ACTIVE AGEING: A FRAMEWORK TO GUIDE POLICY IN RESPONSE TO THE LONGEVITY REVOLUTION

DRAFT

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INTRODUCTION

The publication of *Active Ageing: a Policy Framework* (1) in 2002 by the World Health Organization (WHO) stands out as an international policy landmark. Intended to complement the second World Assembly on Ageing, the WHO report set out a comprehensive and innovative roadmap for health policy which has inspired and guided policy development at state, national and regional government levels.

Active Ageing: a Policy Framework was innovative in many ways. Breaking away from a narrow focus on disease prevention and health care, WHO championed the goal of *active ageing,* defined as: *"the process of optimizing opportunities for health, participation and security in order to enhance the quality of life as people age".* "Active" conveys a more inclusive message than alternative labels such as "healthy", "successful", "productive" or "positive" and encompasses participation in social, economic, cultural, spiritual and civic affairs – not simply physical or economic activity. Thus, the concept establishes not only objectives for health but also for participation and security because all three are inextricably linked. The policy framework was designed to apply to both individuals and population groups. Its intention was to enable people to realize their potential for physical, social, and mental well-being throughout the life course and to participate in society according to their needs, desires and capacities – at the same time as providing them with adequate protection, security and care when required. The report framed ageing within a life-course perspective to create a basis for a policy continuum to optimize quality of life from birth to death and to encourage the engagement of all age groups. A further advance was to ground *active ageing* within the health promotion model (2) as a basis for coordinated action across multiple policy sectors. Finally, WHO anchored *active ageing* within a rights-based approach informed by the United Nations Principles for Older Persons (3) rather than a needs-based approach.

Since its release, the *Active Ageing Framework* has informed ageing policy development in several countries and states including Australia, New Zealand, Sweden, Great Britain and the USA (4); Canada (5); Singapore (6); Spain (7); Portugal (8); Costa Rica (9); Chile (10); Brazil (11); Québec (12) and Andalucía (7). At an intergovernmental level, the European Commission declared 2012 to be the European Year of Active Ageing and Solidarity Between Generations (13). And *active ageing* is the concept underlying the WHO Age-Friendly Primary Health Care Centres Toolkit (14) and Age-Friendly Cities Guide (15). It also underpins the WHO Global Network of Age-Friendly Cities and Communities that is aimed at making cities, communities,

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states and nations more accessible and more inclusive for older persons and everyone along the life course (15). The principles of *active ageing* were applied as well to frame recommendations to enhance preparedness and response for emergencies and humanitarian crises that embrace older adults' needs and contributions (16).

The fundamental questions that the framework addressed are as relevant today as they were in 2002:

> How do we help people remain independent and active as they age? How can we strengthen health promotion and prevention policies, especially those directed to older people? As people are living longer, how can the quality of life in old age be improved? Will large numbers of older people bankrupt our health care and social systems? How do we best balance the role of family and the state when it comes to caring for people who need assistance as they grow older? How do we acknowledge and support the major role that people play as they age in caring for others? (1) (p.5)

However, the *Active Ageing* framework is now almost 15 years old, and it needs re-visiting to continue as a beacon for decision-makers. Since the framework was published, some issues have become more prominent, such as the rights of older persons, prolonging working life, lifelong learning, and the quality of life of frail, dependent older persons and of those at the end of life. Resilience has emerged as a developmental construct that can shed light on the process of *active ageing*. New data and research must be explored. As well, ageing needs to be examined in the context of other major trends, including urbanization, globalization, migration, technological innovation and environmental and climate change. Growing inequalities are another crucial issue that needs addressing in the context of population ageing. In tandem with these trends is a strong international movement to recognize the specific human rights of older persons because ageing impacts on all aspects of life and all dimensions of society. Older people already are a group too large to be left out in shaping the future.

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SECTION I: THE LONGEVITY REVOLUTION

The Demographic Revolution

The world is ageing rapidly. The lasting legacy of the 20th century is the gift of longer life. As a result of the Baby Boom in high-income countries in the decades after the Second World War and of the rapid reduction of mortality in all countries, including those with low and middle income, there are already 810 million people aged 60 and older. Every second, two people in the world celebrate their 65th birthday (17). These extra years of life are an unprecedented privilege. What is happening is nothing short of a revolution – a longevity revolution.

> "A revolution is the overthrow of social order in favour of a new system (…) The longevity revolution forces us to abandon existing notions of old age and retirement. These social constructs are simply quite unsustainable in the face of an additional 30 years of life." (20) (p.3)

Today, population growth is more the result of fewer people dying each year than of more people being born. By the end of 2011, the number of people in the world had grown to over seven billion people. Until 2100, it is projected to increase to 10.9 billion (18). More than 50 percent of these additional four billion people will be aged 60 years and older (18).

The year 2050 will be a demographic watershed. By that year:

- 21 percent of the world's population will be aged 60 and over, compared to just 8 percent in 1950; and 12 percent in 2013 (18).
- And more than 2 billion people aged 60+ will be alive (18).
- The number of people aged 60 and over will surpass the number of children under 15 years. Already, there are more people over 60 than children below the age of 5 (18).
- In 64 countries, including Brazil, 30 percent of the population will be aged 60 and older; currently, Japan is the only country with such a high proportion of older persons (17).

Contrary to the idea that global population ageing means that the world will be overtaken by a 'tsunami' of older persons and their needs, different age groups are becoming more equally represented in the population, and in all areas of human activity (19). Even in 2060, when the large generation of the Baby Boomers' children will be aged 60 and over, the share of people aged 60 and over will still be smaller than the proportion of the under 30-year olds and of the 30- to 59-year olds. Societies will

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experience a “powerful new demographic and social dynamic” (20) which offers huge potential in all aspects of life.

Total fertility rates are decreasing rapidly. By 2010 already 75 countries[1], including 30 low-income countries like Sri Lanka, had fertility rates below the replacement level (18). The birth of fewer children is challenging traditional family structures and patterns of support and care for older persons. There will be less certainty about who will care for the growing number of older people.

These fewer children born will live longer than their parents or grandparents. Globally life expectancy at birth reached 69 years by 2005-2010, that is, 22 years more than in 1950-1955 [add graph] (18). In the next few years, it is expected to cross the age 70 mark and by mid-century, the average global life expectancy will reach 77 years. The number of years added to life has been dramatic in some countries; during the last three decades in Brazil, for instance, babies born each year gained four months and 17 days of life expectancy, amounting to a bonus of 12 years of life within one generation (21).

While life expectancy at birth is increasing, people already in their 60s, 70s or even 80s also benefit from growing longevity. For example, a German 60-year old today has about four years more of life expectancy than a 60-year old in 1980 (22). In Brazil, life expectancy for an 80-year old increased from 6.1 in 1980 to 8.6 years in 2010 (23).

The older population groups and especially those aged 80 years and older are growing proportionally faster than any other age group. This growth is happening faster in low- and middle-income countries than in high-income countries that are already further ahead in the demographic transition. Globally, the share of people aged 80 and over within the older population was 14 percent in 2013 and will reach 19 percent by 2050 (18). Although still a small minority of the population, the number of centenarians is expected to grow tenfold from around 300,000 worldwide in 2011 to 3.2 million by 2050 (17).

[Add graph from http://www.un.org/esa/population/publications/worldageing19502050/pdf/90chapteriv.pdf]

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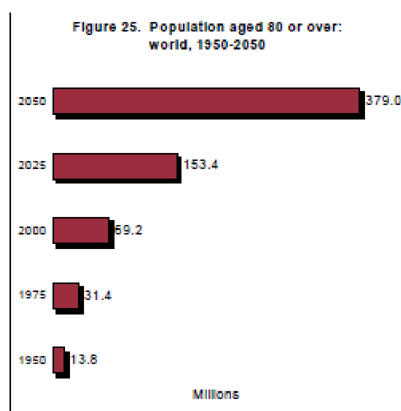

Figure 25. Population aged 80 or over: world, 1950-2050

Longer life in good health and with disability too. Globally, healthy life expectancy has increased at the same time as life expectancy, but at a slower rate. Of each 1-year gain in life expectancy, 10 months of this extra year will be lived in good health (24). In 2010, global healthy life expectancy at birth was 59 years for men and 63 years for women. This represents an increase of 4 years on average since 1990, 4.7 years for men and 5.1 years for women (24). Whatever their age, people can expect more life in good health; a woman aged 60 in 2010 could expect 17 years in good health, that is, 2.3 years more than a woman of the same age in 1990 (24). [add table below] However, because the increase in healthy life expectancy is smaller than the increase in life expectancy overall, many people will also be experiencing a longer period of time with disability than 20 years ago.

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[Note: remove the SDs]

Table 1
Global healthy life expectancy by age, in 1990, and 2010

	Male healthy life expectancy		Female healthy life expectancy	
	1990	2010	1990	2010
0 years	54·8 (53·2–56·3)	59·0 (57·3–60·6)	58·7 (56·9–60·3)	63·2 (61·4–65·0)
1 years	58·1 (56·3–59·5)	60·7 (58·9–62·3)	61·4 (59·6–63·1)	64·6 (62·7–66·3)
5 years	55·5 (53·8–57·0)	57·7 (55·9–59·3)	58·8 (57·0–60·5)	61·6 (59·7–63·3)
10 years	51·1 (49·5–52·6)	53·2 (51·5–54·8)	54·4 (52·6–56·1)	57·0 (55·2–58·7)
15 years	46·7 (45·2–48·1)	48·7 (47·1–50·2)	50·0 (48·3–51·6)	52·5 (50·8–54·2)
20 years	42·5 (41·0–43·8)	44·4 (42·8–45·8)	45·8 (44·1–47·3)	48·2 (46·6–49·8)
25 years	38·4 (36·9–39·6)	40·2 (38·8–41·6)	41·6 (40·1–43·1)	44·1 (42·5–45·6)
30 years	34·3 (33·0–35·5)	36·2 (34·8–37·6)	37·6 (36·1–38·9)	40·0 (38·5–41·4)
35 years	30·3 (29·1–31·5)	32·3 (30·9–33·5)	33·6 (32·2–34·8)	35·9 (34·5–37·3)
40 years	26·5 (25·3–27·5)	28·4 (27·1–29·6)	29·6 (28·4–30·8)	32·0 (30·6–33·2)
45 years	22·7 (21·6–23·7)	24·6 (23·4–25·7)	25·8 (24·6–26·9)	28·0 (26·8–29·2)
50 years	19·2 (18·2–20·1)	21·0 (19·9–22·0)	22·1 (21·0–23·1)	24·2 (23·1–25·2)
55 years	15·9 (15·1–16·7)	17·6 (16·6–18·5)	18·6 (17·6–19·5)	20·5 (19·5–21·5)
60 years	13·0 (12·2–13·7)	14·4 (13·6–15·2)	15·3 (14·5–16·1)	17·0 (16·1–17·9)
65 years	10·3 (9·7–10·9)	11·6 (10·8–12·3)	12·3 (11·6–13·0)	13·8 (13·0–14·5)
70 years	8·0 (7·4–8·5)	9·0 (8·4–9·6)	9·6 (9·0–10·2)	10·9 (10·2–11·5)
75 years	6·0 (5·6–6·5)	6·9 (6·4–7·4)	7·3 (6·8–7·8)	8·3 (7·8–8·9)
80 years	4·4 (4·1–4·8)	5·1 (4·7–5·5)	5·3 (4·9–5·7)	6·1 (5·7–6·5)

Source: Salomon et al (2012). Healthy life expectancy for 187 countries. The Lancet, The Lancet, Volume 380, Issue 9859, Pages 2144 - 2162, 15 December 2012

These changes call for a radical rethinking of the life course, challenging existing assumptions regarding the age of retirement and the need for care in older age.

Regional Differences. While there are already more older people numerically in less developed regions than in more developed regions, the proportions of older people are higher in the latter. Japan, Germany and Italy are the countries with the highest proportions of older people today (18). Yet the growth of older people in the next few decades will mainly enlarge the population of less developed countries (18). Of the 2 billion older people in 2050, almost 80 percent will be living in these countries (18).

Life expectancy differs sharply between higher- and lower-income countries. Life expectancy at birth ranges from around 56 years in some low-income countries to around 83 in Japan (18). At older ages, the regional differences are still considerable: a 60 year-old Japanese person can look forward to 26 years more life, while 60-year olds in Sierra Leone can only expect to live another 11 years (18).

Regional differences are present with respect to healthy life expectancy as well (reference). In high-income countries, there is evidence that the length of life in disability has been decreasing. In low-income countries, length of life with disability has not decreased, and may well be expanding owing to increasing risks for chronic disease.

The Feminization of Older Age? As a result of differing life expectancy between men and women, older women outnumber men. Globally, women live 4.5 years longer than men (17). In 2013, for every 100 women aged 60 and over there were 85 men of the same age group and at age 80, women outnumbered men by 100 to 61 (18). As men's life expectancy catches up with women's in more developed regions, the ratio of men to women will improve in coming decades. In less developed regions where women's social and economic conditions are often less favourable, the ratio of men to women is already higher than in more developed regions, although there are wide variations. In some countries of Western Asia (e.g., Pakistan, Qatar and the United Arab Emirates), there are more older men than women (25). The United Nations predicts that the current sex ratios in less developed regions will remain stable overall (26).

Converging Global Trends

Population ageing coincides with other global, converging and interdependent trends that shape our collective future. These trends affect people of all ages, and all areas of

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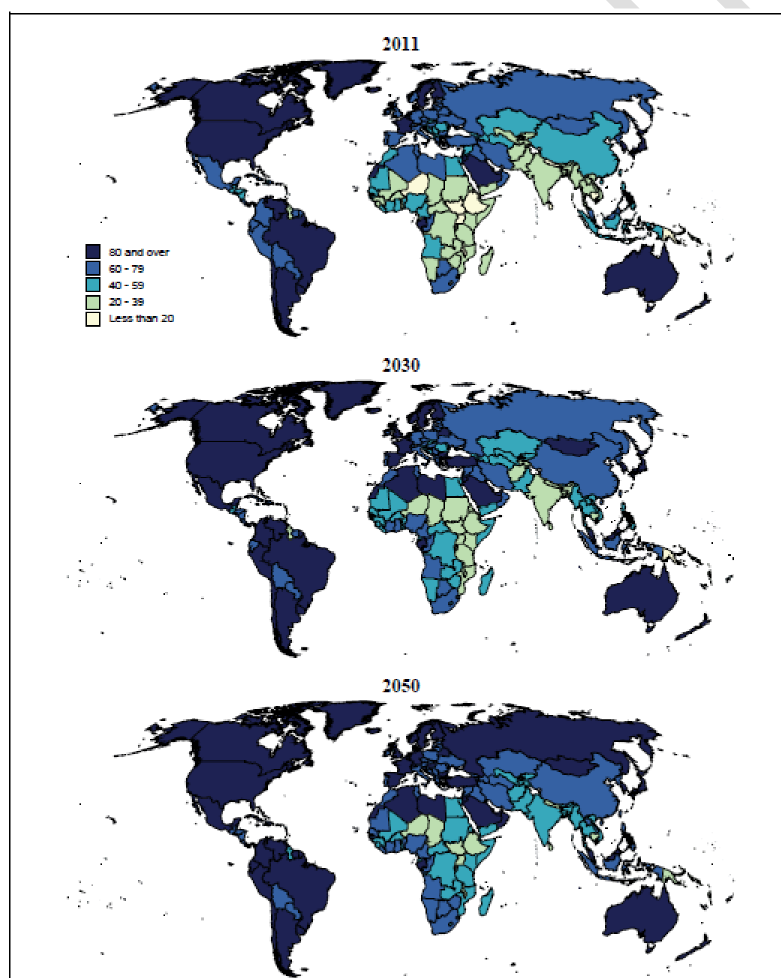
their lives, creating many opportunities as well as a long list of risks which cannot be considered in isolation (27). The linkages between population ageing and these other global converging trends need to be considered to successfully promote *active ageing* for people of all ages. How do these trends influence the determinants of *active ageing*? How can societies respond to all these trends inclusively, without creating inequalities between generations, social groups, nations?

Urbanization. More people around the world are living in cities. In more developed countries, the proportion of city dwellers will rise from 78% currently to 86% by 2050 (28). With the exception of Latin America, which is already the most urbanized region in the world (80%), urban growth is occurring at an unprecedented pace in less developed countries, especially in Asia (29). Overall, these countries will experience an increase from about 52% of the population living in cities in 2010 to 67% in 2050 (30).

[Figure xx Percentage of the Population in Urban Areas, 2011, 2030, 2050]



[Source UNDESA World Urbanization Prospects: The 2011 Revision.]

Older persons constitute a large and growing proportion of the urban population. In high-income countries, already one in five city-dwellers was aged 60 or older in 2005 (25). The proportion of urban dwellers aged 60 and older in less developed countries is also rising, from 7.7% in 2005 (25) to 21% in 2050 (31).

Cities drive the economic, cultural and social advancement of nations. For individuals, they provide more centralized opportunities for education, good jobs and a range of health and social services that assure quality of life at all ages. But cities everywhere also concentrate a range of hazards to security, including crime, and pedestrian and driver safety. The greater convenience of urban living is a factor contributing to unhealthy lifestyles, including insufficient physical exercise and poor dietary habits (32). Cities significantly contribute to global climate change (33), leading to increases in levels of air pollution and extreme heat which pose health risks (34).

Because governments have not been able to build infrastructures fast enough to keep pace with the number of people arriving in cities, one of every three urban dwellers lives in slums or informal settlements, characterized by inadequate sanitation and lack of safe water and food, poor access to services and overcrowded, substandard housing (33). The urban poor of all ages face higher risks for infectious and chronic disease, unintentional injury, criminal victimization and social exclusion (33). Migrants in urban areas are particularly prone to experience poverty and poor housing (35).

Urbanization is accompanied by the growth of lower-density suburban residential communities, which have been an important feature of cities in several countries in high-income countries since the 1950s. Suburbs are home to a higher proportion of baby boomers and the preceding adult generation than to younger persons (36). Suburbs offer larger private homes and yards, and services centralized in large commercial areas at some distance from residential areas. These communities are designed for use of cars, with fewer public transportation services and less provision for pedestrian travel than the urban core. Growing cities in less developed countries are now experiencing “suburban sprawl” – the rapid expansion of low-density communities on the periphery, with many of these features (29).

At the same time as cities are growing, rural communities are becoming depopulated. Departures by younger persons to cities result in ever-increasing proportions of older persons ‘ageing in place’ in the community. In 2005 in more developed regions, persons aged 60 or over constituted 23% of the rural population compared to 19% of the urban population (25). Projections at a global level are not available; however, regional data show significant increases of older persons in rural areas. Projections for

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England, for example, show that the most rural districts expect the population of residents aged 50 and over to increase by 47% between 2003 and 2038, compared to an increase of 35% nationally, with the largest increases in the population aged 65 and over (37). Rural concentration of older persons is a significant trend in less developed regions as well (38). In China, persons aged 65 and over comprised 9.3% of the rural population versus 6.9% in urban areas in 2008 (39). By 2030, the distribution will shift to 21.8% and 14.7%, respectively (39).

Where people live has a profound influence on their personal mobility, participation, social support and wellbeing. The age distribution of the population has a major impact on community planning, urban design, resources, productivity and services. Harmonizing ‘ageing’ and ‘place’ creates opportunities but ignoring demography in urban planning erects barriers and accentuates risks.

Globalization. Globalization refers to an increasingly integrated global economy and a highly-connected world with growing cross-national flows of goods, information, ideas, capital and services, as well as increasing flows of migrants (27). It is a result of urbanization, of advances in transportation, communication and organizational technology (40). Today, information spreads much faster. People from all over the world are connected via the Internet and more affordable international travel. Social networks, including families, cross borders and continents. Goods and services are mass-produced and mass-marketed, resulting in a homogenization of consumer products, including food and culture.

These social and economic transformations have many implications in an ageing world. Changes in images and social roles associated with older age are apt to spread quickly, as are effective innovations to address common challenges. But prospects for personal and population health and security also are subject to global-level economic, health and social risks. The global spread of processed foods and of tobacco products have contributed to the worldwide chronic disease epidemic, and working conditions and benefits are eroded as multinational industries drive down production costs (41). Threats that were previously local are increasingly global, such as the spread of communicable diseases, and food or water shortage crises (42).

These social, economic and political transformations have many implications in an ageing world. Changes in assumptions and social roles associated with older age are apt to spread quickly, as are effective innovations to address common challenges. But prospects for personal and population health and security also are subject to the economic, health and social risks stemming from globalization.

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> A new dynamics emerges as to what needs to be resolved at national and global levels, what is public versus private or proprietary and how health is valued in our globalizing world.
>
> Ilona Kickbusch, Foreword, Globalization and Health, p. vi.

Migration. Although individuals and groups have always migrated in search for better opportunities or security, migration has become a major trend in a global economy, both international as well as national. In 2013, there were 232 million international migrants, up from 175 million in 2000 and 154 million in 1990 (43). People who migrate within their home country are more numerous: their numbers were estimated to be 763 million in 2005 (44), representing slightly more than one in 10 people in the world. Occurring in all regions of the world, recent migration trends intersect with population ageing in varied ways. For example, migrant women from the Philippines seek work caring for older persons in developed countries, perhaps leaving their children in the care of their own ageing parents. Post-World War II migrants are now ageing in their adoptive countries (45). At the same time, recent older migrants are facing the challenges of adjustment to a new country.

It is commonly believed that migrants are mostly young adults. However, while many international migrants are young adults, in 2010, 17 percent of them were aged 60 and over (46). This means that the age structure of the migrant population may be as old or older than that of the host country. For Europe, studies in various countries estimate an increase in the number and proportions of older migrants (47).

Migration is having a profound effect on family structures and local economies and service infrastructures. The departure of adult children can leave older family members with less support in their later years. Parents leaving their children may strengthen the social role of the caregiving grandparents within the family and communities, but weaken the filial bond between the absent parent and children that is important for the support of the parents later. Older family members may themselves migrate to join adult children, uprooting them from culture and community and compromising their independence and security. The economic productivity of communities with a high out-migration of young adults decreases, and local retail and other services eventually close.

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In some high-income countries, the proportion of foreign-born older persons is significant. In Australia, for example, in 2006 20% of the 65 year-olds were born overseas in a predominantly non-English speaking country (48). In Canada in 2007, 28% of persons 65+ were born in another country, principally from Western Europe and Asia (49).

Migration is a disruptive event[2] that can have both short and long-term implications for ageing. Various sub-populations feel the impact of migration, including:

- a huge number of older migrants that age in a foreign land (e.g. retired labour migrants from Spain, Italy, Greece and Turkey that migrated to Germany in the 1950s and 1960s),
- those who migrate in older age in search for a better quality of life (e.g. retired US citizens moving to Mexico or Panama or northern Europeans moving to the Mediterranean countries),
- older people who return to their country of origin (e.g. Greece, Italy, Spain and Portugal), only to find that it has changed radically since they left and that they have become strangers in their homeland,
- older people who follow adult children that migrated to another country (e.g. older Chinese that move for family reunion to Australia or Canada), or to join family in cities within the same country,
- older people who need to escape conflict or natural disasters.

Mounting evidence which is being generated especially in countries with high immigration, such as Australia[3], underscores that migration triggers a complex set of challenges for both, younger and older generations within families and for societies that are becoming culturally, socially and economically more heterogeneous. Among current efforts to understand and respond to cross-cultural diversity and to the risks experienced by ageing migrants it is worth noting the regular biennial conference on Ageing in a Foreign Land in South Australia, and the Ageing in a Foreign Land policy research protocol[4] developed at the New York Academy of Medicine.

The technology revolution. In human history technological innovations have always altered the way people lived and worked. What is different now is that these changes are faster and more influential than ever (50,51). The rapid evolution and spread of information and communication technologies (ICT) is possibly the most remarkable development, which in turn has, facilitated the spread of innovations in other areas. From 2005 to 2011 the number of mobile phone subscriptions per 100 people worldwide increased from 34 to 86 and the percentage of individuals using the Internet

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more than doubled from 16% to 33% (51). Within less than a decade, *Facebook©* has grown to over one billion active users and within just seven years *Twitter©* registered more than 500 million users (42). Social contacts are created and maintained despite geographical distances or reduced mobility. Personal networks can include people from around the world. In many fields, it is possible to work remotely from almost any location.

Technological advances influence all areas of life, and major advances can trigger cultural transformations. According to Perez (52), the spread of telecommunications systems and products is transforming not only the world of work and of social communication, but also the principles of organization and management in business and other social institutions. Because human capital is the most valuable asset, there is an ever growing emphasis on lifelong learning in all occupational settings. Empowerment, adaptability and collaboration characterize the highly skilled individuals who can perform multiple tasks and who participate in institutional decision-making and in varied teams. Another impact of the technological change is political: informed and empowered people are becoming a redoubtable political force, shaping public opinion and mobilizing action through social media.

[Insert Table xx From Perez, 2004]

The Traditional vs the New Managerial Paradigm

	Conventional Organizational Principles	**New Efficiency Principles and Practices**
Command and Control	Centralized command Vertical control Cascade of supervisory levels Management knows best	Central goal-setting and coordination Local autonomy/horizontal self control Self-assessing/self-improving units Participatory decision-making
Structure and Growth	Stable pyramid Growing in height and complexity as it expands	Flat, flexible network of very agile units Remains flat as it expands
Parts and Links	Clear vertical levels Separate, specialized functional units	Interactive, cooperative links between functions along each product line
Style of Operation	Optimized smooth running organization Standard routines and procedures There is one best way Definition of individual tasks Single top-down level of	Continuous learning and improvement Flexible system/Adaptable procedures A better way can always be found Definition of group tasks

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	command Single bottom-up information flow	Multiskilled personnel/Ad hoc teams Widespread delegation of decision-making Multiple horizontal and vertical flows
Personnel and Training	Labour as variable cost Market provides trained personnel People to fit fixed posts Discipline as main quality	Labour as human capital Much in-house training and retraining Variable posts/Adaptable people Initiative/collaboration/motivation

Adapted from Perez, C. (2004).

Our interaction with the immediate environment and personal mobility as well as our health and independence rely on technological developments. Ever more devices and systems are being created to compensate for impairments in sensory, perceptual and motor performance as well as cognitive functioning, thus allowing persons with functional limitations to remain independent. New medical innovations keep expanding the potential for prevention, screening, diagnosis and treatment of disease and injuries. Devices exist to support self-care and home care. Population ageing is a powerful driver of technological innovation, and technology is changing what it means to be an older person. Opportunities are increasing, e.g., for continued health and independence and for participation in all areas of life. Yet access to the benefits of technology is unequal. Access, affordability and instruction are the major challenges to overcome for all to benefit from technological innovation.

Environmental and Climate Change. Because human activity has become more global, more interconnected and economically more intense, the natural environment is changing significantly[5]. The consequences of environmental and climate change become more evident as temperatures and sea levels rise, as weather patterns change and as extreme weather conditions become more frequent (42). The impacts of climate change on health and wellbeing are numerous, and do not arise only from direct stresses such as heat waves or other weather-related impacts[6]. Food and water shortages become more common, and resulting price hikes in basic commodities, such as wheat flour, have global repercussions. Children and adults have poorer nutrition and more health problems, including mental health problems. Infectious disease patterns alter, and some animal-borne diseases spread (e.g. H1N1 virus; West Nile virus). Displacement and conflict over limited resources increase (53). These effects are occurring unequally between countries and within countries; poor, excluded, uneducated or geographically vulnerable people are the most affected, despite being the least responsible. Older people are considered to have a greater climate

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vulnerability; according to the Stockholm Environment Institute, “people in old age may be physically, financially and emotionally less resilient” (54) to the risks caused by climate change.

The presence of greater numbers of older people in society may well impact patterns of resource consumption in ways that can be either beneficial or harmful to the environment. Healthy older persons may drive their cars more often and for more years, or may cause family members to use their cars more frequently to drive them as they become dependent (55). At the same time, higher demand for greater age-friendly proximity between housing and services could reduce car-dependency (15). Also, the presence of more older people who experience ill-effects of air pollution could increase pressures to enforce clean-air policies (56). Older persons can be instrumental to positive change in other ways too; they may act as strong social and political advocates for a greener world; older farmers may have ecological knowledge and experience to contribute to local problem-solving, and they can learn and pass on more sustainable farming practices (57). What is certain is that the longevity revolution will affect people’s needs: responses to these changing needs will enhance – or threaten – efforts to achieve environmental sustainability.

Epidemiological Transitions. The past decades have witnessed a major transformation in the profile of diseases that are the principal causes of disability and mortality. Thanks to improvements in sanitation, hygiene, nutrition and medical therapy, risks for infectious disease have decreased considerably (58). Today, chronic, non-communicable diseases are the major cause of death and disability and the rates are rising. Worldwide, the leading chronic diseases are cardiovascular diseases (including strokes), cancer, chronic lung disease and diabetes (59).

[Table 1. Global Leading Causes of Death, 1990 and 2013]

1990	2013
Ischemic Heart Disease	Ischemic Heart Disease
Stroke	Stroke
Pneumonia	Chronic Obstructive Pulmonary Disease
Diarrheal Disease	Pneumonia
Chronic Obstructive Pulmonary Disease	Alzheimer Disease and other Dementias
Tuberculosis	Lung Cancer
Neonatal Pre-term Complications	Road Injuries
Road Injuries	HIV/AIDS
Lung Cancer	Diabetes
Malaria	Tuberculosis

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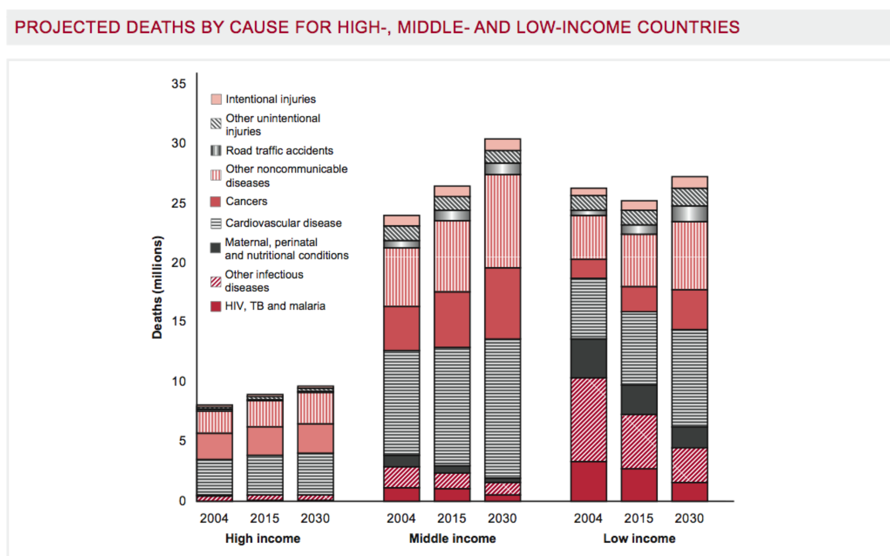
Source: Global Burden of Disease 2013 Collaborators, 2014.

[Graph Projected Deaths by Cause for High-, Middle- and Low-Income Countries. Data from WHO, World Health Statistics 2008.]



The epidemiological transition is the direct consequence of urbanization, economic development and globalization, which have increased the main risks for chronic disease, including physical inactivity, consumption of unhealthy foods, and exposure to air pollution, tobacco and excessive alcohol. Population ageing is a factor too, because people are living long enough for chronic diseases to develop. However, health behaviour risks are also resulting in the emergence of chronic diseases in younger adults as well, increasing the risk for severe disability in later life, if not for an earlier death. Less developed countries are experiencing a dramatic increase in deaths from all chronic diseases, while death rates are remaining steady in more developed countries (60). According to WHO (61), chronic disease deaths will increase by 15% globally between 2010 and 2020, but the greatest increases, at 20%, will occur in Africa, the Eastern Mediterranean and South-East Asia. In less developed countries, 29% of chronic disease deaths occur among persons under the age of 60, compared to 13% in more developed countries (61). The vast majority of older people have chronic conditions, and many have multiple conditions. In the United States, 92% of persons aged 65 and over have at least one chronic condition and 24% report having three conditions (62).

Infectious diseases have not disappeared however, and many less developed countries especially are experiencing a double burden of infectious and chronic diseases (63). In countries like Guatemala, El Salvador, Kenya and the Democratic Republic of Congo, for example, chronic disease figures are high at the same time as

the still highly prevalent infectious diseases become more resistant to antibiotics (64). The risk of dying from a specific infectious illness is higher for older people because weaker immune systems render them more at risk for infection and for fatal consequences. Moreover, they are less responsive to the protective effects of vaccination. The principal infectious diseases among older persons in less developed countries settings include malaria, acute respiratory infections, diarrheal diseases, tuberculosis and HIV/AIDS (65).

Poverty and Inequality. According to analyses of the Human Development Index, most countries have experienced significant increases in human development as a combined measure of income, education and health over the last decades (66). Levels of absolute poverty have decreased. Globally, 14.5% of the population of all ages were poor in 2011 (67) – taking the World Bank's $1.25 a day poverty line as a measure. Two decades earlier this percentage was more than twice as high (68). Inequalities in health have decreased as measured by increased life expectancy at birth and inequalities in education have not changed (66).

However, there is a stark and growing relative poverty, as measured by income inequality. The Gini Index measures the equality of wealth distribution in a country on a scale of 0 to 100, with 0 indicating perfect equality and higher values showing the extent to which wealth is concentrated among fewer people. The tables below show the 10 most equal and the 10 most unequal countries in terms of income and consumption expenditure**.**

[Ten countries with the most equal wealth distribution]

Country	Gini Index	Reference year (2010-2013)
Ukraine	24.8	2010
Slovenia	24.9	2011
Iceland	26.3	2010
Czech Republic	26.4	2011
Belarus	26.5	2011
Slovak Republic	26.6	2011
Norway	26.8	2010
Denmark	26.9	2010
Romania	27.3	2012
Finland	27.8	2010

Source: World Bank database (69).

[Ten countries with the most unequal wealth distribution]

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Country	Gini Index	Reference year (2010-2013)
Swaziland	51.5	2010
Panama	51.9	2012
Guatemala	52.4	2011
Brazil	52.7	2012
Colombia	53.5	2012
Lesotho	54.2	2010
Honduras	57.4	2011
Zambia	57.5	2010
Namibia	61.3	2010
South Africa	65	2011

Source: World Bank database (69).

According to an analysis by Oxfam, seven out of 10 people globally live in countries where economic disparities have increased during the last three decades (70). This includes OECD countries where income inequalities are on a steady increase since the 1980s (71). In these latter countries, the richest 10% of the population earned 9.5 times the income of the poor in 2014, compared to seven times in the 1980s (71). In developing countries, income disparities increased by 11% within two decades (1990-2010) (66). Globally, the richest quintile of the population possesses more than 70% of global income, while the poorest 20% has to make a living with only 2% (72).

> The bottom half of the world's population – 3.5 billion people – owns the same as the richest 85 people of the world, who would comfortably fit into one double-decker bus (105).

While it is important to continue investing in health to reduce persistent inequalities between nations, between women and men and between social groups, there is considerable room to reduce inequality in education and income. In some regions of the world significant progress has been made in reducing income disparities. In Latin America, still the most unequal region in terms of income, the universal approach to public policy with public transfers to the poor and worker protection has helped to decrease disparities.

With growing financial insecurity as well as increasing environmental pressures, examining and addressing inequalities becomes ever more important so far as deepening income inequalities have been listed first among the Top 10 trends facing the world 2015 by the World Economic Forum (73). The OECD further shows that

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income inequality hampers economic growth and recommends increasing income redistribution to reduce inequality and promote prosperity (71).

Income inequalities among generations measured by relative poverty measures show a varied picture. In most world regions, poverty rates are higher among older people than in the general population (74), although there are considerable variations. In Sub-Saharan Africa where high proportions of the population are poor, older people are as poor or slightly poorer. In Latin America, the introduction of old-age pensions has reduced the poverty of older persons to levels significantly below the rate of the general population in a few countries (Argentina, Uruguay and Brazil) but in other countries, older persons remain relatively poorer. Nations within the OECD display mixed trends, although in about half of them, more older than younger people are poor, especially persons aged 75 and older. In some countries, older persons are better off than young adults and families with children whose rates of poverty have risen; in others, fast-rising wages of younger working persons have left older persons comparatively much worse off. Achieving social justice in the longevity revolution requires policies that adapt to changing economic conditions to support all generations equitably. Nevertheless, ensuring the economic security of older persons remains a global policy priority.

[Table xx Poverty rates for the general population and for older persons, Selected countries]

Country	**Poverty rate - all persons (%)**	**Poverty rate – older persons (%)**	**Reference Year**
Denmark	6.1	12.3	2007
France	7.2	5.3	2008
Netherlands	7.2	1.7	2008
Sweden	8.4	9.9	2008
Germany	8.9	10.3	2008
New Zealand	11.0	23.5	2008
United Kingdom	11.3	12.2	2007
Canada	11.4	4.9	2007
Spain	13.7	20.6	2007
Australia	14.6	39.2	2008
Republic of Korea	15.0	45.1	2008
Japan	15.7	21.7	2006
Uruguay	17.0	7.7	Late 2000s
United States	17.3	22.2	2008
Dominican Republic	18.3	21.7	2008
Israel	19.9	20.4	2008
Mexico	21.0	29.0	2008
Argentina	21.2	13.4	Late 2000s
Brazil	21.8	6.0	Late 2000s
Ghana	43.6	45.5	1998
Mozambique	68.9	65.8	1996

Source: (74 table 5.3)

Evolution of Human Rights. How fundamental human rights are understood and applied evolves as societies change. Dramatic developments in this regard have occurred over

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the past century, and more are still to come. The 20th and 21st centuries have been marked by a progression in the formal recognition of the human rights of specific population groups in United Nations (UN) conventions and declarations. Grounded in the UN Universal Declaration on Human Rights (1948), several more treaties have been adopted to protect vulnerable groups so that their lives are considered within human rights laws. These include conventions on the rights of women (1979), children (1989), migrant workers (1990) indigenous peoples (2007) and persons with disabilities (2008). These international treaties have a profound effect over time in changing discriminatory attitudes, behaviours and public policies.

The longevity revolution has cast the spotlight on the growing older adult population as the next group requiring specific legal measures to protect and promote their rights in a comprehensive manner. Various international human rights instruments express obligations regarding the protection of the human rights of older persons[7], but they are piecemeal. The UN Principles for Older Persons (1991) and the Madrid International Plan of Action on Ageing (2002) are the only documents that comprehensively address the rights of older persons. But these agreements are not legally binding on signatory governments. The 1991 UN Principles of Older Persons encourage governments to incorporate the right to independence, participation, care, self-fulfillment and dignity in national programmes (3). The MIPAA articulates a comprehensive, and lucid policy framework grounded in the respect of the full citizenship of older persons. The only international human rights instrument that explicitly prohibits age as a ground of discrimination is the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families which was passed in 1990, but implemented only in 2003 when a sufficient number of countries signed on.

The increasing presence of older persons in society, a better understanding of the potential of human longevity and a growing realization that ageism is pervasive and pernicious[8] have spurred non-governmental organizations and international organizations led by the Global Alliance for the Rights of Older Persons (GAROP) and a few governments, to champion the creation of a convention on the human rights of older persons. Opponents, mainly more developed nations, oppose this measure, contending that the problem is one of implementation, not legislation. In response, the UN established an Open-Ended Working Group on Ageing in 2011, to consider a stronger protection regime and appointed an Independent Expert on the Enjoyment of All Human Rights by Older Persons in 2014, to examine and report back on the situation of older people's human rights across the world.

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> "People everywhere must age with dignity and security, enjoying life through the full realization of all human rights and fundamental freedoms." (17)

While the issue of the specific rights of older persons is advanced, the consequences of every major global trend on human rights across the life course must be considered also. For example, as information and communications technology become indispensable for virtually every manner of human communication, is access a universal right, for persons of all ages? In a globalized economy with highly mobile populations, are nationally protected rights and entitlements to be prioritized over universal human rights? When is the common good, in terms of preserving conditions vital to human life, a principle that supersedes individual freedom?

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SECTION II: RE-THINKING THE LIFE COURSE

A More Complex Life Course

How people devote their time and the roles they play over the course of their lives is largely determined by the society in which they live. The longevity revolution, in combination with other major trends, is re-shaping the life course in more complex and varied ways that defy institutionalized transitions. At the same time, the lives of people in low- and high-income countries are diverging more and more.

In traditional, pre-industrial societies, that still characterize many low-income countries, children attend school until puberty, and then begin adult work roles. Women may work outside the home, usually in informal jobs, but assume most of the responsibility for care of children and other family members. Both men and women continue work roles as long as they are physically and mentally capable, contributing to family livelihood in whatever way they can, and becoming entirely dependent upon family for care at the end of life. Old age is defined by incapacity and dependency.

In the industrialized societies throughout the 20th century to the present, old age is the product of formalized retirement ages. The origin of this social construct is Bismarck's old-age pension system introduced in 1889 as a small pension to workers over 70 years – at a time when life expectancy for men was still below 40 (75). Formal retirement, which was then introduced by various governments across the globe, caused profound changes in how old age was seen (76). As the determining factor for leaving the work force became chronological age as opposed to invalidity, age itself became to be associated with invalidity independent of the individual's health (76). This led to a "chronologically standardized normative life course" (77) particularly for men, generally following the pattern of a short period of learning until the end of adolescence, an extended period of work with the same employer, and, given the low average life expectancy, a very short period of retirement.

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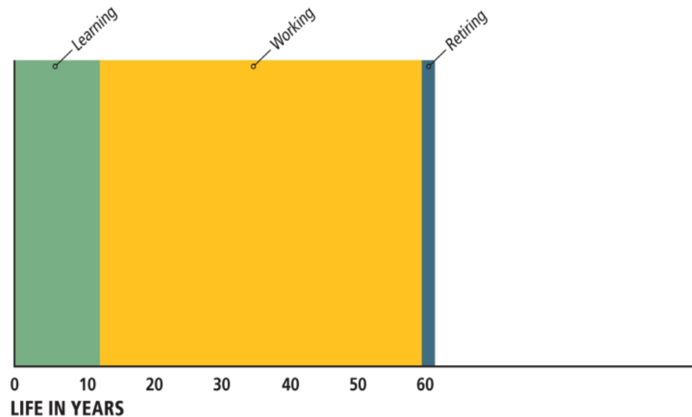

[Insert Bismarck's life course graphic NB. Change age of retirement to 70]

As a result of new labour systems and the wide establishment of retirement systems in the mid 20th century, the life course became divided into three distinct phases of preparation, activity, and retirement (77). This three-stage life course is still common in most societies, although the time spent in retirement is getting longer. As women's participation in formal paid employment increased, this model has become more typical for women too. However, because women have continued to bear most of the responsibility for family and household management, they have more discontinuous career histories, with more frequent or longer leave periods for child and family care. Several countries have had a lower statutory retirement age for female workers so they could retire at the same time as their husbands, who are often older. With shorter paid working lives but longer life expectancy, women have been more likely to experience old age in poverty.

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While age norms across the life course still exist, they are now less widely shared and impose fewer limits. The combination of a longer life and other societal changes has shaped the three-stage life course such that it is now marked by longer periods of learning for jobs requiring high skill level, more discontinuity during the work years and longer periods of retirement. The continuous career in full-time employment, especially for men, is becoming increasingly discontinuous. In some countries, there is evidence for the "end of 'lifelong' employment" in large companies (77). As women have gained more equality, gender roles have become less fixed and male partners are spending more time raising children and sharing household chores. Parental leave is now offered by employers for fathers and mothers. Although the actual age of entry into retirement has changed very little (77), mandatory retirement age policies have been abolished in recognition that they are an unjustified violation of individual rights. The transition into retirement is more and more "blurred" and is becoming associated with a period of

continued work, either in form of self-employment, part-time jobs or a cycle of work and leisure (78). Retirement is no longer seen as a time of invalidity. It is now, above all in developed countries, increasingly associated with a privileged time of personal renewal, leisure and life satisfaction.

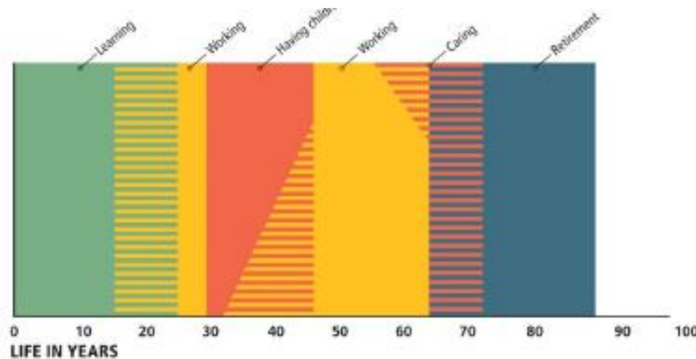

Figure 5 A woman's life course today

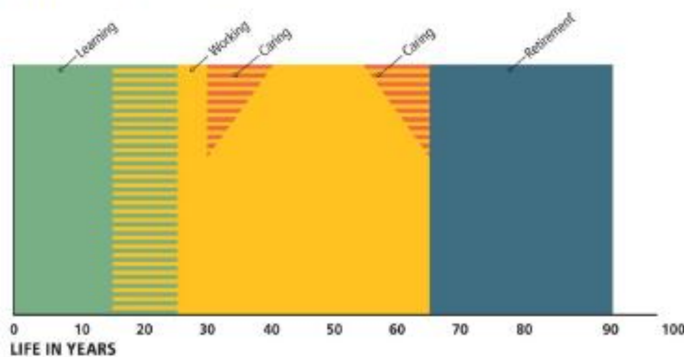

Figure 6 A man's life course today

[Insert men and women's life course today graphics here (p. 14)]

Not surprisingly, retirees are the persons whose leisure time has increased the most over the last century[9]. Leisure time has increased for other age groups too, but only by a few hours per week, and unequally: men have gained more free time than women[10], as have workers with lower education in comparison with university-educated workers[11]. In more developed nations and perhaps among professional elites in less developed countries, workplace policies have become somewhat more accommodating for highly-skilled employees wanting more flexibility in the distribution of their limited leisure hours. Examples include compressed work weeks and self-paid sabbatical leave periods.

A longer, more individualized and flexible life course

As the 21st century advances, the boundaries of three-staged life-course model are fading as major activities intermingle and recur over a longer life course. Learning will continue to predominate in the first decades, but will not stop. On-the-job training, short courses and diplomas to keep up with advances in knowledge and technology will need to accompany people throughout their lives and work-based learning may start earlier in life. Sharing family and home management duties within the couple will continue (77) and some research in more developed regions predicts that there will be a more equal division of labour within the home between women and men (79). Work lives will become longer, and retirement will become a gradual and individualized process[12]. Instead of being concentrated in the post-retirement phase, leisure time may be distributed more flexibly over the life course according to individual needs and preferences. Lives will be more varied – people will learn, care, work and spend time on recreational activities throughout their lives. Individuals, as well as societies, must prepare for these additional years of life.

> "Life is becoming more like a marathon than a sprint. We need to pace ourselves for the long haul." (20)

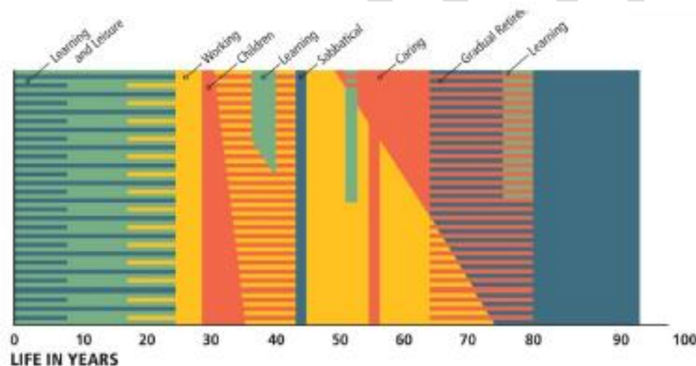

Figure 7 A woman's life course in the future

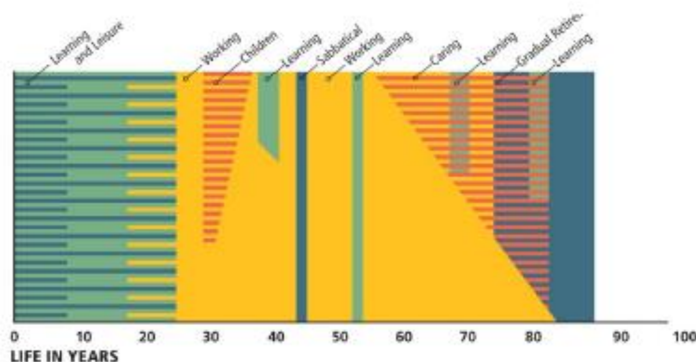

Figure 8 A man's life course in the future

[Insert graphics –woman's and man's life course in the future (p. 15).]

At an individual level, one has to reserve sufficient resources for a longer life. The expectations we have about our remaining years of life are related to the way we behave. Decisions related to investment in human capital, savings and consumption (80), health behaviour, and retirement planning (81) are influenced by the perception of the remaining time to live, as might be the choice of social relations (82). Underestimating these years may lead to insufficient planning (81).

Increasing life expectancy, together with other demographic and societal trends changes family structures and intergenerational relations. More generations, but fewer representatives of each, are present and engaged in society at the same time. As the boundaries in the staged life course become more porous and variable, different age groups will be less separated than in the past. Older and younger adults will attend the same university classes and job-training. Employees of different ages will occupy junior as well as senior positions. With more flexibility in the division of free time and paid work, more adults of all ages will be engaged together in unpaid voluntary activities that are vital to social capital. Regular and meaningful personal interaction with persons of different ages will break down ageist stereotypes that feed on restricted contacts[13]. With a more fluid transition between paid work and retirement and longer good health, social welfare policy will shift away from a focus on arbitrary age-linked benefits towards programs that respond to critical health and social needs over the life course. Intergenerational wealth transfers will benefit grandchildren and great-grandchildren as well as the fewer direct heirs, who will already be well-established by the time their parents decease (79). With longer and healthier lives in many countries, changing life-course models, past social roles and images of older people are being redefined as well.

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Gerontolescents are Transforming Society – Again

During the economic boom in high-income countries after World War II, young people would remain longer and longer in training before they entered the labour force – a newly gained luxury of that time. As this became more common, “adolescence”, a term first used towards the end of the 19th century (83), was applied to describe this new transitional phase of four to five years between childhood and adulthood. As the longevity revolution gains momentum, a new transitional phase is being forged. This phase describes the increasingly long years of physical and mental vitality extending from the end of the traditional working life until decline in very old age. Delimited more by functional markers than by chronological age, this period has been dubbed ‘late

middle age' by some in reference to its continuity with the health and activities of the mid-adult years and the 'encore' years to denote new directions in meaningful engagements. It can also be called 'gerontolescence' (20) because the large Baby Boom generation of people who are now defining it are also the generation that created the social construct of 'adolescence'. They are better educated than any other preceding generation. They have fought against racism, homophobia, and political authoritarianism, and for women's rights, citizen empowerment and sexual freedom. The generation used to demanding to be heard (20) is reinventing the way old age is lived and viewed. Ageing is increasingly perceived as an individual process with many opportunities for personal development and for continued youthfulness, e.g., through self-care and aesthetic treatment products and services[14]. Gerontolescents also are leading the 'unretirement' trend that is changing the way we think about work and retirement[15]. An example of a transformative approach to aging is the *Pass it On Network* (84) which acts as a forum for global exchange to encourage proactive older persons to organize themselves to contribute in creative ways to themselves, each other and their communities.

> "Never before have we seen a group of people approaching the age of 65 who are so well-informed, so wealthy, in such good health and with such a strong history of activism. With a legacy like this, it is unimaginable that this generation will experience old age like previous ones." (20)

Changing Family Structures Create New Opportunities and Challenges

As people live longer and have fewer children, it is now common for families to be multigenerational. The presence of multiple generations within the family may allow children to grow up with support from more older family members, besides promoting exposure to different older persons that may reduce stereotypes. But the presence of fewer children, combined with other transformations in family structure, is threatening to reduce the support that older persons may receive from younger generations[16]. More couples are childless and more persons are living alone, as a matter of lifestyle or because of divorce or death of a partner. Many people will have more than one conjugal partner over their lifetime, and children grow up with single parents, or with stepparents and stepsiblings. The children from separated or reconstituted families may be less willing to provide care if the family bonds are weak or divided. Greater geographic mobility, within country and internationally, and high labour force participation of women, also reduce the availability of adult children who are willing to provide care.

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> "Is the modern family capable of, or willing to continue the responsibilities of caring?" (20)

Pushing the Boundaries of Longevity: Quality of Life until the End of Life

As noted earlier, older persons are living longer than ever. People aged 80 years and over are the most diverse group of individuals of any age, both physically and mentally[17], reflecting cumulative differentiation as a result of life events, environments and personal choices. In general, about one third of this age group continue to enjoy high levels of physical and mental functioning; one third have a significant degree of impairment but can function with support in the community; and the remaining third experience severe disability and dependency[18].

Individuals who maintain good functioning in advanced years are exemplars of the continued potential for health and wellbeing. These people have much to teach us about the conditions, behaviours and attitudes that sustain vitality in later life[19,20]. More people in high income countries are living longer in better health, with a shorter period of disability and decline towards the end of life (85), although this gain is not shared equally by persons living in poverty and social exclusion.

Ageing-related functional losses inevitably occur. In addition, multiple chronic illnesses become more common. People become less mobile, and more dependent on others for support, at the same time as their family and friendship networks become more limited[21]. Men can usually count on their spouses to provide care until the end of life. Women live longer with disabilities and are more likely to live alone during their last ~~years, depending on care from any available adult child, or other family/friend,~~ In high-income countries, formal public long-term care is available, but may not be enough to ensure quality of life. In many less developed countries, older persons and their families have little, if any, publicly- supported long-term care. Too few individuals and families anywhere acknowledge and plan for eventual dependency.

The growing presence of the very old confronts current paradigms about living environments, responsibility for care and quality of life. Resilient older persons who cope with impairments and continue to find meaning and pleasure in their lives are models of human transcendence and a source of inspiration. Others are dependent and wordless, but are distinct personalities who have lived a unique life. In a society caught up in humans "doing", very old persons are humans "being". They call upon all of us to recognize and promote the expression of their identity, individual qualities, and

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above all, their unalienable human rights. This stage of life, too, needs to be embraced in a vision of *active ageing*.

~~At some point, 'living with' illness and disability becomes 'dying from' these conditions.~~ Dying is becoming more concentrated in older age; between 2005-2010, more than half (53%) of deaths occurred after age 65, with the highest proportions (75%) in Europe and North America (74). WHO estimates that 63% of all deaths will occur among persons over 65 years by 2025[22]. The eventuality of death is more expected in older age. Coming to terms with one's own, and others' mortality is an existential task for which older persons are our prime teachers.

> "I am in my dying time and you need to understand that". Frank Kelly, aged 87 years. (Unpublished document, Presentation. Gabrielle Kelly) ADD PHOTO of FRANK

Increasingly, the idea of 'a good death' has come to mean that quality of life has been maintained until the person's last breath. Dying free from pain and emotional suffering knowing that one is valued by significant others is also embraced in the vision of *active ageing*.

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SECTION III: ACTIVE AGEING – FOSTERING RESILIENCE OVER THE LIFE COURSE

> "What do you want for yourself as you age? How would you like to experience growing older? Where would you like to live? What would you like to be doing? Almost universally, the answers to these questions involve people stating that they would like to age in good health, in the comfort of a familiar home, spending time with friends, family and celebrating life." (20)

Definition and Principles

The WHO concept of *active ageing* captures this positive and holistic experience of ageing both as an individual aspiration and as a policy goal. It applies to individuals as well as to societies. The initial formulation identified health, participation and security as fundamental components of active ageing. The concept has been further refined (Kalache 2013) to add lifelong learning as a fourth component as suggested at the International Conference on Active Ageing in Seville in 2010 and subsequently reflected in policy directions for the Spanish province of Andalucía[23].

> *Active ageing* is the process of optimizing opportunities for health, participation, lifelong learning and security in order to enhance the quality of life as people age.

Individuals who are ageing actively seize occasions throughout their lives to acquire and maintain health, meaningful work, social relationships, new skills and knowledge and material necessities. At the personal level, these are resources, or kinds of 'capital' to be accumulated throughout the life course which become the foundations for physical, mental and social wellbeing at all ages. The earlier one starts to accumulate vital 'capitals' of health, income generation, social networks and knowledge, the better. All are interdependent and mutually reinforcing. Health is universally recognized as the most essential requirement for quality of life. The capacity to participate in all spheres of activity – work, play, love, friendship, culture – depends to a large degree upon having physical and mental health. In turn, participation contributes to positive health. Learning is a renewable resource enhancing the capacity to remain healthy, to acquire and update knowledge and skills to stay relevant and to assure personal security. Having all basic material and health service needs met, and feeling safe from external threats is also a prerequisite for wellbeing at any age, but especially so ~~in~~ when one has fewer other resources to draw upon, e.g., during health crises or unemployment as

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well as in very old age. *Active ageing* is an ongoing process, a life investment that spans an entire life. The earlier one starts to optimize the opportunities for health, participation, lifelong learning and security, the better the chance of enjoying an old age with quality of life.

Active ageing can be framed within the current theoretical perspective of resilience, defined as having access to the reserves needed to adapt to, and grow from, the challenges encountered in life (86). Health, engagement and networks, material security and knowledge and skills constitute the reserves for successful adaptation and personal growth which lead to wellbeing, or quality of life. Building the reserves for resilient, *active ageing* depends on several factors that are partly individual but also reflect the environmental and societal context in which a person lives and ages.

From the perspective of public policy, health, participation, life-long learning and security are policy 'pillars', or key areas for strategic action. *Active ageing* offers a broad and integrative framework for all social institutions to support and enable people to take the opportunities over the course of their lives to achieve wellbeing in older adulthood. These institutions concerned with *active ageing* include governments at all levels and all government policy sectors, as well as civil society and the private sector.

An *active ageing* policy framework presupposes a set of principles to guide policy action. The principles described below represent an integration of those articulated by WHO (1) and others (87–90) for whom *active ageing* is a fruitful construct to inform multi-sectoral policy action.

1) Activity is **not restricted to physical activity or to labour force participation**. Being "active" also covers meaningful engagement in family life, social, cultural, spiritual as well as volunteering and civic pursuits.
2) It **applies to persons of all ages**, including older adults who are frail, disabled and in need of care as well as older persons who are healthy and high-functioning.
3) **The goals of *active ageing*** are preventive, restorative and palliative, addressing needs across the range of individual capacity and resources. Assuring quality of life for persons who cannot regain health and function is as important as extending health and function as long as possible.
4) *Active ageing* promotes **personal autonomy and independence**[24] as well as **interdependence** – mutual giving and receiving between individuals.

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5) It **promotes intergenerational solidarity**, meaning fairness in the distribution of resources across age groups; concern for the long-term wellbeing of each generation and opportunities for encounter and support between generations.
6) It combines **top-down policy action** to enable and support health, participation, life-long learning and security with opportunities for **bottom-up participation** by citizens to make their own choices as well as to shape policy directions.
7) *Active ageing* is **rights-based** rather than needs-based, thereby recognizing the rights of people to equality of opportunity and treatment in all aspects of life as they develop, mature and grow older. It respects diversity and fulfills all human rights conventions, principles and agreements promulgated by the United Nations, with particular focus on the rights of persons who experience inequality and exclusion throughout life. It especially recognizes the human rights of older people and the United Nations Principles for Older Persons of independence, participation, dignity, care and self-fulfillment.

   In most societies, youth is valued and old age is seen as a burden. Older persons are a population group whose rights are violated often – from restricted access to health services, jobs and learning opportunities, to neglect, abuse, and exclusion.

Access to citizenship becomes limited if frailty, illness, disability or isolation reduce a person's capacity to effectively exercise his or her decision-making rights. (20)

   A comprehensive rights-based approach to policy will produce services and structures that will empower older persons. It will result in a "more inclusive, equitable and sustainable development"[25].
8) At the same time, *active ageing* promotes **individual responsibility** to take up the opportunities made possible by the rights that are recognized. Nevertheless, it is important to not blame individuals who have been systematically excluded from society and who have missed opportunities throughout life to healthier choices, life-long learning, participation, etc.

"A modern, effective strategy on active ageing will be based on a *partnership* between the citizen and society. In this partnership, the role of the State is to enable, facilitate and motivate the citizen, and where necessary, to provide high quality social protection for as long as possible." (88)

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Pillar 1. Health

Active ageing embraces the goals of enhancing the health of populations and reducing health inequalities to enable people to achieve their fullest health potential across the life course. This vision of health is firmly rooted in the conception and strategies for health articulated over decades by the WHO and regarded as universally normative. Health is "a state of complete physical, mental and social wellbeing and not merely the absence of disease" (91). It is "a resource for everyday life and an important dimension of quality of life that must be achieved not solely by health services, but also by assuring security and learning, i.e. through "peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity" (2). In a globalized world, action to promote health emphasizes elements such as advocacy based on human rights and solidarity, regulatory practices to assure a high level of protection from harm and development of health literacy as an essential capacity[26].

Health is an investment that pays dividends for a lifetime. The earlier in life we cultivate good health, the longer and stronger are the rewards in terms of absence of disease and higher functioning. There is compelling evidence demonstrating that factors in childhood and youth early have the greatest cumulative impact on health outcomes later in life[27]. Older people who maintain the best functional health in their older years are people who have optimal health habits in mid-life[28]. Yet, there is plenty of evidence showing that there are benefits for adopting healthy life-styles even at well advanced ages (92) – confirming the adage that 'it is never too late'.

The importance of mental and social health for *active ageing* is too often overlooked. Positive mental health is a consistent characteristic of high-functioning people at all ages; it is displayed by some distinct traits, including self-esteem, a positive outlook on life, satisfying personal relationships and the ability to cope well with stress[29]. Physical and mental health influence each other positively and negatively. While preventing illness and impairment is the first line of action, treatment, support and care are necessary complements for rehabilitation and preservation of quality of life. Physiological and functional changes and the impacts of external factors over time eventually lead to greater or lesser impairment. Appropriate, timely care that minimizes further loss benefits individuals and caring families, as well as society as a whole[30].

A Life Course Approach to Active Ageing.

The case for *active ageing* over the life course with a focus on functional health was graphically presented by Kalache & Kickbusch (93), and by WHO (1), with refinements by Kalache (20) to take into account the role of promotion and rehabilitation for *active ageing* in older adulthood.

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[Insert here – A Life Course Approach to Active Ageing]

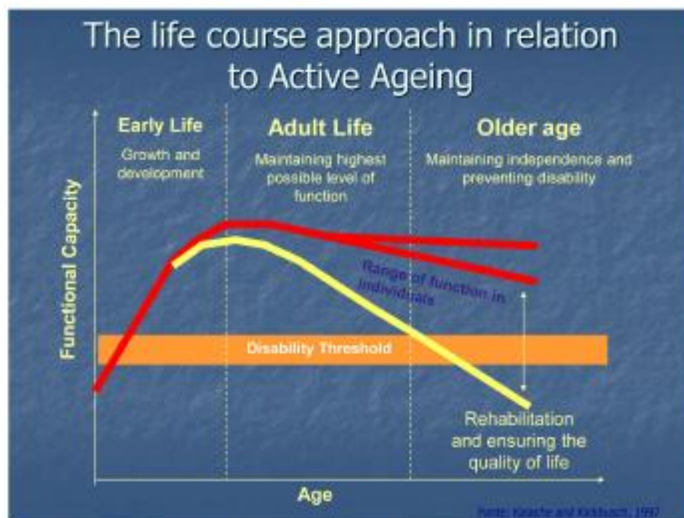

Figure 10 Functional Capacity over the Life Course with Intervention

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Functional Capacity across the Life Course.

The graph depicts the trajectory of physical functional capacity from birth throughout the life course. Functional capacity increases from birth and peaks in young adulthood. This is when a person's muscular strength and lung and heart capacity are at their maximum level. Beyond such peak, functional capacity will inevitably decline. The rate of decline is influenced by age which cannot be modified, but to a much larger extent by the person's lifestyle and external factors, including access to health services, all of which are modifiable. If all the personal and external conditions are favourable, the rate of decline will be very gradual and the person will still be able to perform all of the activities of life without need of assistance well into older age. In the months preceding death, functional capacity will decline and organ systems will start to fail. This "compression of morbidity" (94), in which a decline and disability is squeezed into a short time prior to death after a long and independent life in good health, is the ideal conclusion of active ageing. Analysis of population morbidity trends in recent years in the US and other high income countries (95) further suggests that compression of morbidity is occurring and, thus, that more people are ageing actively. Nevertheless, other studies show that this gain in health expectancy in high-income countries is threatened by increasing obesity rates and that less developed countries have not yet experienced any compression of morbidity (65).

A person who grows up poor and malnourished with no opportunity for a good education in a deprived and violent neighborhood will not reach optimal functional capacity. Her capacity will decline rapidly during a life characterized by low-paying jobs and unemployment, difficult living circumstances and poor health habits. She will

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develop chronic illnesses starting in mid-life and become disabled before she reaches the age of 60. Unless she receives rehabilitation and care, she will become progressively sicker and more disabled until her death.

The Disability Threshold

The disability threshold is the level of barriers in the environment which transform a functional impairment (such as diminished vision, or a knee stiff with osteoarthritis) into a disability. Raising the threshold increases disability, e.g., by poor urban design, inadequate public transportation, hard-to-access information, architectural barriers, etc. Lowering the threshold by reducing barriers, e.g., by improving lighting and signage, and universal design architecture, allows people with impairments to continue to function. Opportunities for optimizing health that contribute to *active ageing* over the life course include interventions that help individuals maintain good function, prevent and control disease and reverse or delay decline as well as age-friendly planning and design to lower the disability threshold.

Pillar 2: Participation

Participation is more than involvement in paid work; it means engagement in any social, civic, recreational, cultural, intellectual or spiritual pursuit that brings a sense of meaning, fulfillment and belonging. Participation supports positive health: it provides engagement, or 'flow' experiences that are intrinsically satisfying, a sense of purpose and the opportunity for positive social relationships[31]. Having a sense of purpose contributes to a lower risk of dying for persons of all ages (96). Social and intellectual engagement is linked to good self-reported and objective health among young to very old adults[32] and to good cognitive functioning in later life.[33] Working beyond the age of retirement is a protective factor against dementia[34]. Collectively, engaged people in the community create social capital that is consistently associated with health and wellbeing of individuals[35], and high labour participation contributes to prosperity and public revenues for social programs.

Over the life course, work constitutes a major component of participation. Meaningful employment is a source of economic security, self-esteem and social integration as well as of social stability. Chronically high unemployment and underemployment, particularly among young adults in many countries, is a significant risk to their capacity for *active ageing*, with negative impacts on their health and economic security[36].

Volunteer participation in non-profit organizations, charities and community groups is important for personal quality of life and to society as a whole. It is recognized by the UN as a powerful force for empowerment, citizenship and human development (97).

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The economic value of volunteer contributions for 36 more and less developed countries taken together is estimated at US$400 billion annually (97). Persons of all ages volunteer, and being a volunteer in youth strongly predicts volunteering throughout adult life[37]. While proportionally fewer older persons are volunteers, often for reasons of health, older volunteers donate far more hours of their time than any other age group[38].

The active participation of citizens in the decision-making processes in society keeps democracy robust, makes policies more responsive and empowers individuals. Persons who have more resources – those who are better educated, have higher incomes, more extensive social networks, and are mature adults – participate more in political and social life (98). Nevertheless, people who are engaged in civic activities in youth maintain their engagement throughout their lives (99). Encouraging stronger civic engagement among younger groups will become increasingly important to ensure that their voice is heard in a healthy dialogue between generations on social issues, e.g., through youth voluntary associations[39]. Having access to Internet is also associated with civic engagement[40]; thus, providing greater internet access and proficiency training may be a means to facilitate participation by persons who have been excluded from civic life.

Pillar 3: Lifelong learning

Globalization and the expansion of the fast-changing knowledge-economy means that information is the most valued commodity[41] and access to information is a key to *active ageing*. Lifelong learning is important not just for employability but also to strengthen wellbeing. It is a pillar that supports all other pillars of *active ageing*: it equips us to stay healthy, remain relevant and engaged in society, and assure our personal security. At the level of society, people in all walks of life and at all ages who are informed and with up-to-date skills contribute to economic competitiveness, employment, sustainable social protection and citizen participation. By enabling general prosperity, lifelong learning contributes to solidarity between generations. The OECD considers education to be one of the most important components of human capital in an ageing world[42].

Learning can take place in a formal context where knowledge is acquired in a structured way with the purpose of obtaining a recognized grade or diploma. Formal learning is traditionally concentrated early in life, but it is increasingly in demand across adulthood, both for professional specialization or career change or simply for personal enrichment. Much additional skills development takes place in a non-formal setting, through planned activities such as workshops, short courses, and seminars. Finally,

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informal, or experiential learning takes place in daily life at home, in the workplace and in leisure activities at all ages.

Learning needs are multiple and constant over the life course. Besides formal schooling and literacy skills, health literacy is necessary for self-care, financial literacy to manage income and expenses and technological literacy to be connected. Persons with lower educational attainment, a group which often includes racial and cultural minorities, immigrants, disabled and older persons, and, in many countries, women as well, are less likely to have these skills.

Organized adult education beyond formal schooling tends to focus on the acquisition of work-related knowledge and skills for persons in the active labour force. The requirement for a more inclusive and strategic approach tailored to different target groups to promote *active ageing* has been recognized by the European Commission[43], including early school leavers and drop-outs and immigrants. A yet more comprehensive life-course model for adult learning proposes a range of programming to meet coping needs, contributive needs and cultivating needs (i.e., self-improvement)[44].

Pillar 4: Security

Security is the most basic of human needs, without which we cannot develop our potential and age actively. Insecurity has a corrosive effect on our physical health, emotional wellbeing and social fabric. Threats to security at a societal level include conflict, effects of climate change, natural disasters, disease epidemics, organized crime and human trafficking as well as sudden and/or prolonged economic and financial downturns[45]. At the individual level, risks can be disease, deaths in the family, periods of unemployment and moving far away from homeland. Intense and chronic forms of stress caused by threats to security lead to mental health disorders, with higher risks among women, adolescents, older persons and persons with a disability (100). Food insecurity is associated with developmental problems among children and chronic illness among adults (101). Persons whose security is most at risk are those with the least power in society – children and youth, women, older persons, immigrants and persons with a disability. To assure the security we all need to survive and to thrive, the UN Human Security Trust Fund calls for “freedom from fear, freedom from want and freedom to live in dignity”[46].

The majority of older persons in the world have no income security. Those who had a previous job will often need to continue working, often in low paid jobs. Add to them the many thousands of women who have never enjoyed the privilege of a paid job and who

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are relegated at older ages to ‘lives in the shadows’. Health care, long-term care and social services are also non-existent or inadequate in the majority of countries. However, the situation is improving in several middle income countries. Recognizing that social protection programs promote human development, political stability and inclusive prosperity, these countries are expanding their social protection systems, for the benefit of citizens of all ages[47].

Through effective policies addressing these four pillars of *active ageing* individuals are able to acquire the resources over the life course for personal resilience and wellbeing. The factors that influence personal *active ageing* – the development of resilience – include biological make-up, personal behaviors and psychological dispositions, but these in turn are strongly shaped by external determinants, most of which are highly influenced by social policy decisions.

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SECTION IV: DETERMINANTS OF ACTIVE AGEING – PATHWAYS TO RESILIENCE

To explain the multiple and interactive factors that shape whether a person ages actively over the life course, in 2002 WHO proposed a set of interrelated *Determinants of Active Ageing.* Culture and Gender are overarching, cross-cutting determinants that shape the person and his or her environment over the life course. Personal determinants and behaviors are specific to the person. The physical environment, social ~~and~~ determinants and health and social services constitute the contextual factors.

[Figure xxx – Determinants of Active Ageing]

Figure 8. The determinants of Active Ageing

These determinants interact to form the dynamic web of protective conditions that foster the development of reserves for resilient responses or of risk factors that hinder the development of reserves or erode the reserves available. *Active ageing* involves the dynamic interplay of risk and protective factors over a lifetime in the person and in the environment.

Although there is an increasing body of research based on longitudinal data on many of the determinants, there is still limited understanding of how they interact across the life course. Moreover, the majority of research on the determinants of *active ageing* is produced in North America and Europe although more evidence from middle-income countries is emerging, notably from the Survey of Ageing and Adult Health (SAGE) conducted by the WHO (102).

Culture

Culture refers to the shared meanings of a society that are expressed in traditions and rituals and expectations about individual and group behavior. Culture shapes every aspect of life: what and when people eat, how they perceive their bodies and the

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practices they use to maintain health and treat illness. It influences the roles of men and women, ideas regarding the place and value of persons of different ages, social classes and other cultural or racial groups. Relationships within the family, living arrangements and expectations for care at all stages of the life course are culturally bound. Culture also provides people with a sense of identity and belonging that can sustain them in times of difficulty. Extensive migration is creating a growing diversity of cultures within the same society that can stimulate tolerant attitudes and behaviours. However, differences in culture sometimes lead to group frictions and social exclusion. Considering culture as a lens to analyse and develop policies and practices in all sectors is critically necessary, particularly in societies that are now increasingly multicultural.

Health behaviours vary widely among cultures. It is well-known that diets that are mostly plant-based, such as the traditional eating patterns of Mediterranean (103) and many Asian cultures (104), are more health-promoting over the life course than diets high in saturated fats typical of North America and parts of Europe. Yoga[48], tai-chi[49] and meditation[50] are preferred self-care practices in parts of Asia that are effective for managing stress and/or enhancing physical function. Help-seeking behaviours and accepted remedies during illness differ as well; many immigrants, particularly those in old age, use health-care practices and remedies with which they are familiar, perhaps in combination with host country medicines[51]. They may have unmet health needs owing to difficulties accessing the health services of the host country[52].

Culture shapes the attitudes and ways of coping with life’s difficulties that are adopted throughout life. There are many differences in approaches between specific groups in dealing with particular problems. One view distinguishes between cultures that are more individualistic, that is, they encourage attitudes and behaviours directed to personal action to solve problems and change circumstances, and cultures that are collectivist, or which favour strategies to adjust to situations and to manage negative emotions by e.g., spirituality, social support and reappraisal[53]. Whether one strategy or the other is generally more protective for *active ageing* may depend on the specific life circumstances.

Minority cultural and racial groups within a society often experience discrimination that excludes them from economic and social resources as well as assaults on their self-esteem. However, their culture can provide a protective buffer in the face of injustice if it provides a strong sense of ethnic identity and of empowerment in relating to other groups[54].

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In all societies, family members take care of one another throughout life. However, in some cultures, families are expected to take full responsibility for the care of older members. Traditionally extended family living arrangements have been the norm in many countries, but there is evidence that these arrangements are changing, although family support still remains strong[55] but urbanization, modernization and participation of women in the paid work force are eroding multigenerational household[56] arrangements. In other societies, both older persons and their adult children value their independence and maintain 'closeness at a distance' ~~as much as possible~~. Each norm has implications for self-care and financial planning throughout life, for the personal aspirations beyond care roles that girls and women can have, for preferred housing types and living arrangements in society, and for expectations regarding society's role in supporting older citizens. The norm of filial responsibility also influences the personal experience of caregiving: a study of Chinese and of Caucasian family caregivers found that the caregivers of Chinese origin had better self-reported health and wellbeing because they considered caregiving to be a "normal" and valuable life role[57].

However, the culture of family care is increasingly challenged by demands resulting from a growing number of older dependent family members and a dwindling pool of available caregivers. Time-pressured and tired caregivers – mostly women – may rebel against the 'duty' of caring for in-laws and unmarried or childless aunts and uncles in addition to their own parents. Changing family structures and migration also mean that more ageing people will have no family available at all. Although more public support is needed in many countries, governments cannot fill the void entirely. An international consensus is emerging around the need to forge a culture of care, as expressed in the Rio Declaration on developing a culture of care to respond to the longevity revolution[58].

Ageism. All cultures convey beliefs about ageing and older persons, both positive and negative. These stereotypes influence attitudes and behaviors in response to one's own ageing and to older persons as a group and as individuals. Categorizing and treating people on the basis of their chronological age is a cultural risk factor for *active ageing* in many ways. At an individual level, research has demonstrated that negative age stereotypes have a harmful effect on self-esteem, memory and longevity[59]. Personal discomfort with ageing can lead to age-rejection – denying or attempting to hide one's age, not only with beauty products but also with a proliferation of nostrums and aesthetic surgery. Rates of cosmetic surgery have increased in tandem with population ageing[60]. The United States and Brazil are the countries with the highest number of esthetic surgeries in 2013[61]. On the other hand, as other research in Brazil shows, the ageist belief that disease and disability are inevitable consequences of

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ageing contributes to passive attitudes among older people and lack of potentially effective behaviours to control chronic disease[62] (reference to Giacomin et al). Other research shows that internalizing the negative stereotypes of old age can be detrimental to older people's performance[63].

Discrimination because of age or other social characteristics is increasingly recognized as a risk factor for health[64] because it limits access to the other determinants, such as economic resources or to services. Like other social biases, such as racism or sexism, ageism is displayed in actions that overlook relevant age-related differences as well as in actions that overlook the similarities between older and younger persons[65]. Examples of overlooking meaningful age differences include designing urban environments that disregard age-related changes in mobility. To illustrate, older people consulted for the *WHO Age-Friendly Cities Guide* in 33 cities worldwide, consistently reported that pedestrian crossing signals were too short and that there were too few benches for pedestrians to rest[66]. Another failure to recognize age differences is in the area of emergency planning and response; the WHO report *Older persons in emergencies: An active ageing perspective*[67] identified several natural and conflict-related emergencies in which emergency responses did not take into account specific vulnerabilities more common among older persons, such as mobility limitations and greater susceptibility to temperature variations. Failing to recognize the similarities between older and younger persons leads to age-based discrimination in the workplace, for instance, in the reluctance to hire and train older workers and in mandatory age-based retirement policies. In health care, false beliefs that diseases are less treatable at older ages result in discrimination in access to diagnostic services and interventions[68].

Gender

Ascribed assumptions about men and women determine the opportunities and risks for active ageing from birth onwards in all areas of life. Although important advances have been made in many countries in recent decades, there remain significant discrepancies between women and men. The accumulation of these disparities powerfully impacts on the health and well-being of older adults in multifaceted ways and is enormously consequential to the wider society.

Women and Ageing. The dominant assumption in virtually all cultures of female inferiority has far-reaching effects, and is aggravated by other social conditions, such as poverty, disability and old age. As documented by the World Economic Forum[69], women are disadvantaged to varying degrees in all countries and in all areas of life – economic participation and opportunities; educational attainment; health and survival;

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and political empowerment. Substantial progress has been made, especially in more developed regions, but no country can yet boast that women and men are completely equal[70]. And there are recent instances of increases in gaps: in Australia, for example, women are earning 81.8 cents for every dollar a man earns, down from 85.1 cents ten years ago[71].

The WHO report on *Women, ageing and health* presents several specific gender inequities[72]:

- Girls and women may have less access to nutritious food, to health-promoting physical activity and to adequate sleep.
- They have less access to education, to opportunities for participation and personal development outside the home.
- In education and the labour market, gender stereotypes restrict women's career choices, level of aspiration, salary and retirement income.
- Women may not be entitled to inherit household wealth, or to receive a fair settlement upon divorce.
- Expectations regarding women's traditional caregiving role in the family often limits their possibilities of personal and professional development outside the home, as well as their current and future financial security.

Caregiving, especially long-term caregiving of disabled persons, is mostly women's work, and it exacts a major toll on health[73]. Girls and women are much more likely than boys and men to experience domestic violence and sexual abuse[74]. Women face discrimination in access to health; for instance, women are typically excluded from clinical drug trials, and they do not have the same access as men to many specialist services and interventions[75,76].

Advancing age- and sex-related biological differences, compounded by the cumulative impact of social inequities over a lifetime, lead to greater morbidity and disability. Although, globally, 40% of all men and women over 60 live with a disability[77], more women experience mobility problems, incontinence, falls-related injuries, dementia and depression[78].

Having married husbands older than themselves and depending upon their income, women are much more likely to be widowed and impoverished in late life. It is common for older women to live alone with low income, often with chronic diseases and disabilities, and thus to be socially isolated and vulnerable. Women of advanced years are the population group most in need of community care[79]. A protective factor for women against isolation, however, is their closer ties to family members and generally more extensive network of friends in comparison to men[80].

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Men and Ageing. Despite enjoying many more of the social and economic advantages that support *active ageing* than women, men's socialization in most cultures to be 'masculine', i.e., tough and self-sufficient, engenders a number of risks to physical, social and mental wellbeing. Men are more likely to consume excessive alcohol[81], to smoke[82], to consume illicit drugs[83] and have road traffic accidents[84]. Men are the most frequent victims of violence outside the home. In Brazil, the higher likelihood of death by violence and suicide explains why, in 2013, 22 out of 1000 young males aged 15-24 died before their 25th birthday, compared to 12 out of 1000 young females of the same age[85]. In nearly every region of the world, men over 60 years have the highest suicide rates, with rates rising progressively per decade[86]. Some studies show that men are less willing to seek help for health problems[87]. In a random survey of Australian adults, men were less likely than women to seek health information or to take personal responsibility for their health[88]. Because generally more men work outside the home than women, they may experience more difficulty getting to health services that have restricted day-time opening hours[89]. The transition from work to retirement may be more difficult for men as their identity may depend more on their occupation, and their social relationships outside the family may be principally work-related[90]. Older men are very resistant to participating in organizations for older persons but may participate more when the services appeal to their particular interests or professional experience [91].

Socially, men are less likely to cultivate social relationships with family members and friends, tending to rely on their spouse to perform that role[92]. Older widowers are more likely than widows to remarry, possibly because they have less companionship with peers than do widows[93]. Social isolation among older men reflects a reluctance to engage with others, and the risks for isolation are higher for divorced and never-married men[94].

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Behavioural Determinants

Individual behaviours play a very direct and significant role in *active ageing*. Healthy behaviors promote a longer life and optimum functional capacity and wellbeing, whereas unhealthy behaviours increase the risk for mortality, disease and disability. The world's leading chronic diseases – cardiovascular disease, high blood pressure, cancers and Type II diabetes – are causally linked to: tobacco use, lack of physical activity, unhealthy eating and alcohol consumption[95]. Health-related behaviours are basic to the development of resilience because they contribute to energy, stamina, strength, resistance to disease and injury and positive moods. Nevertheless, the

surveillance of health behaviours in older age is lacking[96], despite the fact that health promotion interventions can be beneficial and cost-effective in older age[97, 98].

Although these behaviours are individual and thus can only be modified by personal action, their adoption, maintenance and cessation (as appropriate) are powerfully determined by social and economic factors. Placing the exclusive onus on individuals in disadvantaged circumstances to adopt 'healthier lifestyles' is blaming the victim. Jurisdictions with better track records of health behaviours are those which have implemented population-level policies which, in the words of the *Ottawa Charter on Health Promotion*, "make the healthy choices the easy choices"[99].

Population-level interventions can be complemented by well-designed health promotion measures targeted at the individual level. A review of systematic reviews[100] reported that some health promotion interventions targeted at the individual level which are most effective in the short-term are those that occur in school-based or work-based settings and that include advice by a physician and individual counseling. The same review concluded that more research is needed to determine interventions that have long term effectiveness, and that are effective in groups with health inequalities.

Tobacco. As the leading preventable cause of death in the world, smoking more than doubles the risk of dying within 10 years[101]. It is a risk factor for several types of cancer, including lung, bladder and oral cancer, as well as for heart disease, stroke, chronic obstructive lung disease, osteoporosis, cataracts, rheumatoid arthritis, tooth loss, Type II diabetes and a weakened immune system in general[102]. Smoking is also linked to cognitive decline from middle to older adult years[103]. The harmful effects are greatest for the smoker, but others who are subjected to second-hand/passive smoke suffer negative consequences as well.

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According to WHO[104], male smokers outnumber female smokers by 4:1 on average, although there are wide variations among countries. Smoking rates have declined significantly in some more developed countries, but remain stubbornly high in many less developed countries, especially among men. In Egypt, 39% of men and 0.4% of women are smokers. In China, 57% of men and 2.6% of women smoke, and in Russia, smokers account for 60% of adult males and 15% of adult females. In contrast, through aggressive anti-tobacco policies, Brazil has managed to reduce the prevalence of smoking to 17% and 10% for men and women respectively.

Brazil's Tobacco Control Success Story

Brazil reduced adult smoking from 34.8% in 1989 to 18.5% in 2008 by implementing progressive and strong tobacco control policies, including:

- Complete ban on smoking in public outdoor and indoor places
- Restrictions in cigarette advertising
- Gradual increases in taxation of tobacco products
- Graphic warning labels and information on where to get help to stop smoking on

Cultural norms have protected women in many less developed countries from smoking. However, improvements in gender equality and targeted marketing by the tobacco industry may cause female smoking rates to increase, as was the case in more developed countries in the latter part of the 20th century.

In most regions, smoking is associated with lower education[105] and with lower income[106], especially among men. Less educated and poorer persons may be less aware of the health hazards of smoking, may use it as means of managing stress, or because it is one of the few pleasures in an otherwise difficult life. Their social environment is less likely to support any efforts to quit. The irony is that tobacco not only damages their health, but also impoverishes them even further by reducing their productive capacity.

Healthy Eating. There is wide consensus that a healthy diet at all ages consists of a variety of nutrient-dense whole grains, fruits and vegetables, low-fat dairy, proteins low in saturated fats, and limited amounts of red meats, salt and sugars[107]. Post-menopausal women require more calcium and vitamin D to mitigate bone loss[108]. However, although much is known about healthy eating, overweight and obesity have reached epidemic proportions worldwide: first and still a major problem in more developed countries, the prevalence is rising in less developed countries, particularly in urban settings. From 1980-2013, the global prevalence of overweight and obesity (Body Mass Index of 25 and higher) rose from 28.8% to 36.9% for men and from 29.8% to 38.0% in women[109]. The fact that healthier and more nutritious food is often more expensive acts as deterrent to changing eating habits – a white diet (rich in sugar, refined grains, starch, salt, fat and alcohol) is much less expensive than one that 'brings colour to your table'.

Obesity especially is a risk factor for Type II diabetes, hypertension, heart disease, some cancers and osteoarthritis[110]. Obesity-related chronic conditions have doubled since 1990[111] and it is possible that the gains made in healthy life expectancy will be lost as a result of obesity[112]. Urban lifestyles are more sedentary, and processed foods

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high in fat, salt and calories but low in nutrients are widely available as result of globalized markets. Obesity combined with malnutrition is more prevalent among persons of lower socio-economic status because processed foods are cheap and filling and highly marketed. With higher rates of obesity than men, women in less developed countries face greater risks, whereas both men and women face equally high risks in more developed countries. Only in India is undernutrition the greater mortality risk[113].

Underweight malnutrition is a relatively common concern among older adults especially those living alone in the community, as well as those in hospitals and long-term care institutions (in more developed countries)[114,115]. The causes are multiple, and include ageing-related losses in taste, smell and satiety, cognitive impairment, physical disabilities and poor dentition that make eating difficulty, side effects of some medications, chronic illness and depression[116]. Community-dwelling older persons may eat poorly owing to social isolation and poverty[117]. Inadequate nutrient intake contributes to frailty, falls, weakened immune systems and poor wound healing and depression[118].

Physical Activity. The lifelong and pervasive benefits of regular physical activity at all ages on physical, cognitive and mental health are well-established. Exercise is one of the most important things one can do to promote active ageing, and it is never too late to reap benefits from physical activity. It reduces risks for heart disease and stroke, diabetes, cancer, depression, falls and cognitive decline; preserves mobility, muscle strength, endurance, bone strength, balance and coordination.[119] Yet, the level of physical activity globally is decreasing worldwide at all ages as a result of increasingly sedentary lifestyles[120]. Physical activity levels are lower among women than men[121] and in older age for both sexes[122]. As reported in the *WHO Age-Friendly Cities Guide*, several features of urban environments discourage outdoor walking[123], such as high-density traffic, poor air quality, violence and the absence of sidewalks, parks or recreational facilities. Policies that encourage the use of private cars instead of active transportation also detract from healthful physical activity.

Sleep. Getting adequate sleep is an overlooked contributor to *active ageing*. Regularly sleeping two hours less than the recommended eight hours per night increases the risk of obesity, diabetes and cardiovascular disease and reduces resistance to infection, as well as impairing learning, memory and problem-solving, while sleeping five hours or less may increase mortality risks by up to 15%[124]. ~~However, r~~research in more developed countries show that average sleep duration has decreased among adults from eight to seven hours and that reported sleeping problems have increased, with persons who are unemployed, or with lower socio-economic status reporting more

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problems than others[125]. Shift worker and night workers have higher risks for long-term health problems, including cardiovascular disease[126]. Although they need the same amount of sleep as when they were younger, older persons commonly experience difficulty getting adequate sleep. These result from normal ageing-related changes as well as from conditions that cause secondary sleep disturbances, e.g., osteoarthritis, and enlarged prostate. A recent study of people aged 50 years and older in six countries found a positive association between cognitive performance and sleep duration of 6-9 hours and self-reported good quality sleep[127]. Thus, adults who are already experiencing chronic sleep deprivation may have lower resilience for negative health consequences as they grow older.

Safe Sex. Gerontolescent Baby Boomers are probably more sexually active than their parents: they are in better health, more often divorced or single, sexually more liberal than previous generations, and have access to drugs that enhance sexual performance, such as *Viagra*®. According to an AARP survey[128], the majority of middle-aged and older US participants say that sex is important to their quality of life, and about one-third report having sex at least once a week. Yet, the same survey indicates that a minority of the sexually active singles use condoms. Unprotected sexual activity and the longer survival of persons with HIV-infection are driving up the rates of sexually transmitted diseases (STDs) among older adults. The US Center for Disease Control and Prevention reports that rates of Chlamydia in the 55+ age groups rose by 41% from 2005 to 2009[129], and the rates of syphilis rose by 67%[130] (although older adults still have much lower rates of these diseases than younger persons). In sub-Saharan Africa, the introduction of antiretroviral drugs has improved the life expectancy of many persons infected with HIV. It is estimated that three million, or 14% of the HIV-positive population aged 15 years and older, are 50 years and older[131]. Women are especially at risk of contracting STDs: with thinner vaginal walls that are vulnerable to tearing, they are more susceptible to infection. In addition, after menopause, they are less likely to consult a gynecologist for cervical cancer screening. A major barrier to screening and treatment of STDs for both men and women is the ageist assumption that older persons are not sexually active[132].

Alcohol. Alcohol consumption is growing in tandem with economic development and is causing negative effects on health at all ages. Drinking is associated with more than 200 health conditions, according to WHO[133], although cardiovascular disease and diabetes are the most frequent causes of alcohol-related deaths. The largest consumers of alcohol are in the Americas and Europe, especially Russia and Eastern

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Europe, but rising wealth in emerging economies, such as China and India, is driving up alcohol use[134].

As observed earlier, far more men are excessive drinkers than women at all ages. Children, adolescents and older adults are more vulnerable to the effects of alcohol, and the younger one starts to drink, the greater the chance of later dependency. The number of people who drink alcohol and the amount consumed decreases with age, as people become more sensitive to its effects, or take medications for which alcohol is contraindicated. Older persons with alcohol dependency problems may be long-time heavy drinkers, or they may have acquired the dependency in later life to cope with life stresses[135]. In addition to the chronic disease effects, alcohol is implicated in falls, road traffic accidents and in violence, including domestic violence[136]. The consequence of excessive alcohol use is a factor in the lack of improvement in life expectancy in Eastern European countries since 1980 and the rising rates in economically emerging countries that are ageing rapidly is a significant cause for concern[137].

Self-Care and Health Literacy. Behaviours that individuals practice in daily life to maintain their health and prevent illness are termed self-care. In addition to the behaviours described above, they include personal and dental hygiene, consultation of health professionals, vaccination, preventive screening, adherence to medication as prescribed and other voluntary actions to manage chronic conditions. Self-care is highly associated with health literacy, defined as the ability to obtain, process and understand basic health information and services to make appropriate health decisions[138]. However, low health literacy is very prevalent in all world regions, particularly among people who have lower income and education, poor language skills and who are older. Even in more developed countries, such as Canada, the United States, Australia and New Zealand, less than 50% of adults have adequate health literacy skills[139]. In short, these findings mean that the majority of people in the world do not have adequate knowledge to care for their health properly. Other factors that contribute to self-care include self-efficacy[140] (beliefs in one's ability to succeed in a specific task) and the presence of social support[141].

Personal Determinants.

Biology and Genetics. Considerable research shows that genetic factors account for no more than 25% of difference in the age at death of individuals, and that some of the resistance or susceptibility to many diseases is also heritable[142]. Genetics contribute to differences in intelligence, and to familial Alzheimer Disease, though only less than 1%

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of all cases of the disease are of this form[143]. Certain attitudinal dispositions that are associated with psychological wellbeing are evident from earliest infancy, such as sociability, optimism and warmth[144] and recent studies indicate a genetic basis for happiness[145]. Environmental and social factors, however, strongly influence whether and how most innate dispositions are expressed during development and aging.

Cognitive capacity. Consensus exists regarding the patterns of cognitive change over the life course[146]. Some cognitive abilities peak in young adulthood and decline with advancing age, such as mental speed, solving new problems, spatial reasoning and multi-tasking. However, abilities that rely on the accumulation of knowledge and expertise increase with age, such as vocabulary, general knowledge, and specific knowledge and skills learned through the various roles, occupations and interests over the years. There is wide variability in intellectual ability at all ages, and some older persons have equal or better ability than younger persons. Until a very advanced age, older adults perform as well as their younger counterparts on tasks requiring wisdom, that is: "good judgment in important but uncertain matters of life"[147] and they may outperform young peers in areas in which they both have expertise[148].

Although decline in cognitive functioning and the onset of dementia are associated with older age, they result from social, environmental and individual factors that are largely modifiable. Research indicates that older persons who have 'cognitive reserve' despite the presence of brain disease or damage have more education, social participation, stimulating activities, healthy lifestyles, and positive mental health[149].

Psychological Factors. A review of a large body of research on psychological wellbeing conclusively shows that several emotional dispositions and psychological characteristics are associated with resilience throughout adulthood as manifested by continued good health, robust recovery from illness and mental wellbeing[150]. Among these important characteristics are positive emotions such as hope and optimism, self-esteem, self-efficacy and spirituality. Further personality traits associated with continued wellbeing in later life include extraversion, conscientiousness (reliable, hard-working) and low neuroticism (emotional stability). Faced with difficulties or losses, resilient people can reduce or transform negative feelings through mature coping strategies, such as humor, helping others, stopping distressing thoughts or channeling the negative emotional energy to constructive ends.

Extensive research ~~led by Carol Ryff~~ has demonstrated how six key psychological dimensions contribute to a longer, healthier life and robust wellbeing among older adults[151]. These dimensions are: autonomy, environmental mastery (ability to manage

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one's immediate world), personal growth, positive relations with others, purpose in life, and self-acceptance. Possessing these dimensions can protect persons from negative effects of social and economic factors on health (such as low education and low income). Another evidence-based model of psychological wellbeing ~~developed by Martin Seligman~~ presents five building blocks for happiness at all ages: Positive Emotions, Engagement, Relationships, Meaning, and Achievement (PERMA)[152]. Research with older residents of long term care facilities has shown that the capacity for positive psychological adaptation is possible even among people with severe limitations who choose how to use their restricted reserves of energy in ways that are most personally gratifying[153].

Physical Environment

The physical environment can be a risk as well as a protective factor for resilience along the whole life course, especially in older age when functional capacity decreases and adapted, accessible environments are needed to compensate. An accessible environment promotes individual physical activity and may reduce the risk of injury while it encourages participation and social networks and supports independence. At a community level, an accessible physical environment fosters social interactions which build social cohesion.

Public outdoor spaces, such as parks, provide opportunities for socializing, exercising and other recreational activities. While the availability of public outdoor spaces may generate more physical activity, other spatial features are associated with greater use, including their size[154], attractiveness[155], safety[156], intensity of traffic[157], street connectivity[158], events[159], maintenance[160] and access to walking trails[161]. The very presence of green spaces can contribute to better physical and mental health not only by encouraging walking and improving air quality, but also by reducing stress and improving mood, and facilitating pleasant social encounters[162].

Urban design. The distribution of land for residential, commercial and other uses has an impact on outdoor mobility. Generally, people walk more in mixed-use neighbourhoods in which residential areas and retail destinations are close[163]. The mobility of older adults in the outdoor built environment also depends on the topography (flat or hilly) and design features, including curb ramps, street crossings, lighting, weather, sidewalks and benches[164].

Transportation. High-density, mixed use urban settings are conducive to the use of public transportation services to the same extent, if not more, than private vehicles. In more developed regions, low-density suburban and rural communities where public

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transportation may not be cost-effective, private cars are the dominant mode of transportation. Whatever the mode, personal mobility depend largely on the availability, accessibility, acceptability and affordability of transportation. Having transportation options becomes increasingly relevant when functional capacities decrease.

In more developed countries or among well off individuals in developing countries, communities where private cars are the most common means of transportation, most older people drive[165]. Having the freedom to drive affects feelings of independence, control, inclusion and status of older people[166]. Sensory, perceptual and decision-making changes, as well as disabilities and medications affect driving skills however, and changes in driving habits become necessary for safety (e.g., avoiding driving at rush hour or at night). Giving up driving limits engagement outside the home and can negatively impact on quality of life[167] if alternative modes of transportation are not available or acceptable.

Accessible public transportation can have positive health impacts on older adult users. Free local transportation, for example, has been shown to reduce the risk of obesity in older people[168] and to lead to more social, voluntary and economic participation and wellbeing[169]. However, more studies on the use of public transportation by older adults are needed, as is research on mobility and wellbeing for functionally-impaired persons of all ages who neither drive nor use public transportation.

Buildings, including Housing. The design of buildings, their location and quality, such as the appearance of mould, dampness, traffic noise etc. are factors that influence health at all ages[170]. These characteristics further depend on a person's socioeconomic status. A person with low income is much more likely to live in dwellings exposed to several health risks, such as geographically hazardous areas (e.g. slopes and shores), pollution (e.g. from traffic or industries), inclement weather and toxic materials and poor accessibility to services[171].

Most people prefer to "age in place"[172], that is, in the community where they live and also preferably, in the dwelling they call 'home'. Architectural barriers in the home environment are a major cause of decreased functional capacity, including cognitive functioning[173] and of risk for falls. Home modifications can positively impact ageing-in-place with improved usability of the home[174], increased independence in daily activities[175] and reduction in the number of falls[176]. Yet housing adaptations or alternative accommodation can trigger a sense of a loss of control for the older person if they are not accepted[177]. One example is the retirement village or retirement home

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which, despite offering many amenities, can isolate people far from their homes and familiar communities and from the opportunity to interact with other generations.

Natural environment. Environmental and climate change pose long-term and immediate challenges to the resilience of individuals and the capacity of communities to manage extreme events successfully. Over the long-term, air pollution creates or exacerbates respiratory problems and cancers. WHO has estimated that seven million premature deaths result from air pollution annually[178]. Increased ultra-violet light exposure increases risks for cataracts and skin cancers. The emergence or spread of previously unknown bacteria, viruses and insects pose new disease hazards. Population groups most vulnerable to these long-term effects of climate change include children, older persons, people in poor health or with disabilities and persons with low-incomes[179]. Air pollution in China, for example, has shown to have disastrous consequences for older people's healthy life expectancy and longevity[180].

Although severe environmental events (drought, flooding, heat waves or cold snaps, severe storms) and non-climate related natural disasters (e.g., earthquakes, tsunamis) have impacts on the wellbeing of entire communities affected, they have a stronger impact on mortality rates of 'vulnerable groups': children, older people and persons with disabilities[181]. In the 2011 Japan tsunami, 31% of the affected population was aged 60 and over, but they accounted for 64% of those who died[182]. Similarly, 70% of the deaths due to Hurricane Katrina in New Orleans in 2005 occurred among older people, although they represented only 15% of the population[183]. Unusually extreme heat for 10 days in Europe during the summer of 2003 resulted in nearly 35,000 excess deaths, predominantly among persons aged 70 and older, and the greatest number of these deaths – almost 15,000 – occurred in France[184]. These occurrences will become more frequent, and they will affect greater numbers of older persons. Due to reduced functional capacity, higher rates of illness and an often smaller social support network, older people are more vulnerable to the event itself and suffer more from its consequences, such as limited access to medication or food[185]. At times of scarce resources and services, older people may be forgotten in the emergency responses. Older persons are a very diverse group, however, and many can and do contribute their skills and experience to relief and rebuilding efforts. As recorded in the case studies from several countries collected by WHO[186], older persons support their families, use their position of respect to keep the community intact, and offer material and practical assistance. Often more vulnerable in emergency situations, they also have many, and sometimes, unique, contributions to make in recovery and rebuilding communities.

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Social Determinants

The social environment and personal networks of family, friends, colleagues and acquaintances exert powerful effects, either enhancing or undermining resilience throughout life.

Education. More educated people live longer and healthier lives than their less educated counterparts[187]. Higher education leads to higher levels of income, more income security and better working and living conditions which in turn lead to better health. Higher education influences health literacy which leads to healthier life styles. Education also strengthens cognitive resilience: in older adulthood, more highly educated people have a lower risk of dementia than their peers with lower education[188].

Further emphasizing the importance of lifelong learning, the benefits do not appear to be limited to formal education early in life: learning as an adult has a positive impact on social self-esteem and confidence[189], social participation, physical activity levels and smoking rates, as well as skills, chances of finding a job or getting a promotion[190]. A Swedish study shows that, especially for less educated people and for women, earning a degree as an adult significantly increases labour market participation and wages[191].

Learning in older adulthood also contributes to wellbeing. For instance, participating in arts, music or evening classes is found to improve the wellbeing of people aged 50 and over[192]. Other studies have reported higher self-reported cognitive performance, health, levels of activity and affect[193] as well as improved measures of cognitive performance among older adults enrolled in courses compared to non-participants[194,195]. Despite the significance of later life learning for wellbeing in later life, participation rates of older adults decrease with age[196] and those who may benefit most, participate less[197].

Social support. There is solid evidence supporting the association between social support and physical and mental health[198]. Social networks can provide emotional support, reinforce healthy behaviours, improve access to services or jobs and information as well as material resources like childcare, transportation, food or housing and immigrants integrate into society[199,200]. The association continues in older age too: people with strong social networks have fewer health risk factors, lower rates of heart disease and lower rates of mortality[201], as well as better mental health. In older age, supportive social networks can become smaller and more family-focused, owing to changes such as spousal bereavement, changes in personal health or family caregiving responsibilities[202].

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Social exclusion. Social exclusion has been defined in an encompassing way by Billette and Lavoie as a:

> "process of non-acknowledgement and deprivation of rights and resources of certain segments of the population (…) leading to social isolation in seven dimensions: symbolic exclusion (negative images or invisibility); identity exclusion (a person's identity is reduced to belonging to one group); socio-political exclusion (barriers to civic/political participation); institutional exclusion (reduced access to services); economic exclusion (lack of financial resources); exclusion of significant social ties (absences/loss of social network); and territorial exclusion (reduced geographic living area, unsafe neighbourhood)"[203].

Underprivileged and minority groups in any society are at risk of social exclusion[204]. Without resources, information or support to facilitate their participation in society, and facing active rejection, these persons are more likely to experience a range of health problems, addictions, breakdown of relationships and social isolation[205]. Research on older persons from ethnic minorities living in deprived neighbourhoods found that a high proportion face multiple types of exclusion and experience loneliness, and low quality of life[206]. Social exclusion of older persons can result from demographic and socio-economic changes in the neighbourhoods in which older people live. Feeling like strangers in their home cities was an experience reported by older persons in Tokyo and in London (UK) consulted for the *WHO Age-Friendly Cities Guide*[207]. In Montreal, Canada, gentrification of lower-income neighbourhoods resulted in a sense of exclusion by older residents with respect to their sense of identity, social networks and political influence on local planning, although the addition of a new community centre in one neighbourhood enhanced their social inclusion[208].

Social isolation and loneliness. Social isolation refers to the objective lack of social contacts while loneliness is a subjective individual evaluation of the adequacy of one's social network[209]. Both social isolation and loneliness are commonly associated with higher morbidity and mortality risks, as well as unhealthy behaviours[210]. Among older adults, the experience of social isolation and loneliness is linked to lower cognitive function[211]. Older people with eroding social networks or restricted mobility, persons with mental illness and refugees are at a particular risk of social isolation and loneliness[212]. A cross-national study in 25 European countries shows that the prevalence of loneliness increases with age, but also that living in some of these countries is an even greater risk for loneliness than being older[213].

Violence and abuse. Violence and abuse experienced earlier in life continue influencing one's health and wellbeing throughout life. A systematic review revealed a causal relationship between non-sexual abuse (i.e. emotional or physical abuse or neglect) in

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children and later mental health problems, and risky health behaviours, such as drug abuse and risky sexual behaviour[214]. The impact of abuse on wellbeing in adult life depends on many factors, such as the severity of the abuse, the age when the abusive act happens, relation to the perpetuator, number of perpetuators as well as frequency and duration[215].

In the *Toronto Declaration on the Global Prevention of Elder Abuse*, developed by WHO in partnership with the International Network for the Prevention of Elder Abuse (INPEA), an encompassing definition of elder abuse is provided to guide prevention, identification and intervention:

> "Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person. It can be of various forms: physical, psychological, emotional, sexual, financial, or simply neglect, intentional or unintentional"[216].

Elder abuse exists within a cultural context. In many societies, acts of violence against older persons are embedded within local customs which must be identified and combated. The WHO report *Missing Voices*[217], prepared in partnership with the International Network for the Prevention of Elder Abuse (INPEA), provides examples that include abandonment and property theft of older widows and accusations of witchcraft against isolated older women. While elder abuse can happen to anyone, persons who are more vulnerable are socially isolated or lonely, cognitively impaired and have a family member with serious personality problems[218]. Abuse has multiple consequences on physical and mental health and material security[219]. Nevertheless, WHO reports that of 133 countries surveyed, 41% do not have any plan of action against elder abuse[220]. Based on the definition of abuse, the neglect of decision makers – who are in a position of public trust – to have such a policy itself constitutes a form of abuse.

Volunteerism. Volunteerism describes the reciprocity between individuals and the, actions of social and civic participation that contribute to the wellbeing of others, the organization and society as a whole. Volunteering is increasingly seen as a social behaviour in which both the intended beneficiary and the volunteer benefit. Through volunteer activities, citizens become engaged in community life, and often also in civic life, by interacting with institutions of the government[221]. Volunteering through organizations is more common in developed countries, but directly helping others is more frequent in developing regions[222]. Volunteering has shown to influence a person's wellbeing at all ages. It can be an opportunity to gain experience in the labour market

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for young people; it can have significant protective effects against social isolation, loneliness and social exclusion throughout adult life. Volunteering has been associated with low depression, and high wellbeing and quality of life[223] and lower mortality[224]. The benefits may be even greater for older adults: a study of the effects on long-term volunteering revealed that older adults experienced greater life satisfaction and better perceived health than did younger adults[225].

Muriel Beach is an 87 year old long-time resident of Chelsea, New York City. Despite significant mobility and health limitations, she rigorously continues a life-long pattern of engagement and activity. She enthusiastically applies her experience to voluntary initiatives on the local, municipal, state, federal and international stages.

"*At the end of a day I have the satisfaction of knowing that age has not prevented me from continuing to be a productive person; that my talents are not decaying or being wasted. The greatest reward for this active life are the deep personal friendships with people working to protect and improve living conditions for all"*

NB ADD PHOTO of MURIEL

Economic Determinants

Financial capital impacts health, opportunities for participation and learning and security. Economic risks and protective factors that come into play include household and community economic status, employment and working conditions, access to contributory and non-contributory pensions and social transfers.

Socioeconomic Status. The effects of income status start in earliest childhood and can last a lifetime, although changes in one's economic status can also alter the course, either for better or for worse. Income determines a person's options relative to housing, food, education, health care, etc. The social gradient, which links economic status and wellbeing outcomes for individuals and communities, is well-documented worldwide: wealthier individuals, as well as communities, have generally better wellbeing outcomes[226]. Throughout life, persons with low incomes are more likely to smoke, to drink alcohol excessively, to eat fewer fruits and vegetables and exercise less[227] and to experience more psychological distress[228]. The negative effects of low income persist into older adulthood and are reflected in a higher prevalence of chronic illness, functional limitations, psychological distress and higher death rates[229]. Data from the English Longitudinal Study of Ageing showed that, compared to wealthier people the same age, older people of lower socioeconomic status are more likely to smoke and to be physically inactive and obese; they have more chronic illness, more depressive symptoms, greater loneliness and poorer quality sleep[230].

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Employment and Working Conditions. A good job provides not only a decent income but also access to learning opportunities, social networks and psychological benefits, such as engagement, meaning, self-esteem and accomplishment[231]. Chronically high unemployment and underemployment, particularly among young adults in many countries, is a significant risk to their capacity for *active ageing*, with negative impacts on their health and economic security[232]. In several countries in the European Union in particular, the lack of economic recovery since the crisis of 2008 risks having long term repercussions on the current generation of young adults who have not yet been able to establish themselves professionally or financially[233]. What will be ageing be like for young adults who have already reached age 30 without a history of employment, and who still depend on their parents or grandparents for everyday expenses?

Unemployed people have been found to report poorer sleep, more mental and physical health problems and higher rates of mortality. Unemployed older workers have more difficulty reintegrating the labour force[234] at a time in their lives when ensuring financial security for retirement and for care needs in older age is paramount. On the other side of the coin, people who continue working beyond pensionable age maintain better physical, mental and cognitive functioning than retired age-peers[235].

Working conditions contribute to wellbeing no less than the income generated by work. A systematic review found that work flexibility has a positive impact on health in situations where workers exercise choice and control, such as self-scheduling work shifts, or choosing partial or gradual retirement. However, when "flexibility" means that the employer decides when and for how long a person will work, there may be negative effects on the wellbeing of worker health[236]. A longitudinal study in Germany has also found a correlation between employment insecurity and low health satisfaction[237]. Another German study work-related psychosocial stress is linked to poorer subjective health and to symptoms of depression[238]. Moreover, psychosocial work stress occurs among older and younger workers to the same extent and more so among workers with a lower educational background and income[239].

Employment or job creation is a core issue to be addressed in order to reduce growing inequalities. For work to contribute to active ageing, especially in a global economy with a highly mobile workforce and growing income inequalities, it must be decent work as defined by the International Labour Organization; that is, it should provide a fair income, workplace security and social protection for families, opportunities for better personal development and social integration, equal treatment of men and women, older

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workers, and persons with a disability and the freedom for workers to express their views, to organize and to take part in making work-related decisions that affect them[240].

In some more developed countries, the rates of participation in the labour force of older workers have been increasing slightly (see Figure xxx). Because governments of these countries realize that the continued working life of older workers is essential to productivity and the sustainability of social programs, policies are changing to increase pensionable age, and to promote life-learning and age-friendly employment practices. Significant barriers remain in the workplace, however, stemming from ageist myths regarding older workers' productive capacity, motivation and ability to learn. At the same time, some older persons – including many women – are obliged to keep working in low quality jobs because they have insufficient post-retirement income. The reasons include fragmented labour force participation, expansion of defined contribution pension plans, which offer no guaranteed post-retirement income, and the decrease in the value of retirement investments as a result of economic downturns. In many less developed countries, working as long as one is capable is a necessity for most people as the vast majority of workers lack any form of social security. In 2010, labour force participation of people aged 65+ was about 31% in low- and middle-income regions and 8% in high-income countries (use latest data by ILO)[241]. Having opportunities for dignified, safe and adequately remunerated work, to learning and to financial support for self-employment is fundamental to resilience in older age. Having the right to stop working and retire with the support of a decent retirement income when one is no longer capable, physically and/or mentally, is just as important for preserving personal capacity. The assumption that economic development in lower-income countries will provide public resources to support a dignified, necessary retirement for older persons explains the projected decrease in labour participation among the 65+ for these countries as shown in Figure XXX (see below).

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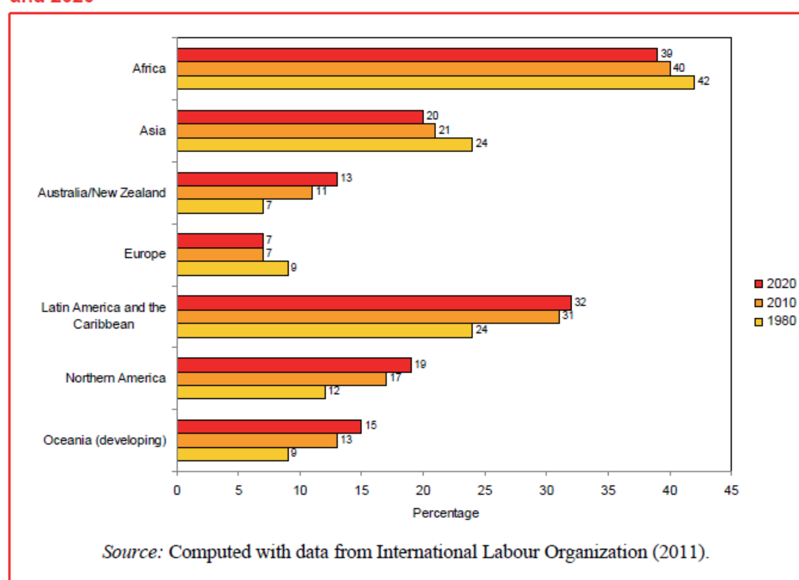
Figure 4.8
Labour force participation of persons aged 65 years or over by major area, 1980, 2010, and 2020



Source: Computed with data from International Labour Organization (2011).

[Graph – Percentage of labour force participation by people 65 and older, Figure 4.8 from UN DESA report – Substitute with graph 60+]

Pensions and Social Transfers. Pensions can be private or public cash transfers and they can be contributory or non-contributory. Non-contributory pensions can be universal, means-tested or pension-tested. In most OECD countries, more than half of the household income of people aged 65 and above comes from some kind of public pension[242]. The monetary value of a pension is an important determinant of wellbeing in older age; data from 13 OECD countries shows that generally health is better in those countries with more generous pension benefits and that this relationship is stronger for women[243]. In emerging economies, such as Brazil, where non-contributory pensions expanded quickly during the last decade, pensions and other cash transfers have had a significant impact on household wellbeing[244]. Besides a direct impact on the older pensioner's wellbeing, empowerment and nutrition, pensions are also found to have a positive effect on the local economy[245]. And while pensions are reported to influence the older recipient's wellbeing, there is evidence that it also leads to improved nutrition and schooling among younger household members[246] as well as lower child labour force participation[247]. Consequently, pensions foster resilience of older recipients and of younger generations. However, in less developed countries, only one in four persons aged 65 and older receive a pension[248]. In African countries, pensions are still mostly inexistent, except for public servants, including the army.

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Similarly to pensions, unemployment benefits have a positive impact on wellbeing. The generosity of unemployment benefits in 34 OECD countries was found to be positively related to life satisfaction[249]. Unemployment benefits are also linked to lower suicide rates among men, as shown in an analysis of data from 25 OECD countries[250]. In addition to cash transfers, in-kind state transfers, such as energy, food or housing subsidies or residential care services contribute to individual and household resilience. For instance, food subsidies for poor people in Mozambique, of which older people are primary recipients, also improve the nutrition of children in the same household[251].

Health and Social Services

Accessible and equitable health and social services are required to promote health, to prevent, treat, or manage health problems as they occur over the life course and to preserve quality of life until the end of life. Yet health and social services that respond to the longevity revolution in a sustainable and equitable manner are achievable only when equal priority is placed on supporting all the other determinants of *active ageing.* The life-course model of *active ageing* makes it clear that the package of services provided in ageing societies must address several goals with respect to functional capacity over a person's lifetime and to varied diseases and levels of disability.

Meeting the Health Needs of an Ever-Older Population

There is strong evidence that the presence of chronic diseases drives the use of health services rather than age *per se*[252]. However, because chronic conditions and disabilities become more prevalent with advancing age, health care use and spending rise in tandem with age[253]. In some countries, including Canada[254] and the United States[255] *per capita* costs of health care spending for older persons have increased over the years, as more interventions and new technologies have become available for problems common in older age, e.g. cataract surgery, joint replacement, coronary bypass. Health care and support systems face two overriding challenges in the longevity revolution: first, preventing chronic disease and disability, and second, delivering high quality and cost-effective care that is appropriate for individuals.

According to the WHO Global Burden of Disease estimates for 2010[256], 23.1% of total disease burden can be attributed to problems experienced by people aged 60+, (who constitute 11.7 % of the world's population in 2013[257]). In less developed regions, the disease burden per person among older people is higher than in more developed regions. The leading diseases contributing to disability in all regions are cardiovascular disease, cancers and chronic respiratory disease, musculoskeletal disorders, and

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neurological and mental diseases[258]. Some common conditions in older age are especially disabling and require early detection and management.

Dementia. In all regions, the number of people with dementia will rise sharply, unless fast progress towards its prevention is achieved. Already, dementia has become one of the top ten causes of mortality worldwide[259]. In 2013, 44.4 million people had dementia, and the numbers are likely to double over the next 20 years, to 75.6 million, and double again to, 135.5 million in 2050[260]. Of all persons with dementia, 58% live in less developed countries and this proportion is expected to rise to 71% by 2050, as more people live longer. Most persons in the world with dementia continue to live in the community, becoming increasingly incapacitated until death. The psychological and behavioral disturbances associated with this progressive condition place a particularly heavy strain on family caregivers, who, in turn, are at greater risk of declines in their own physical and emotional health. Age-friendly communities that are also dementia-friendly can support persons with dementia and caregivers, thereby helping to maintain quality of life. Features of dementia-friendly communities may include local businesses staffed by employees who are aware of dementia and who can communicate effectively with disabled clients, employers and voluntary organizations that provide meaningful and inclusive opportunities for engagement, socialization and leisure for persons with dementia[261].

Sensory Impairment. Vision and hearing loss are common and mostly treatable causes of dependency and reduced quality of life in older age. It is estimated that 65% of visually impaired persons and 82% of blind people are aged 50 and older[262]. Far and near-sightedness constitute the main cause of visual impairment and cataracts are the leading cause of blindness, especially in less developed countries where access to cost-effective treatment i.e., corrective lenses and cataract surgery, is inadequate, particularly for rural populations and women[263]. Hearing loss is also a very prevalent and overlooked condition, affecting an estimated one in three adults aged 65 and older[264], but that increases substantially at ages beyond 70 years. Due to occupational exposure men are more at risk than women. The widespread use of personal music players, especially by young people, is considered to be a significant threat to hearing by the European Commission Scientific Committee on Emerging and Newly Identified Health Risks because of the very high volume at which these devices that can be played[265]. Hearing loss is associated with loss of driving ability, social isolation, cognitive impairment, functional decline and falls[266]. Hearing aids can effectively restore hearing, but they are used by only a minority of those who need them, even in countries where cost is not a barrier to access[267].

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> "Unless health systems change the selective underuse of interventions that are known to be effective in older adults, the burden on health care systems is set to reach unmanageable proportions." (Suzman et al, 2014)

Mobility and Falls. An estimated 10-20% of the world's population aged 60+ experience pain and mobility limitations related to osteoarthritis[268] which worsen with advancing age. Globally, about one in three older persons experiences an unintentional fall each year and the frequency of falls and the probability of injury increase with age and level of frailty[269]. Resulting from a complex interaction of biological, behavioural, environmental and socio-economic risk factors, fall-related injuries are common causes of disability, dependency and death. Osteoporotic bone weakening, most common among women after menopause, is a major cause of fractures[270]. Obese older persons also experience higher risk for falling, and for consequent injury and disability[271]. Further, a downward spiral occurs when persons restrict their mobility for fear of falling and become more susceptible to falls from loss of functional capacity. Multi-sector approaches that comprehensively address the risk factors are most effective[272].

Depression. Depression is the leading cause of disability at all ages worldwide, according to the estimates of the Global Burden of Disease 2004[273]. It is the most common mental health problem experienced in older adulthood, affecting about 15% of community-dwelling older persons, 20% of those in hospitals and up to 40% of older persons living in long-term care institutions[274,275]. Other conditions are associated with, or can be complicated by depression, such as stroke, Parkinson's Disease and dementia. Risk factors include biological and disease-related changes in the brain, physical health problems and social isolation and loneliness. Untreated depression can lead to physical illness, functional decline and premature death. Important barriers to the timely detection of depression, include communication difficulties (e.g., persons with dementia or hearing impairments), mistaking depression for dementia, lack of knowledge of the presentation of depression in later life, and the ageist belief that depression is a normal part of aging. Depression is the most common reason for suicide in older persons, and many cases of suicide could be prevented by adequate detection by community-based health professionals. A study in Quebec, Canada revealed that 42.6% of persons aged 65+ who committed suicide in one year had mental health problems, mainly depression, and 53.5% of the victims consulted a family physician or specialist during the two-week period prior to death[276].

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Multimorbidity and Frailty. The prevalence of multiple chronic conditions increases with advancing age, affecting about two-thirds of persons aged 65 and older and 82% of people aged 85 and older[277]. Multimorbidity is a significant cause of disability, dependency and poor quality of life. Disease conditions are interconnected, and any intervention will have many effects, which may be indirect or delayed difficult to predict, and different from effects in younger persons. The risks for polypharmacy are high, leading to drug interactions and adverse reactions. Inappropriate care results in preventable complications and costs, in addition to needless suffering. Better research is needed to understand disease mechanisms underlying multimorbidity as well as treatments[278]. Frailty is often associated with multimorbidity. Defined in terms of increasing weakness and lower overall reserve capacity, frailty means a person is much more vulnerable to negative health outcomes, such as permanent immobility after a fall or a life-threatening case of influenza. Multimorbidity and frailty create a heavy and constant dependency which is burdensome for caregivers. Comprehensive geriatric assessment and intervention plans that focus on the person's quality of life are recommended[279].

A Continuum of health services. A comprehensive continuum of services includes health promotion and disease prevention; cure; restoration; management and prevention of decline, and palliation. These services are performed by several agents of care: self and family; community-based providers and institutions. Most formal systems of health care were developed with an emphasis on preventive and curative medical and institutional services to meet the occasional 'catastrophic care' needs of a much younger population (i.e., communicable diseases and injuries). As population health needs evolve during the longevity revolution, assuring sustainability and effectiveness of health and social services demands a radical shift to achieve a better balance of 'care' and 'cure', of 'palliation' and 'prevention'. Making this shift depends on two critical components: 1) a system focus on community-based primary health care for providing care and ensuring care coordination over time and across services; and 2) a cadre of health care professionals in all areas who are thoroughly trained to understand age-related aspects of health and respond to changing health needs over the life course.

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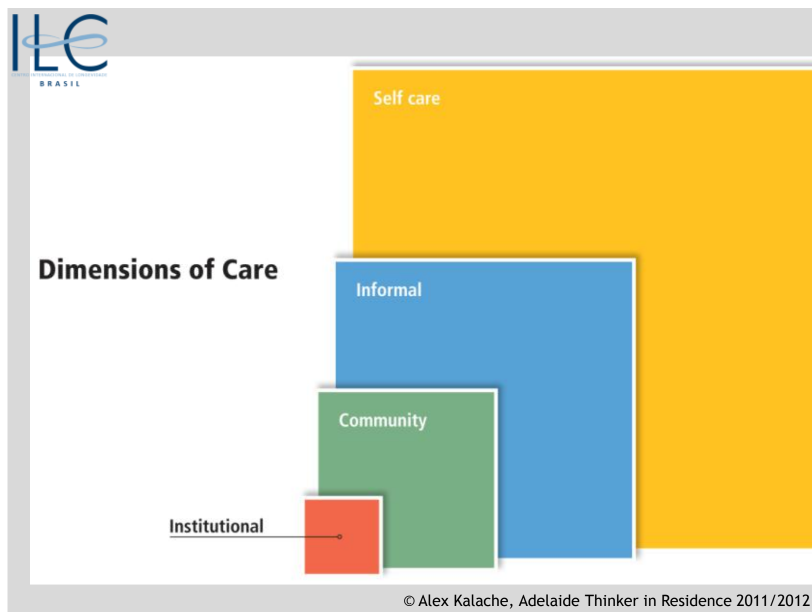

[GRAPH]

Health Promotion. The Ottawa Charter defined health promotion as "the process of enabling people to take control over and improve their health"[280]. While empowering individuals however, health promotion assigns a critical responsibility to the public sector to create the necessary conditions and services for health. Health promotion is a shared role, involving home, school, workplace, community and health services, and supported by government policies at all levels. Integrating a health perspective in all policy domains – from agriculture to urbanism – is included in health promotion. At an individual level, developing health literacy is key to health empowerment at all ages. Disease and injury prevention broadly includes preventive actions, both 'primary' (e.g. influenza vaccination, removal of falls hazards in the home), and 'secondary' (e.g. screening to detect diabetes or cancer).

Primary Health Care. As noted earlier, the backbone of all health services is community-based primary health care. General practitioners and other allied health professionals provide the front-line services to prevent disease and screen for early detection to control chronic conditions and to manage impairments. Primary health care is normally the gateway for access to other needed services, the hub for care planning and coordination that takes into account the person's holistic needs and respects the person's goals and values.

However, barriers to primary health care are commonly experienced. Too brief consultations with professionals who do not have adequate training in ageing-related health needs can result in misdiagnosis and inappropriate treatment. Long distances to

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services, unaffordable costs, and long wait times for care in uncomfortable settings are other problems frequently encountered in low and middle-income regions. A survey of older people in 11 high-income countries conducted by the Commonwealth Fund also reported financial barriers and gaps in access and care[281]. To strengthen primary care to promote *active ageing*, WHO advanced evidence-based principles for age-friendly primary care in three areas: information/education/communication and training; health care management systems; and the physical environment[282].

Acute Care. Acute care services are episodic interventions aimed at curing disease, and treating injuries and other conditions that are life-threatening or potentially disabling. Community-based primary health care, complemented by drug care, specialist services and acute-care hospitals are the mainstay. While essential for people of all ages, acute care services are not sufficient either to keep people healthy nor to provide the ongoing support and care required to manage chronic conditions. Health systems in most countries were designed to meet the health needs of the population prior to the demographic and epidemiological transitions, and thus tend to treat chronic illness the same way as they as acute conditions – that is, as single and non-recurrent episodes unrelated to other health needs[283].

> "Without change, health care systems will continue to grow increasingly inefficient and ineffective as the prevalence of chronic conditions increases… Health care expenditures will continue to escalate but improvements in populations' health states will not. As long as the acute care model dominates health care systems, it will effectively undermine health outcomes that could otherwise be accomplished." (WHO, 2002. *Innovative care for chronic conditions* p. 38)

In more developed countries, older persons account for more and longer hospital stays than other age groups. However, there is a poor fit between the hospital environment and older persons with complex health issues, resulting in many hospitalization-induced problems, such as infections, falls, delirium and functional decline. As 'age-friendly' perspectives are re-shaping primary health care and urban environments, a new, age-friendly model of hospital care is spreading that takes into account the perspective of older persons with respect to the physical environment, attitudes and behaviours of staff, administrative policies and procedures and care protocols[284].

Long-term Care. Long-term care describes the suite of health and social services aimed at controlling chronic conditions, preventing disablement and preserving quality of life. They can include symptom monitoring, medication management, physiotherapy,

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occupational therapy, pain control, support for self-management, nursing, assistive devices, personal care (bathing, dressing, feeding), and home support (home cleaning and meal preparation). Ideally, these services support ageing-in-place at home and comprise the following elements: communication, continuity, coordination, comprehensiveness and community linkages[285]. Long-term care institutions may be required however, when older persons have heavy dependency and lack adequate support at home. Publically-supported community and institutional care is available in more developed countries, but is still mostly absent in less developed regions.

Support for Informal Caregivers is the cornerstone of long-term care. A Canadian study reported that at least 80% of the support and care received by older persons at home is provided by informal caregivers[286], mostly spouses, who are themselves older, as well as daughters and daughters in law. Although providing care can be intrinsically rewarding, it is also often difficult, time-consuming and exhausting. The consequences of long-term informal caregiving on physical health, mental health, social networks, employment and financial security are well-documented[287],[288]. Reliable, sufficient services provided by others to the person needing care, both formal or voluntary, provide respite that allows caregivers to continue caring longer, and preserve their own wellbeing[289]. A systematic review showed that, interventions that are tailored to the specific needs and circumstances of caregivers are the most effective supports[290]. Also helpful are services to support caregivers directly, such as training, support groups, and financial compensation.

The responsibility for providing long-term care cannot be borne exclusively by families nor by governments. Smaller, more complex and geographically more dispersed family networks are becoming less able to provide care without additional reinforcement. There is a growing global crisis of what is called ‘family insufficiency’ in the *Rio Declaration on Developing a Culture of Care to Respond to the Longevity Revolution*[291]. The response to family insufficiency is the creation of a *culture of care* that includes, and goes beyond strictly family or public care and that redresses the gender imbalance in care work. A culture of care engages employers, businesses, public community structures and services (e.g. housing, transportation), voluntary groups, and family members in an intergenerational enterprise with the shared goal of ensuring solidarity with the persons needing care and the and the persons providing of care. As highlighted in the *Charter on Gender and Ageing*[292], creating opportunities and removing barriers that perpetuate the gender imbalance in caregiving is central in forging a new culture of care.

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Palliative care. The majority of health care services used in an individual's lifetime are delivered in the last year to six months of life[293]. A study of Medicare spending in the United States indicates that health spending is nearly four times higher for patients who die within a year than for those who continue to live; although declining costs suggest that patients and families may be opting for less intensive and less costly interventions at the end of life[294], such as palliative care. In addition to potentially being a more efficient use of health care resources, appropriate palliative care offers care of optimal quality.

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care:

- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;
- offers a support system to help the family cope during the patients illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
- will enhance quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

World Health Organization, http://www.who.int/cancer/palliative/definition/en/

Palliative care for older persons has special challenges that need to be considered by all care personnel. Older persons often have multiple and progressive chronic illnesses that lead to death in a less predictable and more complex way than terminal cancer alone[295]. Communication difficulties, owing to neurological or sensory losses make it more challenging to detect and relieve discomfort and pain. There may be few, or no, family and friends to provide support and offer information regarding the person's preferences and values. Yet, because the majority of people are dying at increasingly older ages, palliative care is a necessary component of all health services, requiring an adequate complement of specialists as well as of well-trained general care professionals.

SECTION V: THE POLICY RESPONSE

The Longevity Revolution: A Macroeconomic Perspective

The longevity revolution has generated predictions of dire economic and social consequences, on the assumption that older persons constitute a growing burden for the rest of society. Recent analyses[296] signal that the longevity revolution is not a macroeconomic catastrophe, but that it does pose an urgent challenge to discard outdated ideas about the life course and change policies to respond to a new reality.

Expected decreases in the number of persons of 'working age' (15-64 years) can be offset by higher labour force participation rates of more women and of more people aged 65 years and older. Family-friendly policies, allowing both parents to balance work and family responsibilities may encourage couples to have children, their workforce productivity and economic security in older age. Concerns that older workers are less productive can be addressed by providing ongoing training and skills upgrading and technologies to increase production efficiency. Higher demands on pension systems to support more retirees for longer can be met in part by extending working lives and by making adjustments in pension contribution periods and amounts or in pension benefits paid. By offering workers all opportunities to learn new skills and to enjoy working conditions compatible with changing functional capacities, working longer can be a prospect to look forward to. At the same time, the option of a dignified and economically secure withdrawal from the workforce when choices or capacities change should be a mutual decision, benefitting both workers and society.

Projected increases in the demand for health care and support are manageable through a wide range of approaches that are founded on solid evidence. Addressing inequalities in the social and economic determinants of *active ageing* and adapting physical environments to be more health-promoting and age-friendly will reduce risks for chronic diseases and psychosocial distress. Targeted and ongoing health promotion that includes education for health is needed to improve health literacy at all ages so people can better care for their own health and the health of their family. Sustainable and high quality health care for all is achievable with a health system that is anchored in age-friendly primary health care, that provides a comprehensive, coordinated range of ongoing person-centered services for prevention, treatment, rehabilitation and care and that is delivered by professionals with training in all age-related aspects of health. Providing long-term care systems that do not depend exclusively on families or spend public resources disproportionately is feasible by cultivating a culture of care involving governments, families, communities, employers, the voluntary sector and businesses.

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Becoming disabled and dependent has become a universal risk; thus support and care is a collective responsibility, as envisioned in the Rio Declaration[297].

Nations in all regions must embrace the longevity revolution, strengthening all four pillars of *active ageing* with a life course perspective. High-income countries who have had the privilege of becoming rich before becoming old have generally supportive environments and stable health and social programs addressing population-wide needs. Their challenge is to support and enable the new flexible life course in all policy domains, in particular, in health, education, industry, human resources and social welfare and to ensure sustainability for all generations. Policies must aim for full inclusion, as a matter of societal necessity and above all, as an issue of human rights.

Middle-income countries with expanding economies are becoming demographically as old as high-income countries but much more rapidly. Education, health, income security and social care systems are being put in place and quality of life is improving for many people. Yet wide social inequalities remain, living environments are neither healthy nor age-friendly, levels of risk for chronic diseases are very high and long-term care is virtually non-existent. Channeling the new prosperity effectively and equitably is vital to keep pace with multiple policy challenges generated by the longevity revolution.

Low-income countries are engaged in economic and social development to raise the collective standard of living for all. Although the proportion of older persons in society will remain small for the time being compared to high and middle-income regions, these countries cannot afford to ignore the human consequences of development, i.e., a longer life. Ensuring protection and promotion of the rights of older people, including their right to appropriate and accessible primary health care, to food, shelter, the means of earning a livelihood and assurance of basic support when they can no longer work, will enable them to stay healthier and maintain quality of life longer. Engaging older persons as full participants in development, as set out in the *Madrid International Plan of Action on Ageing* (2002) will contribute to their own and their family's wellbeingand to economic advancement as well. Older persons in developing countries already play a vital role supporting other generations by caring for grandchildren, including AIDS orphans, and by using their position of respect and experience to hold communities together in times of crisis. Referring to Sub-Saharan Africa – the world's poorest region – Isabella Aboderin has argued that investment in older persons would alleviate poverty and benefit entire communities in the following ways: first, because the majority of farmers in the region are older persons; investing in their health and enhancing their capacities, resources, tools and knowledge could substantially improve

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food production; second, changing practices of older landholders regarding the control of the land and inheritance rights could increase the engagement of younger generations in agriculture and enterprise[298].

Forging a New Paradigm

The 2002 *Active Ageing Policy Framework* already heralded the end of the 'old' rigid life-stage paradigm in which youth is dedicated to learning, most adult years to working, and old age to retirement and dependency. This paradigm reflects the reality of people's lives much less than in the past, especially in high-income countries, and middle-income regions have begun shifting, at least in terms of lengthening the learning period and interspersing skills upgrading during working life. The rigid life stage model does not work anymore in an ageing, globalized and interconnected world. With technology evolving rapidly and fewer youth in the wings with the newest skills, learning cannot stop after formal schooling has ended. The active participation of older persons in all areas of human endeavour is increasingly necessary. Caregiving must be a shared responsibility because there is no realistic, or just, alternative.

The flexible life course model breaks down artificial divisions between generations, engaging everyone at every age. It implies no fixed age-based entitlements or restrictions but responds to individual needs to grow, work, rest, care and be cared for throughout life.

> "How we approach ageing and older people will determine our relations with other generations and the way we, our children and grandchildren age and experience later life." (Kalache, 2013)

The Policy Response

In a society that integrates generations in fluid transitions over the life course, the role of public policy is to:

- enable opportunities for health, participation and life-long learning;
- protect people from common risks to health, financial, social and personal security, and from "falling through the cracks" because of personal misfortune;
- empower people by promoting their basic rights across the life course and especially rights of older persons as expressed in the UN Principles for Older People: independence, participation, care, self-fulfillment and dignity.

Rights-based Participation. In an *active ageing* perspective, decisions are made with, and not just for, the people who are affected by them. This means involving all generations, with special effort to reach out to hear the voices of those who are not

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heard: the young, the very elderly, and in most regions, women; low-income, marginalized, minority and immigrant groups. Participation in decision-making is more than ‘consultation’: it involves identifying and correcting power imbalances so that there is a genuine equal sharing of power in shaping decisions, resolving differences and reaching equitable solutions. The primacy of rights is lifelong and includes identifying and respecting the values and life goals of frail older persons and those nearing the end of life.

Building Resilience through Intersectoral Action. The *active ageing* policy framework is based on the understanding that all the determinants must be addressed to build resilient people in resilient communities by enhancing protective factors and minimizing risks. This requires actions at all levels of government and in all policy sectors: health and social welfare, education, employment, industry, transportation, housing, environment, social security, culture, justice, and rural and urban development.

Enhancing Awareness and Knowledge to Mobilize Effectively. In many locations, sectors of activity and population groups, it will be necessary to heighten awareness of the longevity revolution and its immediate and longer-term implications to inform and mobilize action. While data collection and research on age and ageing and have improved considerably in the past decade, much more evidence and much wider dissemination of knowledge are required.

Key Policy Recommendations

Active ageing policy requires action on the four pillars and all determinants. The following policy recommendations are designed in a way to make them universally applicable and relevant for decision makers at all levels and in all countries. Although *active ageing* applies to people across the life course, some recommendations apply specifically to older people. Others are age-mainstreaming recommendations, i.e., where ageing needs to be factored into other policy areas, given that ageing has to be addressed from a life course perspective. As cross-cutting determinants, gender and culture need to be taken into consideration when developing specific actions in all policy areas.

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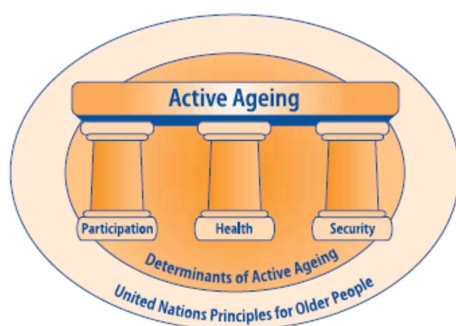
Figure 14. The three pillars of a policy framework for Active Ageing



(NB: Add the 4th Lifelong Learning Pillar)

Health. To take full advantage of the longevity revolution it is essential to not only increase the number of years of life but also the number of years in good health. Risk factors, both environmental and behavioural, need to be reduced and protective factors increased to ensure that chronic disease and functional decline can be prevented, or kept to a minimum so that people can live longer and healthier lives. Health promotion, disease prevention, detection and treatment are crucial to *active ageing* to maximize the dividends of greater longevity. When people do need care, integrated and personalized care should be available to maintain functional capacity and quality of life.

1. *Reduce risk factors associated with major diseases and increase protective factors throughout the life course.*

    1.1. **Economic influences on health**. Significantly reduce socio-economic disparities that contribute to the onset of disease and disability throughout life: absolute poverty, income inequality, low education and literacy, social exclusion. Give priority to improving the health status of deprived, socially excluded groups.

    1.2. **Age-friendly, clean and healthy environments**. Ensure universal access to clean air and water. Reduce pollution and minimize exposure especially among vulnerable groups. Design barrier-free built environments to facilitate active mobility, access to restorative green space and healthy food.

    1.3. **Healthy habits and self-care at all ages.** Promote healthy habits and self-care from a very young age and throughout life, by cultivating health literacy and providing wide and constant access to information.

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1.4. **Information on diseases, and risk and protective factors**. Provide accessible public information on chronic ageing-related diseases, risks and protective factors throughout the life course.

1.5. **Tobacco control.** Discourage people from taking up smoking, control tobacco use to avoid passive smoking and support people to quit smoking.

1.6. **Alcohol control.** Provide information on safe consumption and implement measures to reduce excessive consumption.

1.7. **Physical activity.** Provide affordable, accessible and enjoyable opportunities to be physically active throughout the life course, including for those who have functional limitations.

1.8. **Healthy food choices.** Ensure access to affordable, nutritious foods and information about balanced nutrition throughout the life course.

1.9. **Psychological resilience.** Enable people from early childhood and throughout life to develop psychological resilience by education in positive attitudes and behaviors (i.e. cultivate positive emotions, engagement, satisfying relationships, meaningful pursuits and achievement).

2. *Ensure universal access to quality health services.*

2.1. **Universal access.** Provide universal health service coverage such that everyone has access, without any discrimination to a full range of health services to promote good health, prevent and control disease and disability and preserve quality of life.

2.2. **Prevention, detection and effective treatment.** Ensure equal access and gender-specific access for persons of all ages to affordable, effective and timely screening and treatment.

2.3. **Medications.** Offer essential, safe, affordable, effective and quality medicines as well as person-centered education and follow-up to ensure adherence and avoid drug interactions and adverse reactions.

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2.4. **Continuum of care.** Create mechanisms which ensure that people have access to a community-based continuum of affordable, accessible and high-quality health and social services that address the needs and rights of people as they age and that includes access to comprehensive geriatric assessment.

2.5. **Non-discrimination.** Ensure that health policies and services consider the health needs of each person, without discrimination on the basis of age, gender, race, socio-economic status, culture, or any other social biasgrounds **Age-friendly services.** Implement age-friendly primary and hospital health care services.

2.6. **Professional training.** Provide basic and ongoing geriatric and gerontological training to all health and s**ocial service professi**onals, and paid formal caregivers/support workers, embedding rights-based and person-centered approaches into training.

2.7. **Decision making.** Implement guidelines and protocols to support appropriate, evidence-based decision making by health and social service professionals.

3. *Pay special attention to specific health issues.*

3.1. **Awareness of mental health problems.** Raise public awareness of mental health problems, including depression, suicidal thoughts and problems associated with dementia and combat the social stigma that hinders help-seeking and treatment.

3.2. **Mental health services.** Provide an integrated continuum of mental health services that range from prevention and early intervention to treatment and rehabilitation. Ensure that health professionals are adequately trained to diagnose and appropriately treat mental health conditions in older as well as younger persons.

3.3. **HIV/AIDS recognition and response.** Include older persons in HIV/AIDS monitoring by removing the age restrictions to HIV/AIDS data collection and analysis. Include older people in HIV/AIDS prevention, care and treatment

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programmes, and recognize and support caregivers of persons who are infected or orphaned.

3.4. **Infectious disease risks.** Improve primary health care detection of infectious disease especially among older persons who are more susceptible, and ensure prompt treatment to reduce avoidable mortality. Develop vaccinations that are effective in older age.

3.5. **Hearing and vision loss.** Reduce avoidable hearing and vision loss by providing universal access to adequate prevention and screening, as well as affordable treatment, including eyewear and hearing aids.

3.6. **Falls prevention.** Screen for individual and environmental falls risk factors and provide multifactoral health promotion, medical treatment and home environment modifications and falls mitigation measures (e.g., monitoring devices) to reduce risks.

4. *Develop a culture of care.*

4.1. **Self-care.** Promote self-care and support older persons to self-manage their conditions.

4.2. **Ageing in place.** Offer a wide, flexible and affordable range of housing options and community services to assist older and disabled persons to remain at home, including home adaptations, alternative housing options, transportation services, home maintenance, meal services, and personal care.

4.3. **Organization and delivery of care.** Establish systems of support and care with the following best-practice features: comprehensiveness of services; communication with care recipients, informal caregivers and among providers; coordination of services centered on the care recipient; continuity across settings and over time; linkages with the community, including ethno-cultural communities.

4.4. **Support caregivers.** Recognize and respect the fact that caregiving by family is a choice, not an obligation imposed by gendered social roles, or by lack of

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alternative care in the community. Provide family caregivers with adequate and flexible support so they can attend to their own physical, professional, financial and psycho-social wellbeing while providing care to an older person. Promote ways to 'share the care' intergenerationally within families and with informal friend and community networks.

4.5. **Caregiving education and training.** Provide practical, flexible and ongoing education and information to assist informal caregivers. Provide a high standard of accredited training for formal caregivers.

4.6. **Working conditions of caregivers.** Provide formal caregivers with adequate working conditions and remuneration which recognizes the value and complexity of their work and reinforces their dedication to the caring profession.

4.7. **Frailty and multimorbidity.** Ensure access to comprehensive geriatric assessment and an approach to care established with the older person to preserve quality of life and minimize unnecessary risks.

4.8. **End-of-life care.** Provide 'low tech, high touch' end-of-life care focused on comfort and caring presence and that respects the values of the dying person. Ensure that those close to the dying person are prepared and supported to accompany the individual through this final journey.

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Participation. Ensuring that people can participate in social, economic, cultural, civic, recreational or spiritual activities throughout their lives, including in older age and according to their needs, preferences, capacities and most importantly their rights, leads to more productive and inclusive societies. There need to be opportunities for participation also for marginalized groups and those who risk exclusion on account of reduced functional capacity.

1. *Improve images of ageing and combat stereotypes and biases.*

1.1. **Positive images.** Promote positive, and realistic, images of ageing and older people and challenge stereotypes and biased views that block participation.

1.2. **Media.** Increase media representation of older women and men and ensure the media provides realistic messages on population ageing and its implications.

2. *Create opportunities for participation.*

2.1. **Participation for all.** Recognize that participation is not limited to economic participation and that people even with considerable functional capacity limitations can participate in different areas of life.

2.2. **Fully accessible opportunities for participation across the board.** Provide opportunities for the active participation of people with a full range of functional capacity in all spheres of life, including the social, economic, political, civic, recreational, cultural and spiritual sphere.

3. *Enable active involvement in decision making.*

3.1. **Mechanisms for participation and consultation.** Create mechanisms for participation and consultation of older women and men in decision making processes at all levels.

3.2. **Inclusion.** Actively listen to older people and their families and caregivers when developing products and services and, in particular, care goals and arrangements.

4. *Foster civic and volunteer engagement throughout the life course.*

4.1. **Opportunities and incentives.** Provide opportunities for civic engagement, including advocacy organizations and community action, that are tailored to individual goals, interests and talents. Target groups whose voices are underrepresented in civic discourse, including young adults, minorities, socio-economically disadvantaged persons and those who are socially isolated.

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4.2. **A Culture of Volunteering.** Mainstream a 'culture of volunteering' by encouraging formal or informal volunteer activity as a part of everyone's life at all ages.

4.3. **Older persons' organizations.** Invest in community-based groups organized by older women and men, such as older people's associations and self-help groups.

4.4. **Social inclusion.** Establish volunteer programmes that are specifically aimed at strengthening people's connections across generations, gender and cultures.

5. *Re-design work and working environments for longer labour force participation as as appropriate.*

5.1. **Older workers.** Encourage older persons who want to work to do so. Investigate innovative mechanisms to retain older workers. Facilitate work-to-retirement transitions when continued work is no longer possible or desirable.

5.2. **End discrimination.** Adopt and implement non-discriminatory policies in recruitment, selection, training and promotion. Legally prohibit mandatory retirement based on age.

5.3. **Flexibility at work.** Allow for flexible workplace practices across the life course, for both women and men, considering that facilitating periods of lifelong learning, caregiving and personal pursuits are investments in human capital.

5.4. **Healthy workplace.** Promote healthy habits in the workplace and provide opportunities to improve personal health. Introduce and enhance safe and ergonomic work environments.

6. Cultivate intergenerational relations.

6.1. **Intergenerational solidarity.** Foster intergenerational contact and dialogue; reduce potential for conflict between all generations based on misinformation

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and age stereotypes and engage all generations in enhancing the life added at all ages.

6.2. **Inclusive decisions.** Ensure that the voices of younger people are heard when decisions about issues of public concern are taken.

7. *Create age-friendly environments to encourage participation.*

7.1. **Age-friendly design for all ages.** Build genuinely age-friendly environments which promote independence and safety and reduce barriers for people of all ages, in particular those who experience functional limitations.

7.2. **Transport and mobility.** Improve public transport and mobility so that people of all ages, including those with reduced functional capacities, can move about both for leisure and to meet essential needs.

7.3. **Local community services and programmes.** Invest in age-friendly and inclusive local community services and programmes to enhance participation, including participation by those who feel excluded because of migration.

Security. Human security is a basic human right which enables us to lead lives free of physical, social and financial insecurity. When people are no longer able to support and protect themselves, as is often the case in older age, policies that address security needs and rights become particularly important.

1. *Protect the right to basic security.*

1.1. **Right to physical security, shelter, sanitation, safe water and food.** Guarantee protection, safety and dignity for all people, including those in later life, by addressing basic physical security rights and needs across the life course, of both women and men. Create and implement protocols that address special vulnerabilities related to age, gender, and functional limitations in emergency and conflict situations.

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1.2. **Universal access to basic social security.** Ensure that everybody across the whole life course enjoys access to basic social security, including the right to affordable education, housing, medicine, health services and a basic income.

2. *Build age-friendly physical environments as a cornerstone to security.*

2.1. **Protective environments.** Build age-friendly environments and communities which contribute to the security of residents and particularly protect those who have disabilities or who live alone.

2.2. **Housing.** Provide a range of affordable housing options that facilitate ageing-in-place, and wide information to educate people about the advantages of such options, including home modifications, alternative housing and/or different living arrangements.

3. *Eradicate poverty and provide a basic income across the whole life course.*

3.1. **Social protection floors.** Enhance the coverage of minimum social protection benefits to avoid periods of impoverishment throughout the whole life course that jeopardize later wellbeing, and prevent impoverishment in later life as well.

3.2. **Income-generation innovations to eradicate poverty.** Develop innovative mechanisms to eradicate poverty and material deprivation among older people, especially older women, e.g., microcredit schemes and cooperatives.

3.3. **Inequalities.** Reduce economic inequalities between women and men and across generations.

4. *Security through decent work and sustainability of pension systems.*

4.1. **Preparing for the future.** Prepare workers of all ages have a long-term perspective on their future working life and to plan accordingly.

4.2. **Decent work.** Provide decent work as defined by the International Labor Organization for everybody, including persons in older age.

4.3. **Retirement.** Eliminate mandatory retirement and prohibit informal practices that force older workers to stop working without real justification, to allow them

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to maintain needed employment income. Facilitate a dignified and secure retirement when working is no longer desirable or possible.

4.4. **Pension systems.** Reform pension systems where they become unsustainable. Introduce sustainable pension systems where they are non-existent and extend their coverage where it is low.

5. *Prevent and tackle discrimination, violence and abuse.*

5.1. **Awareness raising.** Raise awareness through various means, including the media, about how, where, and to whom elder abuse can occur, and how to seek help.

5.2. **Prevention, identification and reporting.** Create mechanisms to prevent and help identify and report cases of discrimination, violence and abuse and make them widely known.

5.3. **Protection by law.** Ensure that the law adequately protects older persons' rights, including the freedom from discrimination, violence and abuse. Make sure that the law is enforced and known.

5.4. **Treatment.** Develop systems which provide adequate and timely support to those that suffer from discrimination, violence or abuse to minimize short and long-term harm.

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Lifelong learning. Lifelong learning supports all other pillars of *active ageing*. Knowledge contributes to health, ensures greater participation in any sector of society and enhances security. In a society in which knowledge becomes more and more accessible but also mediated by ever-evolving communication technology, learning throughout life is vital.

1. *Promote innovative opportunities for lifelong learning.*

1.1. **A Culture of lifelong learning.** Provide flexible and accessible literacy, educational, training and retraining opportunities throughout the life course. Accommodate work arrangements to facilitate and foster learning to meet a

range of personal and professional needs. Provide access and encouragement in non-traditional settings and modalities to reach persons who are socially isolated or excluded.

1.2. **Best practices.** Test and identify best practices to maximize engagement and derivation of benefits from lifelong learning.

2. *Improve access to information.*

2.1. **Accessibility**. Make sure that information is provided in an accessible way as to not exclude those with lower functional capacity or lower literacy.

2.2. **Technological inclusion**. Reduce the digital divide by ensuring access and training adapted to specific needs to persons of all ages who are at risk of exclusion.

2.3. **Information about rights.** Ensure that people have access to fully comprehensible and reliable information about their rights and how to claim them, especially for those who are more vulnerable.

3. *Recognize the crucial role of volunteering to foster lifelong learning.*

3.1. **Training and education for volunteers.** Support volunteer organizations in offering training and education for their volunteers to enhance their skills and widen their knowledge.

4. *Promote health literacy as a priority and prepare people to care.*

4.1. **Health literacy.** Provide targeted and general opportunities to enhance health literacy in all settings and for persons of all ages. Ensure that health professionals know how to speak with and write for patients so they fully understand the messages and can act accordingly.

4.2. **Care.** Provide instruction and modeling of self-care and care of others, challenging outmoded gender role stereotypes in particular.

5. *Provide training and education on ageing.*

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5.1. **General education on ageing.** Educate persons of all ages to challenge the stereotypes and stigma of ageing, understand the ageing process and its determinants and be aware of the rights of older persons.

5.2. **Inclusion of ageing into educational curricula.** Include sessions on ageing as a lifelong process, its differential impact on women and men and on the rights of older persons in educational settings.

5.3. **Studying ageing.** Offer sessions on the implications of the longevity revolution on society and business to students and professional in various fields, including journalism, business, engineering, law, design, architecture, etc.

6. *Promote intergenerational exchange as a means of lifelong learning.*

6.1. **Intergenerational exchange in various settings.** Maximize opportunities for intergenerational exchange within families, communities and work places.

6.2. **Valuing the knowledge of other generations.** Ensure that skills, experiences, perspectives, memory and accumulated wisdom are valued and passed on to other generations.

Crosscutting issues: governance, policy and research/evidence. To achieve *active ageing* with action in all four pillars, intersectoral collaboration is indispensable. Each sector's policies have an impact across other sectors. Thus, all sectors must communicate with each other and align their policies. In many instances it will be necessary to increase the awareness of population ageing, its challenges, options, and the likely consequences of actions, before decisions can be taken. Sound and complete data are required to inform the public, influence public opinion, guide policymakers, develop effective policies and monitor and evaluate their implementation.

1. *Recognize population ageing as an urgent policy issue and act upon it.*

1.1. **Urgency for action.** Promote wide recognition of the priority of ageing as a policy issue and awareness of the ways to respond to the longevity revolution to the greatest benefit for all.

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1.2. **Windows of opportunity.** Highlight the opportunities and specific windows of opportunity resulting from the longevity revolution which have to be embraced by local, state and national governments.

1.3. **Capacity building.** Enhance decision makers' access to compelling evidence, analysis, options and tested policies and practices to respond to population ageing.

2. *Improve governance structures to respond to the longevity revolution.*

2.1. **Cross-sectoral action.** Set-up cross-governmental committees with representatives from local, state and national governments to integrate policy responses to population ageing.

2.2. **Coordination**. Establish a national/state/municipal body which can coordinate and oversee policy on ageing at the respective level and the process of mainstreaming ageing into other policy areas.

2.3. **Active Ageing champion**. Appoint credible champions to mainstream ageing and elevate ageing policy agendas.

2.4. **Participatory approach and political commitment.** Ensure that policy development takes a bi-directional approach, from the top down and from the bottom up.

3. *Mainstreaming as a means to ensure nobody is left out.*

3.1. **Mainstreaming ageing.** Ensure that ageing and the rights of older persons are addressed in all relevant policies and programmes.

3.2. **Ageing in conflict and crisis.** Include ageing and the rights and needs of older people in humanitarian responses, environmental and climate change mitigation and adaptation plans, as well as in disaster management and preparedness programmes.

3.3. **Gender and ageing.** Mainstream gender into all ageing policies and vice versa.

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3.4. **Culture and ageing.** Mainstream cultural considerations into all ageing policies and services.

4. **Global action.** Ensure that the needs and issues of older persons are explicitly addressed, measured and reported as part of international policy commitments to advance the wellbeing of *all persons of all ages*.

5. *Invest in data development and analysis and in research for policy development, monitoring and evaluation.*

5.1. **Data disaggregation.** Ensure that all population data is disaggregated by age and sex.

5.2. **Research body and funding.** Establish and invest in a national research body on *active ageing* which can oversee, coordinate and undertake research in the field.

5.3. **Age-disaggregated research.** Enhance the capacity and awareness of researchers to undertake analyses by age group.

5.4. **Comprehensive and longitudinal data.** Support the development of longitudinal, nationally representative and internationally comparable studies which allow a detailed analysis of the determinants of ageing, resilience and quality of life over time.

5.5. **Targets.** Set gender- and age-specific, measurable targets to monitor improvements in all four pillars of active ageing.

5.6. **Monitoring and evaluation.** Set-up adequate monitoring mechanisms and indicators and ensure regular evaluation and reporting.

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Conclusion

As this report amply much more is known now about the characteristics and determinants of *active ageing* than in 2002. Major international organizations have cast a spotlight on the impacts of the longevity revolution and on required policy directions, including the United Nations and its agencies, in particular the World Health Organization, as well as the World Bank, the World Economic Forum, the OECD and the European Commission. These organizations add their weight to the evidence-

based advocacy of international ageing NGOs, in particular, HelpAge International and the International Federation on Ageing (IFA), as well as expert networks, such as the International Longevity Centre Global Alliance (ILC-GA) and the International Association on Gerontology and Geriatrics (IAGG).

There have been some concrete advances. More and better data are emerging from internationally comparable, population-based surveys and longitudinal studies. Certain critical policy measures have been adopted in various regions, notably the introduction of social security policies, the spread of the WHO-initiated Age-Friendly Cities and Communities Network. Elder abuse and dementia are now recognized as global priority issues. International advocacy has been effective in highlighting the requirement to protect and promote the rights of older persons, resulting in the appointment of the Independent Expert on the Enjoyment of All Human Rights by Older Persons. Older persons are recognized to a certain extent in the United Nations Post-2015 Sustainable Development Goals. The 2015 WHO World Health Report focuses on ageing and health.

However, given the magnitude and speed of the longevity revolution and its impacts, the international response is still far too timid. The major challenges and recommendations identified in the 2002 *Active Ageing Policy Framework* remain just as relevant in 2015. While it is largely up to governments at all levels to lead policy change, it is the responsibility of all generations, and all groups in society to press for action. The *active ageing* model continues to provide a comprehensive and coherent framework for strategies at a global, national and local level to respond to the longevity revolution.

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