



More Years, More Life

Recommendations of the Joint Academy Initiative on Aging

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The recommendations that address the opportunities and challenges posed by demographic change and were originally published in German. They were compiled by the Joint Academy Initiative on Aging, a group of scholars, scientists, and practitioners from more than ten disciplines and fields. The Joint Academy Initiative was set up by the German Academy of Sciences Leopoldina (National Academy of Sciences) in collaboration with the acatech – German Academy of Science and Engineering. Its activities were funded by the Jacobs Foundation Zurich. The recommendations were adopted by both academies after separate (and external) evaluations.

These recommendations focus on the impact of demographic aging on the world of work and lifelong learning in Germany. As aging in the context of work and lifelong learning, however, is closely associated with other domains of life such as health, the family, civil society, and politics, those are also covered. Furthermore, the topics of technology, and local communities and regions are explored in relation to aging. Other areas, such as the reform of pension schemes and the health system, have intentionally only received marginal attention, although they are relevant to the societal opportunities and challenges of aging. These issues have already been examined extensively in other settings and with high levels of expertise.

What is special about the Joint Academy Initiative on Aging? First, it was constituted by two academies. Second, it encompasses a truly wide range of disciplines: history, computer science, medicine, neurosciences, economics, philosophy, political science, psychology, law, and sociology as well as regional studies and engineering. Third, within this mix of disciplines all had equal weight and put forth the different perspectives presented in these recommendations. This has resulted in a complex, cross-disciplinary approach that is described in more detail in Part A and affords a systemic view of demographic change. We believe that this is the innovative aspect of our report.

It is one of the important tasks of academies to provide the best scientific advice to policy makers and public institutions, to companies and civic organizations, as well as each citizen. Prospects and risks of aging are an issue of concern to the general public, and making use of the best scientific findings will help to develop the potential of demographic aging while avoiding its pitfalls. Accordingly, the following recommendations supply information as a basis for public dialogue. The Joint Academy Initiative on Aging was launched in 2005 by Paul B. Baltes, psychologist, gerontologist, and Vice President of the Leopoldina. His ideas shaped the Initiative well beyond his far too early death in November 2006. The recommendations owe a great deal to him.

The Joint Academy Initiative compiled, supplemented, and weighted the findings of relevant academic research on opportunities and challenges of demographic change over a period of three years (2006 –2008). It also consulted other recommendations addressing the consequences of demographic change in the past, such as the parliamentary Enquete Commission's report on demographic change ("Demographischer Wandel," 2002), the German Federal Government's five reports on seniors ("Erster bis Fünfter Altenbericht," 1993 –2005), the Expert Commission's report on

objectives in policies for elders (“Ziele in der Altenpolitik,” 2001–2007), or the Expert Commission’s report on funding of lifelong learning (“Finanzierung Lebenslangen Lernens,” 2001–2004). A large number of experts from Germany and other countries were invited to workshops hosted by the Joint Academy Initiative. The experts’ reports were compiled and are recorded in eight volumes of findings. They document the state of the art in research on the topics presented in these recommendations.

In early 2009, the recommendations were published in German (“Gewonnene Jahre”), and the academies have since embarked on an intensive dialogue with interested parties on facets of aging in the world of work, on lifelong learning, on a facilitative technical environment, on age-sensitive health systems, and on the effects of age stereotypes, among others. Within Europe, Germany is one of the countries with a relatively high life expectancy and a particularly low birth rate. However, aging is a global trend that is making even faster progress in other continents. Other countries’ demographic situations and policies have influenced and inspired us. *Vice versa*, we hope our policy recommendations can enrich the debate in other countries.

1. A Historically New Situation: Opportunities and Challenges

At the beginning of the 20th century, the life expectancy of women in Germany (at birth) was 48 years, and that of men was 45 years. Today, they can expect to live 82 and 77 years, respectively. This gain in years was initially due to overcoming infant and childhood mortality, but for a number of decades, it has mainly been occurring at later stages in life. Life expectancy is now rising markedly among older adults in particular. Around 1900, 60-year olds had another 13 to 14 years to live on average, whereas today, they can expect about 23 further years, 25 among women and 21 among men. This trend is going to continue. Current predictions state that in 40 years’ time, on average, 60-year-old men will have another 26 years ahead of them, and 60-year-old women even a further 30 years – in other words, no less than half of their previous lifetime! Whereas in the late 19th century, just 5 – 6 % of all newborn babies had the prospect of reaching an age of at least 80 years, nowadays, this is the case for almost every second newborn boy and for around two out of three newborn girls.

More and more people are reaching very old age with better physical and cognitive functioning. However, trends in labor market participation have pointed in the opposite direction. Since the 1970s, and up to a few years ago, many people opted for an early retirement before the statutory retirement age of 65. Only every fourth 60- to 65-year old in Germany is still gainfully employed. This share quickly drops to just a few percent among the over 65-year olds. However, the trend to take early retirement has been stopped in the last years when subsidies for such schemes were phased out and the official retirement age was raised to 67 years for younger cohorts.

However, the odds of living longer are not equally distributed. For example, a glance at the male recipients of statutory pensions reveals that a 65-year old who has earned little in his previous working life can, on average, expect to live a further 14 years, while an age peer with a high previous income can hope to live another 19 years. There are a wide range of reasons for this unequal distribution of life expectancy. They include different working and living conditions, different health behaviors (in terms of smoking, diet, physical exercise), unequal access to health services, and the impact of childhood diseases on later income attainment. The weight of individual factors with regard to the explanation of survival differences is still under scientific debate.

The increase in life expectancy is one core element of demographic change. The other element, which also started toward the end of the late 19th century, is the decline in births. Whereas a woman gave birth to around 5 children in late 19th-century Germany, today’s average is just 1.5 children. Rising life expectancy on the one hand and falling birth rates on the other have led to a clear shift in the population’s age structure. This shift is going to continue. In 1900, 44 % of Germans were 20 years old or younger, while 48 % belonged to the age groups between 20 and 60 years, and just 8 % were 60 years old or older. In 2006, the corresponding shares were 20, 55, and 25 %. For

2050, it has been estimated that only 15 % of the population will be under 20 years old, less than half will be aged 20 to 60, and just under 40 % will be 60 years old or older. These trends are also reflected in the growing groups of the population with a migration background, albeit with a delay. In some countries, including Germany, these demographic changes are resulting in a higher share of older people as well as a decrease in population size. The latter can be slowed down but not evened out by immigration.

A pessimistic view on population aging foresees a loss of productivity and innovative potential as well as an excessive burden resulting from pension and health costs and a slackening of societal and governmental reform forces. This view will hold true if population aging is not matched by consistent policies and by entrepreneurial, societal, and individual action as suggested below.

To sum things up: What are the *opportunities* that the gains in average life expectancy do offer, and how can they be realized? What *challenges* arise from demographic aging, and how should they be addressed? These are the two central questions that the following recommendations set out from.

The strong increase in life expectancy that has been observed since the middle of the 19th century, and the high and probably still growing average population age are a novelty in human history. This phenomenon has never occurred before. And demographic change is not limited to Germany. It is a European phenomenon and even reflects a global trend. The trend began in Europe and has made particular progress here and in Japan. Within Europe, Germany is one of the countries with a relatively high life expectancy and a particularly low birth rate.

Demographic change has already set in on other continents too, and is now making even faster progress there. Today, more people are over 60 years of age than under 15 years in Europe. According to a United Nations forecast, Asia will reach this age distribution by 2040, and the American continent will follow suit a little later. By the middle of the 21st century, there are likely to be more people over 50 years of age than below 15 across the globe. Thus world population growth is set to slow down significantly. This demographic situation, which is completely new to human history, requires openness, changing attitudes, and new action. Its global dimension suggests to consider experiences gained in other countries. Conversely, the ways in which we deal with the challenges posed by demographic change and make use of the opportunities offered by longer lives in Germany may serve to stimulate other countries.

2. Basic Principles

The following recommendations set out from a central hypothesis: Gains in life years represent a *potential* for progress that has not yet been fully exploited. They offer considerable opportunities in terms of individual life concepts, the coexistence of generations, and the viability of society. Currently, however, these opportunities cannot unfold their potential because our notions of aging are guided by antiquated institutional, social, and cultural orders that evolved in the past decades and centuries, when very different demographic conditions prevailed. Still, they have persisted: in deeply rooted habits, in images in our minds or in institutional rules governing how we live together. Many opportunities have already been wasted because of them.

The interdisciplinary Joint Academy Initiative on Aging has compiled the results of relevant academic research on opportunities and challenges posed by demographic change and supplemented and processed them. In structuring and assessing the results, the Joint Academy Initiative was guided by scientific insights, but also by its goals and values – and these were sometimes arrived at after controversial debate among its members. The Joint Academy Initiative aims to achieve the following *three objectives*:

– First, the possibilities for *individuals* to manage their lives in old and very old age *independently* and *autonomously* should be improved. This requires *personal responsibility* and individual and cultural conditions that open up or maintain a freedom of choice between alternative activities and

forms of living. However, support of any individual person's freedom has to be balanced against the good of society as a whole.

– The aim is, second, to create a productive and fair *relationship between the generations* that is based on solidarity, to counter a dissociation of the generations, and to encourage members of different age groups to make contributions to society corresponding to their respective age-specific strengths. In this sense, a *society for all ages* is the goal.

– The third target concerns the securing and strengthening of *development opportunities* for individuals, cooperation between the generations, and the *viability of society* as a whole. The potential of demographic change needs to be unfolded by taking into account both individual and societal conditions – today and in the future.

In pursuing these goals, the Joint Academy Initiative on Aging set out from the following four assumptions:

– It is not enough to concentrate on the phase of old age alone. Rather, it is necessary to consider the *whole life-course*, the way it is structured today, and the way it could be lived in the future. Childhood, adolescence, as well as middle and late adulthood need to be considered conjointly – widening the perspective to encompass society as a whole. Without societal change, it will not be possible to take advantage of the years gained and master the challenges of demographic change. The increase in the share of older people makes reforms that are already on the agenda all the more urgent. Examples are the improvement of lifelong learning, sustainable working conditions, and career development. Surprisingly enough, an “aging society” could therefore be more dynamic than a young one. We are aware that such a comprehensive approach represents a considerable challenge both in terms of timing and of societal involvement – its implementation requires considerable persistence and hence bipartisan consensus.

– Aging is what we make of it. Behavioral scientists describe this as the *plasticity* of human development, historians and sociologists as the changeability of the human condition. However, plasticity and change depend on individual and collective resources of a biological, cultural, psychological, and social nature. Changing the way we grow old requires interventions both on the side of the individual as well as that of society. Paul B. Baltes introduced the concept of “bio-cultural co-constructivism” to denote this mutual dependency.

– However, the plasticity or changeability of human development and human societies is not infinite. Rather, it moves within certain *limits* that need to be identified. These limits result both from the biology of the body and from the properties of the institutional world. But in the long term, the shifting of these limits and the risks this entails (e.g., in the context of research on life prolongation) will come to the fore of our interest.

– We are aware that institutions and cultural norms can only be changed very slowly and step by step, not least because of arising costs. Since the future cannot be predicted with certainty, a *stepwise approach* does also have advantages. These recommendations aim at making exhaustive use of opportunities to improve, and have been formulated knowing that extant conditions have a strong tendency to prevail. Being urged to abandon what has been regarded as normal, customary, good, and sensible for decades provokes resistance. It needs to be taken seriously and met with new incentives that help making the transition. The Joint Academy Initiative on Aging wishes to contribute to overcoming such resistance by providing the best scientific insights on what is necessary and what is possible when it comes to making the most of longer lives.

Healthy Aging and its Limits

A healthy life style and targeted preventive measures have contributed to reaching old age in much better health. Widespread, life-threatening cardiovascular illnesses such as coronary heart disease now occur significantly later in life and more rarely result in death than in the past. Prevention

includes, for example, a healthy diet, physical exercise, strategies to cope with stress, but also early disease detection, vaccinations, and many other measures. Also, thanks to the progress made in medicine and nursing, increasing numbers of older people with chronic illnesses and functional impairments are now reaching very old age, often with well-being and in dignity.

The aging process progresses differently in each person. Cells and organs within an organism also age at different rates. Individual aging with all its facets partly depends on genetic disposition, which, as yet, cannot be changed. However, it is also crucially shaped by a number of environmental factors that have an effect via gene activation and deactivation. These factors not only impact on the aging process but also on the individual risk of illness. Some of them, like physical exercise, diet, and smoking, can be influenced individually. Favorable framework conditions in society, such as a suitable health-care infrastructure or the ban on smoking, provide the foundations for effective individual prevention and can contribute to evening out social discrepancies in the availability of health knowledge (behavioral prevention). The early forming of health awareness at school is especially important. Other factors, such as pollution or work environments ought to be remedied predominantly at the societal level (workplace prevention). Comparatively high mortality and morbidity rates in the lower income groups ought to prompt a special intensification of preventive health care in these strata of the population.

Aging is not a disease. However, the functional reserves of the organs (such as the heart, lungs, kidneys, liver, vascular, and immune system, etc.) decline by an average 1.5 % from roughly the 30th year of life onwards. This makes the healthy organism increasingly prone to disease as age progresses. Nevertheless, this physiological tissue aging process should not be equated with illness per se. Moreover, it significantly varies in its progression and degree and does not progress uniformly inter- and intra-individually. Differences among individuals increase with age. Thus in late old age, aging has made different progress in every individual.

Also, physiological parameters, such as the heart rate, muscle power, and lung function, have changed positively from generation to generation. The biological functioning of a 60-year old today corresponds on average to that of a 55-year old of the preceding generation. Although it is not pathological in itself, the aging process nevertheless leads to functional losses that increase the risk of illness and may have an unfavorable effect on the course of a disease. For example, many older people have poorer vision and hearing, and the progressive loss of muscle mass results in a decline of strength and mobility, with both factors increasing the risk to fall.

Older people can adapt more or less on their own to some of these losses, while other losses can be compensated for by aids. Regular and targeted physical and mental exercise also has a positive influence on the aging process. For example, physical training slows down the decline in muscle mass and bone density, improves the supply of oxygen to tissues and organs, trains the heart and the circulation, stimulates metabolism, and counteracts obesity.

However, the adaptation and compensation abilities of the healthily aging organism will at some point reach its limits, even under optimal conditions. Then, even minor disturbances of the physical equilibrium can lead to diseases. Also, acute diseases in old age have more far reaching effects than at younger ages. As psychological resilience decreases, life satisfaction and a positive attitude toward life can decline and depressivity can increase, but this process usually sets in only a few years before death.

Recommendations

– In order to promote healthy aging, prevention needs to be strengthened at every stage of life, including very old age. Many of the dominant diseases in old age can be avoided by influencing the main risk factors preventively, or their occurrence can be delayed.

- Prevention is a task for society as a whole. In order to make prevention effective, structural prerequisites in the legislator’s responsibility are required. For example, the ban on smoking ought to be followed by a ban on trans-fatty acids, such as those contained in hydrogenated food fats. The conditions for health-conscious behavior ought to be created for all people independently of their social status.
- However, prevention also is a task for everyone. It is part of people’s responsibility for their own health. It ought to start as early as possible and is most effective if preventive contents are already integrated in school and family-centered education programs and are learnt at an early stage.
- An “aging society” needs a strong system of geriatric medicine with cross-disciplinary as well as discipline-specific elements. This includes the further development of structures for geriatric medicine as well as intensified training in geriatric medicine as part of medical school and in medical staff’s further education. Graded structures of provision need to be strengthened in particular.
- In order to be able to assess the demand for support in old age accurately, it is necessary to establish the state of old and very old people’s health and quality of life in a more differentiated manner than has been the case so far, e.g., through the obligatory introduction of a broad-based and longitudinal aging survey.
- The role of family doctors with experience in geriatrics should be enhanced. Quality-based remuneration should be aimed for to improve the quality of treatment.
- The use of state-of-the-art technology in care, treatment, and nursing of older people is indispensable.
- Dealing with dying and death ought to be a natural part of life for older people, but also for society as a whole. Toward the end of life, people ought to be confident that they can die in dignity. The topics of dying and death ought to be discussed much more openly and in public.
- In order to reduce uncertainty about patients’ intentions, legal regulations on the meaning, form, and compiling of living wills should be introduced.

References:

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