



GOOD HEALTH  
ADDS LIFE TO YEARS

**Global brief for  
World Health Day 2012**



**World Health  
Organization**

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## Foreword

Population ageing is a global phenomenon that is both inevitable and predictable. It will change society at many levels and in complex ways, creating both challenges and opportunities. On the one hand, older people already make a significant contribution to society, whether it is through the formal workforce, through informal work and volunteering or within the family. We can foster this contribution by helping them maintain good health and by breaking down the many barriers that prevent their ongoing participation in society. On the other hand, towards the end of life, many older people will face health problems and challenges to their ability to remain independent. We need to address these too, and do it in a way that is affordable and sustainable for families and society.

Good health must lie at the core of any successful response to ageing. If we can ensure that people are living healthier as well as longer lives, the opportunities will be greater and the costs to society less. This great demographic challenge of the first half of the 21st century therefore demands a public health response, and WHO has identified this as a priority for the Organization.

Numerous determinants of healthy and active ageing lie beyond the health system. They also start to exert their influence at earlier stages in life. Our response, therefore, needs to tackle issues across the life course and in many social spheres. But the health sector, too, needs to adapt. Overwhelmingly the health challenges in older age are the consequence of noncommunicable disease. We need to develop health systems which can provide the chronic care that these diseases and their risk factors require.

This global brief takes a fresh look at existing health data and draws on some exciting new work to help us better understand exactly what these needs are. It identifies action we can all take. It is now up to the global community to take up the challenges it identifies and truly add life to our increasing years.



**Dr Margaret Chan**  
*Director-General*  
*World Health Organization*

### **Note on terminology**

This brief approaches ageing from a life-course perspective. Rather than artificially categorizing life into stages such as “middle age” or “old age”, it assumes that we age from the moment we are born. Nevertheless, for statistical purposes it is often necessary to divide populations into age groups. The analyses we have used generally apply 60 years and over as a statistical cutoff, however, for various reasons, some analyses refer to populations of different ages such as 50 years and over, 65 years and over or 80 years and over. Recognizing the differing experiences of these subpopulations helps us better understand the ageing process and to appreciate the continuum of life.



## KEY

## points

**Population ageing is a global phenomenon that is now occurring fastest in low- and middle-income countries.** While Europe and Japan were among the first places to experience population ageing, the most dramatic change is now occurring in countries such as Cuba, the Islamic Republic of Iran and Mongolia.

**Population ageing is inextricably linked with socioeconomic development.** Typically, as a country develops, more people survive childhood and childbirth, fertility falls, and people start to live longer. These changes in turn reinforce development. But they are also the drivers behind population ageing. Unless societies adapt in ways that foster the health and participation of older people, this inevitable demographic transition may slow down future socioeconomic advances.

**While ageing presents challenges to society, it also creates many opportunities.**

Population ageing will challenge society by increasing demand for acute and primary health care, straining pension and social security systems and increasing need for long-term and social care. But older people also make important contributions as family members, volunteers and as active participants in the workforce. They are a significant social and economic resource, and longer life expectancy means a greater opportunity to contribute to society. Where the balance lies between these challenges and opportunities will be determined by how society responds.

**Fostering good health in older age is central to the global response to**

**population ageing.** Poor health, negative stereotypes and barriers to participation all currently marginalize older people, undermine their contribution to society and increase the costs of population ageing. Investing in health lessens the disease burden, helps prevent isolation and has broader benefits for society by maintaining the independence and productivity of older people.

**Poor health in older age is not just a burden for the individual but also for their families and for society as a whole. The poorer the family or the setting, the greater the potential impact.**

Loss of good health can mean that an older person who was previously a family resource may no longer be able to contribute and may, instead, require significant support. The cost of their health care can impoverish the whole family. This burden is spread inequitably. Those with the least resources, or who live in the poorest areas, are most at risk.

**The main health challenges for older people are noncommunicable diseases. The impact of these conditions is two to three times greater for older people in low- and middle-income countries than for people in high-income countries.**

Even in the poorest countries, the greatest health burdens for older people come from diseases such as heart disease, stroke, visual impairment, hearing loss and dementia. Older people often experience several of these health problems at the same time.

**Current health systems, particularly in low- and middle-income countries, are poorly designed to meet the chronic care needs that arise from this complex burden of disease.**

For example, while ischaemic heart disease and stroke are the biggest causes of years of life lost, and high blood pressure is a key treatable risk factor for these diseases, only between 4 and 14% of older people in a recent large study in low- and middle-income countries were receiving effective antihypertensive treatment. Instead of treating younger populations with single curative interventions, health systems will need to adapt to ensure high quality, safe care, beyond the hospital setting, for older populations who often have several chronic diseases and disabilities.

**Ageing is interrelated with other major global trends such as urbanization, technological change and globalization.**

Just as migration and urbanization are changing social structures and relationships, longer life expectancy will influence the way people live and plan their lives. Approaches based on 20th century social models are unlikely to be effective in this rapidly changing environment.

**Increasing longevity may even lead us to rethink the way we view “old” itself.**

With people living 10 or 20 years longer, a range of life options that would only rarely have been achievable in the past become possible.

**There is no simple “magic bullet” solution to the challenges of population ageing, but there are concrete actions that governments and societies can take now (Table 1).**

**Table 1. A life-course approach to healthy and active ageing**

**Promoting good health and healthy behaviours at all ages to prevent or delay the development of chronic disease.** Being physically active, eating a healthy diet, avoiding the harmful use of alcohol and not smoking or using tobacco products can all reduce the risk of chronic disease in older age. These behaviours need to start in early life and continue into older age.

**Minimizing the consequences of chronic disease through early detection and quality care (primary, long-term and palliative care).** While we can reduce the risk of chronic disease through a healthy lifestyle, many people will still develop health problems in older age. We need to detect metabolic changes such as high blood pressure, high blood sugar and high cholesterol early and manage them effectively. But we also need to address the needs of people who already have chronic disease, care for those who can no longer look after themselves and ensure that everyone can die with dignity.

**Creating physical and social environments that foster the health and participation of older people.** Social determinants not only influence the health behaviours of people across the life course, they are also an important factor in whether older people can continue to participate. It is therefore important to create physical and social environments that are “age-friendly” and foster the health and participation of older people.

**Reinventing ageing – changing social attitudes to encourage the participation of older people.** Many current attitudes to ageing were developed during the 20th century when there were far fewer older people and when social patterns were very different. These patterns of thinking can limit our capacity to identify the real challenges, and to seize the opportunities, of population ageing in the 21st century. We need to develop new models of ageing that will help us create the future society in which we want to live.



# THE DEMOGRAPHICS of ageing

## Why are populations ageing?

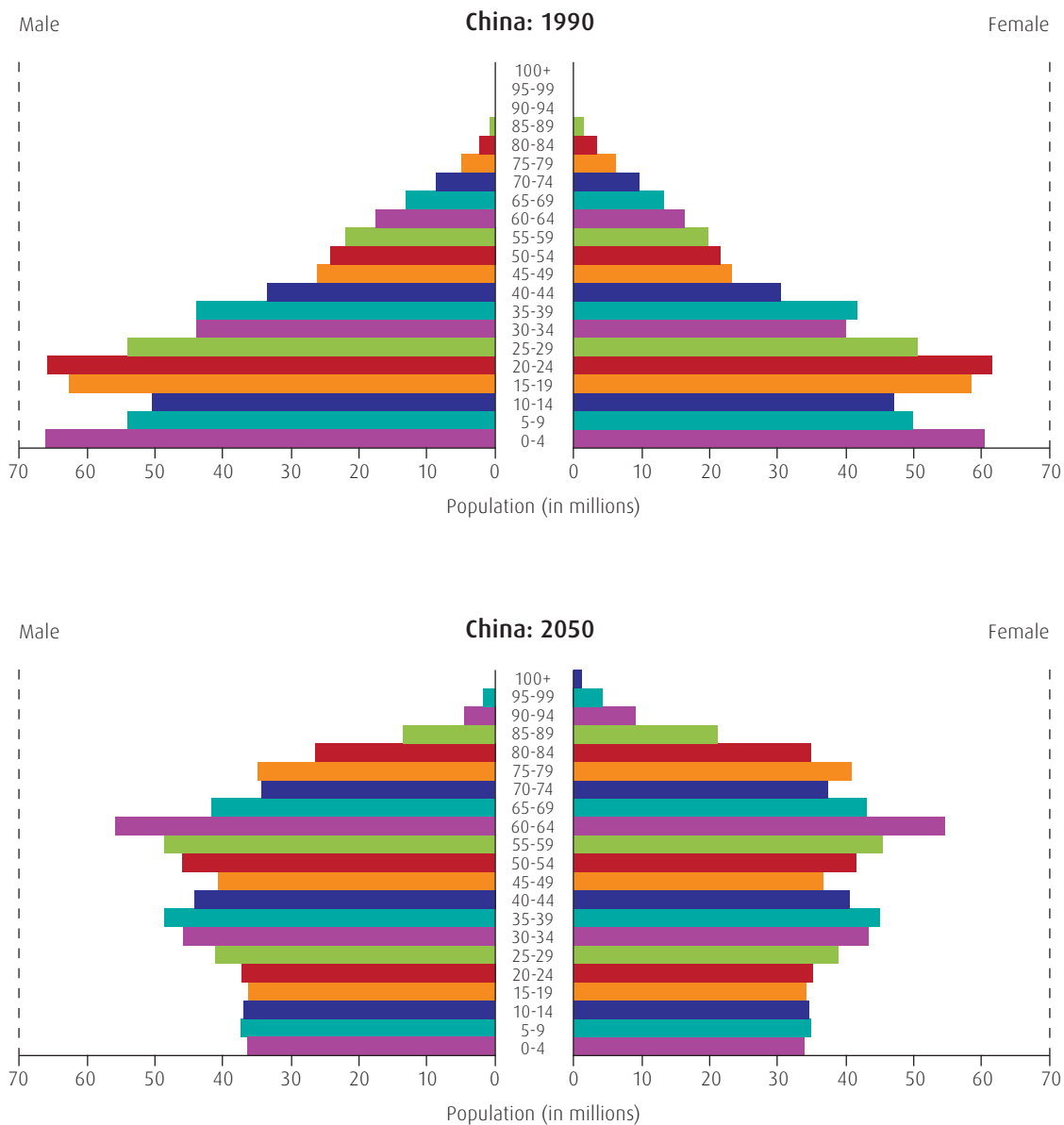
In many ways, population ageing can be viewed as a direct consequence of socioeconomic development. While the experience of each country will vary, common patterns emerge. As living conditions improve and access to health care increases, mortality during childhood and childbirth falls. This is typically followed by falling birth rates as families become aware of the greater likelihood that their children will survive, and as women gain more control over their fertility. The lag between falling mortality and falling fertility creates a temporary increase in the proportion of children in the population. As this generation moves into traditional working ages, it reinforces economic growth.



But this population bulge eventually moves into older age and, if fertility rates remain low, the proportion of older people in the population increases. This trend is accelerated by increasing survival in older ages. In more developed countries, child and maternal mortality rates have plateaued at very low rates and their future ageing will be increasingly driven by longer survival at older ages. This will lead to greater proportions of people aged more than 80 years in the population.

These changes dramatically shift population structures from a dominance of younger age groups, to one where all age groups are more equally represented (Figure 1).

Figure 1. Changing population age structure for China 1990-2050



Source: U.S. Census Bureau, International Data Base.

# THE DEMOGRAPHICS

## of ageing

### Global trends

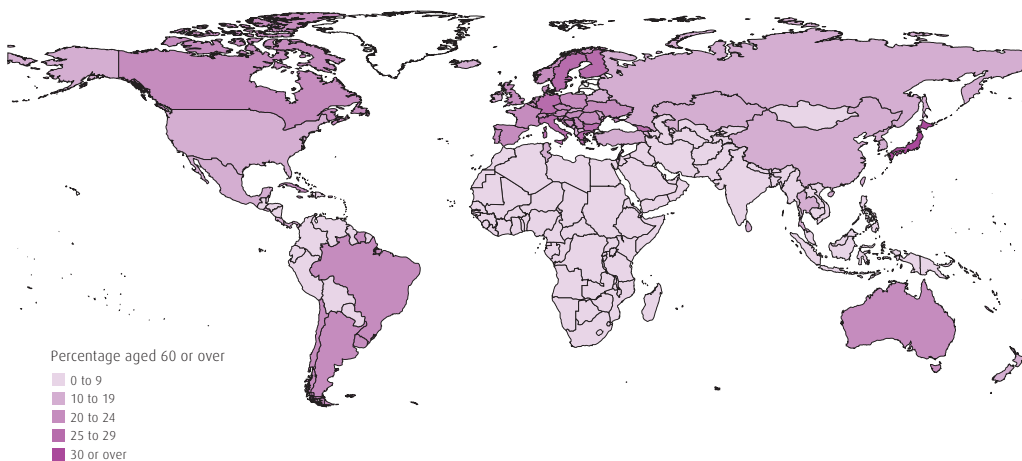
Population ageing is taking place in every country, although each country is at a different stage of this transition. Figure 2 shows how the proportion of older people is increasing across the globe.

While the shift to older populations started in wealthy regions such as Europe and North America, it is now low- and middle-income countries that are experiencing the greatest change. By 2050, 80% of older people will live in these countries. Chile, China and the Islamic Republic of Iran will have a greater proportion of older people than the United States of America.

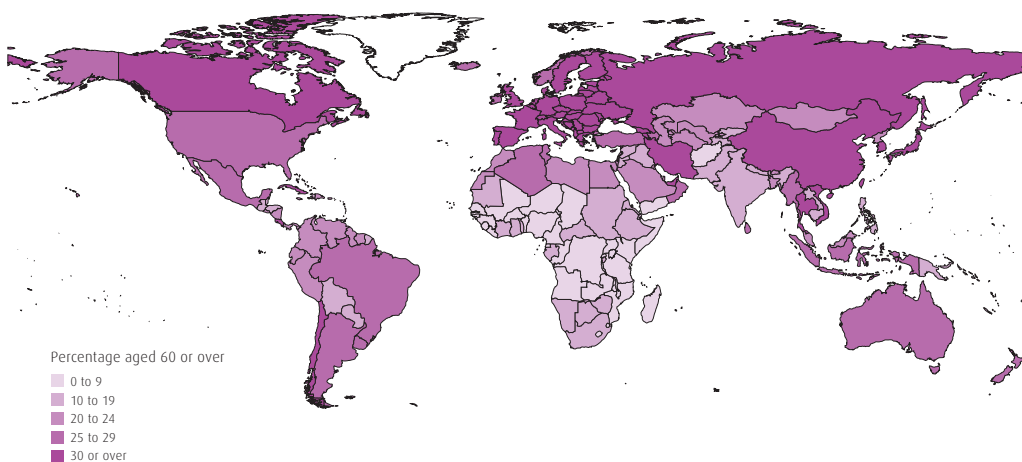
These trends are also evident for the oldest age groups. In the middle of the 20<sup>th</sup> century there were just 14 million people on the whole planet aged 80 years or older. By 2050, there will be 100 million living in China alone, and 400 million people in this age group worldwide.

Figure 2. Global ageing trends

Percentage of the total population aged 60 or over, 2012



Percentage of the total population aged 60 or over, 2050

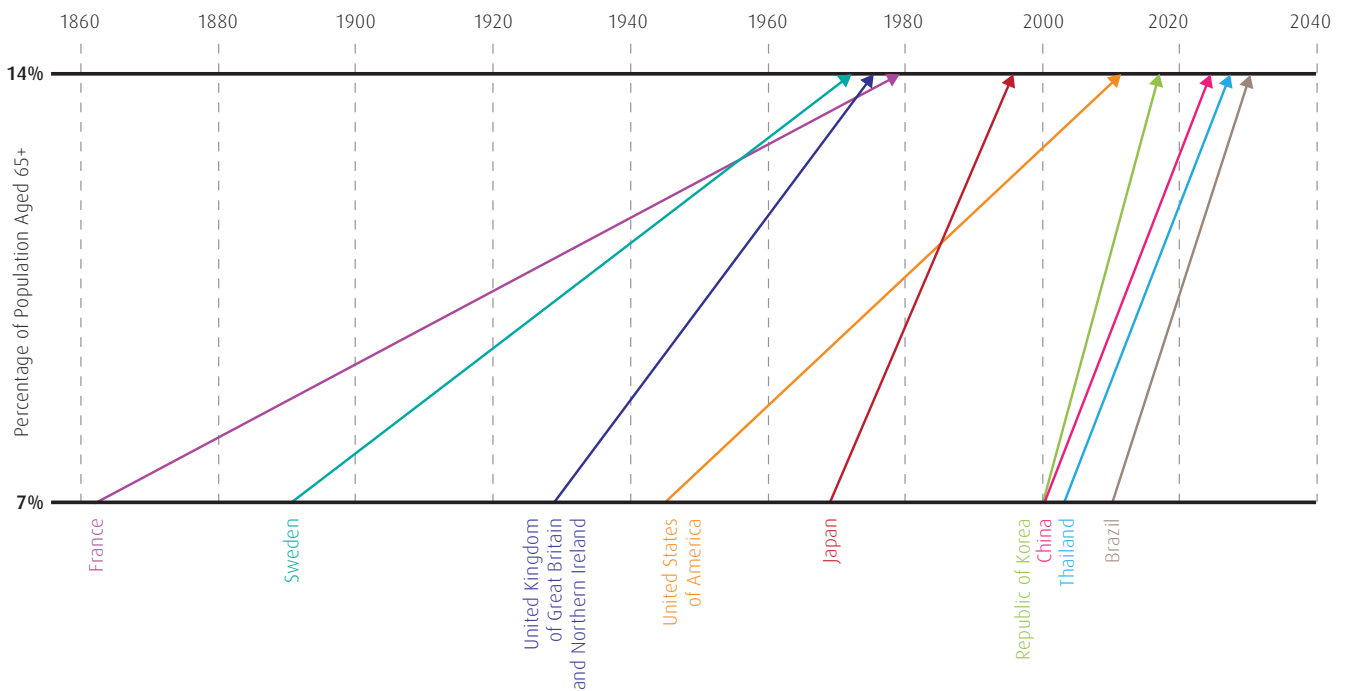


Source: United Nations (2012, forthcoming) *Population Ageing and Development 2012*, wall chart. Department for Economic and Social Affairs, Population Division, New York. Calculated from the data of United Nations (2011) *World Population Prospects 2010*, ST/ESA/SER.A/306.

Note: The boundaries shown on these maps do not imply official endorsement or acceptance by the United Nations.

For countries such as France and Sweden, population ageing has taken many years. For countries that are now experiencing the same transition, it is taking place much more rapidly. Thus, while it took more than 100 years for the share of France's population aged 65 or older to increase from 7% to 14%, countries including Brazil, China and Thailand will experience the same demographic shift in just over 20 years (Figure 3). This gives them much less time to put in place the infrastructure to address the needs of this older population.

**Figure 3. The speed of population ageing. Time required or expected for population aged 65 or older to increase from 7% to 14%**



Source: Kinsella K, He W. *An aging world: 2008*. Washington, DC: National Institute on Aging and US Census Bureau, 2009.



# THE EPIDEMIOLOGY of population ageing

## Life expectancy

One statistic that is commonly used when discussing population ageing is “life expectancy at birth”. This is defined as the average number of years that a newborn could expect to live if they were to pass through life exposed to the death rates prevailing at the time of their birth.

Life expectancy at birth is a measure of both survival at younger ages and how long survivors tend to live. Table 2 shows life expectancy at birth for different WHO regions. The disparity of almost 20 years in life expectancy at birth between high-income countries and low-income countries partly reflects greater longevity in richer

countries, but is also heavily influenced by the higher risk of dying at an early age, generally from communicable (infectious) disease in poorer countries.

We can gain a different perspective on population ageing by examining the number of additional years that someone who has already reached the age of 60 might expect to live. This “life expectancy at age 60” is a better measure of longevity than life expectancy at birth, and the variation between countries is less marked. A 60-year-old woman in sub-Saharan Africa can expect to live for another 14 years, while a 60-year-old woman in a high-income country can expect to live 25 years (Table 2). However, life expectancy at 60 in high-income countries is increasing twice as fast as in low- and middle-income countries, and almost three times as fast as in sub-Saharan Africa.

Table 2. Life expectancy at birth and at age 60 by WHO Region

WHO Region	Life expectancy at birth 2009		Life expectancy at 60 years			
	Male (years)	Female (years)	Male 2009 (years)	Annual average rate of change 2000-2009 (%)	Female 2009 (years)	Annual average rate of change 2000-2009 (%)
<b>World</b>	66	71	18	0.5%	21	0.5%
<b>Africa</b>	52	56	14	0.3%	16	0.3%
<b>Americas</b>	73	79	21	0.7%	24	0.5%
<b>Eastern Mediterranean</b>	64	67	16	0.4%	18	0.4%
<b>Europe</b>	71	79	19	1.0%	23	0.7%
<b>South-East Asia</b>	64	67	15	0.1%	18	0.2%
<b>Western Pacific</b>	72	77	19	0.5%	22	0.6%

Source: *World health statistics 2011*. Geneva, World Health Organization, 2011.

## Premature death

One way of characterizing the importance of different diseases is to look at the deaths they cause and to calculate the number of years each person might have lived if, instead, they had been able to survive to older age. Rather than identifying an arbitrary age (such as 70 years) before which a death might be considered premature, epidemiologists can use the highest observed life expectancies as the “ideal”. Theoretically this ideal is reachable with current technology and resources since it is already being achieved in at least one country. Death at any age younger than this ideal can be considered premature, and this can be quantified as “Years of Life Lost” depending on how many years earlier than the ideal it occurred.

Since Years of Life Lost analyses of the whole population are heavily influenced by survival rates in younger age groups, these are not very good at helping us understand the important causes of death in older age. Just as life expectancy at age 60 is useful

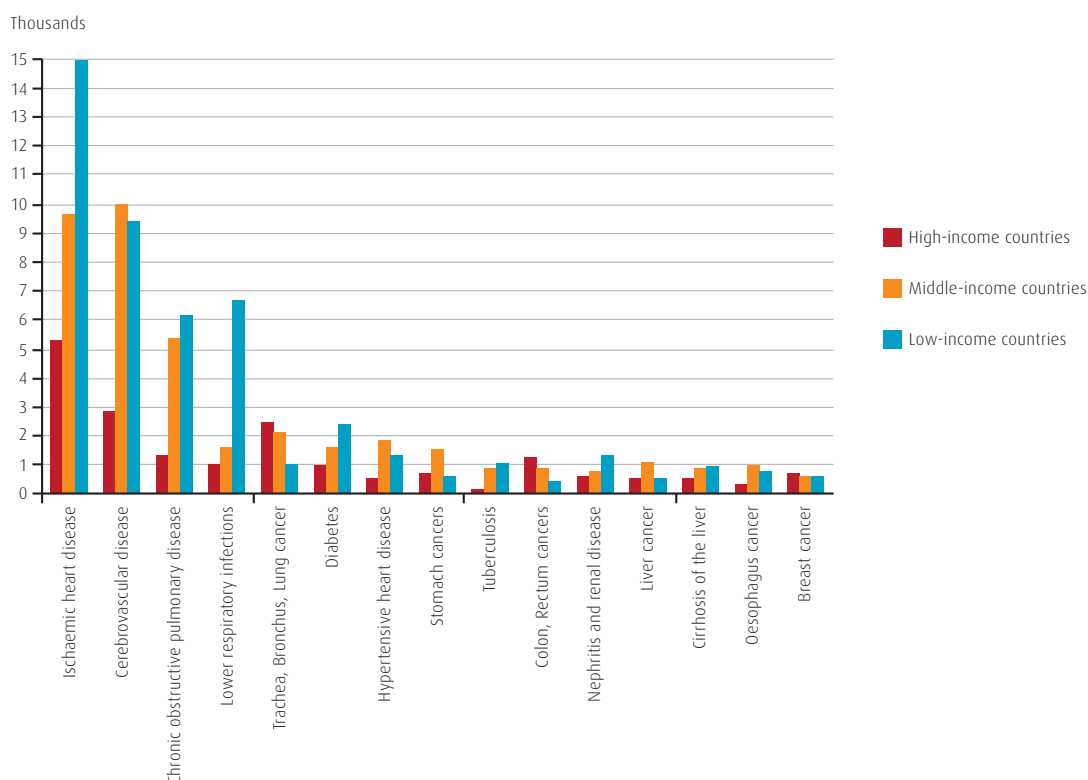
## THE EPIDEMIOLOGY of population ageing

in understanding survival patterns in older age, examining the Years of Life Lost for people aged 60 and over is a better measure of the major diseases that cause death in older age groups. This is important since it helps us to prioritize the issues on which we need to focus if we are to better address the health of older people in all countries.

Figure 4 shows the 15 greatest causes of Years of Life Lost for people aged 60 and over by different country income group. Regardless of the level of economic development, the three biggest causes of premature death are noncommunicable diseases: ischaemic heart disease, cerebrovascular disease (stroke) and chronic obstructive pulmonary disease.

Since this analysis is calculated for every 100 000 older people (rather than by the absolute number in each country), it also allows us to compare the relative impact of each of these conditions in different settings. It shows that the burden of premature mortality from noncommunicable diseases in older people is, in fact, even higher in low- and middle-income countries than for high-income countries. Thus, among the same number of older people living in low- or middle-income countries, more than three times as many years are lost to stroke than in high-income countries. More than twice as many years are lost to ischaemic heart disease and more than four times as many to chronic obstructive pulmonary disease.

**Figure 4. Years of life lost due to death per 100 000 adults aged 60 years and older by country income group**



### Disability

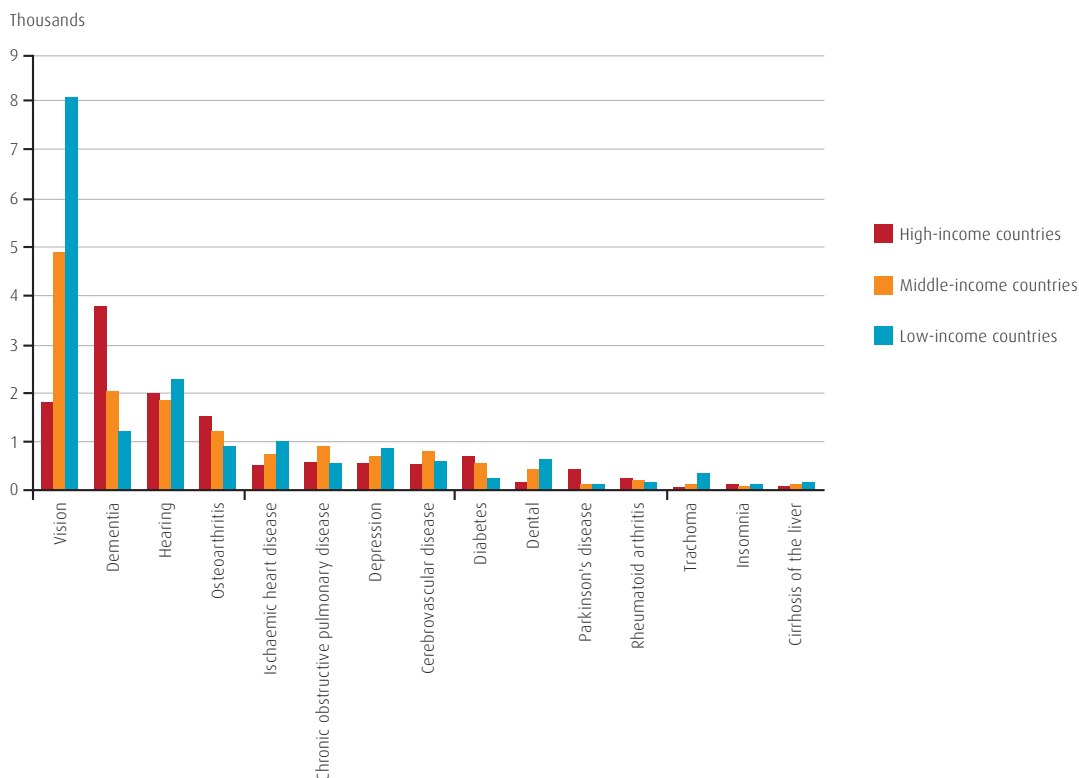
Older people experience higher rates of disability that reflects an accumulation of health risks throughout their life course. WHO's Global Burden of Disease (2004) estimates show that prevalence of disability increases with age and suggest that more than 46% of people aged 60 years and over have disabilities. The disability prevalence among older people in low-income countries is higher than in high-income countries, and higher among women than among men.

Population ageing is therefore likely to lead to an increase in demand for health care and social support. The extent of this increase will be heavily influenced by whether these trends remain the same or change with increasing longevity. If these patterns stay the same and a 75-year old in 2050 experiences the same level of disability as one in 2012, the increase in demand will be much greater than if the added years of life are healthy. Understanding which of these scenarios is occurring is therefore fundamental if we are to plan effectively for the future. Unfortunately, despite very clear evidence that people are living longer, we do not yet know whether these added years are necessarily healthier.

Even if the onset of disability is delayed, increasing numbers of the oldest age groups, those most at risk of disability, will inevitably result in increased demand for long-term care. The Organisation for Economic Co-operation and Development has therefore concluded that it would be unwise for policy-makers to expect that reductions in severe disability among older people will offset increased demands for long-term care.

There is clearer information on the current causes of disability in older age. Figure 5 shows the burden of disability by country income group using the concept of “Years Lost due to Disability” (YLD). YLDs are calculated from the incidence of non-fatal disease and a weight factor reflecting the severity of the disease. Using this approach, the four biggest causes of disability (visual impairment, dementia, hearing loss and osteo arthritis) are the same in low-, middle- and high-income countries, although the ranking changes by income setting.

**Figure 5. Years Lost due to Disability (YLDs) per 100 000 adults over age 60 by country income group**



## THE EPIDEMIOLOGY of population ageing

In low- and middle-income countries, visual impairments are by far the biggest cause of burden of disease, and this burden is more than three times that experienced by older people in high-income settings. These impairments are mainly due to refractive errors, cataracts, glaucoma and macular degeneration (Table 3). A significant portion of these problems can be corrected or resolved at very little cost.

**Table 3. Years Lost due to Disability (YLDs) from visual impairment per 100 000 adults over age 60 by country income group**

	Refractive errors	Cataracts	Glaucoma	Macular degeneration
World	1869	1478	430	912
High income	762	136	180	708
Middle income	1564	1816	541	938
Low income	3919	2492	517	1118

An often-overlooked cause of disability is age-related hearing loss. Untreated hearing loss affects communication and can contribute to social isolation, loss of autonomy and is associated with anxiety, depression and cognitive decline. This physical and social handicap is often not appreciated by persons with normal hearing, and slowness in understanding the spoken word is often equated with mental inadequacy, causing the older individual to withdraw further and often remain aloof in order to avoid being labelled as “mentally inadequate”. Hearing impairment can lead to a loss of independence and the need for formal support services.

Table 4 shows the absolute numbers of people affected by these common causes of disability by country income group. More than 250 million older people around the world experience moderate to severe disability. There are more than 40 million older people in low- and middle-income countries with significant hearing impairment, while 32.5 million have significant visual impairment from cataracts, and 39.8 million significant visual impairment from refractive errors.

Dementia is the greatest cause of years lost due to disability in high-income countries and the second greatest worldwide. More recent data suggests that, in 2010, there were 35.6 million people living with dementia globally, with 7.7 million new cases each year.<sup>1</sup> Numbers of people with dementia will nearly double every 20 years, with much of the increase occurring in rapidly developing middle-income countries. Currently, 58% of people with dementia live in low- and middle-income countries, and this proportion is projected to rise to 71% by 2050.

<sup>1</sup> *World Alzheimer Report 2011: The benefits of early diagnosis and intervention*. Alzheimer’s Disease International London, 2011.



**Table 4.** Prevalence of moderate and severe disability in adults aged over 60 (in millions), by leading health condition associated with disability, and by country income group

	High-income countries	Low- and middle-income countries
Visual impairment	15.0	94.2
Hearing loss	18.5	43.9
Osteoarthritis	8.1	19.4
Ischaemic heart disease	2.2	11.9
Dementia	6.2	7.0
Chronic obstructive pulmonary disease	4.8	8.0
Cerebrovascular disease	2.2	4.9
Depression	0.5	4.8
Rheumatoid arthritis	1.7	3.7

## The total burden of death and disability

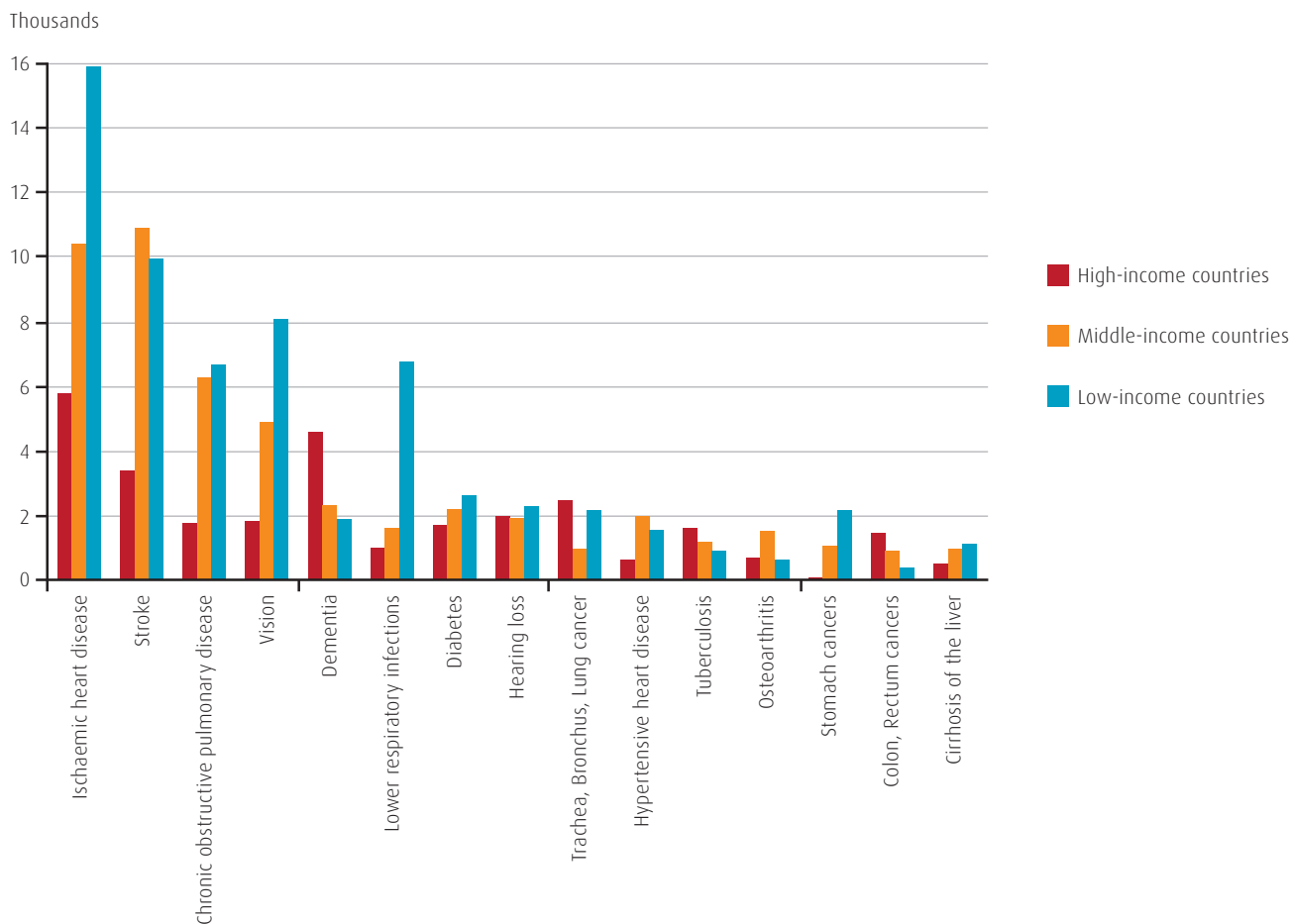
The total burden of disease faced by older people is a combination of both premature death and poor health experienced during life. This concept is captured in a measure known as the Disability Adjusted Life Year (DALY). One DALY can be thought of as one lost year of “healthy” life and is calculated as the sum of both the years of life lost due to premature death and those lost due to disability.

When applied to all ages, the leading causes of burden of disease (DALYs) are lower respiratory disease, diarrhoeal disease and depressive disorders. Examining the burden of disease in older ages gives a different picture (Figure 6).

For older adults in high-income countries, the biggest causes of burden of disease are, in order of importance, ischaemic heart disease, visual disorders, dementia, cancers and stroke. For low- and middle-income countries, the biggest causes are ischaemic heart disease, stroke, visual disorders, and chronic obstructive pulmonary disease. All are noncommunicable diseases.

## THE EPIDEMIOLOGY of population ageing

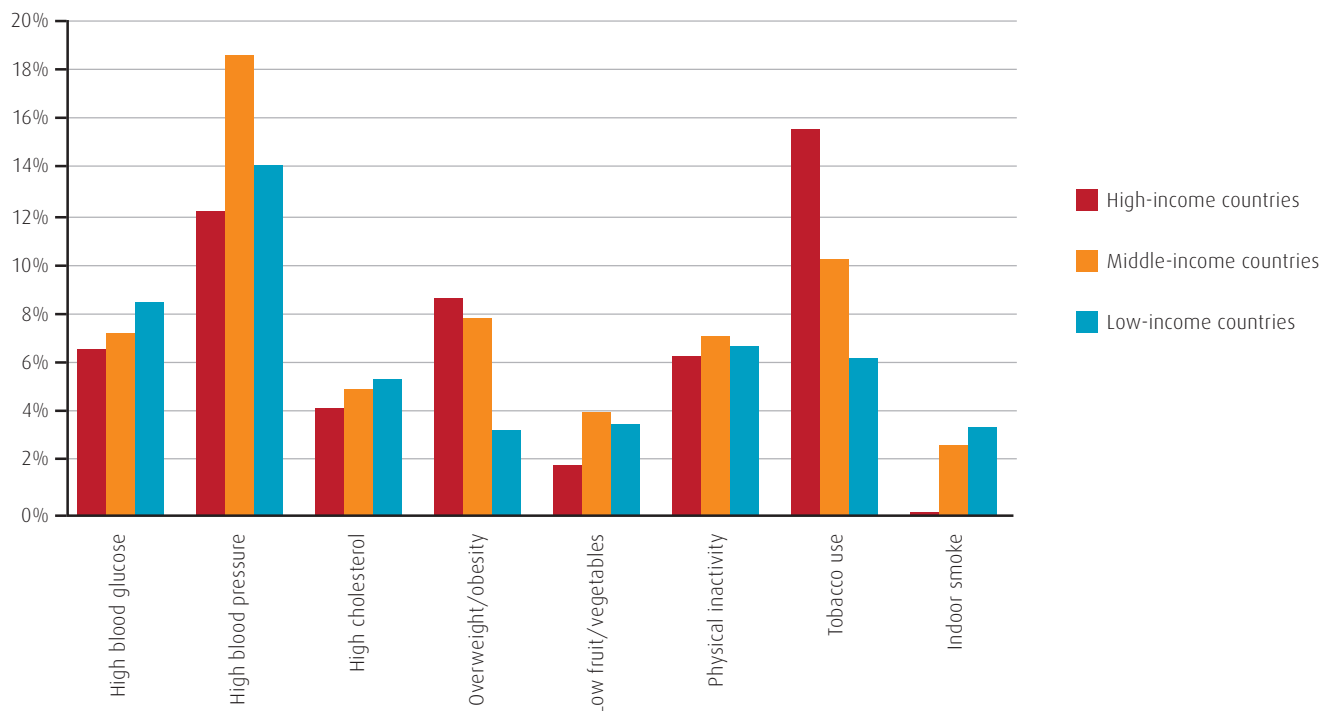
**Figure 6.** Disability Adjusted Life Years (DALYs) per 100 000 adults over age 60 by country income group



Why is there such a marked variation in disease burden between countries? Partly, it may reflect problems collecting comparable data. The differing burden for dementia, for example, may partly reflect difficulties in diagnosis in low- and middle-income countries.

But another explanation is that the behavioural and metabolic risk factors for these chronic diseases (e.g. smoking) vary by country. Since we know the relationship between these factors and major diseases, it is possible to estimate the proportion of this total burden of disease that is caused by each risk factor. These estimates are shown in Figure 7. The biggest underlying risk factor observed in older people is high blood pressure which can explain 12-19 % of the total burden of disease in poorer countries. Other key determinants are smoking and high blood glucose levels.

Figure 7. Proportion of DALYs in each country-income group caused by specific risk factors for adults over age 60

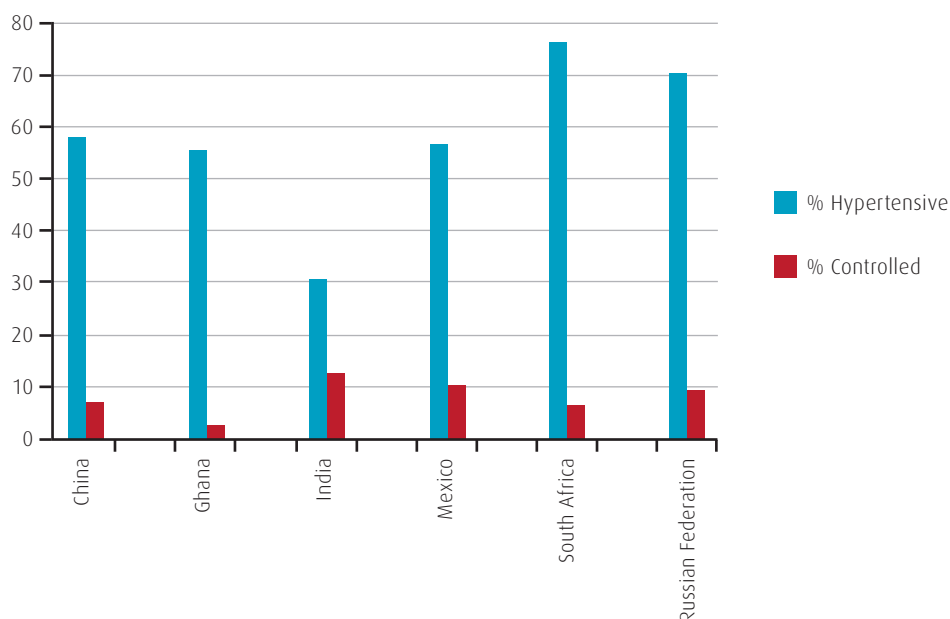


In older people, the impact of almost all of these underlying causes are greater in low- and lower middle-income countries. This is in stark contrast to the widely held belief that these health risk behaviours, and the diseases they cause, are problems of affluence.

Despite the importance of these risks, current approaches to their control in low and middle income countries do not appear to be succeeding. Analysis of over 35 000 people aged 50 and over in the World Health Organization Study on Global Aging and Adult Health (SAGE) indicates that despite between 32 and 80% of older people having high blood pressure, only 4 to 14% were receiving effective treatment (Figure 8). Yet, WHO has identified multidrug therapy to those at high risk of cardiovascular disease as an evidence-based “best buy” with a cost of less than US\$ 1 a year per person in low-income countries. For lack of this basic care, the health and future of millions of older people and their families is currently at risk.

## THE EPIDEMIOLOGY of population ageing

**Figure 8.** Prevalence of hypertension and proportion effectively treated among adults aged over 50 and older across six countries



### Other challenges

Injuries, particularly falls, among the elderly are often unrecorded, but are frequent events which may start a downward spiral in health status, resulting in death or long-term care needs. Approximately 28-35% of people over the age of 65 fall each year, and this proportion increases to 32-42% for those aged more than 70 years. Falls may lead to post-fall syndrome, which includes increased dependence, loss of autonomy, confusion, immobilization and depression. Within the year following a hip fracture from a fall, 20% of older people will die. Yet falls may be prevented through a number of interventions including: clinical interventions to identify risk factors such as treatment of low blood pressure and treatment of correctable visual impairment; home assessment and environmental modification of risks; muscle strengthening and balance retraining; and, community-based group programmes which include fall-prevention education and exercises, such as Tai Chi, to improve balance and strength.

Elder maltreatment is rarely recorded. Around 4-6% of elderly people have experienced some form of maltreatment at home. Maltreatment can lead to serious physical injuries and long-term psychological consequences. Multiple sectors can contribute to reducing elder maltreatment, including the social welfare sector (through the provision of legal, financial and housing support); the education sector (through public education and awareness campaigns), and the health sector (through the detection and treatment of victims by primary health-care workers).

Other issues that are crucial for healthy and active ageing relate to mental health and wellbeing. While depression is identified as a significant cause of disability and a likely problem in older age, social isolation and loneliness are not recorded in these databases. Social trends may be exacerbating these issues. For example, in some European countries, more than 40% of women aged 65 or older live by themselves. Facilitating social participation of older people can not only benefit society, but can also help avoid or overcome the loneliness experienced by many older people.

### **New research and evidence gaps**

There are limits to the available data. In particular, they do not show how well all these needs are currently being met. Information on this is very limited, particularly in low- and middle-income countries. To overcome this knowledge gap, WHO is undertaking a longitudinal study of more than 40 000 older people in six countries: China, India, Ghana, Mexico, the Russian Federation and South Africa (<http://www.who.int/healthinfo/systems/sage/en/>). Although in-depth analysis of the first wave of data has not been completed, early results indicate major gaps.



# TAKING ACTION

## on ageing and health

The burden of poor health is unevenly shared, with older people in low- and middle-income countries facing far higher rates of death and disability than in the rich world. Yet it is these same countries that have the most limited infrastructure with which to respond. Noncommunicable diseases are the overwhelming challenge, and all countries need to build health systems that can prevent and control these disorders. The evidence for how to do this is very strong.

## Promoting good health and healthy behaviours at all ages to prevent or delay the development of chronic disease.

Since noncommunicable disease in older age is often the consequence of behaviours or exposures earlier in life, strategies need to be put in place that reduce these risks across the life course. Being physically active, eating a healthy diet, avoiding the harmful use of alcohol and not smoking or using tobacco products can all reduce the risk of chronic disease in older age. WHO has identified a set of evidence-based “best buy” interventions for tackling noncommunicable diseases that are not only highly cost-effective, but also feasible and appropriate to implement within the constraints of low- and middle-income health systems. These include preventive strategies such as taxes on tobacco and alcohol, smoke-free workplaces and public places, reduced salt intake in food and increasing public awareness on diet and physical activity.

## Minimizing the consequences of chronic disease through early detection and quality care

### *Early detection*

A key approach is the early detection and management of noncommunicable diseases and their modifiable risk factors. Given the heavy burden of cardiovascular disease, high blood pressure should be prevented and better managed. A recent study examined why people in Japan now live the longest, and possibly healthiest, lives.<sup>2</sup> A major factor appeared to be control of hypertension through an efficient detection and treatment system combined with strategies to reduce salt consumption across the population. Yet, as shown in Figure 8, high blood pressure is very common in older people in low- and middle-income countries, and few are receiving effective treatment.

### *Chronic care*

Even with a greater emphasis on health promotion and disease prevention, many older people will still develop noncommunicable diseases and the current generation of older people has immediate needs. All countries, therefore, need to develop sustainable systems of chronic care that ensure high quality, safe care, beyond the hospital setting. These must address the chronic nature of these problems and the coexistence of multiple diseases requiring multiple treatments. For example, many elderly patients in high-income countries can be taking up to 20 medications at one time, often resulting in adverse health effects due to drug interactions.

### *Long-term care*

A key consequence of noncommunicable diseases is disability. Problems such as cataracts, refractory errors, dementia and osteoarthritis cause sensory, cognitive and physical impairments that limit an older person’s ability to participate in society. Access to rehabilitation, assistive devices and living in a supportive environment can lessen this burden. However, many people will reach a point in their lives when they are no longer able to look after themselves. We need to make sure that these people have access to long-term care. In most countries, informal care, including family care, is the predominant model of support for older adults. But caregivers often experience high levels of strain, psychological problems and poor physical health. Moreover, as the relative number of older people increases and there is a decreased proportion of younger adults available to provide care, these models are unlikely to be sustainable. New models are needed which provide the necessary support for older people that are relevant to 21st century demographic and social patterns.

2 Ikeda N et al. What has made the population of Japan healthy? *Lancet* 2011; 378: 1094–105.

## TAKING ACTION

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### on ageing and health

#### *Palliative care*

Many of the common causes of death in older age can be associated with pain and distress. We need to ensure that everyone can live with dignity until the end of their life. Yet in many countries, access to effective pain relief is extremely limited and millions lack access to any form of palliative care.

#### **Creating physical and social environments that foster the health and participation of older people.**

While health and social care are crucial for older people, numerous determinants of healthy and active ageing lie beyond the health system. Some of these influence older people directly. For example, living in a neighbourhood that is safe, and where other older people can be seen on the streets, might encourage older people to engage more frequently in community activities. But active ageing is a lifelong process, and these same neighbourhoods can also increase the likelihood of younger people being physically active. This is positive for their health and helps to ensure that when they, too, transition to older age, they do so from a stronger base.

The WHO Global Network of Age-friendly Cities and Communities ([http://www.who.int/ageing/age\\_friendly\\_cities\\_network/en/index.html](http://www.who.int/ageing/age_friendly_cities_network/en/index.html)) is taking practical steps to create physical and social environments that foster healthy and active ageing. Affiliated programmes are in place in many countries including Canada, France, Ireland, Portugal, the Russian Federation, Slovenia, Spain and the United States of America. Individual cities such as Geneva, La Plata, Manchester and New York are also participating. Each of these has committed to a cycle of continual improvement to become more “age-friendly”. This includes strategies to improve both physical and social aspects of the environment including accessibility, transport, intergenerational links, societal attitudes and service provision. Many innovative models are emerging.

#### **Reinventing ageing – changing social attitudes to encourage the participation of older people.**

Potentially effective strategies to foster healthy and active ageing can be undermined by a range of stereotypes that are often applied to older people. While we tend to view older people within our own family or personal networks in a positive light, older people in a more general sense are often viewed in negative ways. For example, a person may be considered too old to learn new skills, or too near retirement age to be worth retraining. Both of these attitudes make it harder for an older person to maintain the skills they need to make them attractive to a prospective employer.

There are many “ageist” stereotypes that limit our capacity to really understand the challenges and opportunities of population ageing. They can also prevent us from identifying innovative solutions. For example, portraying older people as a burden rather than a resource leads us to think of ways to minimize the cost of ageing rather than to maximize the opportunity for older people to contribute. Viewing older people as out of touch stops us thinking of strategies that might better draw on their experience and knowledge.

Some of these stereotypes will change as more and more older people start to live lives that vary from previous norms. Already older people make major contributions in fields as diverse as business, the arts and public service. This is likely to become much more widespread as populations age. But taking active steps to break down these negative beliefs will not only benefit older people, it will reduce the costs of population ageing. It will also help us to build sustainable, cohesive, equitable and secure societies – the sort of society which we may all want to be part of.





# RECOMMENDED

## reading

*From burden to “best buys”: reducing the economic impact of noncommunicable diseases in low- and middle-income countries.* Geneva, World Health Organization/ World Economic Forum, 2011.

*Global population ageing: peril or promise?* Geneva, World Economic Forum, 2012.

*World report on disability.* Geneva, World Health Organization, 2011.

*World economic and social survey 2007: development in an ageing world.* New York, United Nations Department for Economic and Social Affairs, 2007.

*Global age-friendly cities: a guide.* Geneva, World Health Organization, 2007.

## Appendix 1. Methods and data sources used in this brief

This paper uses data for **adults ages 60 and older** from the Global Burden of Disease: 2004 update (GBD 2004).<sup>3</sup> World Bank income classifications (2004)<sup>4</sup> are used with WHO Member States classified as follows:

- **high income** if their 2004 gross national income (GNI) per capita was US\$ 10 066 or more,
- **middle income** if their GNI per capita was between US\$ 826- 10 065, and
- **low income** if their GNI per capita was less than US\$ 825.

The data required to estimate YLLs are number of deaths and standard life expectancies, whereas data required to estimate YLDs are incidence, disability duration, age of onset and distribution by disability weight. Disability weights, reflected on a scale from 0 (perfect health) to 1 (death), can be found in Mathers et al (2006).<sup>5</sup> For the purposes of estimating the burden of disease in older adults, analyses for this report were conducted *without* age weights or discounting, attributing similar value to years lost during the older ages.

In 2009, WHO conducted analyses to assess the impact of 24 risk factors on the global burden of disease.<sup>6</sup> For this report, 8 risk factors were selected based on their empirical association with diseases or conditions that cause the greatest loss of DALYs for older populations, namely heart disease, stroke, chronic obstructive pulmonary disease and diabetes.

To assess the burden caused by each risk factor for countries in different income levels, the proportion of DALYs for each risk factor was calculated against the total DALYs for each of the three income categories. Burden estimates attributable to risk factors included the 3% discount and non-uniform age weights.

A full description of the methods used can be found at <http://www.who.int/ageing/en>

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3 *The global burden of disease: 2004 update*. Geneva, World Health Organization, 2008. Available at: <http://www.who.int/evidence/bod>

4 *World development report 2004: equity and development*. Washington, DC, World Bank, 2006.

5 Mathers CD, Lopez AD, Murray CJL. The burden of disease and mortality by condition: data, methods and results for 2001. In: Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT, eds. *Global burden of disease and risk factors*. New York, Oxford University Press, 2006:45–240 (3).

6 *Global health risks: mortality and burden of disease attributable to selected major risks*. Geneva, World Health Organization, 2009.





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