2 Healthy Ageing: Challenges and Opportunities of Demographic and Societal Transitions

Erik Buskens, Tobias C. Vogt, Aart C. Liefbroer, Menno S. A. Reijneveld, Ute Bultmann, Kène C. J. I. M. Henkens, J. Han de Ruiter, and Sophia E. J. A. de Rooij

2.1 Global Demographic Trends

Humans around the globe are getting older and older. Life expectancy or the average length of life is increasing in most parts of the world. This development is not new but has been ongoing for many decades. Since the mid-nineteenth century, advantaged populations, i.e. the global leaders in life expectancy, have witnessed an increase of 2.5 additional life years per decade. There were several claims that the advances in life expectancy that were observed in the past will come to an end and that humans are approaching an upper limit. However, again and again, all of these
limits have been broken, and there is no indication that life expectancy levels will reach an upper ceiling in the near future [1]. Presently, the highest life expectancy in the world is observed among Japanese women. In 2014 they could expect to live on average 86.8 years [2].

The remarkable success of constantly increasing lengths of life is not restricted to high-income countries such as Japan. Also, people in low-income and in sub-Saharan African countries can expect to live longer. Figure 2.1 exemplifies this trend for different regions of the world according to their level of economic development. It appears that average lengths of life have been increasing steadily for over half a century. There are periods when gains in life expectancies occur at a somewhat slower pace, like in the sub-Saharan African countries during the 1980s and 1990s. However, all regions follow a general upward trend. In the early 1950s, people living in sub-Saharan African and other low- or middle-income countries on average could expect to live a thus far typical number of 35–42 years. By that time populations in high-income countries already had reached a life expectancy at birth of around 63 years. By 2010–2015 life expectancies had risen further to 79 years in high-income countries, 70 years in middle-income countries and 57–60 years in low-income countries and countries south of the Sahara.

Despite these global gains, large differences in levels of life expectancy between wealthier and poorer regions of the world remain. On average citizens of high-income countries can expect to live over 20 years longer than citizens in economically less successful countries. Interestingly, sizable disparities occur in the average lengths of life between and even within high-income countries.

Europeans across the continent can expect to live to very different ages. Figure 2.2 shows a clear divide in life expectancies between Western and Eastern European countries. In 2010–2015, men and women living in the European champions of life expectancy, Switzerland, Spain and Italy, could expect to live over 82.3 years.
Conversely, those living in Russia or Ukraine could expect to live only up to the age of 70. The gradient in European life expectancy is getting smaller for Central and Eastern European countries which joined the European Union in 2004. They are still lagging behind the Western European level but have made larger progress in gaining additional years of life since the fall of the Iron Curtain in 1990 [3].

In general, the European patterns in life expectancy are a result of different developments that took place during the last century. Until the 1950s, Europe witnessed a gradual increase in life expectancy at birth from 50 to 70 years. According to the epidemiological transition theory, this historical increase in life expectancy at birth may be attributed to a shift away from infectious diseases towards non-communicable diseases such as cancer and cardiovascular diseases [4]. Major drivers for this transition were improvements in nutrition and public sanitation, rising living standards and the widespread use of vaccinations and antibiotics. As a result premature mortality (deaths among younger age groups) was substantially reduced [5]. The continued increases in life expectancy observed in the second half of the twentieth century are largely attributable to further increase in life expectancy from middle and old age onwards. Particularly Western countries succeeded in reducing cardiovascular mortality as the prime cause of death. These further improvements were facilitated by socio-economic advancements, medical progress and changes in lifestyle factors such as smoking and alcohol consumption [6]. In contrast, Eastern European countries faced difficulties in keeping up with these modernizations and increasingly fell behind Western Europe. Since the 1990s and early 2000s, these

![Fig. 2.1 Trends in life expectancy in different regions of the world. Source: UN World Population Prospects 2017 revision (own illustration)](image-url)
countries also succeed in reducing cardiovascular mortality, but a constant gap to Western European countries remains [7]. Success comes at a cost however. The general increase in average life expectancy is accompanied by an age-related increase in chronic diseases and cognitive impairments, i.e. healthspan has not quite kept up with lifespan [8, 9]. This phenomenon is most notable in Western Europe and other high-income countries where average length of lives goes beyond the age of 80.

Importantly, significant disparities in life expectancy are also observed within single states. The chance of living long and healthy lives is the resultant of individual and societal factors. At individual level, socio-economic status, i.e. individual education level and occupational class or income, is a major determinant of reaching old age in better health [10]. For example, lower educational attainment may reduce average life expectancy by up 1–2 years for women and 3–4 years for men [11]. Also, societal factors such as adequate healthcare, the general social security system and healthy living environments may reduce the risk of spending a large part of life with health problems or of dying prematurely. The growing disparities in
average length of life cannot be ascribed to a declining life expectancy among individuals with lower socio-economic status. They are in fact also gaining additional years of life but less so than those with higher socio-economic status [12]. Notably, these disadvantages are of societal concern as lower socio-economic status is also associated with an increasing gap between lifespan and healthspan, i.e. more life years are spent in bad health.

The improvements in average life expectancies during the last decades have led to a growing elderly population in Europe. Combined with low fertility levels in many European states, these increases have led to ageing of whole societies. Between 1950 and 2015, the median age of the European population has increased from 28.9 to 41.6 years. This means that half of the population in most European countries is over 40 years, and it is expected that this figure will increase further in the coming years. These changes in the age structure have a major impact on the sustainability of social security systems and the economic activity in most European societies. Southern and Eastern European countries are hit more severely by these changes as younger generations looking for employment and prosperity migrate to the West, and thus so-called double ageing occurs [13]. It thus becomes increasingly important that the majority of gained years of life are spent in good health and that Europeans age successfully.

2.2 A Life Course Perspective on (Healthy) Ageing

Ageing is a lifelong process. Health at older ages is the accumulated outcome of a myriad of health-related events and processes occurring over the course of people’s lives. As alluded to above, whether or not people age healthy is socially stratified. People from more disadvantaged backgrounds live shorter and have poorer health than people from more advantaged backgrounds [14]. The life course perspective offers important insights to help us understand these differences.

As such the life course perspective captures what goes on in people’s lives as a lifelong process and represents the ultimate determinant of later life health. In doing so, the perspective is informed by four general principles defined by Elder (1998), the founding father of the perspective [15, 16]. The four principles are (1) historical time and place, (2) timing of lives, (3) linked lives and (4) agency. The first three principles point to external factors that shape an individual’s life course. It is shaped by where and when a person lives, by the moment in life that important events occur and by significant others (parents, partner, children, friends, etc.) that share parts of a person’s life course. Agency, the fourth principle, implies that people’s outcomes not just result from these external forces impinging on their lives but are actively shaped by their own actions to realize important goals in life. However, the extent to which people are able to exert life course agency varies and is in itself socially stratified [17].

In epidemiology, the life perspective has inspired the burgeoning field of life course epidemiology. It has been defined as ‘the study of long-term effects on later health or disease risk of physical or social exposures during gestation, childhood,
adolescence, young adulthood and later adult life [18]. This definition emphasizes that impacts on health can occur at many different moments in people’s lives and have long-term consequences. Within life course epidemiology, a number of models have been developed to understand how early inequalities have long-term impacts. The two most important of these models are the critical period model and the accumulation of risk model [18, 19]. The first of these suggests that health inequalities are the outcomes of events occurring in specific critical periods. The best-known of these critical periods is gestation. Influences in utero may have long-term consequences [20, 21]. However, events and processes occurring in other life phases may also have a long-term impact on health outcomes. The accumulation of risk model suggests that inequalities may exacerbate as people age, because early negative events increase the risk of later negative events, leading initially small differences to increase over time [22, 23].

To understand socio-economic inequalities in health outcomes, it is important to add insights on the importance of resources to the life course perspective. The availability of resources is essential to the realization of main goals in life, such as physical and psychological well-being. In sociology, the importance of several types of resources—or forms of ‘capital’—for people’s life chances is a central topic of interest. At least three types of resources, such as economic, cultural and social, have been distinguished [24–26]. Economic resources refer to income and financial assets that people have at their disposal to improve their life chances, and cultural resources refer to lifestyles, norms and skills that they can use to improve their life chances. Social resources refer to contacts that people have available to improve their life chances. In psychology, a prominent idea is that resources are of prime importance for realizing well-being [27]: the more resources people have at their disposal, the more they will be able to realize goals that contribute to well-being. In addition to the types of resources stressed in sociological discourse, psychologists emphasize the importance of personal resources—such as self-esteem, coping strategies and planning competence—to realize these goals [28, 29]. Socio-economic inequalities in health can be viewed as resulting from differences between people with low and people with high social status in the general availability of these different types of resources. Resources do not only influence the likelihood that specific health problems will occur, but also what happens once health problems appear. Those with high social status are in a better position to react to health problems than those with low social status. The former, compared to the latter, have more economic resources that help them to pay for the best medical treatments available, have more cultural resources that allow them adapt their lifestyles and have more social resources that allow them to get better informed about their health condition. Thus, individuals with high socio-economic status have better access to the best treatments available and seek help at less advanced stages of disease, and they may be more compliant with medical advice.

A limitation of most existing research on socio-economic differences in healthy ageing is that these relationships have mostly been studied in a single societal context only. However, if one takes the life course principle of historical time and place seriously, it is clear that the strength of these links depends on the variability in
societal context. In general, one may assume that the strength of the relationships depends on the opportunities that the context offers to abate the adverse impact of economic and social deprivation. Contexts that offer good opportunities to people to escape situations of deprivation, like social security systems that offer financial support to people in financial jeopardy, educational systems that stimulate upward mobility, normative systems that do not stigmatize people with deviant behaviours and economic prosperity, are expected to weaken the links between socio-economic disadvantage and adverse health outcomes. How conducive contexts are to reducing socio-economic health differences not only varies between societies but clearly also within societies [30]. Thus, spatial variation in health outcomes is large within country contexts as well.

Studies on socio-economic health inequalities have shown that both people’s own and their parental socio-economic position influence health outcomes. In the Western world, most of the second half of the twentieth century has been characterized by rapid upward mobility, with children generally ending up much higher up in the social scale than their parents [31]. This process has stimulated a decrease in social inequality. In the last decades, however, the massive educational expansion and upward social mobility have come to an end, and inequalities are again rising. Decreased social mobility suggests that more people are stuck in persistent disadvantage, which may deepen social inequalities in health outcomes between current and future cohorts. In addition, the increased migration flows of the last decades have created new inequalities in Western societies, i.e. between members of different ethnic groups. Health inequalities between ethnic groups clearly have a strong economic component, with people from some ethnic groups having less economic resources than the indigenous population. But, also ethnic differences in the availability of cultural and social resources matter, as migrants often differ in their cultural codes and in their access to health-related information and their knowledge of the functioning of the health system [32].

2.3 Well Begun Is Half Done

Youth, i.e. children and adolescents, in high-income countries has never been so healthy as in recent decades, and the same holds for most low- and middle-income countries as well, though some problems remain. In general, mortality has decreased significantly with major reductions regarding, e.g. infectious diseases, injuries and complications around birth. Youth also constitutes a major share of the world population, e.g. adolescents (ages 10–20 years) constitute one-fifth of it (i.e. 1.2 billion), and the achievement of a better health in this group has added tremendously to the worldwide increase in life expectancy. Major causes of the reduction of mortality may be attributed to a general improvement of living conditions like income, housing and nutrition. Also, a series of preventive measures like improved sanitation, clear drinking water and childhood vaccinations have contributed. In addition, better healthcare, in particular primary care, has added significantly to a general improvement of public health and youth public health in particular. Despite this major
improvement in youth health, problems like infectious diseases and complications around birth continue to constitute a major challenge, particularly in low-income countries. Because of that, a further reduction of childhood mortality is one of the global United Nations Sustainable Development Goals. Extensive and continuously updated information on demographics and health of youth can be found at the sites of the World Health Organization (www.who.org) and UNICEF, the United Nations Children’s Fund (www.unicef.org). In that respect the 1000 days concept, i.e. from conception through a child’s second birthday, has been recognized as a critical period with long-term impact on a child’s cognitive and physical development [33]. Indeed a mother’s health and well-being is a clear determinant of growth and development of her foetus and after birth of her child. Appropriate nutrition for the mother and for the child thus provides a window of opportunity with a profound impact. A child’s growth and development, risk of disease in young and later life may be irreversibly determined by maternal malnutrition [34]. Foetal growth is directly related, as is infant growth, health and development. Stunting during this precarious developmental phase has been proven to be a major determinant of adult obesity and nutrition-related non-communicable diseases such as cancer, cardiovascular disease and possibly dementia. Obviously, also the mother’s health and well-being depend on nutrition and access to adequate medical services and information.

A multisectoral nutrition effort may have lasting implications across the life cycle. Importantly, good health and reduced disease risk for mothers and children will render a robust effect on a society’s prosperity. Indeed, good nutrition in the first 1000 days may be the cornerstone for health, development and prosperity generations to come. [http://thousanddays.org/about/ Accessed 15 Mar 2018.] The economic and financial arguments for proper nutrition are clear. Accumulating evidence reveals that (1) globally more than one million lives may be saved each year; (2) the human and economic burden of diseases such as tuberculosis, malaria and HIV and AIDS may be significantly reduced; (3) the risk for developing various non-communicable diseases such as diabetes and other chronic conditions later in life may be reduced; (4) individual’s educational achievement and earning potential will improve; and (5) country’s gross domestic product will increase by over 2–3% annually. Good or poor nutrition and other exposures in the first 1000 days lay the foundation for health, development and even prosperity of the next generation. This is very true at a global level but also remains opportune across the privileged and less privileged within a country, i.e. for socio-economically deprived individuals, communities and areas similar challenges remain.

A next phase of life with particular challenges is childhood. Psychosocial diseases and unhealthy behaviours have become more dominant as health risks for youth, partially due to the reduction in rates of physical disorders but probably also due to real increases. The increasing prevalence of attention-deficit hyperactivity disorder (ADHD) is exemplary. The disorder is characterized by problems in attention and concentration, and increased activity levels in a varying mix, and is typically diagnosed in young children before the age of 7 years. Other psychosocial disorders are typically diagnosed for the first time at older ages, e.g. depression or substance abuse typically occurs in adolescence. Population studies show that in
countries such as the USA and the Netherlands, about a half of all adolescents has satisfied the criteria for at least one psychiatric diagnosis by the age of 18 years [35, 36]. Since the diagnosis principally is lifelong, this has implications for societal functioning, which will be affected, especially in severe or recurrent disease, or if combined with other diagnoses. Attaining a lower or incomplete educational level as a result of emotional or behavioural problems has been shown to be one of the life course mechanisms leading to disadvantage [37].

Furthermore, the importance of unhealthy behaviours for youth health has increased during the last decades. Much attention has been raised for related outcomes such as overweight and obesity and problems related to (excessive) use of alcohol. Major drivers identified are societal features, i.e. an increased albeit skewed distributed wealth, increased availability of unhealthy food and sometimes decreasing opportunities for physical activity. Regarding overweight and obesity, rates have increased steadily during the preceding decades with some levelling off in some high-income countries and a continuing increase in other ones. In low and middle incomes, increases in wealth seem to be associated with steeply increasing obesity rates in many countries. Interestingly not all upcoming economies reveal this unhealthy trend, revealing a potential to curtail the disadvantageous trends. Regarding adolescent alcohol use, policies limiting adolescent access and public opinions on adolescent alcohol use vary considerably between countries. Importantly, alcohol restriction policies seem to be associated with higher rates of excessive use and associated problems like violence and accidents. Experiences in some countries like the Netherlands have, however, shown that actively influencing access and public opinion may well reduce adolescent use. Generally speaking, the same holds for other health-related behaviours, such as tobacco smoking, and safe sexual behaviour. The importance of childhood and adolescence in shaping these health behaviours cannot be exaggerated since patterns persist in the further life course. Indeed adverse outcomes in youth like obesity have proven to be very hard to reverse in later life.

An issue only emerging with the advances in medical treatment is chronic disorders among youth, which have for some time been increasing and have changed in nature. First improved survival in case of previously lethal conditions such as very early preterm birth and childhood cancer has contributed. Regarding very early preterm birth, the survival of infants born after 22 or 23 weeks of gestation is now considerable, whereas in the past most would have expired soon after birth. However, rates of various developmental problems, problems due to underdeveloped lungs and other internal organs, are considerable and frequently persist, having lifelong consequences. Similarly, survival after childhood cancers like leukaemia and childhood brain tumours has increased significantly too. Survivors, however, frequently have or develop chronic conditions and disabilities, partially due to the disease but also due to (adjuvant) treatments comprising aggressive cytostatics and radiation. Second, the types of chronic conditions in youth may also change due to new possibilities in prevention and care. For example, prenatal screening and selective abortion lead to reductions in rates of a number of congenital anomalies and disorders. Also, extended metabolic screening immediately after birth greatly improved
lifespan and health for the affected children. A condition like congenital hypothyroidism remains a classic example: without early treatment, severe intellectual retardation will develop, whereas with early treatment lifelong prognosis is quite favourable. And third, the major improvements in neonatal care have not only led to a better survival of the very early preterm born but also to better outcomes for those born at somewhat higher gestational ages, e.g. 26 weeks. For them, morbidity due to the aftermath of preterm delivery and early postnatal complication has considerably improved. Ophthalmic problems leading to blindness and pulmonary lesions increasing the likelihood of decreased lung function in later life have reduced or can be averted altogether. The full impact of these developments on the health of youth and of adults in future has yet to be determined.

Finally, several societal opportunities and also challenges have emerged affecting youth health and well-being. Clear trends observed in high-income countries are increasing rates of parental divorce, a sweeping increase of communication options through social media, increasing performance-based instead of descent-based career possibilities, generally more health-literate and better-informed users of care and increasing possibilities for personalized care. These trends to some extend also affect youth in low- and middle-income countries. Parental divorce is associated with increased rates of emotional and behavioural problems in youth. They are involved or part of a highly emotional process before and after divorce. Regarding the latter, the generally resulting decrease in family wealth adds further to the deleterious effects. Increasing communication options, e.g. various web-based communication platforms and the Internet in general, may have a range of effects. Deleterious and addictive effects of web-based gaming have been identified, and also web-based bullying including sexual assault is not uncommon. On the other hand, a wealth of new learning options and a virtually limitless access to health-relevant information can be found on the web. Likewise, the increasingly unconfined and performance-based career options for youth, young adults and in further life have similar mixed effects. On the one hand, there is increasing equity and access, and on the other hand there is an increasing focus on performance and meeting high expectations. The latter has been suggested to add to increasing rates of youth psychosocial problems up to burnout. Finally, parents and youth in general are increasingly better informed and critical users of health-related information and of healthcare. This offers growing possibilities in care selection and may result in better tailored care. Conversely, the challenges for providers of care may increase, and potentially inequities will be augmented as not all users will be equally informed and literate. Thus, the increasing societal opportunities and challenges are not equivocal yet will have a major impact on youth health and use of care, both instantaneous and in future. The balance may mostly turn out positive; however at the flip side, and in particular for the societally more vulnerable and disadvantaged groups, there are clear risks.

The increasing societal opportunities and challenges and the move of the youth health burden towards psychosocial and health-behaviour related problems also have implications for the organization of care, at least in high-income countries. It implies a move from physical to mental care, and also to social care, with the latter
traditionally being the domain of local authorities. Social care historically is strongly
connected to the local community, to welfare and to educational services. As a result
and partly in response to the trends in burden of disease observed, this has resulted
in a transfer of governance for this type of care. Youth psychosocial care has become
delegated to local government in many high-income countries, at least in Northern
and Western Europe [38]. This restructuring has an inherent risk fragmentation and
thus poses a challenge of balancing integration of youth social care and healthcare
towards more personalized care while maintaining equity and efficacy. If successful
it would add to the further improvement of the health, of youth now and in future
across the life course. Presently, however the challenges dominate the agenda, integra-
tion and personalization appear extremely difficult to attain.

2.4 Tomorrow’s Workforce

Having noted the demographic transition and challenges encountered in childhood
and youth, it becomes clear that labour is fast becoming a scarce resource. This may
partly be overcome by the ‘fourth industrial revolution’, where cyber networks
come together with physical networks, to create new autonomous systems vastly
reducing the need for human resources. Yet the latter as such may pose considerable
challenges to the labour force [39]. Who will be able to keep up and meet the
demand and how to support people are very relevant questions as yet unanswered.
Clearly, improving the health of the working population will remain to be a major
prerequisite for a sustainable and inclusive society. It is also a core objective of the
Europe 2020 strategy of smart, sustainable and inclusive growth. In the Netherlands,
almost 50% of all work disability claims of young workers (<35 years) is attribut-
able to mental health problems, as is 50% of their long-term sickness absence.
Today, starters in the labour market and young workers have to deal with a changed
working life (e.g. more temporary work, flexible contracts and multiple jobs) and
labour markets (e.g. more self-employment, 24/7 work cycle in global markets and
the impact of the fourth industrial revolution). This evidently challenges mental
health. Successful educational attainment (e.g. achievement of at least an upper
secondary education) thus far has been associated with many favourable lifelong
social economic outcomes, including occupational achievement and financial secu-
rity. Mental health problems can negatively affect educational attainment and thus
have adverse consequences during the entire life course [40–42]. Using 9-year fol-
low-up data on the TRAILS cohort, we have recently shown that preadolescents’
mental health problems and changes in these problems over time are strongly asso-
ciated with low educational attainment by the age of 19 [43]. Especially adolescents
whose mental health problems intensified were at greater risk of low educational
attainment. In addition, we demonstrated that young adults with high-stable trajec-
tories of mental health problems from ages 11 to 19 were at increased risk of adverse
employment outcomes [44]. Mental health problems are important predictors for
school dropout and failing to finalize secondary education, which in turn affects the
likelihood of a successful transition from school to paid employment [45, 46].
Pathways to successful labour market participation and a healthy working life course are complex, probably bidirectional, and can only be fully understood from a life course perspective [47]. First, child and adolescent mental health problems may lead to poorer educational attainment and occupational outcomes, i.e. health selection. Second, low educational attainment may lead to mental health problems, i.e. social causation, occurring in particular in combination with (cumulative) adverse childhood conditions (e.g. socio-economic disadvantages or parental divorce) and lack of social support. Hardly any evidence is available on the relative importance of these routes in the pathways linking childhood mental health problems and labour market participation. Third, there is very little research to date investigating the impact of work on young adults’ mental health. This regards both working conditions and the interaction between work and family life. Thus, to fully capture the complex and interdependent relationship between labour market participation and mental health, a life course perspective should be adopted.

Life course principles have already been applied to understand (developmental) health trajectories and socio-economic inequalities in health [48–52] but never so regarding the entrance to the labour market and the subsequent working life trajectories. An important aspect of (mental) health is that it is a determinant as well as resource and capability, i.e. with bidirectional associations, which subsequently shape working life trajectories. Adopting a life course perspective in work and health research involves understanding the key principles related to time, duration, intensity and place (context). Past and present exposures and experiences that have been or are shaped in a particular social, historical and/or cultural context will influence future health and labour market outcomes [47].

Current work and health research is fragmented and focuses on jobs, exposures, work organization or employment contracts [53]. Life course principles [50, 54] should be integrated into work and mental health research to overcome this fragmentation. Thus, novel working life trajectories of young adults may be built and linked to (mental) health considering family structure in childhood, adolescence and family formation in young adulthood. Constrained by static models of work and health when two or more work periods are considered along with one or more health state, the proposed integrated perspective recognizes a more dynamic working life in the twenty-first century world of work. Recognizing the reciprocal relationships between (mental) health and work over the life course challenges us to build even more dynamic models. For example, in young adulthood, family formation, another important life domain, often occurs simultaneously with building a work career [55] and cannot be neglected when looking at work and mental health from a life course perspective. Many studies have examined life course work-family trajectories [56], but more work is needed to link the available knowledge to the mental health of the young adults.

In addition, the focus on understanding the various contextual levels and the constituent influence of social actors on working life trajectories will help identify policies and interventions that can both reduce health risk and build health advantage, e.g. what are the contextual policies and interventions that will ameliorate the potential adverse health consequences of youth unemployment in later life [47]?
Understanding work not only as an exposure that increases or lessens (mental) health risk, but also as a life course experience that shapes life and is dependent on place and time, moves the research to policies and practices that will help maintain a healthy and productive workforce and enable active ageing at work and beyond.

### 2.5 Beyond (Economic) Participation

Previously, only once individuals were actually nearing the age of formal retirement the question of ‘what’s next’ used to be posed. Early retirement may have been an option, but working longer or part-time and other types of participation were hardly ever if at all formally addressed. The retirement context in Western countries is, however, changing rapidly. Between the 1970s and 1990s, leaving the labour market before the official retirement age was common in most Western countries. However, to bear the costs of their ageing societies, increasingly this path was abandoned with a 180° turn. Nowadays, prolonging labour force participation has become a key objective of government policy in most of these countries. Many countries have undertaken pension reforms that improve the financial sustainability of public pension programmes by adjusting the public pension age to the increased life expectancy [42]. The imposition of restrictions on early retirement and increasing the public pension age has led to a sharp increase in employment rates among aged individuals in recent years. Eurostat statistics show that in the EU-27 the employment rate of males aged 60–64 increased from 38% in 2010 to 48% in 2016. For females the corresponding figures rose from 23% in 2010 to 34% in 2016. Increasing public pension ages is just one indicator of the changing retirement context. The increasing numbers of working retirees is another. On average, 11% of retirees between the age of 60 and 75 participated in paid work albeit with considerable variation across the investigated countries. For example, while working after retirement is quite exceptional in countries such as Spain (3%), Slovenia (3%), Poland (5%) and France (5%), it is relatively common among retirees in Estonia (22%), Sweden (21%), Switzerland (20%) and Denmark (14%) [57]. Recent trends indeed indicate that the nature of retirement has changed markedly, both in terms of timing and character over the past three decades [58]. Presently, there are no indications that a stable situation has been achieved, and the future will likely have similar changes in store. Of course, the precise nature of these changes remains unclear and offers the biggest challenge for policymakers and social scientists. The social and economic transformations regarding retirement are generally expected to be characterized by longer lives, greater uncertainty and unequal public pension rights and levels. Individuals may expect to have to assume greater labour market and savings risks over the course of our lives. All changes are likely to spill over to the retirement stage.

Two issues are believed to be particularly relevant in studying the changing retirement contexts. The first entails employers’ adaptation to this changing reality, and the second obviously is how employees deal with the prospect of careers that may be considerably longer than previously envisioned. Employers are key players
in defining opportunities and barriers for retirement as well as for working longer. As a result, the success of policies aimed at delaying retirement is to a large extent dependent on the impact these have on employers and their pertaining actions and attitudes. During the past few decades, researchers from various disciplines have generated insights that can be summarized by saying that employers are lukewarm when it comes to hiring and retaining older workers [59–61]. This is an attitude that appears determined by the perception that an ageing work staff leads to an increasing gap between labour costs and productivity, i.e. high last wages and relatively low work output [62]. Despite pleas for ‘sustainable’ ageing in organizations, in practice most employers remain passive and hesitant when it comes to designing policies to stimulate and facilitate longer working lives. A key question for the near future is whether employer behaviours change in response to retirement reforms, i.e. follow the intentions of policymakers or remain reluctant. Can legislative changes enhance employers’ investments in training and development of their ageing staff? Or do employers seek for alternative ways to lay off older workers when they feel there is a need for downsizing or rejuvenation of staff. In addition emerging topics relate to the successful and unsuccessful human resource (HR) policies for older workers. By examining both good and bad management practices, one might hope to distil evidence-based human resource management (HRM) that supports healthy and successful ageing in the workplace. An important question is why organizations differ so widely in their responses to an ageing workforce. Some insights into this question have been gained through employer surveys [63]. However, it is important to go beyond descriptive studies that use mainly socio-demographic predictors. A more refined analysis, including values and norms of the organizational culture and climate would be required. Looking at such factors would greatly enhance our understanding of employers’ strategies.

A second topic of interest refers to the way older and younger workers deal with the prospect of a continuously increasing retirement age. While many governments are reluctant in implementing reforms fearing electoral backlash of voters who are against increasing retirement ages, others, such as the Netherlands, have been very successful in raising the public pension age. The psychological and social impact of these reforms are often considered of secondary importance. However, this neglect may have direct and indirect repercussions that spill over to the economic domain. In this respect two issues seem particularly relevant. The first issue is how older workers adjust to sudden policy changes that induce them to work longer. Empirical research has consistently shown that a lack of control over the retirement transition is among the most powerful predictors of reduced well-being and retirement adjustment problems. There is some evidence that for many, adjustment to working longer is not an easy process [64]. Many older workers seem to struggle with feelings of uncertainty and worry whether they are physically and mentally able to work till retirement age [65]. For adults around retirement age, poor adjustment may have negative consequences for well-being and performance at work. Mid-career adults are expected to take a more active stand in their career in terms of continuous training and development and job mobility, anticipating a much higher age of retirement than for previous generations. The second issue is how retirement reforms interact with other social
policies. In many countries, there has been a fundamental reorganization of the relationship between formal publicly funded care and informal care by relatives and relevant others. Shifts from professionals to volunteers are observed across national contexts and in various types of public services, particularly in long-term care and social work [66]. As a result, a growing number of workers in their 60s will experience conflicting demands tied to work and family roles. Some activities such as volunteering may increase human capital or social resources, which subsequently facilitate workforce opportunities, while others such as caring may reduce these opportunities due to time constraints and limited access to new networks [67]. More evidence is needed about the impact of extended working life on informal caregiving, volunteering and other forms of civic engagement and vice versa. A better understanding of the frictions between requirements to work longer and the obligations individuals experience in their social network will enable better policy development.

2.6 Participation in Caring

Remarkably, the inference regarding balancing various participatory activities, among which highly regarded caring for spouses, parents, children or relevant others, contrasts sharply with many countries’ policies factually bringing down the welfare state. On the one hand, policymakers maintain a fundamental presumption that caring tasks may be delegated to citizens themselves and their social networks, while at the same time there is no formal policy and there are no resources enabling citizens to take on caring responsibilities. Meanwhile there also is a broad recognition of an increasing shortage on the labour market and thus production capacity. Apart from Scandinavia, no country seems to have developed adequate social policies enabling or supporting citizens to combine participation in the formal economy with caregiving. For instance, how can young fathers assume the care for their new-born and partner if they are expected to return to work within a couple of days and make a living for their family? Apparently, Scandinavia and Germany have implemented more generous policies, highly valued by their citizens. Similarly, ageing societies clearly have an increasing demand for (chronic) care, again necessitating elementary changes in thinking about societal participation and distribution of income.

In this section we focus and consider informal care on three levels. First we look at the macro level: a brief overview of the concept of informal care and the situation in Europe. Then we look at the meso level: how is care organized regionally or for specific groups? And, finally, the micro level: what do we see in and around individual relationships and networks when it comes to informal care?

We will start by considering the concept of informal care. Informal care always involves help, care and support from a person’s family and friends, e.g. parents, children, other family members, relations, neighbours and friends [68]. The Dutch government defines informal care as follows: Informal care is unpaid and often long-term care for sick family members or friends. Besides providing care, informal care may also involve help with everyday activities. There are a wealth of definitions, all of which include terms such as ‘voluntary’, ‘family and friends’, and ‘unpaid’.
2.6.1 Macro Level: Europe and Informal Care

Verbakel et al. (2017) conducted a major European survey among 28,000 people. The survey looked at the prevalence of informal care, the characteristics of the people who provide this informal care and the impact of providing informal care on mental well-being [69]. In 20 European countries, an average of 34.3% of the population are informal caregivers, and 7.6% are intensive informal caregivers, i.e. they provide at least 11 h of care and support per week. Typical characteristics of informal caregivers are the following: female sex, aged between 50 and 59, not formally employed and most of whom are religious. Importantly, informal caregivers, particularly intensive informal caregivers, had a lower mental well-being than formal caregivers. Furthermore, given the shortages in the labour market and general job uncertainty, this group may also experience a certain amount of pressure to stay within or re-enter the labour market. A further source of stress may be the fact that informal caregivers are generally not well prepared, trained or educated to meet the increasingly complex care demands. Respite care, training and counselling opportunities for this group should be developed and communicated to the group, especially since they are expected to provide an important and complimentary source of support for the healthcare system as a whole.

Importantly, the OECD [70] in an 2011 overview predicted that the number of people currently providing informal care will decrease in forthcoming decades, while those requiring informal care will increase. This will put further pressure on informal caregivers, and the risk of stress or even burnout will therefore increase (see below).

2.6.2 Meso Level: Regional Support for Informal Care

At meso level, we foresee that local, regional and national authorities must take responsibility. At regional level, local authorities’ and health insurers’ agreements over the procurement of care may be improved to support informal caregivers. Indeed, it is important to consider the overall care process and the part fulfilled by informal caregivers. Integral care requires effective coordination between professional help and support in the form of informal care. In the meantime, the care provided and quality thereof should meet the wishes and needs of the recipient or client.

Accordingly, investing in and building up the ‘voluntary’ infrastructure by local authorities and other organizations would appear to be a prerequisite. This will not only enhance the relationship between client and informal caregiver but also the relationship between informal caregivers involved. Three aspects local authorities could and probably should address may be discerned. Firstly, there is an executive role ensuring that the informal caregiver is involved in the communication between the professional and the client. Secondly, as mentioned earlier, local authorities are the purchasers of care, which should preferably comprise support for informal caregivers. Thirdly, the responsibility of provision of adequate care, i.e. timely and of good quality, should be preserved by local authorities. Mobilizing and encouraging
local organizations to invest in support for informal caregivers may be part of this responsibility.

2.6.3 Micro Level: Providing the Right Support for Informal Caregivers

An important aspect of informal caregiving is the nature of the relationship between client and informal caregiver. The recipient of informal care could be a spouse, child, parent, friend or neighbour, which as such has implications for their relationship as well as the type of care that people are willing to provide or receive. Additionally, we know that providing informal care may put stress on the caregiver. Partly, this may be due to time constraints, e.g. withholding caregivers from self-development or training. Also, informal caregivers may also suffer from physical stress wearing them out, which ultimately may be detrimental to their health. Taking into account resilience would thus seem important, which subsequently relates to the age of informal caregivers. A partner’s resilience, i.e. generally older than children, may be put to the test more, and they generally are involved 24/7. Also, there can also be role confusion, which puts social roles as friend, partner, etc. under pressure. Finally, it is important to realize that apart from the gratifying effect of caring for a loved one, informal care may also cause emotional stress. There is a good reason why the score for mental well-being generally is lower among informal caregivers than it is among those who do not take on such tasks. A recent source signalled that roughly one in six informal caregivers provide care for more than 8 h a week [71]. Of these, half a million have been providing this care for a long period of time. The risk perceived and associated with informal caregiving increases when the care is long term and/or intensive and if the informal caregivers provide a wide range of support. Apparently, 10% of all informal caregivers (more than four million in the Netherlands) are highly stressed. Thus, burnout may be a real threat among informal caregivers. So-called respite care to partly alleviate the perceived burden was suggested in this context. Respite care temporarily or completely takes over caring tasks usually provided by an informal caregiver to give him or her a break. Taking advantage of respite care at an early stage may prevent informal caregivers from having a breakdown. The main reason why little use is currently made of respite care is lack of information and postulations regarding availability. To remove these barriers, GPs could pay attention to the possibility respite care, as should other healthcare and welfare organizations. Meanwhile, the factual availability in all settings and countries and the organization required to support informal caregivers and the effectiveness remain to be accurately determined.

To conclude, several factors have been identified which will ensure that informal caregivers and the care recipient are provided with appropriate support, also related to professional care. Access to adequate information on the services available, both in terms of prevention and in terms of ‘warm’ referrals along the care pathway, should be provided. Relevant services must be accessible, e.g. (adapted) transport must be provided. Next, the combination of informal and professional care must be
tailored to people’s day-to-day patterns of care. Also, quality of care has to be upheld, i.e. it must be clear that recipients of the care, the clients, are satisfied and their needs are met. As to the insights informal caregivers have regarding the recipient, it is clear that they know best the situations where the recipient may feel insecure outside their own familiar environment. Caregivers are in the position to make sure that recipients have familiar items from home around them and recognize that adapting to a new situation will take time. Professionals should be aware and use the knowledge and experience of the informal caregiver and assimilate their values, lifestyle and care patterns. Within the context of the recipient, informal caregivers, in cooperation with professional organizations, should strive for a combination of different types of support, so the advantages and disadvantages may be negated thus keeping the ‘system’ going for longer.

2.7 Health and Social Care Navigation in the Future

The demographic transition presented in the beginning of this chapter has direct implications for health and social care as we know it today. Increasing proportions of elderly and below replacement fertility rates translate into an increasing demand for care and support, without the human resources to provide care the way we appreciate and have developed it [72]. A change is due.

All this against the background that at some point health status will impede (full) participation and that care may be required to compensate or alleviate losses in function. This obviously has been the case throughout human history, yet presently, health and social care and thinking about the goals of health and social care are changing rapidly. The patient no longer is the one that should have patience as the true meaning of the word in Latin is, but he or she is expected to remain in control, i.e. be the captain on his own boat. Incidental sailors may be signed on to keep the boat afloat or assist with navigating a life course. Importantly, however, lifestyle management, prevention, diagnostics, cure, chronic care and generally advancing life are largely considered an individual’s own responsibility. The navigation may also be supported by the information on the internet and e-health tools. And befitting a true captain, he or she is supposed to know exactly how every tool works, while self-managing and self-assessing capabilities are beyond dispute. Clearly, this ideal of a highly literate and skilled captain is not omnipresent. Yet the recognition that individuals should be empowered and capable of self-management is increasingly common and will change the nature of health and social care provision.

The reasoning above, entirely realistic or not, has among others engendered an exponential growth of e-health and other tools. Advanced technology is available to young and older members of the community. Also, organizing and implementing technology-supported high-acuity care and support into the home environment create new and exciting opportunities to shift from a large, centralized health and social care system to a more tailor-made, more sophisticated and more value-based system. The future perspective is a system in which health and social care is more accessible, more affordable, more individual and even closer to home. In such a
system, hospitals more and more are becoming lean centres where medical hyper-specialist care is offered. Advanced technology such as PET imaging, genetic profiling, lasers and administration of expensive chemotherapeutic, biologic or immunologic agents requiring highly skilled professionals to operate will become the core business of hospitals within care networks.

Another significant development is that health delivery systems are increasingly aiming or expected to aim at keeping people healthy and out of the hospital, rather than simply ‘mechanically’ responding and providing diagnostic and therapeutic procedures. The conventional framework of health and social care will be turned upside down, with revenues being directed towards maintaining the health of populations, rather than towards just preventing or delaying illness and disability. Outcomes are no longer laboratory results or administrative ones such as length of stay or hospital mortality but are preferably delivery of value, disability-free intervals and time spent at home. In fact, satisfactory participation in its broadest denotation might become the preferred outcome to determine return on investment.

This move from traditional outcomes towards more generic well-being and participation in health and social care thinking will require health and social care professionals and physicians to take on new and quite different roles. The position as a coach with and for their clients, partly becoming the mere sailor, aiding individuals to cope will be required. Yet, also, given their expertise, they may become the pilots thinking in healthcare concepts and development of scenarios for diagnostic and therapeutic procedures. Clearly, all this requires colossal changes in the current organization of care and support and the health and social care education. Citizens and patients, however, are also given a new and much more responsible role in the system. One of the major issues will be their capacity and willingness to do so, because it would require a lot from them. Undoubtedly, there will always be individuals who never will attain the competencies required or over the course of their lives lose those competencies. Informal caregivers or relevant others may take on responsibility and have mandate, yet not always and under all circumstances will that suffice.

So, we currently have a non-sustainable health and social care system, and although we are becoming more and more aware of the fact that current care does not meet the needs of all, particularly for the heterogeneous group of older persons, we keep on producing ‘one size fits all’ guidelines. Current guidelines do not reflect quite variable needs resulting from multi-morbidity, disability, polypharmacy and stages of frailty. In addition, the final frontier of our health and social care may not be not curing cancer or cardiac diseases. We are already very well equipped to modify and increasingly treat these conditions as chronic disorders.

A very real and potentially attainable challenge will be delaying or preventing dementia. Currently the lifetime risk of developing dementia is at least 30%, and if one or two parents have dementia, this risk may be up to fourfold higher. In the field of Alzheimer’s disease, attempts to develop a cure have been plentiful so far without any success. Conversely, already for over 20 years, we know that there is ample opportunity for prevention of dementia. Indeed, a considerable proportion is attributable to modifiable risk factors affecting the development of all forms of dementia. Accordingly, the real challenge is finding sustainable ways to endorse lifestyle
adaptation in high-risk persons. If successful that would yield enormous ‘return on investment’ at the end of life, 30, 40 and 50 years later. Importantly, in this case a highly appreciated bycatch would occur, i.e. a lifestyle preserving cognitive functioning would also immensely contribute to prevention of other chronic disorders such as diabetes, CVD, COPD and cancer. The seeming paradox of prevention will nevertheless also apply here. At population level the expected impact in terms of number of individuals for whom adverse outcomes will be averted will be significant, whereas for citizens having to change their lifestyle, their individual risk will not change so much. Currently, accurate prediction of a lifetime risk of disease is impossible and most likely never will be possible. Over the course of their life, many extraneous and unforeseen factors can and will change for individuals, thus precluding useful predictions.

Notwithstanding practical and possibly normative barriers (should lifestyle be optimized and regulated top-down), commercial and other private initiatives have emerged hoping to capitalize on ‘mobile health’. By connecting individuals with health and social care providers and real or virtual lifestyle coaches, investors anticipate on return on their investments through obligate prevention. Also, more and more health information is available through other information carriers like serious health games. Embedded in a playful educational environment, knowledge is increased, and individuals are seduced and triggered to make actual lifestyle changes, rather than having their fallacies with devastating long-term consequences pointed out. Such opportunities may be exploited for empowering older people to live healthy and stay healthy.

Healthy ageing may start as grown-up children of older parents watch their parents grow older and actually learn from their struggle with health and well-being and apply these insights at an earlier stage in their own life. Also, we should empower citizens and new health and social care professionals by redefining and refocusing on our health and social care system. Adequate definitions of meaningful outcomes have to be endorsed while not losing sight of value, especially in caring for our older clients. Ageing as individuals and society is not like strolling along an even path but typically is by trial and error towards a newly designed health and social care system and renewed health and social care thinking. The road will be long and winding but can be made accessible.

References

42. OECD. Sick on the job? Myths and realities about mental health and work. Paris: OECD; 2012.