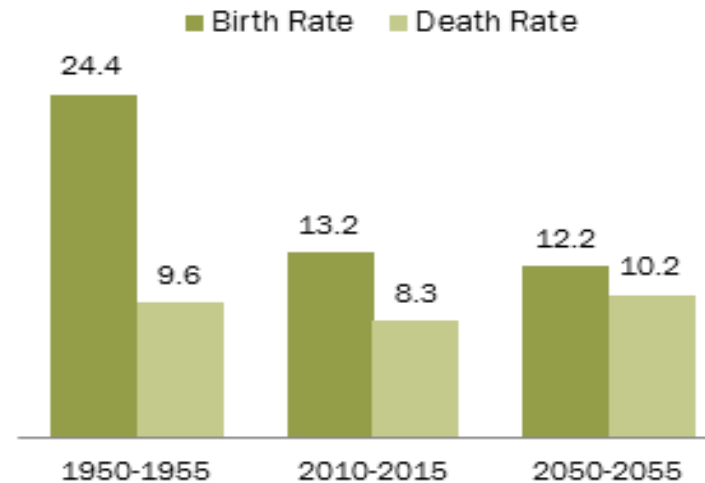


Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: 2012 Revision*, June 2013, <http://esa.un.org/unpd/wpp/index.htm>

PEW RESEARCH CENTER

Birth Rates and Death Rates in the U.S., 1950 to 2055

Per 1,000 people



Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: 2012 Revision*, June 2013, <http://esa.un.org/unpd/wpp/index.htm>

PEW RESEARCH CENTER

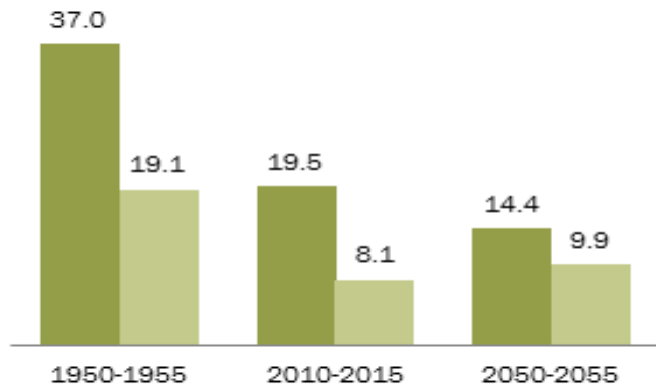
Aging is not exactly news—the U.S. and global populations also turned older from 1950 to 2010. But future prospects for aging have garnered more attention because, unlike in the past, younger populations, those of children and those of middle-age adults, are at near standstill. Thus, the social and economic effects of aging are likely to be felt more acutely in the future.

Changing scenario in population in USA

Global Birth Rates and Death Rates, 1950 to 2055

Per 1,000 people

■ Birth Rate ■ Death Rate

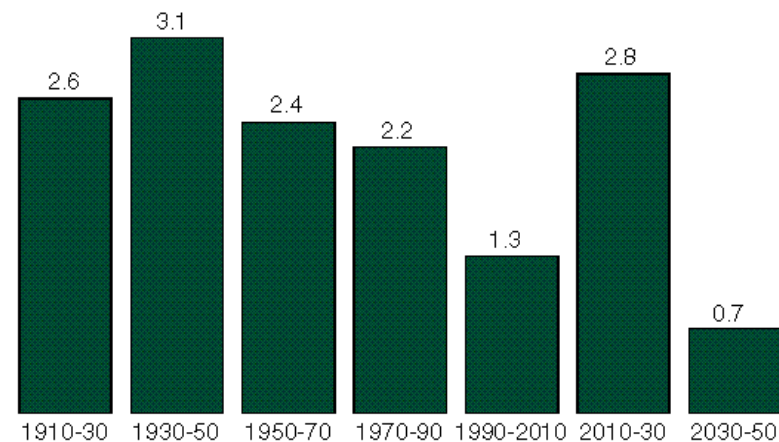


Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: 2012 Revision*, June 2013, <http://esa.un.org/unpd/wpp/index.htm>

PEW RESEARCH CENTER

Fifteen Years From Now, Elderly Population Growth Will Explode

Average annual growth rate (in percent) of the elderly population: 1910-30 to 2030-50



From 1950 to 2010, the world population increased from 2.5 billion to 6.9 billion, or by 174%. The average annual rate of growth—1.7%—was much higher than in the U.S. In the future, the global population is expected to increase from 6.9 billion in 2010 to 9.6 billion in 2050, or by 38%. The average annual rate of growth—0.8%—is only slightly higher than the rate projected for the U.S.

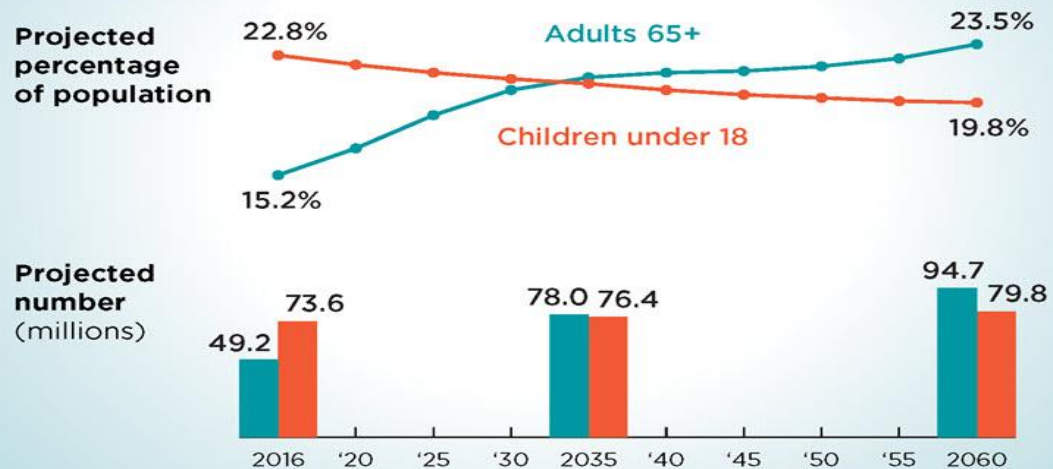
AN UNPRECEDENTED DEMOGRAPHIC TRANSITION



An Aging Nation

Projected Number of Children
and Older Adults

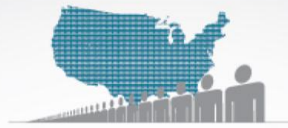
For the First Time in U.S. History Older Adults Are
Projected to Outnumber Children by 2035



Note: 2016 data are estimates not projections.

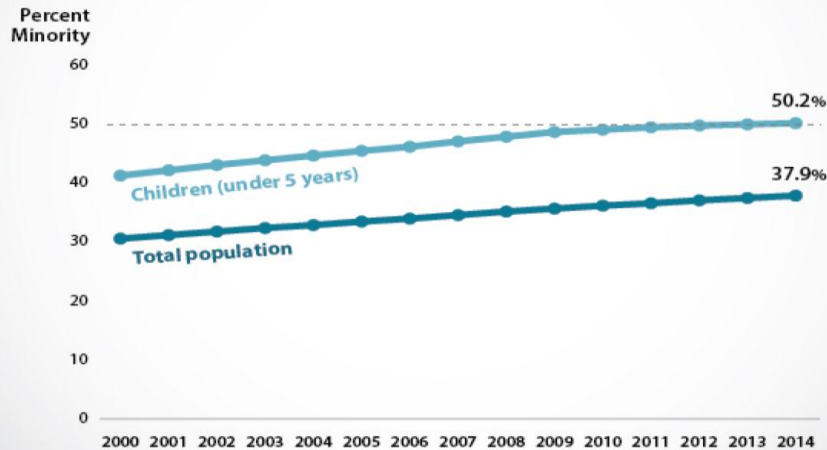
- At least three major factors—the aging of the baby boom generation (those born from 1946 through 1964), the growing numbers of persons living with multiple chronic conditions, and the reform of the US health care system—are prompting animated discussion and debate about aging in the United States. On January 1, 2011 the unprecedented demographic transition received national attention as the first group of baby boomers began turning 65

AN UNPRECEDENTED DEMOGRAPHIC TRANSITION: Effect of immigration in USA



A More Diverse Nation

For the First Time, More Than 50 Percent of Children Under Age 5 are Minorities



Note: Minority is defined in this figure as any group other than single-race non-Hispanic white.

United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Source: July values from 2014 Population Estimates
and 2000-2010 Intercensal Population Estimates

To gain insights into what the future of America looks like, we just need to take a look at the present numbers:

- From 2000 to 2013, the Hispanic or Latino population in 28 states doubled with Spanish as the second most spoken language in America
- Latinos outnumber whites in California and New Mexico while Asians outnumber whites in Hawaii
- Asians are America's fastest-growing group with more than 18.2 million people
- For the first time in America, more than 50 percent of kids under 5 are nonwhite
- Today, 4 percent of the U.S. population identify themselves as LGBT
- The purchasing power of Latinos is \$1.2 trillion while the Asian buying power totals \$718 billion
- Only 7 percent of marketing dollars are spent on targeted ethnic campaigns in this country, although nearly half of Americans belong to ethnic minorities
- Among business owners, people of color own 22.1 percent of businesses
- People of color represent 36 percent of the U.S. labor force but only 4 percent of the top executive positions in Fortune 500 companies
- Millennials redefine diversity and transform inclusion

Taken from <https://prsay.prsa.org/2015/08/28/americas-dynamic-diversity-and-what-it-means-for-pr-professionals/>

Public Health Solutions for Aging populations



- Although an aging population undoubtedly places pressure on policymakers as they seek to stem rising health care costs, insufficient attention has been focused on new approaches designed
- to improve community-based services,
- quality of life, and
- mobility across the life course
- Given the stark reality that by 2030 an estimated 20% of Americans will be aged 65 years or older,¹ several vexing questions present themselves.

Major question?



- Is public health prepared to address a rapidly aging population and create a vision for positive change?

The Questions we need to answer?

- What does an aging society mean for the health of everyone?
- How do recent demographic developments challenge traditional views about and roles for older adults?
- Do conceptual models exist that can be invoked or adapted to enhance understanding of the reasons for the observed variations in the health and functioning of older populations?
- What innovative approaches might public health practitioners implement to address the major causes of disease and disability and promote quality of life for all populations as they age?

AN unanswered PUBLIC HEALTH PRIORITY

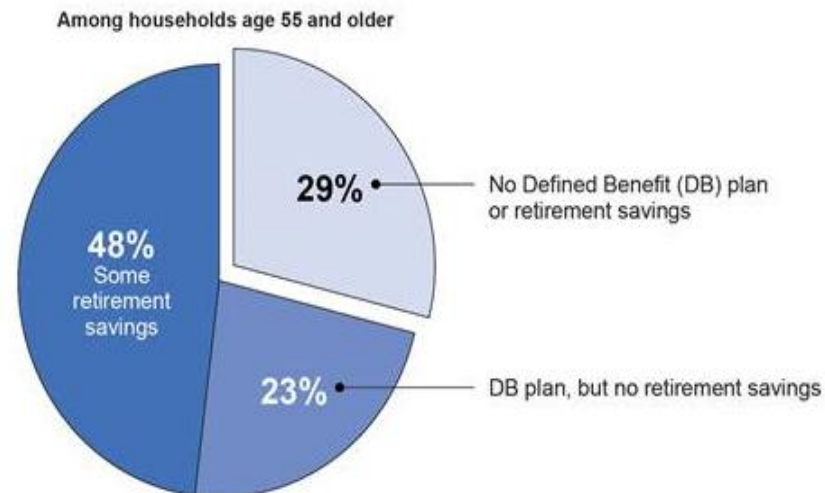


Public health, which has played a key role in bringing about this demographic phenomenon, historically has been defined in relation to populations and has focused its attention on addressing the leading causes of death and identifying risk factors in particular groups. With people living longer, the challenge is to help them stay healthy and maintain a high quality of life at every age, regardless of the onset of chronic conditions.

People say they want to live longer—if in good health

December 11, 2017, University of Kansas, <https://medicalxpress.com/news/2017-12-people-longerif-good-health.html>

Early situation in USA



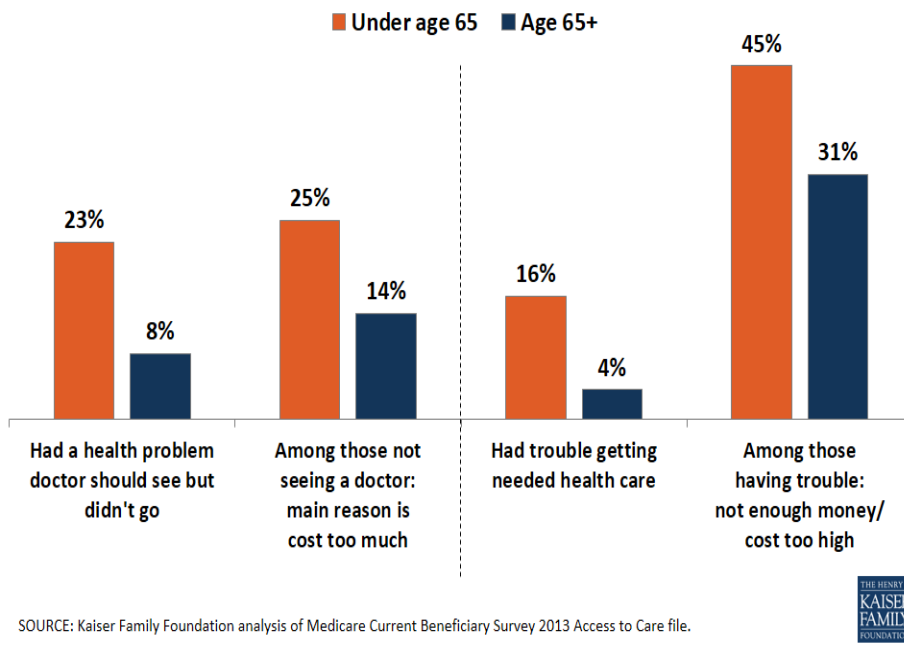
Source: GAO analysis of 2013 Survey of Consumer Finances (SCF) data. | Modified from GAO-15-419

- Even during the mid-1960s, when the struggles of older Americans received considerable attention by other sectors, public health was largely a bystander.
- Recall that the Social Security Amendments of 1965 established the Medicare and Medicaid programs, and the Older Americans Act of 1965 led to the creation of the Administration on Aging.
- But public health agencies remained outside the purview of aging and were not explicitly mentioned in the Older American Act until 1987, when a provision (the Disease Prevention and Health Promotion Services [OAA Title IID]) mandated that,
- *In carrying out such program, the Assistant Secretary shall consult with the Directors of the Centers for Disease Control and Prevention and the National Institute on Aging*

Early situation in USA

- Furthermore, it was not until 1978 that the Gerontological Health Section was established as part of the American Public Health Association.⁴ In 2010, this section was renamed Aging and Public Health to reflect
- *the broad scope of interests of our members, and to distinguish ourselves as the organization that uniquely focuses on the intersection of public health and the aging population.*
- Belatedly but importantly, in 1994, a major conference on aging finally focused on the needs of older adults and called for cross-agency collaborations and the promotion of health for older adults

Figure 6
Selected Measures of Access to Health Care for Medicare Beneficiaries Under Age 65 Compared to Those Age 65 or Older



Healthy aging agenda

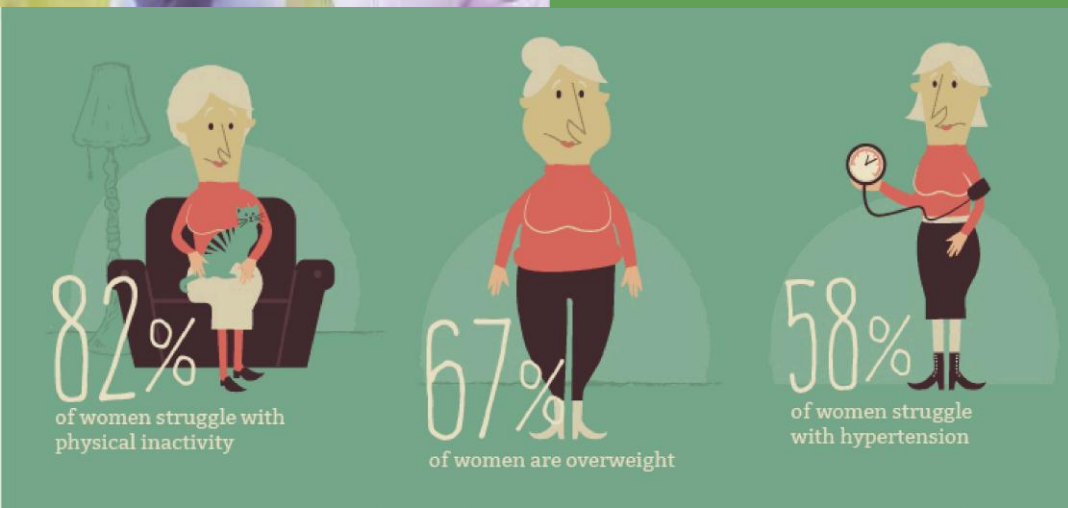


- Although this challenge is a monumental one, healthy aging has unfortunately been at the periphery of the public health agenda since public health's origin in the industrialized cities of the 19th century
- In terms of function, considerable variability exists within the older adult population, from those who may be characterized as functional and independent to those who are considered to be frail and dependent.

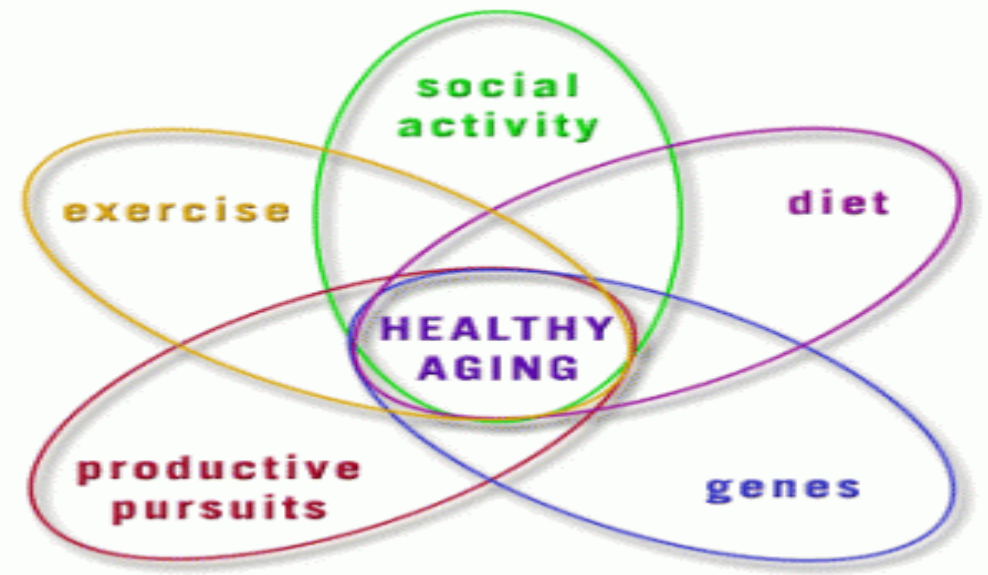
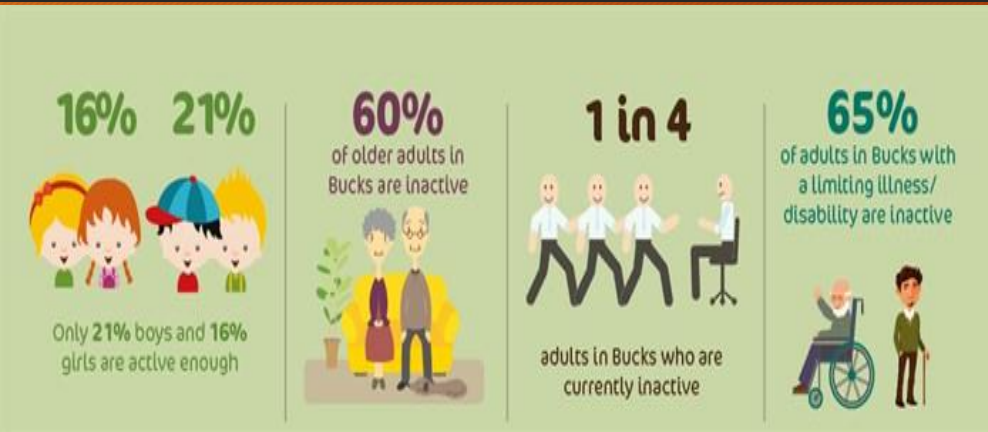
Healthy aging agenda



- A significant proportion of older adults have some type of physical limitation in functioning, such as walking two to three blocks.
- In 2007, for example, among adults aged 65 to 74 years, 13.0% of men and 21.8% of women reported at least one such limitation; the proportion was even higher among those aged 85 years or older, with 40.4% of men and 55.9% of women reporting at least one limitation.
- To fully address the potential opportunities and challenges of improving the lives of older adults, the public health community must consider the full spectrum of function within this population.

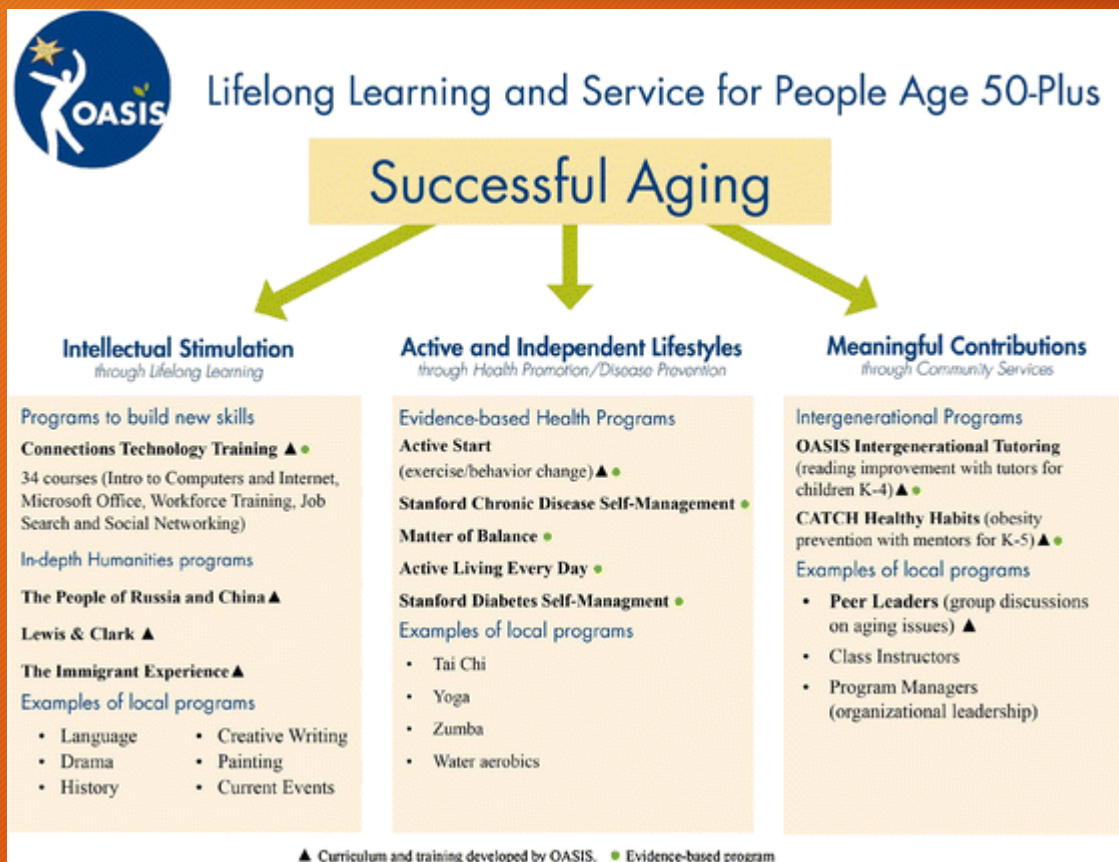


Healthy aging agenda



- Another key characteristic of the aging population is the emergence of a high prevalence of multiple (defined as two or more) chronic conditions, including somatic diseases, behavioral health problems, cognitive and other functional limitations, and geriatric syndromes such as falls and frailty.
- Already, more than one in four Americans are living with multiple, concurrent chronic conditions.^{9,10} As might be expected, the prevalence of multiple chronic conditions is substantial among older adults, contributing to their frailty and functional limitations, in addition to adding considerably to health care spending

A PROMISING DIRECTION

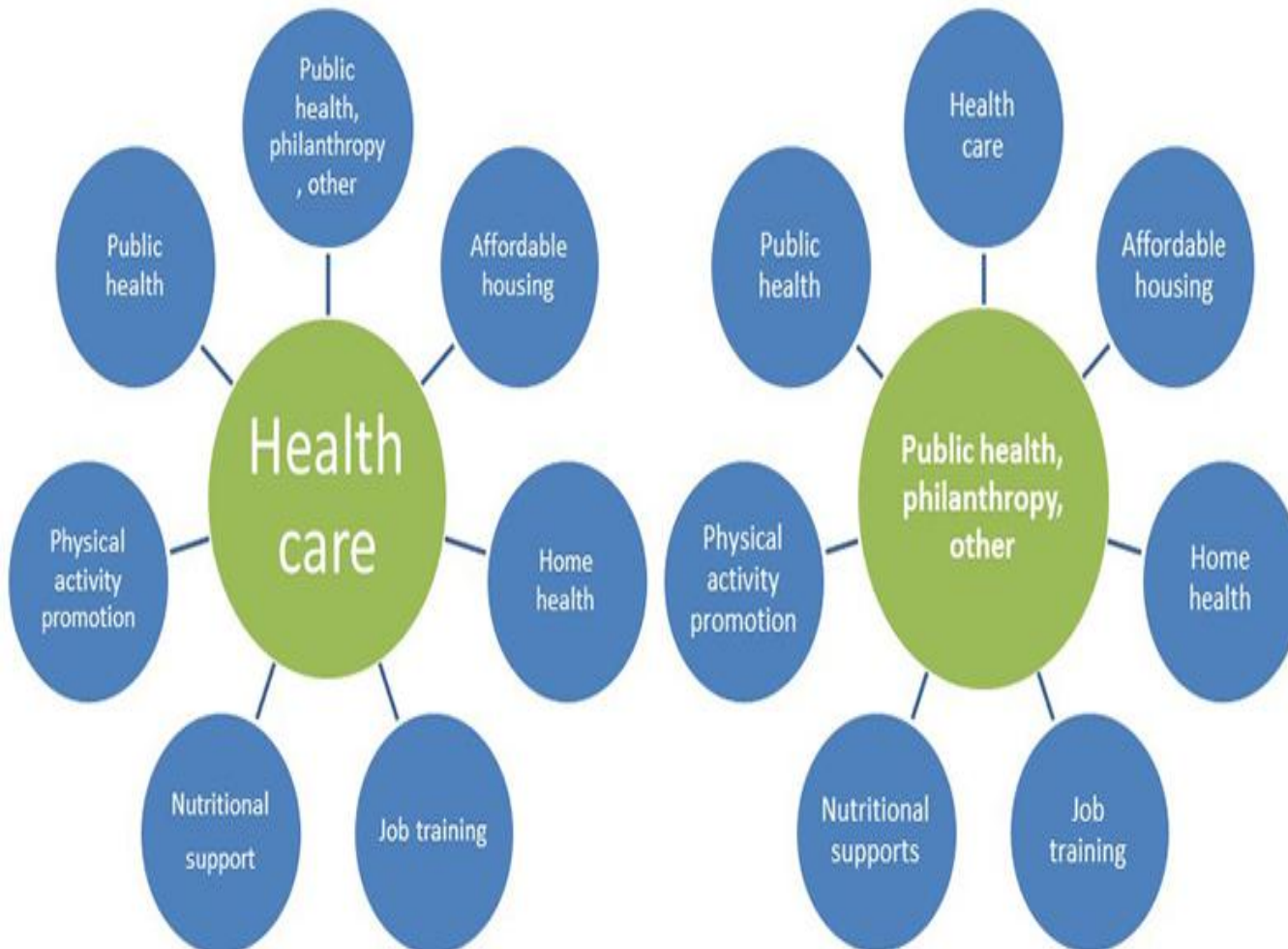


- Research has documented that community-based programs and policies can successfully improve function and quality of life among older adults through interventions designed to increase physical activity, prevent falls, and improve functioning
- Even for people aged 85 years or older, mobility and balance can be improved with basic weight training exercises

Taken from

<https://link.springer.com/article/10.1007/s12126-012-9170-3>

A PROMISING DIRECTION



- Other relevant, successful approaches include initiatives designed to benefit people of all ages, such as community-based safe walking programs and environmental change policies.
- Public health can support these promising approaches by creating infrastructure supports that ensure the reach and replication of programs and policies that can benefit the growing numbers of older adults.

A PROMISING DIRECTION



- The aging services network is also working to help older adults avoid social isolation by designing and testing new ways for them to contribute to society.
- One example of this approach is a national program called Experience Corps¹² that places older volunteers as tutors in underserved elementary schools.
- The program provides academic support to students and creates new roles for older adults that are cognitively demanding and socially productive. Moreover, evaluation findings from Experience Corps demonstrated improvements in physical health among the adult participants

Can the older generation be a A RESOURCE FOR FUTURE GENERATIONS



- The consequences of having a larger, more diverse older population will be dramatic, notably in the economic, housing, and health care sectors, and in the education and training requirements for the health and social services workforces
- As the number of older adults continues to grow, public health professionals will have to find innovative ways to meet the multiple needs of this population, as well as to address the shortage of professionals trained in aging and to help relieve the often overwhelming demands placed on caregivers and family members.
- Older vs Elder

Figure taken from
<https://www.gameinformer.com/b/features/archive/2017/09/06/opinion-tacoma-takes-interactive-storytelling-in-a-promising-direction.aspx>

Can the older generation be a A RESOURCE FOR FUTURE GENERATIONS

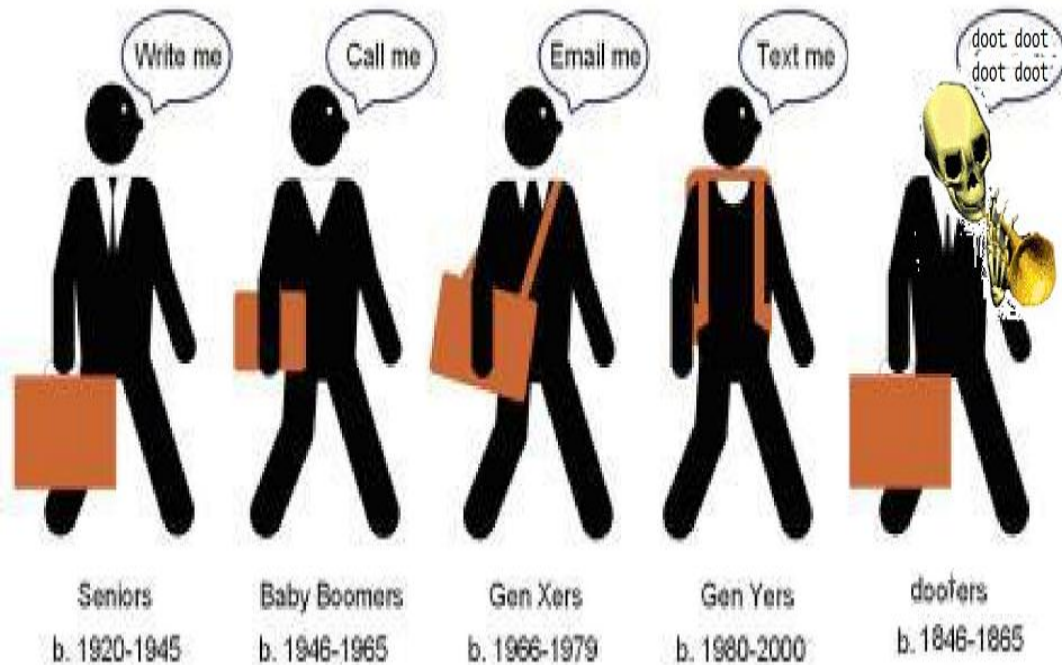


- The public health system too must contribute its expertise to address the opportunities and challenges brought on by an aging US population. For example, public health surveillance systems that assess and monitor the health of the broader population can help track changes in the life conditions of older adults. Public health training programs can be used to educate professionals about issues related to aging and confront myths associated with growing old.

Figure taken from <http://theconversation.com/why-we-keep-playing-the-generation-blame-game-and-why-we-need-to-stop-82219>

Can the older generation be a A RESOURCE FOR FUTURE GENERATIONS

Our five generation workforce provides challenges



- Opportunities abound for public health to embrace the potential, as well as the needs, presented by the aging of the population. One important next step is to develop competencies in healthy aging for schools of public health. Public health policies and interventions also can be leveraged and expanded through collaborations with the aging services network and other nontraditional partners, including transportation, housing, and planning agencies.

Can the older generation be a A RESOURCE FOR FUTURE GENERATIONS

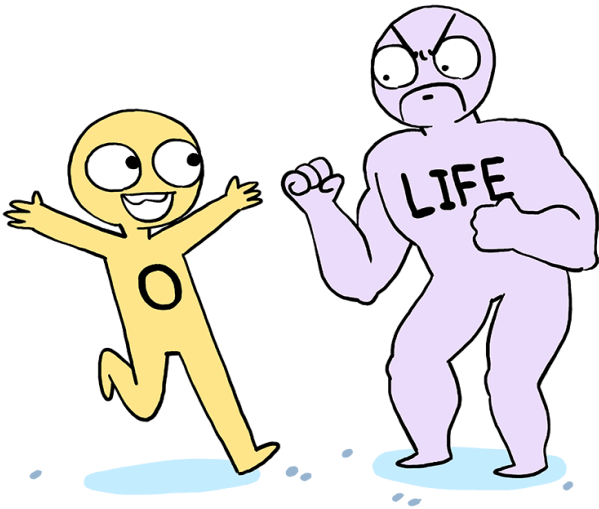


- Public health preparedness initiatives must explicitly attend to the vulnerabilities of older adults during natural disasters, threats of infectious disease epidemics, and other emergencies.
- Finally, public health might profit from innovative approaches such as Experience Corps that reframe healthy aging and engage older adults in initiatives that bring value to their lives and to the larger community.
- We need to work on for sharpening our collective focus on the aging population as a resource rather than a burden to enrich our society.

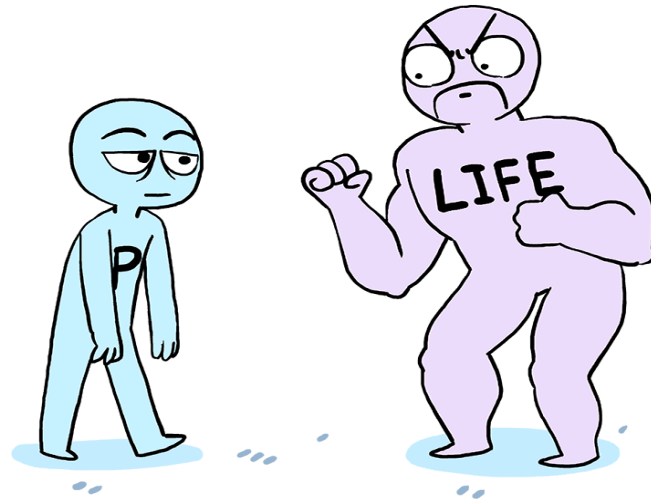
Taken from Articles from American Journal of Public Health are provided here courtesy of American Public Health Association, [Am J Public Health](#). 2012 March; 102(3): 393-395. , Published online 2012 March. doi: [\[10.2105/AJPH.2011.300617\]](#)

What public health need to plan for aging populations

OPTIMISTIC APPROACH TO LIFE



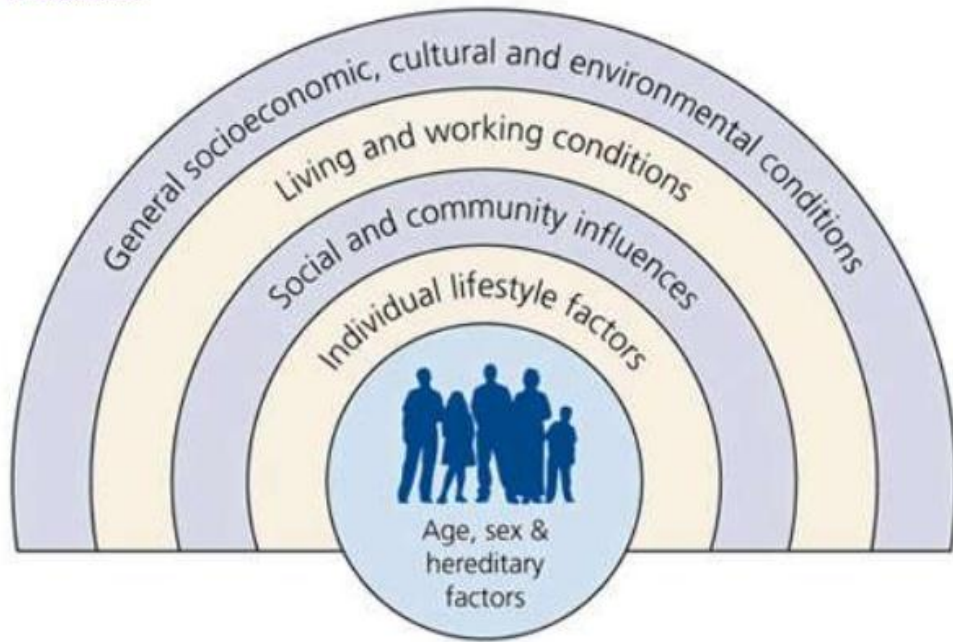
PESSIMISTIC APPROACH TO LIFE



- Will these longer years of life translate to healthier years?
- It has spawned 2 alternative scenarios, each offering a slightly different view of the implications of an aging society:
- (1) a pessimistic view that emphasizes an increased burden of care due to age-related illnesses and disability; and
- (2) a more optimistic view of postponements in chronic illness and disability due to better lifestyles and healthcare.

What public health need to plan for aging populations

...Often draws on ideas about the wider determinants of health..



Dahlgren and Whitehead's (1991) 'Social Model' of health (See Whitehead, 1995)

- **Understanding Health Determinants Over the Life-Course**
- Clinical, behavioral, and social risk factors for health and longevity are being identified and their continuity over the life-course documented
- For example: obesity and depression may be reasonable targets for intervention to reduce the burden of diabetes in older women, although further research is needed to determine exactly how obesity and depression, independent of other health-related factors, influence the self-perceived burden of diabetes among the growing homebound population of older women."

What public health need to plan for aging populations

Loss of Wellbeing is related to -

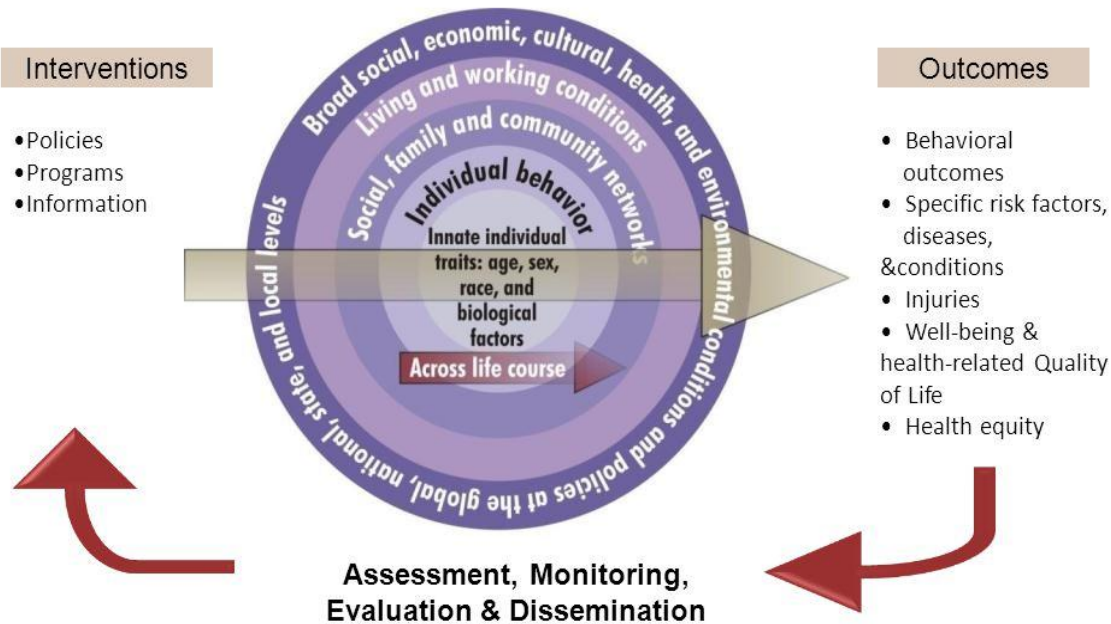
- The **Physical** process
- The **Psychological** process and meaning of life
- The **Environmental** process
- The **Employment/Financial** Process



- Factors predicting psychological well-being in later life
- These differ for women and men, with inadequate emotional support and social disengagement as significant predictors for older women with functional limitations, as compared with older men.
- such differences point to the need to consider gender differences in designing health promotion\disease prevention programs for older adults.

What public health need to plan for aging populations

Healthy People 2020 Ecologic Model of Health Determinants of Health



- **Promoting Healthy Lifestyles**
- "Do best-practice physical-activity programs provided by community-based organizations have a measurable impact on the health and well-being of participants?"
- Reports show that behaviorally based physical activity interventions designed for older adults with specific chronic conditions or disabilities can significantly improve participation in physical activity, functional status, and confidence in the ability to participate in exercise

What public health need to plan for aging populations

Definition of Wellbeing

Psychological factors

- Cognitive function
- Happiness
- Life Satisfaction
- Self – growth

External determinants

- Income
- Environment
- Social circumstances
- Religion
- National mentality
- General good health

THE DETERMINANTS OF ACTIVE AGEING



- Promoting Healthy Lifestyles
- Concurrently, community organizations that provide high-quality physical activity programming for older adults are being identified, with a goal of assessing whether these community-based best practices result in outcomes similar to those achieved in research-based studies.
- "Health promotion interventions that combine the reach of a public health model with the targeted focus of an individualized program are needed to change the health behaviors of large numbers of older adults if we are to alter the chronic disease and functional health trajectories of this rapidly growing population group." Report from Rhode island University)

What public health need to plan for aging populations

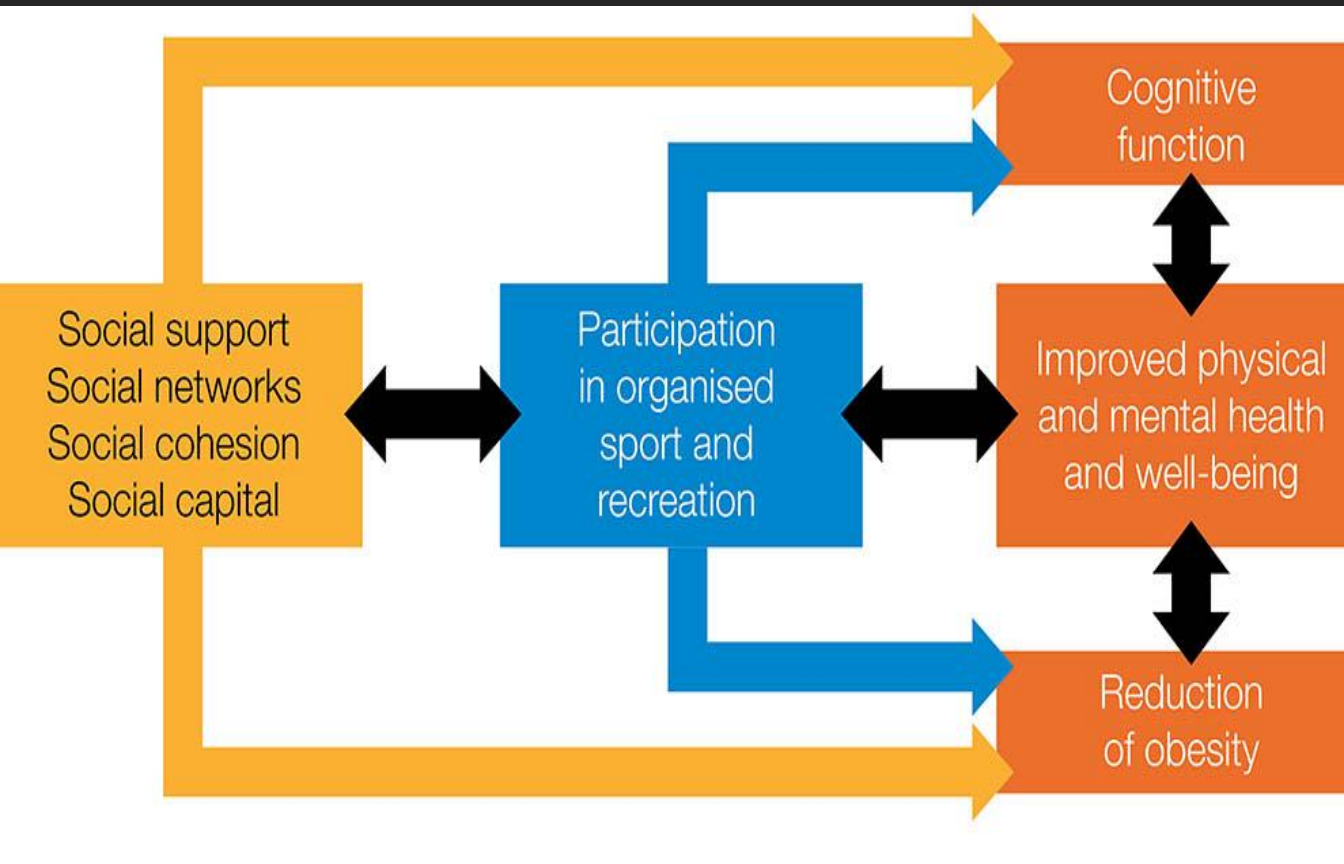


- The Study of Exercise and Nutrition in Older Rhode Islanders was designed to increase exercise and/or fruit and vegetable consumption among over 1000 community-dwelling older adults.^[13] Participants receiving the nutrition intervention showed greater increase in fruit and vegetable consumption at both 12 and 24 months.
- The investigators concluded that it may be difficult to try to change 2 behaviors simultaneously, and that for older adults, it might be easier to change and maintain eating behaviors than activity levels.



Figure taken from
<https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwip-ue>

What public health need to plan for aging populations



- University of Washington Health Promotion Research Center, emphasized the importance of tailoring physical activity promotion to meet the social and health needs of immigrant or ethnic minority older adults.
- Feedback from 7 different ethnic groups revealed a desire to combine physical activity with social support programs and a preference to participate in activities with others who share the same cultural background.

What public health need to plan for aging populations

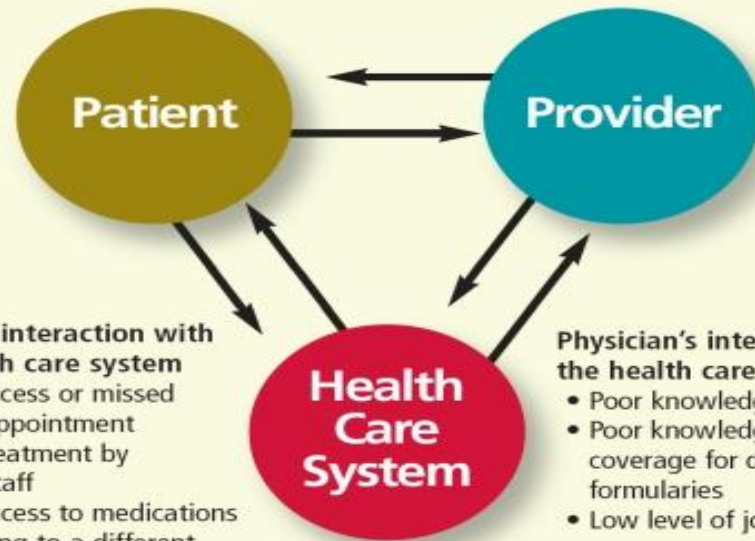
- On the basis of these data, specific recommended strategies for culture- and language-specific programming of community-based physical activity programs include:
- Provide options by targeting programs to different levels of physical abilities and offer programs for groups as well as individuals;
- Bring programs to where people live;
- Partner with other programs;
- Make programs culture-specific by connecting with existing social networks such as community groups or churches;
- Identify ways to keep programs affordable;
- Involve older adults in developing and evaluating programs to create ownership of the program; and
- Foster relationship building and draw on support of families by encouraging intergenerational activities such as family walks or grandparents walking their grandchildren to school.

What public health need to plan for aging populations



Poor provider-patient communication

- Patient has a poor understanding of the disease
- Patient has a poor understanding of the benefits and risks of treatment
- Patient has a poor understanding of the proper use of the medication
- Physician prescribes overly complex regimen



Patient's interaction with the health care system

- Poor access or missed clinic appointment
- Poor treatment by clinic staff
- Poor access to medications
- Switching to a different formulary
- Inability of patient to access pharmacy
- High cost of medications

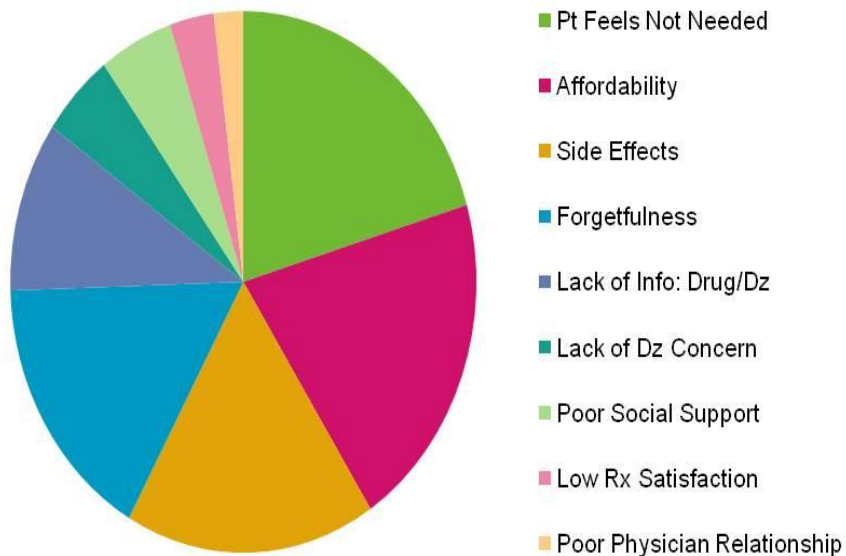
Physician's interaction with the health care system

- Poor knowledge of drug cost
- Poor knowledge of insurance coverage for different formularies
- Low level of job satisfaction

- **Enhancing Provider-Patient Interactions**
- Healthcare professionals are excellent sources of patient advice about healthy lifestyles, particularly for older adults who typically hold doctors in high regard
- Focusing on doctor-patient practices in regard to specific chronic illnesses or conditions is very important
- Despite greater attention to dementia and an emergence of more community-based services, there is still a lack of confidence in advising about community support services, with relatively low levels of referral to many potentially helpful community support services, such as Alzheimer's Association chapters and family/patient support groups

What public health need to plan for aging populations

Reasons for Medication Non-Adherence



Source: Koroneos, G., Oct 2008.

1

- **Testing Innovations in Healthcare Delivery**
- The Program of All-Inclusive Care for the Elderly (PACE; see Related Resources) is a unique care alternative for frail older individuals that integrates both the financing of care and service delivery. A managed care program receiving both Medicare and Medicaid funding for those who are nursing-home eligible but prefer to remain in the community, PACE is responsible for all of its participants' healthcare needs, with services ranging from primary, to acute, to long-term care.

What public health need to plan for aging populations

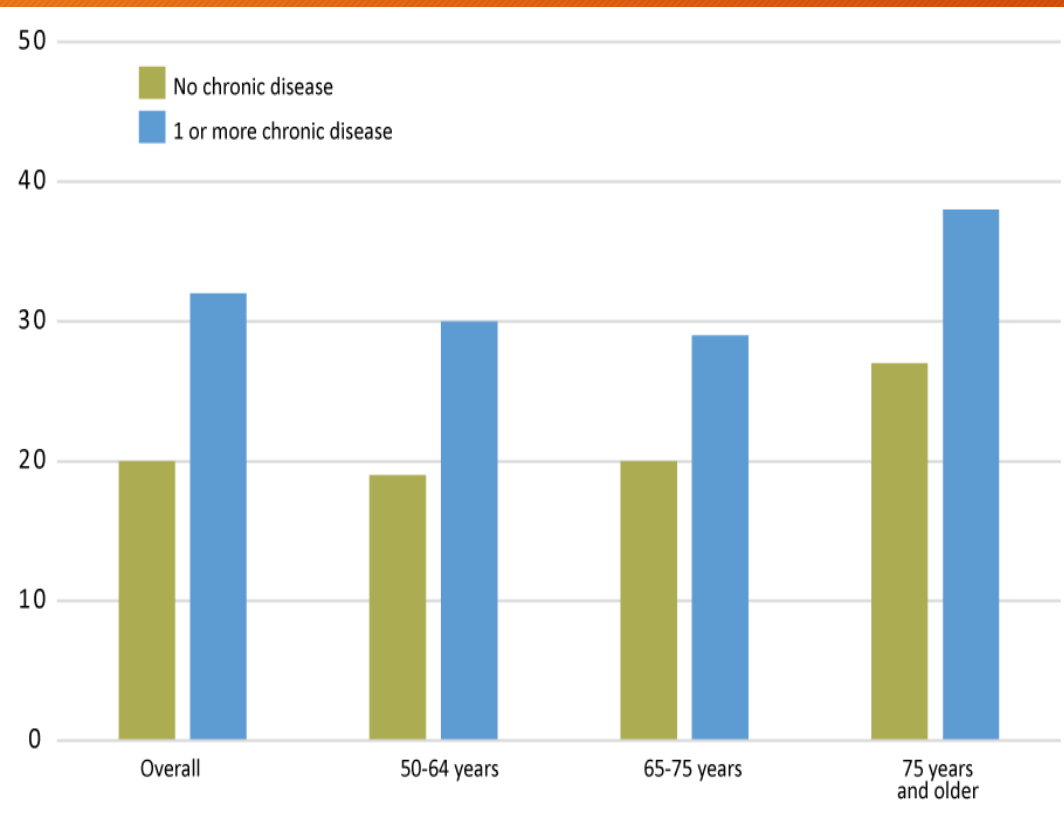


Figure taken from <https://www.cdc.gov/physicalactivity/inactivity-among-adults-50plus/index.html> - Adults Need More Physical Activity

- **Testing Innovations in Healthcare Delivery**
- A hallmark of the program is flexibility to use resources creatively, thus tailoring services to the needs of individuals, often in ways that are not possible under usual Medicare and Medicaid rules.
- At the core of PACE is the adult daycare center, augmented by home care and meals at home. Care is planned, directed, and provided by an interdisciplinary team, which includes all staff with direct patient care responsibilities. There are currently close to 40 sites around the country serving over 10,000 individuals.

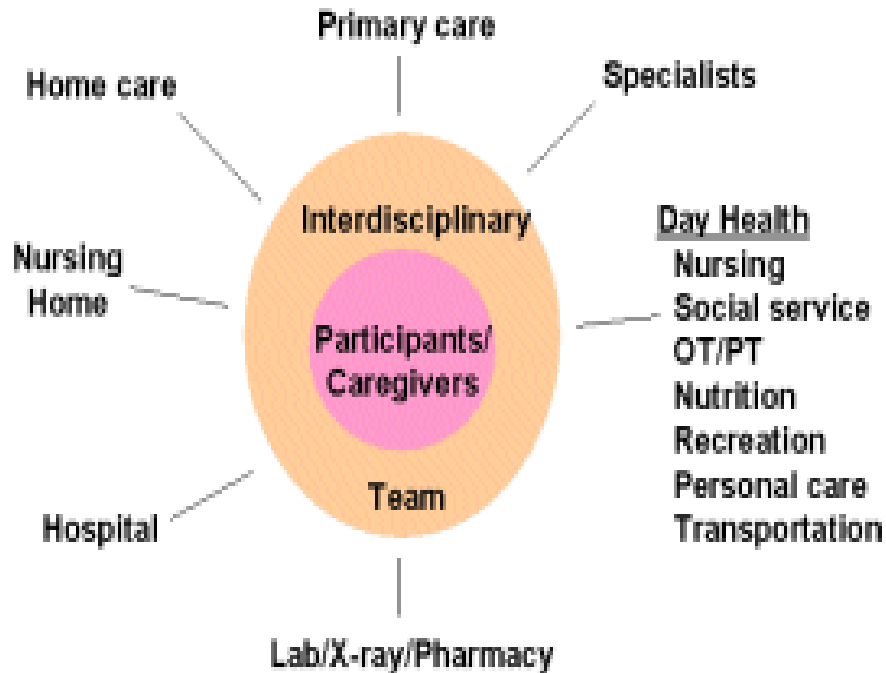
What public health need to plan for aging populations



- **Testing Innovations in Healthcare Delivery**
- Dana Mukamel, University of California-Irvine Departments of General Internal Medicine & Primary Care, and colleagues^[19] at the University of Rochester have focused on identifying the attributes of the program that are associated with better risk-adjusted health outcomes for its enrollees.
- They are examining the impact of team performance on mortality, functional, and urinary incontinence outcomes. Additionally, they are investigating the programs' financial stability, practice styles, and staffing patterns on these outcomes as well as on self-assessed health outcomes.

What public health need to plan for aging populations

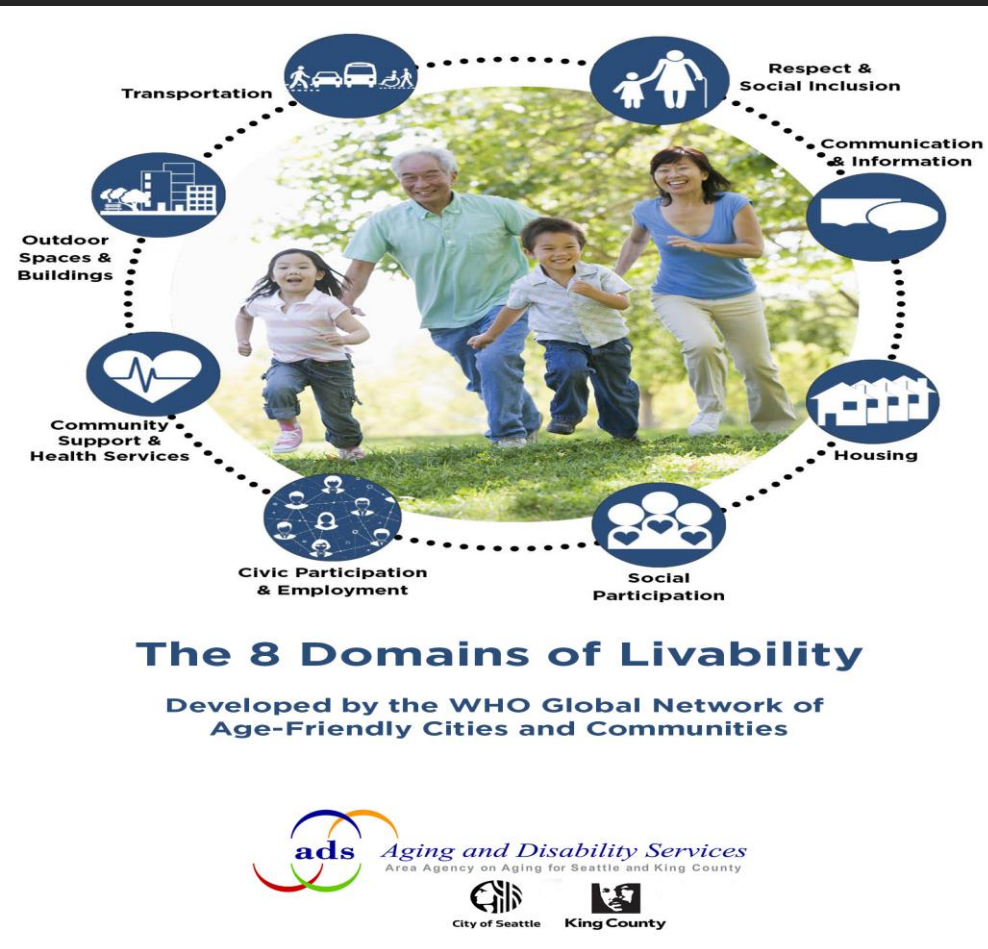
Coordinated Care Model, PACE



Reprinted with permission of the National PACE Association, San Francisco, CA

- **Testing Innovations in Healthcare Delivery**
- The PACE model of care seems particularly important in improving quality of life rather than lengthening life. Unlike other managed care programs, PACE experiences relatively little disenrollment, and some of the factors that predict disenrollment in other programs (eg, age and functional or cognitive impairment) are not predictors in PACE.
- Barriers to program growth, which include both programmatic issues and support of the federal and state governments, have resulted in slower-than-anticipated growth
- It is helpful for healthcare providers dealing with frail older patients to be aware of the advantages of new comprehensive care models.

What public health need to plan for aging populations



- **Creating Needed Community Resources**
- Healthcare providers are often called upon to encourage older drivers to quit driving, and this is often difficult when there are no viable transportation alternatives. Committed to developing policy options for safe and sustainable transportation for seniors,
- Kathy Freund,^[21,22] Portland, Maine, helped create the Independent Transportation Network (ITN; see Related Resources), a nonprofit, community-based transportation service for seniors and the visually impaired. This program was awarded the 2004 Archstone Foundation Award for Excellence in Program Innovation.

What public health need to plan for aging populations

8 Domains of Livability



Transportation



Community Support & Services



Housing



Outdoor Spaces & Buildings



Civic participation & Employment



Communication & Information



Respect & Social Inclusion



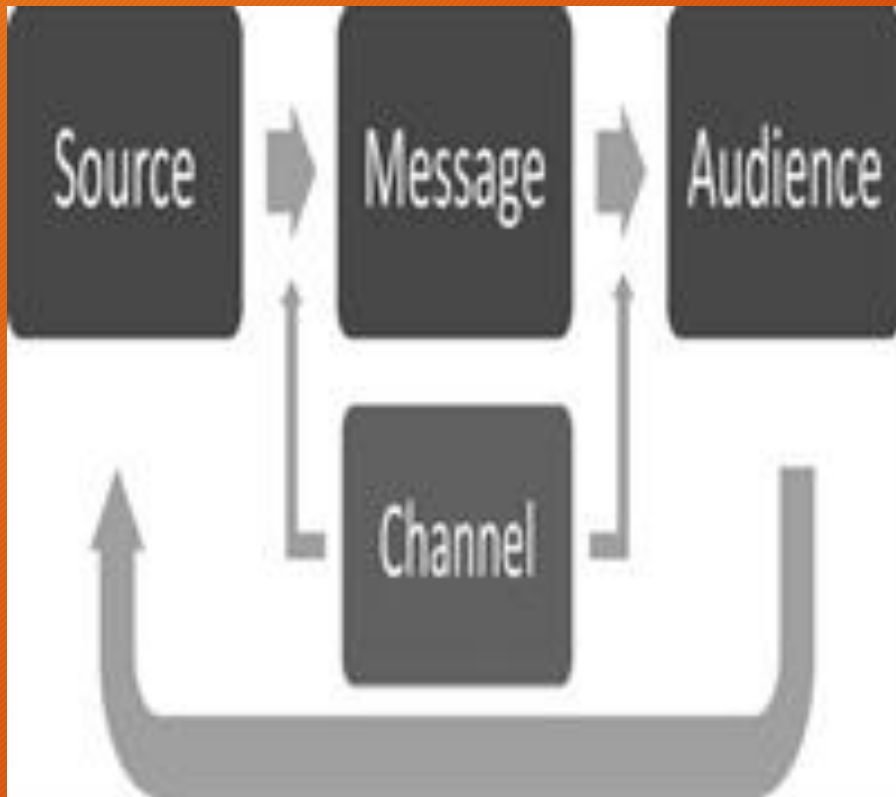
Social Participation

Age Friendly Process



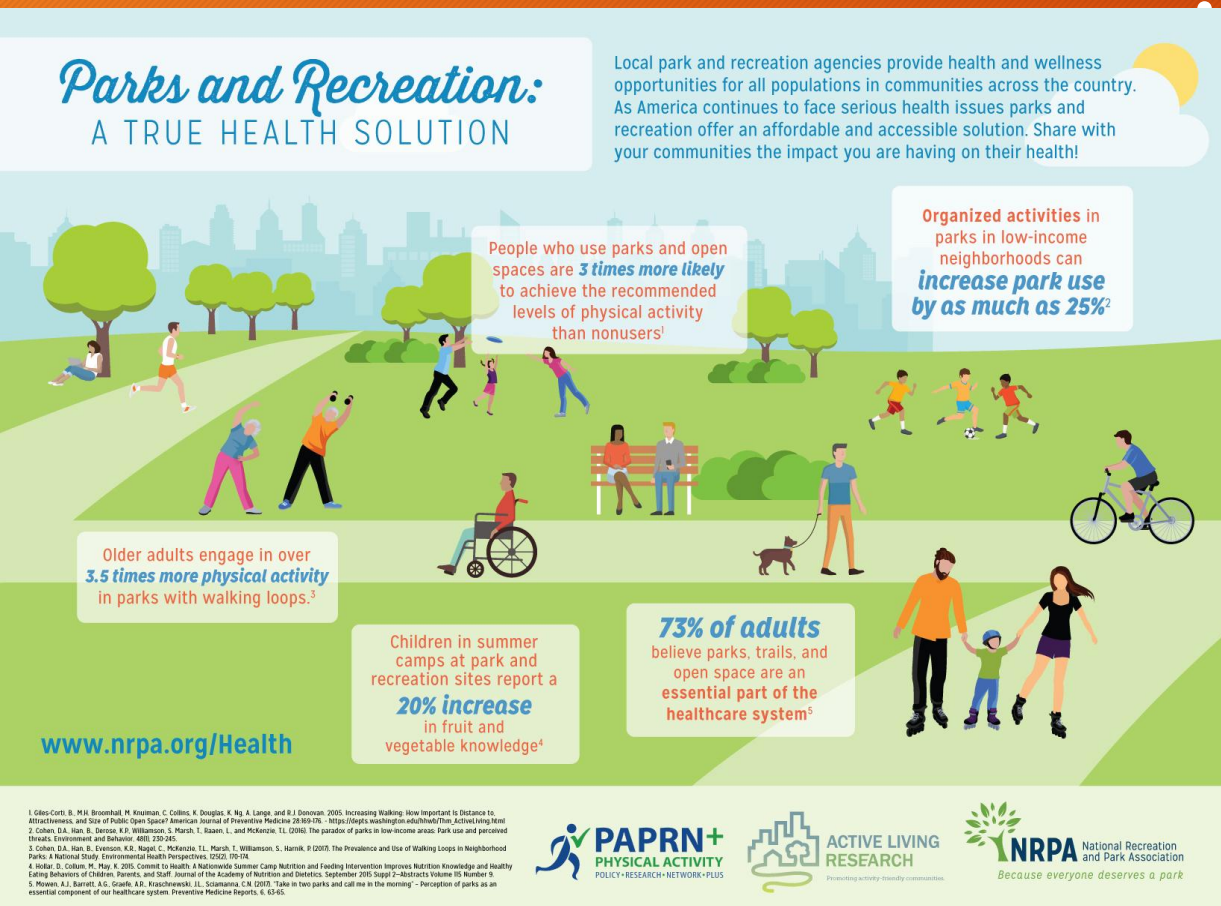
- **Creating Needed Community Resources**
- ITNAmerica uses automobiles and both paid and volunteer drivers to provide door-through-door and arm-through-arm service 24 hours a day, 7 days a week, to more than 1000 people in the Greater Portland, Maine, area.
- A handbook, How to Start an ITN in Your Community, is available to help others evaluate their communities for replication. ITN has also built an enterprise software program that captures the entire business and logistics model; this can be loaded onto a desktop computer and used to replicate the ITN.

What public health need to plan for aging populations



- **Disseminating Public Health Campaigns**
- Recent surveys indicate that older adults are very health-conscious and are aware of public health messages to be more active and engage in healthy lifestyles.^[6] What is needed are concrete recommendations and strategies for making recommended lifestyle changes. In September 2004, the US Administration on Aging (AoA) announced a new campaign called You Can! Steps to Healthier Aging (see Related Resources).^[23]

What public health need to plan for aging populations



As part of the Department of Health and Human Services' Steps to a Healthier US initiative, the goal of the campaign is to increase physical activity and improve food choices among older Americans.

Targeting communities at the local and state levels, this campaign provides easy-to-use tools to activate communities and older adults.

It includes a free toolkit to assist partners in publicizing the campaign and in recruiting; a guidebook outlining week-by-week activities; and tools and incentives for older Americans who have chosen to participate.

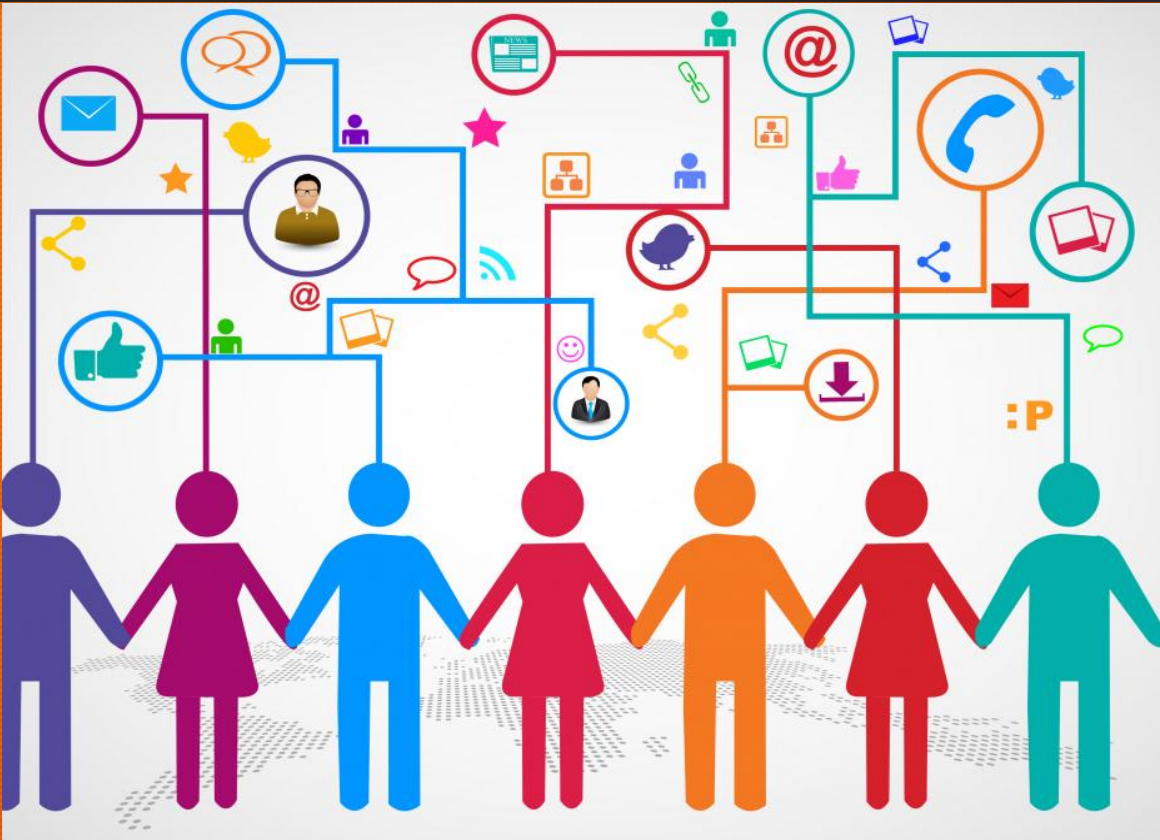
In the first 3 months of the campaign, over 1200 partners have been signed up, indicating a groundswell of community interests in sharing tools to help older adults adopt healthier lifestyles.

What public health need to plan for aging populations



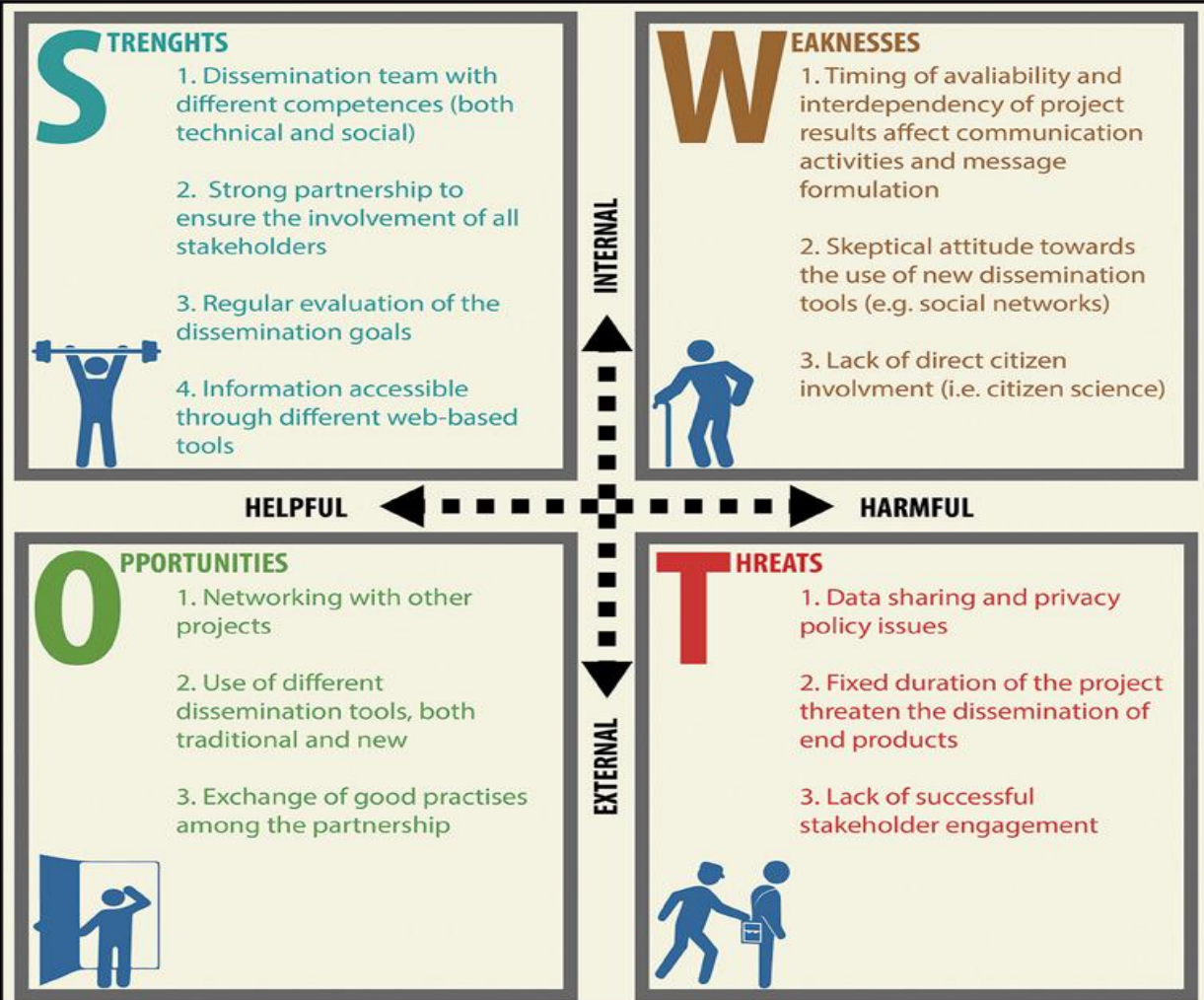
- **Identifying Current Data Resources**
- The National Center for Health Statistics (NCHS) recently announced a new release of data on Trends in Health and Aging.^[25] The NCHS Data Warehouse^[1] is an excellent resource for the most current statistics on trends in health and aging, with user-friendly interactive data reports on topics such as health status, health behaviors, and healthcare use.
- Containing information from a variety of national- and state-level data systems, the database is especially useful for comparing health indicators across age, sex, ethnicity, and geographic residence demographics.

What public health need to plan for aging populations



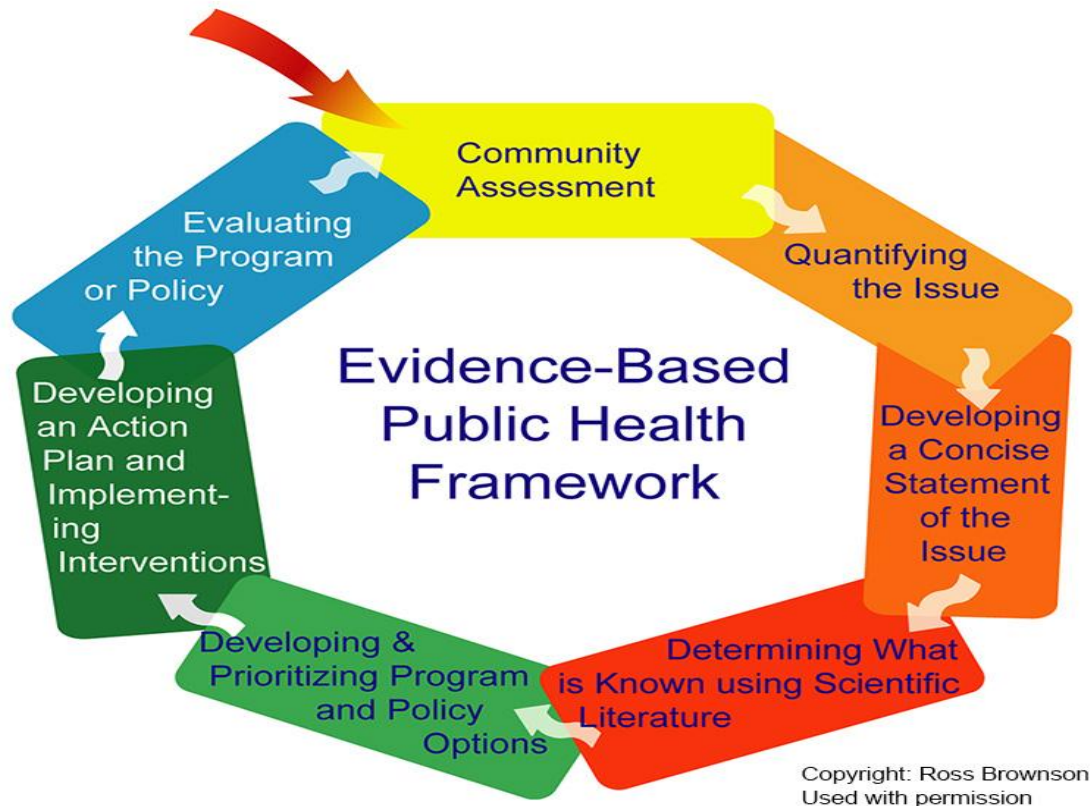
- **Identifying Current Data Resources**
- This database can also help track population changes over time, and is useful for highlighting changes in risk factors that have clinical relevance.
- For example, data are presented which demonstrate an increase in overweight/obesity over time in every segment of the older population, emphasizing the importance of diagnosis and treatment of this problem.

What public health need to plan for aging populations



- **Identifying Current Data Resources**
- Another recently released report, "Older Americans 2004: Key Indicators to Well-being,"^[2] compiled by the Federal Interagency Forum on Aging-Related Statistics (see Related Resources), can also serve as an excellent resource for understanding the health and healthcare needs of an aging population.
- The availability of PowerPoint slides for public use makes this an especially valuable resource for those who want to make presentations related to health and aging.

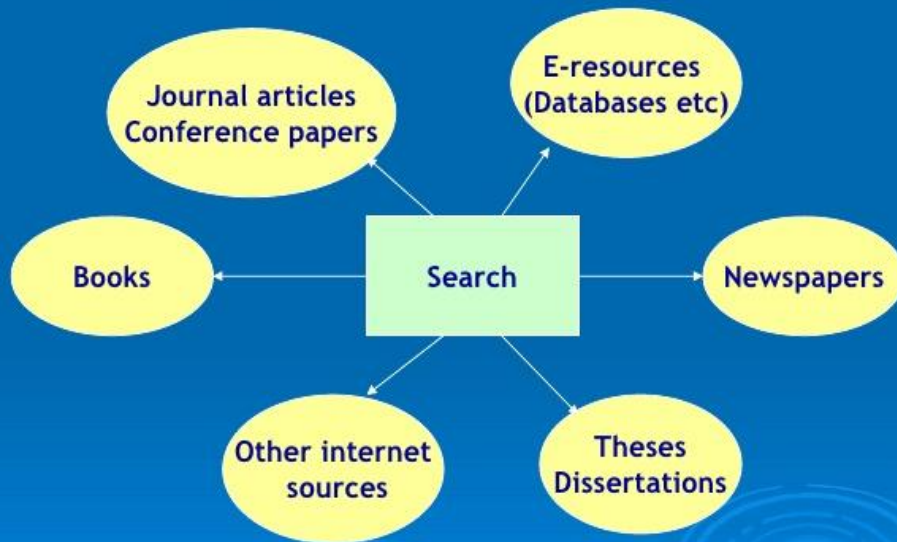
What public health need to plan for aging populations



- Conclusions:
- Evidence-based interventions offer great promise for health promotion and disease prevention through later life. However, it is being increasingly recognized that generic interventions need to be tailored to different populations and settings. National campaigns are supporting individual actions through community commitments, emphasizing the importance of intervention strategies at multiple levels. Comprehensive databases that assess current health indicators and track progress among older adults over time help target population needs and suggest different intervention approaches.

What public health need to plan for aging populations

Information Sources



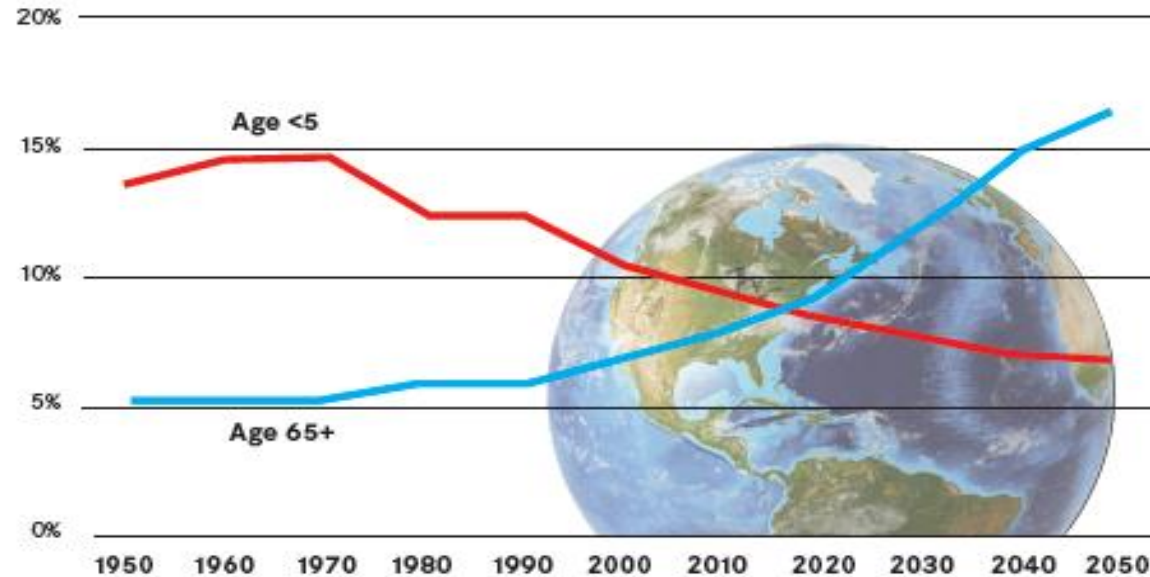
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- Resources
- Related Resources
- Program of All-Inclusive Care for the Elderly (PACE)
 - <http://www.cms.hhs.gov/pace/>
- Independent Transportation Network
 - <http://www.itnamerica.org/>
- First Step to Active Health
 - <http://www.firststepstoactivehealth.com/>
- Downloadable materials for clinicians.
- Department of Health and Human Services, Administration on Aging: You Can! Web site
 - <http://www.aoa.gov/youcan>
- Federal Interagency Forum on Aging-Related Statistics. Older Americans: 2004
 - <http://www.agingstats.gov/>
- This report covers 37 key indicators selected by the Forum to portray aspects of the lives of older Americans and their families. Free slides are available.

Aging Populations Will Challenge Healthcare Systems All Over The World



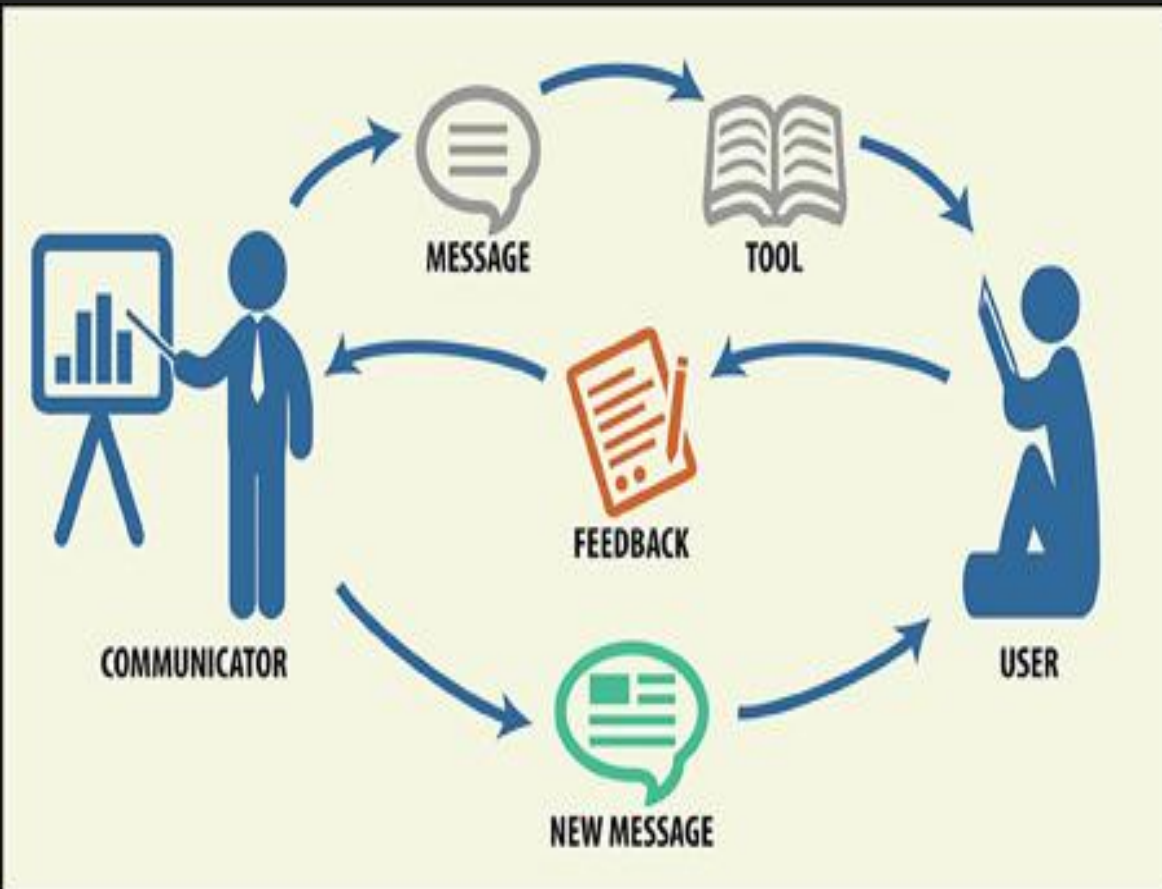
FIGURE 1: YOUNG CHILDREN AND OLDER PEOPLE AS A PERCENTAGE OF THE GLOBAL POPULATION: 1950-2050¹



Source: *World Population Prospects: The 2010 Revision*, United Nations.
Adapted from *Global Health & Aging*, World Health Organization, 2011.

William A Haseltine, *scientist, businessman, and philanthropist. For nearly two decades, I was a professor at Harvard Medical School and Harvard School of Public Health , Published series of articles in Forbes magazine 2018.*

Aging Populations Will Challenge Healthcare Systems All Over The World

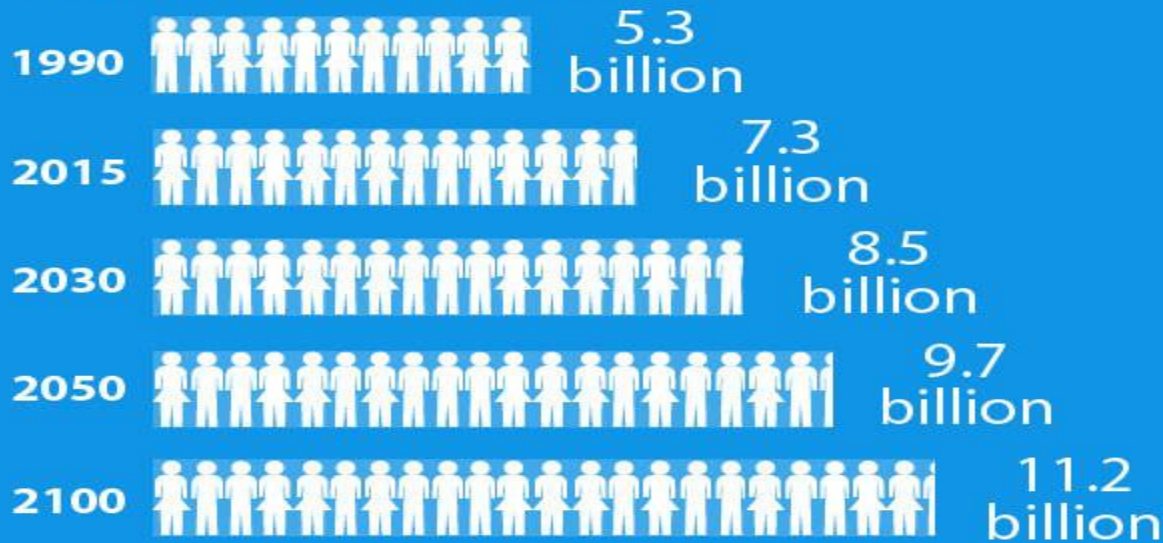


- With an aging population that continues to grow, our health care system will be changed forever. Are we ready for it?
- According to the Global Health and Aging report presented by the World Health Organization (WHO), “The number of people aged 65 or older is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050, with most of the increase in developing countries.” In addition, by 2050, the number of people 65 years or older is expected to significantly outnumber children younger than 5 years of age

Aging Populations Will Challenge Healthcare Systems All Over The World

World Population

Projected world population until 2100



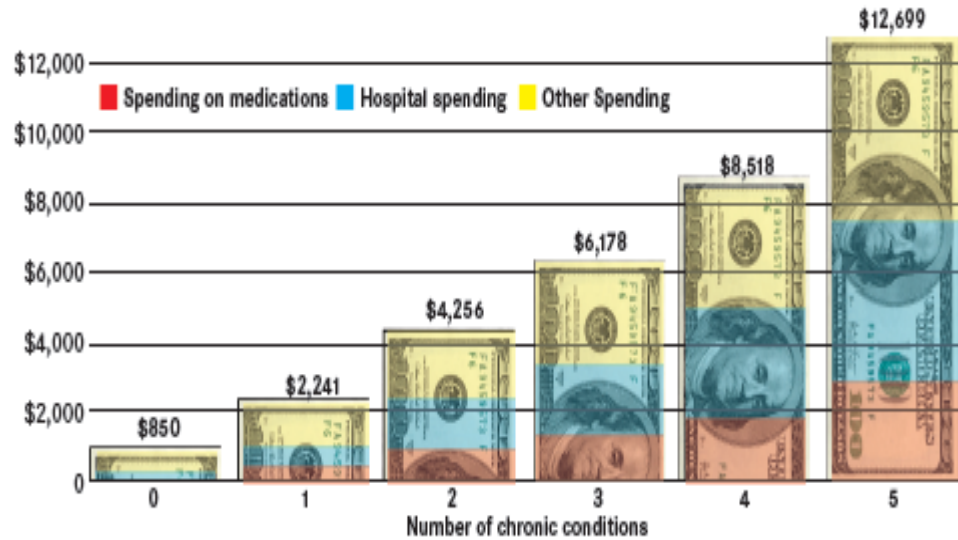
Source: United Nations Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2015 Revision*
Produced by: United Nations Department of Public Information



- WHO attributes the elderly population's rapid size increase to a change in the leading cause of death—from infections to chronic noncommunicable diseases—which increased life expectancy.¹
- These chronic conditions may include hypertension, high cholesterol, arthritis, diabetes, heart disease, cancer, dementia, and congestive heart failure. Heart disease, stroke, and cancer have been the leading chronic conditions that have had the greatest impact on the aging population, especially in high-income countries.¹
- In addition, the incidences of obesity and falls are incre

Aging Populations Will Challenge Healthcare Systems All Over The World

FIGURE 2: ANNUAL HEALTH CARE COSTS PER PERSON BY NUMBER OF CHRONIC CONDITIONS (BOOMER AND NON-BOOMER)



Adapted from *When I'm 64: How Boomers Will Change Health Care*, American Hospital Association, 2007.

- This leads to the question: what are the implications of the aging population on health care? We have all heard the term “baby boomer.” According to the Office of Disease Prevention and Health Promotion, the first Baby Boomers (those born between 1946 and 1964) turned 65 in 2011.² By 2030, it is projected that more than 60% of this generation will be managing more than 1 chronic condition. Managing these chronic conditions, along with a patient’s level of disability, will increase the financial demands on our health care system.³ The cost increases with the number of chronic conditions being treated, taking into account the expected twice as many hospital admissions and physician visits for Baby Boomers by 2030³

The Aging Population: The Increasing Effects on Health Care, JANUARY 19, 2016, Anyssa Garza, PharmD, <https://www.pharmacytimes.com/publications/issue/2016/january2016/the-aging-population-the-increasing-effects-on-health-care?p=2>

Aging Populations Will Challenge Healthcare Systems All Over The World

AGEING and HEALTH



Between 2000 and 2050, the number of people aged 60 and over is expected to double.

In 2050, more than 1 in 5 people will be 60 years or older.



- According to the WHO report, some believe that as life expectancy increases, the prevalence of disability will decrease because the progress we make in medicine will slow disease progression from chronic disease to disability.
- As a result, there will be a decrease in severe disability, but there will be increases in milder chronic diseases.¹ Other researchers, however, believe that as life expectancy increases, the prevalence of disability will increase.
- There are certain health conditions that are expected to be a challenge to our health care system with the increasing aging population. These conditions include cancer, dementia, increase in the number of falls, obesity, and diabetes.

Aging Populations Will Challenge Healthcare Systems All Over The World

Aging Facts You Need to Know

92% of seniors live with at least one **chronic health condition.**
(**77%** live with two or more).

Home **Helpers**®

- **Cancer**
Due to the increasing aging population, the number of cancer cases is expected to increase to 17 million by 2020 and 27 million by 2030.¹

Dementia
The burden of dementia is expected to increase with the increasing aging population, as well. Alzheimer's Disease International projects there will be 115 million individuals living with Alzheimer's disease/dementia in the world by 2050. The organization also projects a significant proportion of the 115 million will be in less developed countries.¹

Increase in Falls
With falls being one of the most common causes of injury in the older population, this is expected to be a challenge to our health care system. This is attributed to the fact that Baby Boomers are living longer, remaining active, and possibly on medications that could lead to falls.³

Aging Populations Will Challenge Healthcare Systems All Over The World



- According to a report released by the American Hospital Association (AHA), “More than one-third of adults 65 or older fall each year. Of those who fall, 20% to 30% suffer moderate to severe injuries (such as hip fractures) that decrease mobility and independence. Almost 350,000 hip fractures occurred in 2000, a figure that is expected to double by the year 2050.”³

Obesity

The number of people who are considered obese will continue to increase and have a negative impact on our health care system. Not only is obesity a risk factor for many health conditions, but it is very costly: patients who are obese cost the Medicare program approximately 34% more compared with patients of normal weight.³

Diabetes

According to another report released by the AHA, the number of “Americans with diabetes is expected to rise from 30 million today to 46 million by 2030, when 1 of every 4 Boomers, 14 million, will be living with this chronic disease.”³

Aging Populations Will Challenge Healthcare Systems All Over The World



- **Challenges:** Expected challenges to the health care system include the following³⁻⁵:
- Resource needs will continue to increase across all health care settings
- The incidence of obesity will continue to increase
- A shortage of health care professionals is expected
- The diversity of caregivers lags behind the growing diversity of patients
- Care has been focused on a single disease versus addressing comorbidity
- The sustainability and structure of federal programs in relation to the increasing aging population are a concern
- Changes in family structure may lead to fewer family caregivers
- Adapting and adjusting to the Affordable Care Act pose challenges

Aging Populations Will Challenge Healthcare Systems All Over The World



Healthy Longevity

Grand Challenge

- To address the increasing aging population, the health care system must take on the challenges listed above.
- Our health care system also needs to prepare for new technology (especially because of the higher cost) by increasing training of health care workers and examining how technology will impact hospital infrastructure.³

The health care system will need to prepare for the increasing incidences of chronic conditions within the aging population, as well as develop strategies to prevent falls.

Aging Populations Will Challenge Healthcare Systems All Over The World

Percentage of population above 65 years in the EU region

2012



17%

2060



30%

BRITAIN IN THE 2020s: KEY FACTS GREYING SOCIETY

1 in 3

Between 2016 and 2030, the population aged 65+ will grow by 33%, while the 16-64 population will grow by only 3%



Read @IPPR's new report *Future proof: Britain in the 2020s* at ippr.org/publications/future-proof-britain-in-the-2020s

- An important challenge is implementation of new approaches in health care delivery to address the changing health status of this aging population. With chronic conditions on the rise in this population, their health care becomes more complex.
- Focusing on a single disease rather than comorbidity can result in insufficient focus on other present medical conditions.⁴

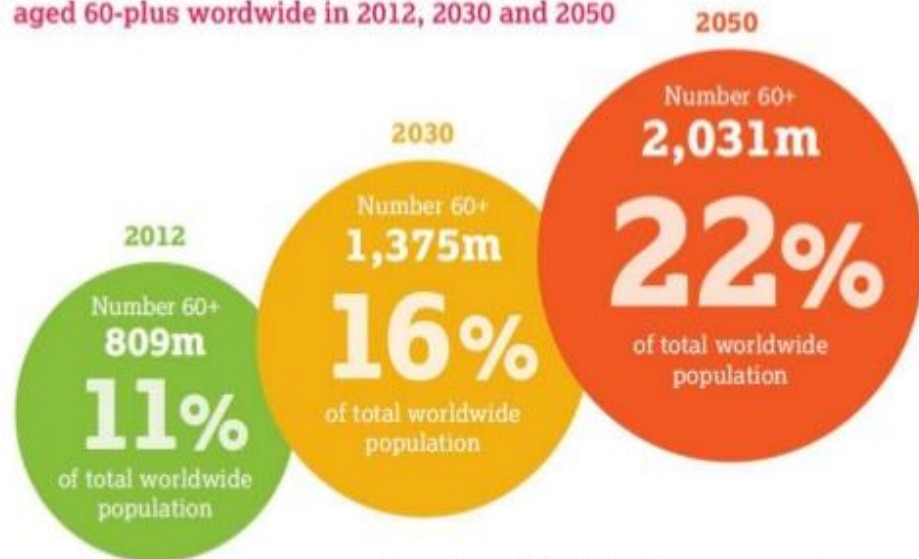
Instead, the health care system must prepare for implementing a multidisciplinary approach to ensure patients are receiving better case management.

- There also needs to be a focus on providing preventive care versus reactive care. Strategies may include a more comprehensive care plan before discharge, a system to help identify patients who require follow-up, and implementation of a program to help monitor patients.

Aging Populations Will Challenge Healthcare Systems All Over The World

Scale and rate of global population ageing

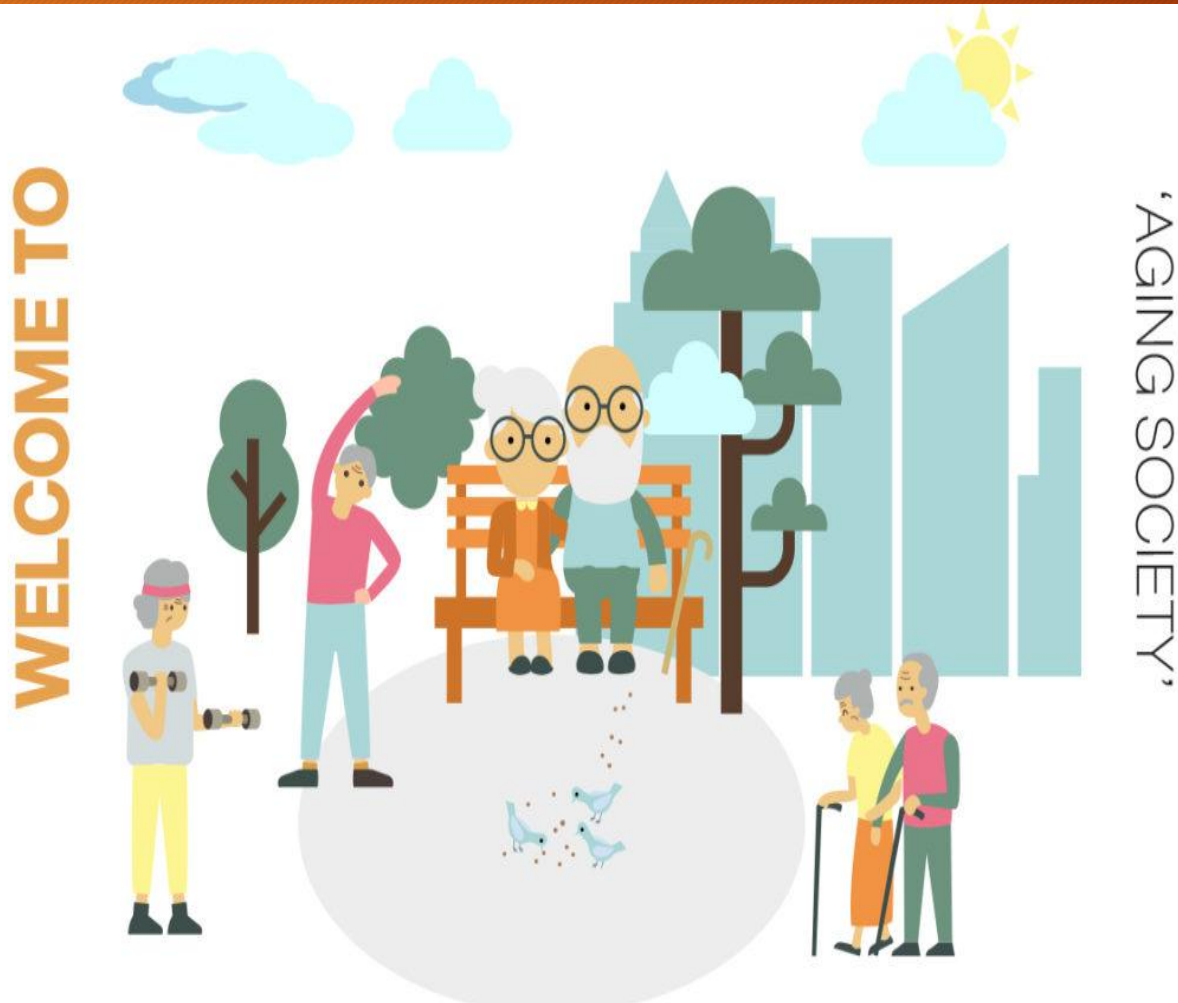
Figure 2: Number and proportion of people aged 60-plus worldwide in 2012, 2030 and 2050



Source: UNDESA Population Division, Population Ageing and Development 2012, Wall Chart, 2012; UNDESA Population Division, World Population Prospects: the 2012 Revision, 2013

- Between 2015 and 2030, the number of people in the world aged 60 years or over is expected to grow by **56%**, from just over 900 million to nearly 1.5 billion. By 2050, the global population of people older than 60 is expected to jump to two billion. In the United States, the number of Americans over the age of 65 is expected to **double** from roughly 50 million today to nearly 100 million by 2060. While the United States is currently ranked among the top countries in the world for the elderly, there are significant variations across the country in access to healthcare and quality of life.

Aging Populations Will Challenge Healthcare Systems All Over The World



- Central and South America are also rapidly aging. In every country in the region, the proportion of people over the age of 60 will increase significantly.
- The same demographic changes are happening in the Caribbean, where low and falling fertility rates compound the problem.
- In Europe, the aging population is also increasing. Europe faces its own unique challenges, in large part due to the global financial crisis of 2008.

Aging Populations Will Challenge Healthcare Systems All Over The World



- In Greece, Spain, Italy, and Portugal governments had to reform pension systems after the crisis, increasing the retirement age, limiting the number of benefits, and reducing resources allocated for healthcare and social care.
- In populous Asian countries like China and India, there are even greater challenges due to the sheer number of older people. In China, the population of people over 65 is expected to jump from 8% to 24% in just 30 years.

Aging Populations Will Challenge Healthcare Systems All Over The World



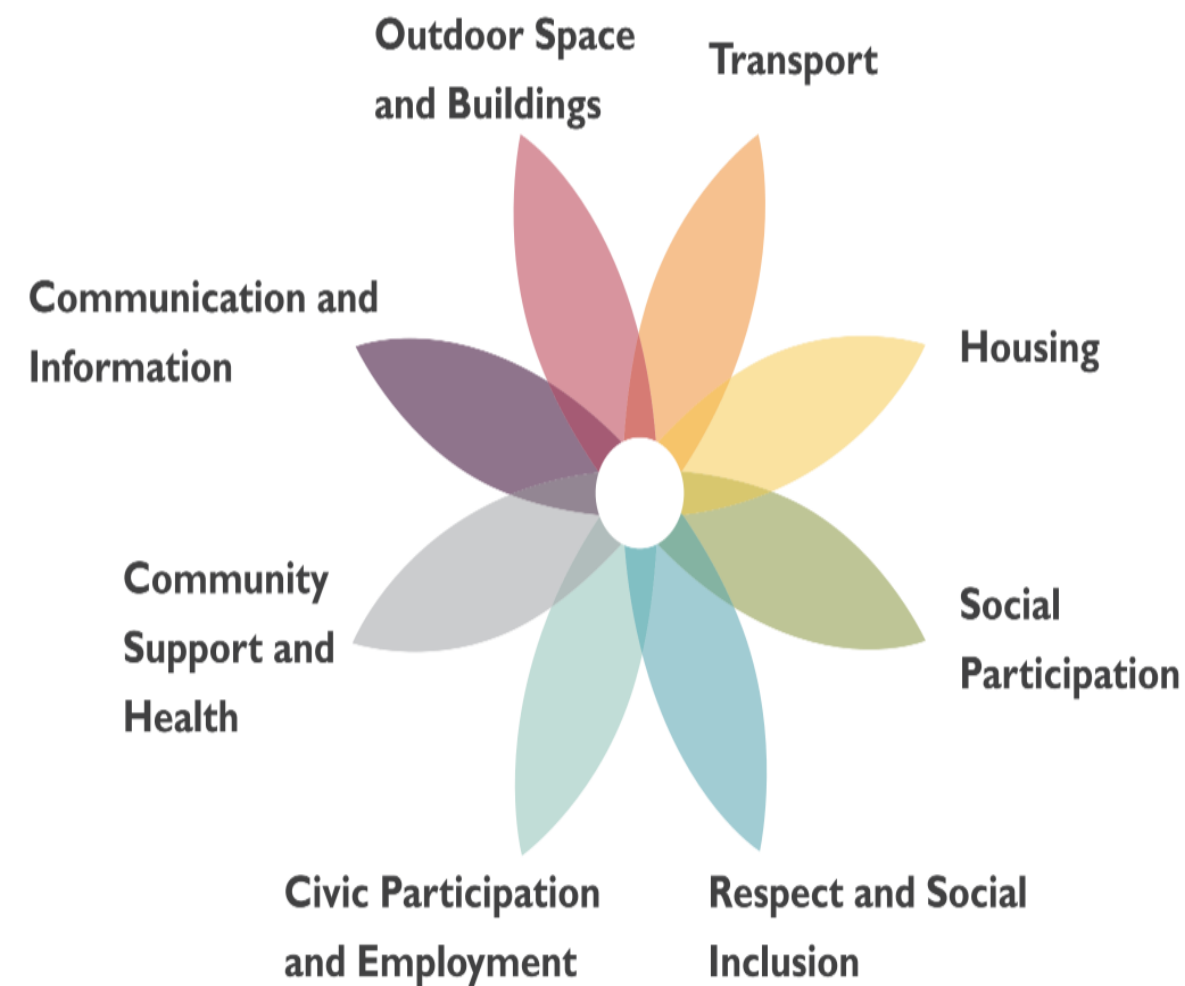
- Neither low, nor middle, nor high income countries are immune to the implications of this change. As people age, they suffer from more and more illnesses.
- These chronic illnesses are placing an increasing burden on health systems. Governments need to recognize the effects of demographic change, not merely on public services, but on the social climate of each nation.
- Countries will have to reconsider all aspects of their communities, from healthcare systems and methods of delivering care to how whole cities are structured. An aging population can also create an unsustainable burden at the household level.
- The physical and emotional burden of providing care to an aging loved one is compounded by the fiscal burden as well.

Aging Populations Will Challenge Healthcare Systems All Over The World



- Each country needs to find a way to avoid these scenarios. The benefit of changed population pyramids is that they force all of us to scrutinize our old ways of thinking and design new services and ways of delivering care. Governments must plan decades ahead, studying the economic and social implications of aging. As societies age, all those involved in the healthcare and social care systems must adapt their services, and continuously learn.

Aging Populations Will Challenge Healthcare Systems All Over The World



- Many countries are finding new cost effective approaches to elder and long term care that meet the needs of their growing population of elders while containing costs.
- Some are building age friendly cities and housing. Others are adapting traditional services and products to meet new consumer needs. Many are revisiting their policy agendas and reviewing their healthcare financing systems as well.

Figure taken from <http://msaphase.org/theme/age-friendly-cities/>

Aging Populations Will Challenge Healthcare Systems All Over The World

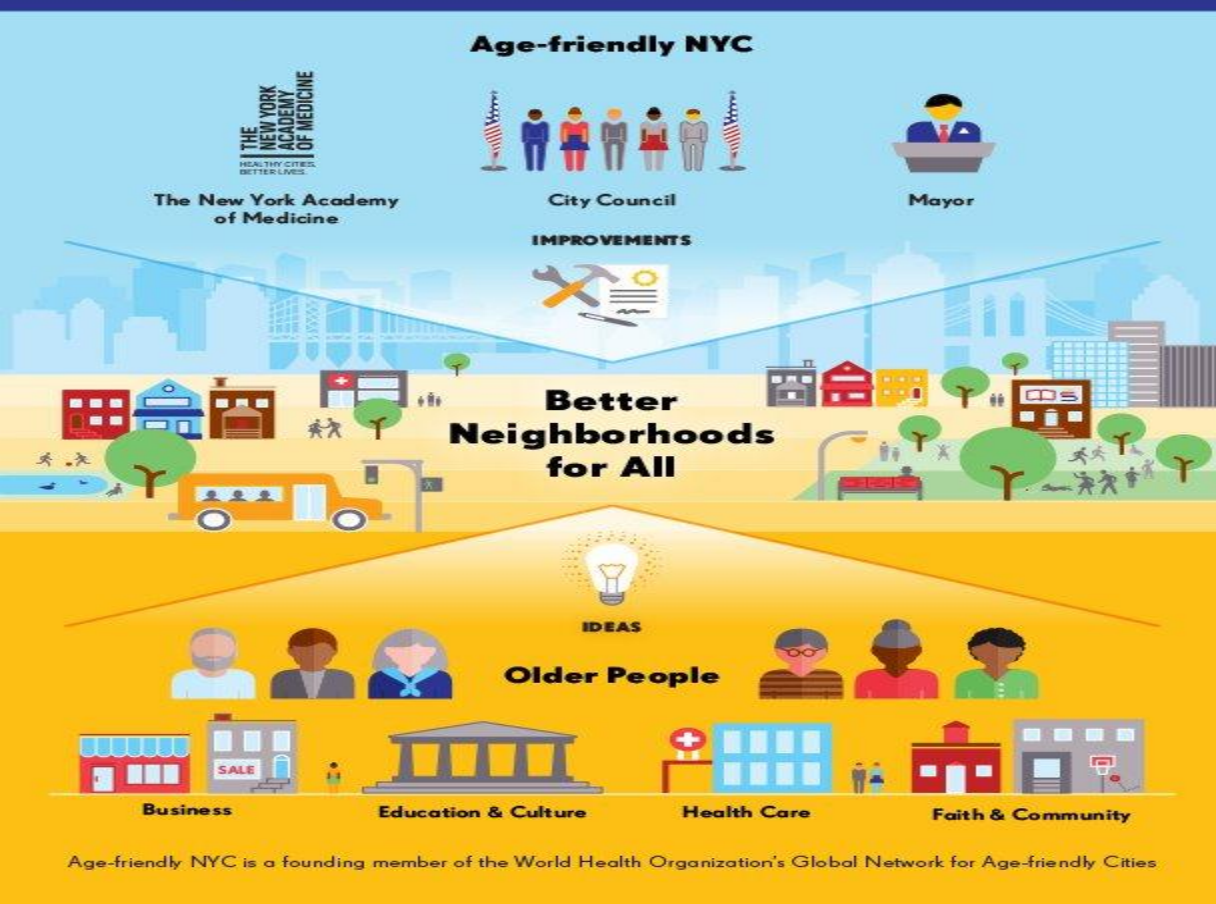
The 4 Key Domains of Livability in Grand Rapids



- There is a need for government and healthcare leaders to learn how to can integrate innovative approaches to dementia care into traditional models of care.
- Dementia, Alzheimer's disease and other neurodegenerative disease are major challenges with Aging populations
- This is often a challenge, especially when we talk about nonmedical approaches.
- These include many of the approaches discussed in my previous articles, like environmental modifications and new technologies.

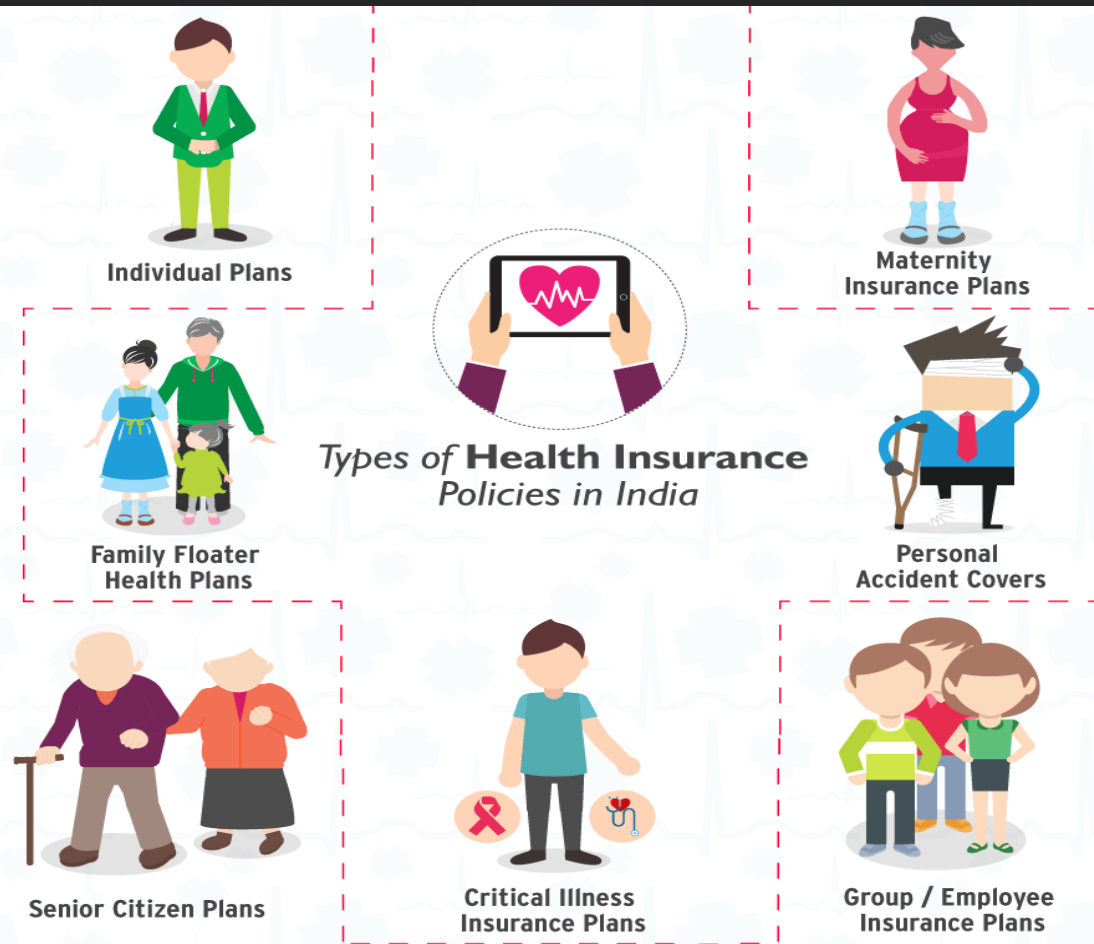
Aging Populations Will Challenge Healthcare Systems All Over The World

Age-Friendly NYC Model



- The challenges range from operational complexities to regulatory challenges, and everything in between.
- Healthcare regulators need to determine the standards by which nonmedical approaches are approved.
- Healthcare leaders need to determine how best to implement these approaches in the often highly fragmented healthcare space. And healthcare payers and policymakers need to collectively determine how to cover costs.
- To fully integrate these new approaches, we need a change in the culture of care.

Aging Populations Will Challenge Healthcare Systems All Over The World



- One of the latest comes from here in the United States, in one of the most complicated and most highly regulated healthcare systems in the world. Earlier this year, a new CHRONIC Care Act was enacted.
- CHRONIC stands for Creating High-Quality Results and Outcomes Necessary to Improve Chronic Care and it affects some Medicare plans.
- Medicare is the public health insurance program that covers Americans sixty five and older and all Americans with disability status. Medicare Advantage is one of the plans offered by the public health insurer.

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden



- Sweden's ageing population is considered by some to be a ticking time bomb for the Swedish welfare model,
- Swedes, on average, are getting older. In Sweden and other western European countries, a fifth of the population has passed their 65th birthday. Besides Japan, where a quarter of the population is over 65, no other part of the world has such a high share of elderly people.
- Over the next two decades, the number of those aged over 80 in Sweden is expected to increase from around half a million to 800,000. The demographic change is arguably one of the most important long-term societal changes occurring in Sweden. So why is it given so little attention in political discourse?

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Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden

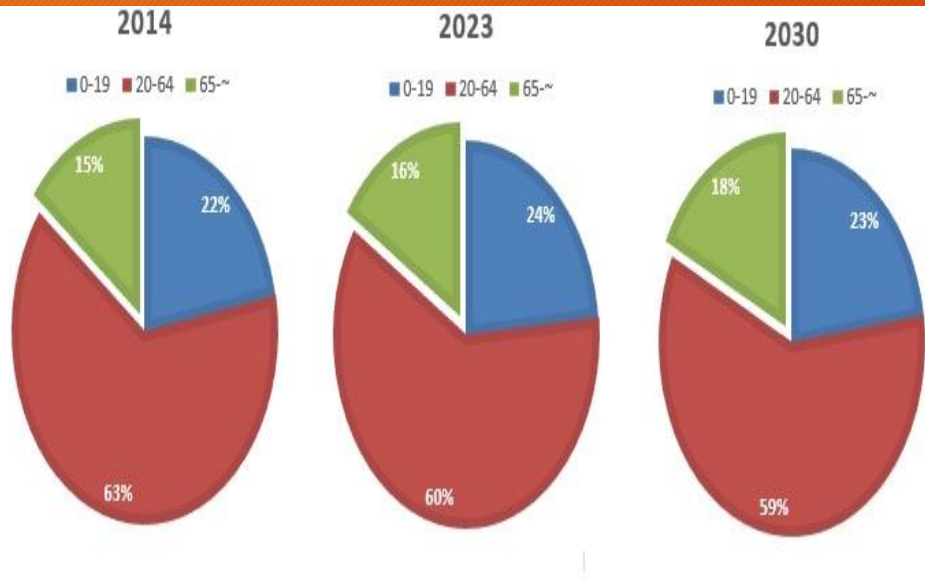


Figure taken from
<https://www.lvblcity.com/blog/2014/9/grey-and-growing-the-capital-of-scandinavia-is-growing-grey>

- Swedish welfare can adjust to the demographic shift. In fact, in the long turn longer life spans can very well translate into a significant boom also for the economy. The key is to focus on active ageing, so that an increasing share are healthy for a longer part of their life span.
- Technology plays a key part in this development. We are currently seeing a global trend where new medicines and improved health care are able to cure many acute diseases.
- Our ability to deal with heart attacks and strokes has greatly improved. But the same advancements have not yet been made when it comes to dealing with long-term illnesses, such as Alzheimers.
- Globally, the societal cost associated with Alzheimers had therefore already risen to some 3.9 billion kronor (\$583 million) annually in 2010 - somewhat higher than Swedens GDP.
- In 2030 the cost of Alzheimers is expected to grow to 7.3 billion kronor per year.

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden

Age distribution of Stockholm's population 2011-2030.
Data source: [Statistics Sweden](#). Own adaptation.

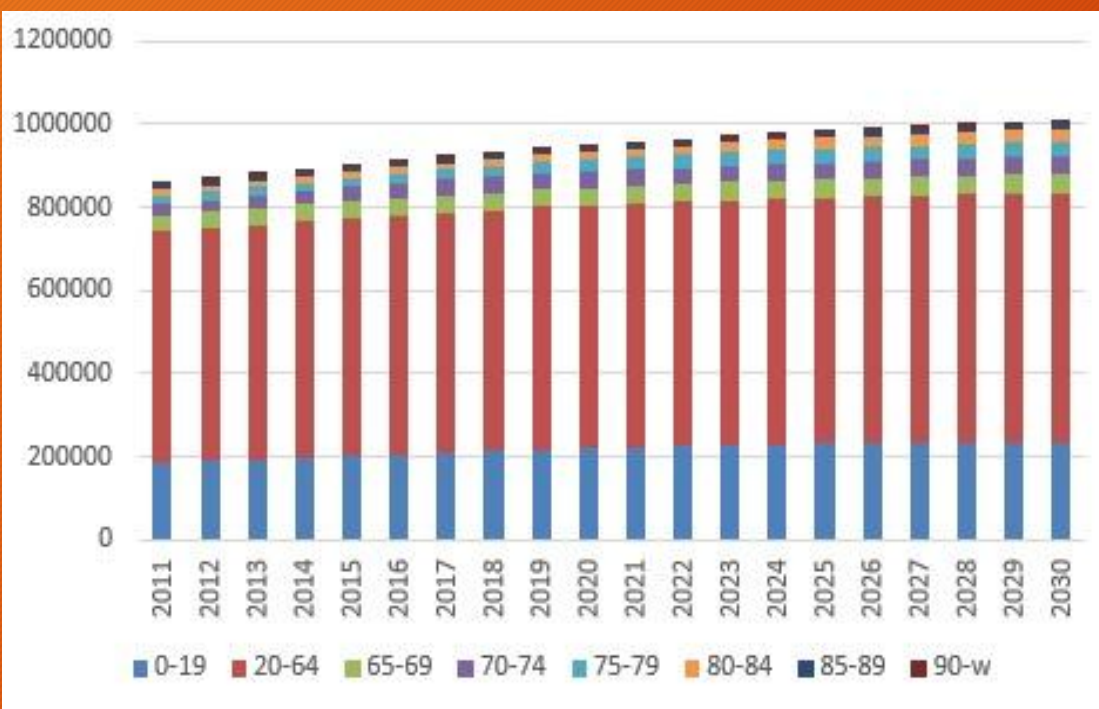


Figure taken from <https://www.lvblcity.com/blog/2014/9/grey-and-growing-the-capital-of-scandinavia-is-growing-grey>

- Innovations in health care are needed to address this challenge. Fortunately, some of the innovations have already begun to appear.
- Modern biologic medications can for example give many who would otherwise suffer from rheumatic pains a healthy life style. Research from the Centre for Business and Policy Studies (SNS) shows that the new medicines do reach the patients in Sweden.
- But often this occurs after several years, during which those affected have been pacified into unemployment due to the disease.

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden

Some facts about elderly in Sweden

- An ageing population 17%>65 and 5,5%>80
- Life expectancy for men 78,4, women 82,7
- Well-developed health and welfare system
- Most elderly have good health but there are gaps

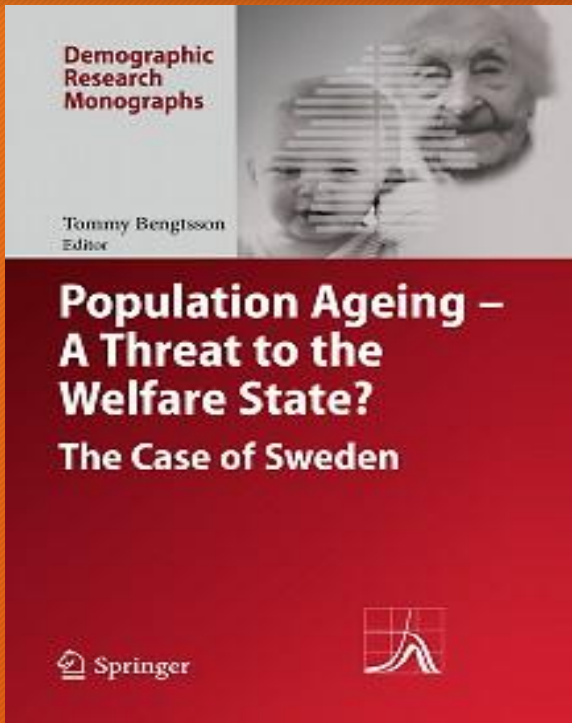
- The key for encouraging active ageing is not only to encourage health care innovations, but also to think about when the help arrives.
- Sweden has for long had one of the most generous public health care systems in the world. But the help is often given after long waiting times.
- Even young and otherwise healthy individuals can fall out of the labor market since they are not given the proper help needed to rehabilitate back to work, at least not without waiting for months and sometimes even years.
- Recent reforms, including waiting time guarantees and increased competition, have alleviated the situation somewhat. But more needs to be done.

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden



- A core goal of the public health system should be to encourage people to remain healthy over their entire life span. In that regard, it is important that help arrives as soon as problems become visible.
- In fact, modern medicine and information technology increasingly make it possible to detect likely ailments that can affect individuals even before they have broken out.
- As with many other forms of investments, health care can often achieve more for lower costs if it is preventive rather than reactive.

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden



- There is no doubt that we are getting older. In the mid-nineteenth century only about three Swedes reached their 100th birthday each year.
- The figure today is close to a thousand each year. Optimistic projections say that the majority of children born today in countries such as Sweden can become centenarians.
- This is all very good news. And it gives us good reasons to think about the role that innovations and preventive care can play in the health care system.
- Unfortunately, political interest for how we can encourage longer and healthier life spans is shining with its absence in the Swedish debate.

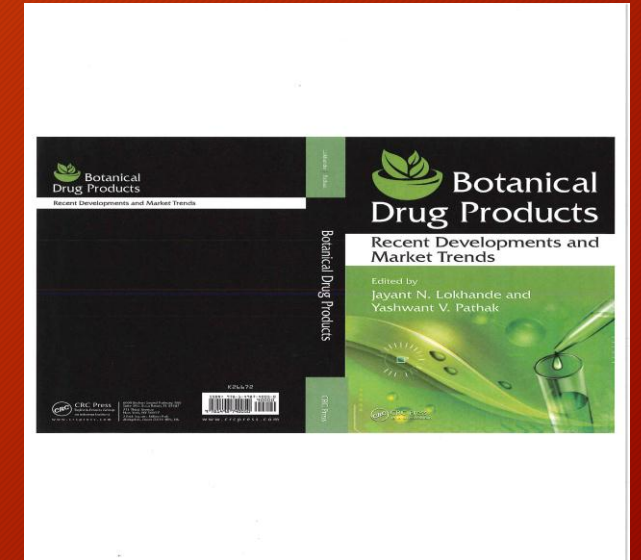
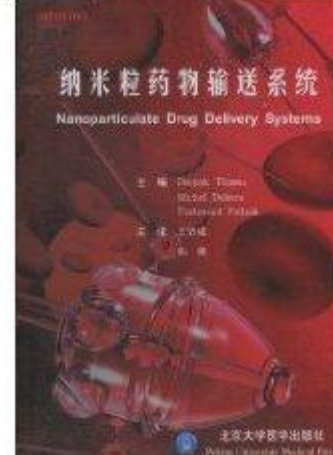
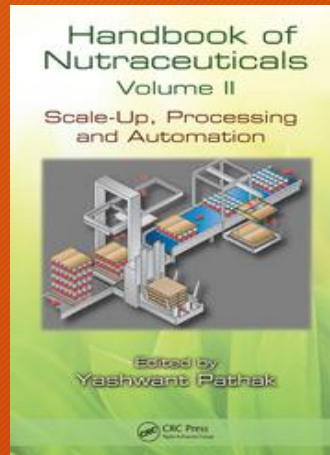
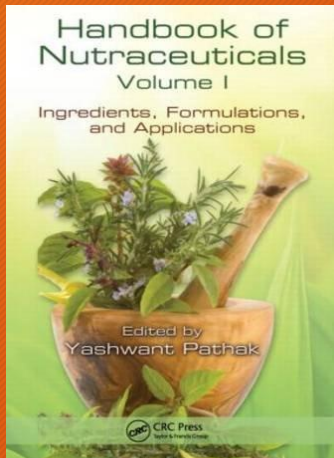
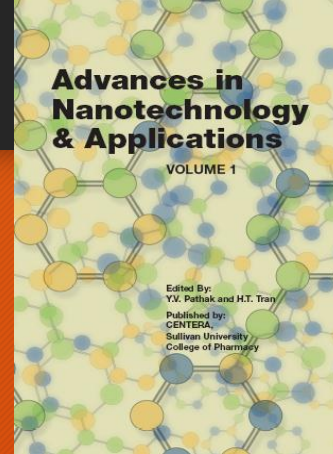
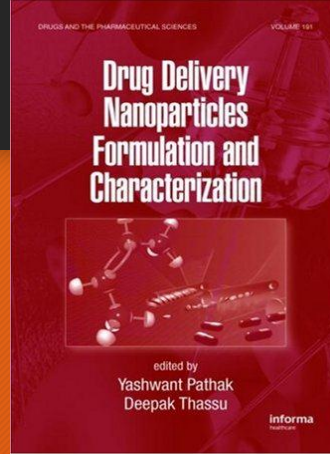
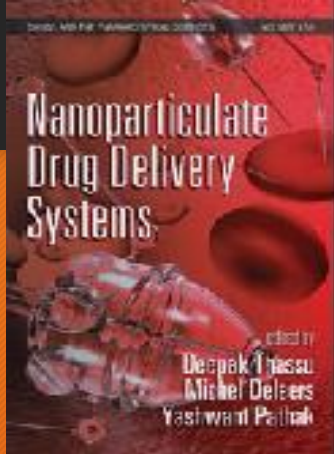
Taken from Nima Sanandaji is a regular op-ed contributor to The Local. His latest book is called “Active ageing - The path to more healthy years” (“Aktivt åldrande - Vägen till fler friska år”). <https://www.thelocal.se/20140613/how-to-tackle-swedens-ageing-population>

Aging Populations Will Challenge Healthcare Systems All Over The World: Case of Sweden



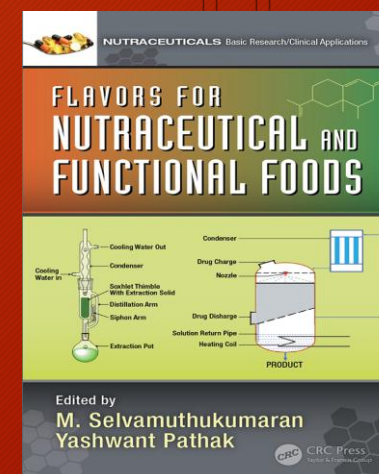
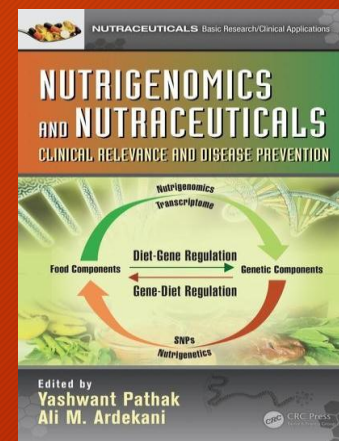
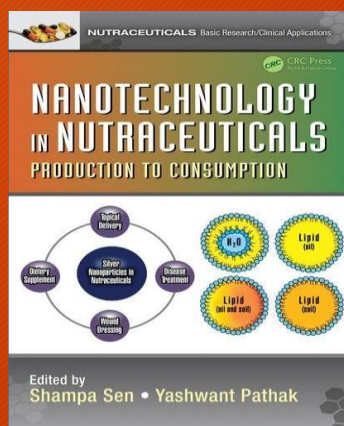
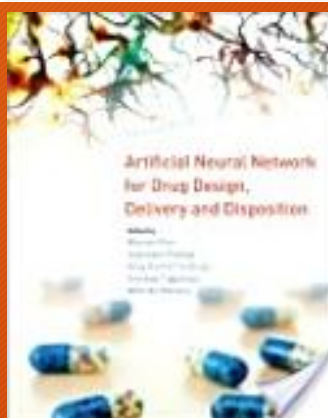
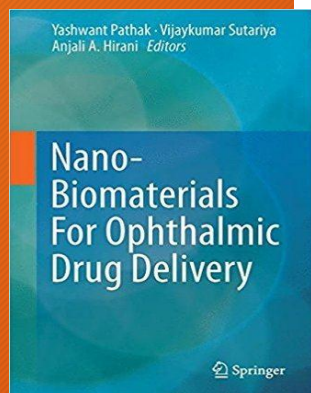
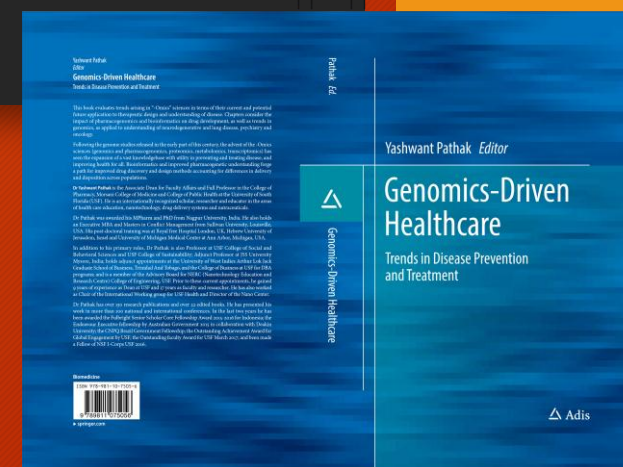
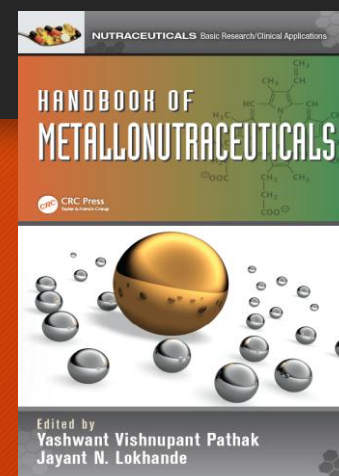
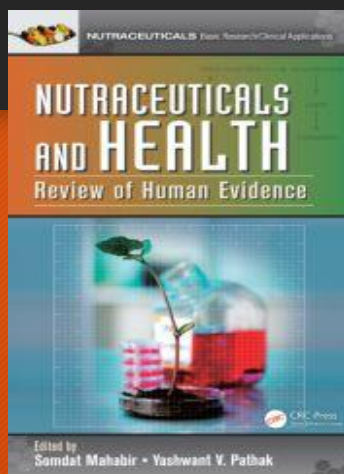
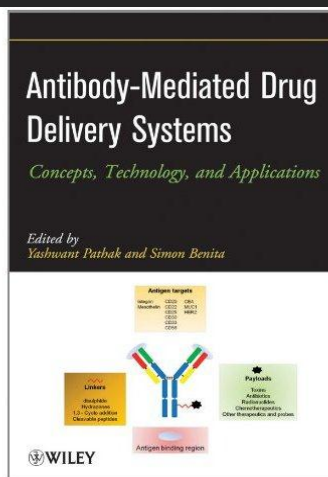
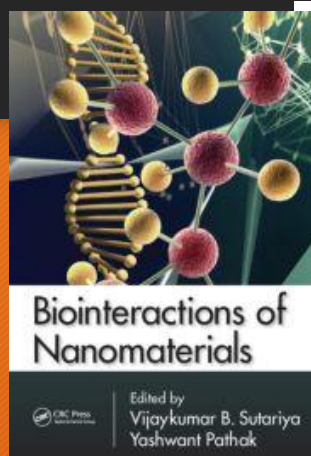
- We need to take care of them
- We owe them
- Public health professionals have to take plunge to build plans and provide necessary care and create the possibilities for better life for geriatric populations
- Too many challenges
- But Lot of opportunities

Books Edited by Yashwant Pathak



Thanks to all my colleagues who are involved with this research from many institutions
Books edited by Dr Yashwant Pathak in Nanotechnology and

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Forthcoming Scientific Book Publications:

Drug delivery for the retina and posterior segment diseases, Jayavadan Patel, Vijay Sutariya, Jagat Kanwar and YV Pathak, to be published by Springer press, Draft submitted, expected date Sep 2018

Handbook of Space Pharmaceuticals: reference book to be published by Springer, Editors: YV Pathak, Marlise Araujo Dos Santos and Luis Zea, expected date of Publication: Jan 2019

Nutraceuticals derived from Indonesian medicinal plants: principles, applications and clinical evidence, Dr Kartini, Dr Christina Avanti and Yashwant Pathak, to be published by CRC Press, expected date of Publication Nov 2018

Nanotechnology: Therapeutic, Nutraceutical and Cosmetic applications, Dr Bhaskar Mazumder, Dr Subhabrata Ray, Paulmi Pal and Yashwant Pathak, to be Published by CRC Press, expected date of publication December 2018

Flavor Development for Functional Foods and Nutraceuticals, Editors: Dr. M. SELVAMUTHUKUMARAN and Yashwant V Pathak, Draft submitted to CRC Press (In Press) expected date in the market: July 2019



migwe'c (megwitch)

Thank You (Native American Language)



Mochas Gracias

Obrigado

谢谢



תודה רבה
(*todá rabá*, “thank
you very
much”).

Thanks

תּוֹדָה

Todah

Thank You



Diversity is soul of humanity