

**Editorial: The  
demographic revolution  
and its consequences**

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# Editorial: *The demographic revolution and its consequences*

B. Lunenfeld

We are witnessing a demographic revolution. There are obviously many factors responsible for this complex situation. The most important contributing factors appears to be:

1. A continuous growing global population
2. A continuous increase in life expectancy at birth
3. A continuous decrease in fertility rates
4. An inter-connected world, with rapid changes in disease patterns
5. Rapid social changes, (urbanization; immigration, prevailing poverty; mass population displacements and participation of women in the work force).

Our problem is, how to cope with the new realities.

In demographic terms the global population is estimated to grow from the current 6.5 billion to about nine billion in the next 50 years. But due to the worldwide prolongation of the mean life expectancy and the drastic reduction of fertility rate it is projected that the elderly (above 65) will increase within the next 25 years by 82 %, whereas the newborn only by 3 %. Today 70 countries have reached total fertility rates below the replacement level of 2.1 children per woman. It is estimated that by 2025, 120 countries will be below replacement levels. The prolongation of life expectancy and the drastic reduction of fertility rate are the primary cause of an ageing world. Therefore besides an increase of 30% in the number of inhabitants on this planet, the population of those above 65 will increase from 400 Million to 1.5 billion during the same time period. The proportion of oldest-old (those aged 80 years and older) will increase within the next 50 years from 1.9 % to 4.2 %. The population of centenarians in 2050 will be 16 times larger than in 1998 (2.2 million compared to 135,000). A rapidly changing population structure (with many elderly persons and fewer and fewer children) represents an unprecedented and fundamentally new feature in our history, no wonder, that few governments are prepared – as yet – to grasp the likely economical, social, ethical and political consequences.

During the last century life expectancy from birth has increased significantly. About 50 % of women, but only less than 2 % of men in the developed world have a life expectancy at birth of over 80 years. It is projected that by 2050 life expectancy at birth will be above 80 years in most countries, however men will still live about seven years less than their female partners.

In both developed and developing countries, the ageing of the population raises concerns about whether or not a shrinking labor force will be able to support that part of the population who are commonly believed to be dependent on others (i.e., children and older people).

Furthermore despite the enormous medical progress during the past few decades, it is not clear whether these additional years will be satisfying to live. Most data indicate only a modest gain in the number of healthy years lived but a far greater increase in years of compromised physical, mental and social function. The last years of life are accompanied by increasing ill health and disability. Where as the number of people requiring assistance in activities of daily living increases from 14 % at age 65–75 to 45 % in those over 85 years old. Throughout adult life, all physiological functions gradually decline. There is a diminished capacity for cellular protein synthesis, a decline in immune function, an increase in fat mass, a loss of muscle mass and strength, and a decrease in bone mineral density. Today with the availability of clean water, hygiene, vaccinations and antibiotics most elderly in the developed world will die from cardiovascular diseases, cancer, dementia and accidents. We will also note a major rise in the prevalence of a number of age-related metabolic alterations such as osteoporosis, atherosclerosis and particularly diabetes, musculoskeletal degenerative changes and so-called ‘male problems’ such as prostate cancer, benign prostate hypertrophy, and erectile dysfunction.

However in an ever increasing number of the healthy oldest old, loss of muscle strength is the limiting factor that determines their chances of living an independent life. Age related disability or frailty is characterized by general weakness, impaired mobility and balance and poor endurance. Part of the aging process affecting body composition (loss of muscle size and strength, loss of bone and increase in fat mass) is also related to changes in the endocrine system. These may be delayed or prevented if diagnosed at its early stages and treated accordingly.

The clinical correlates of physical frailty include falls, fractures, impairment in activities of daily living, and loss of independence. The ability to maintain active and independent living for as long as possible is a crucial factor for ageing in health and dignity. Therefore, the promotion of healthy ageing and the prevention of disability in men, must assume a central role in medical research and medical practice as well as in the formulation of national health and social policies. Rapid population ageing has a huge impact on all aspects of society. Effective programs promoting healthy active ageing must include components such as: preventive strategies, independence, participation, care, self-fulfillment and dignity. Decisions must be based on an understanding of how the determinants of active ageing influence the way that individuals and population age. Such programs will ensure a more efficient use of health and social services and improve the quality of life in older persons by enabling them to remain independent

and productive. A life course perspective of ageing rather than compartmentalising the health care of “the elderly” should be adopted.

Health promotion should focus on active ageing – physically, socially and mentally. Whether early or later in life, people still have multiple opportunities to improve their health status as they age, provided they are properly supported by the environment (physical and social) where they live.

In light of this, public awareness of medical knowledge needs to be increased and basic, clinical, socio-economic and epidemiological research intensified. This will necessitate a quantum leap in multi-disciplinary and internationally coordinated research efforts.

The ageing of the population is a global phenomenon that demands international, national, regional and local action. In an increasingly inter-connected world, failure to deal with the demographic imperative and rapid changes in disease patterns in a rational way in any part of the world will have socioeconomic and political consequences everywhere.

Rapid population ageing has a huge impact on all aspects of society. That is particularly so, considering the rapid social changing context in which it is happening, for instance, urbanization; immigration, prevailing poverty; mass population displacements and participation of women in the work force.

There is a major need for institutional reform, since – due to the demographic changes described above – many of

our contemporary institutions are catering for a population structure (with many children and few elderly) that does not exist any longer. Many of our institutions were the admirable creations of our forefathers and served us very well during more than a century, but they do not do it any longer.

Our most important priorities should be:

- 1) to prevent or postpone frailty, disability, immobility and dependence;
- 2) to maintain the social function of the elderly;
- 3) to reduce gender inequalities and socio-economic differentials and
- 4) to ensure the human dignity of elderly people.

All these areas are extremely important, but the last one is of fundamental importance. The first sentence of the Constitution of the Federal Republic of Germany says that “Die Würde des Menschen ist unantastbar” (1. Grundgesetz, Artikel 1. Satz 1.). I join Egon Diczfalusy with the wish to see this sentence incorporated into the constitution of every single member state of the United Nations. We must all strive to permit men to age in health and dignity. Global ageing is a triumph and a challenge. It will put increased economic and social demands in all countries. But if more and more individuals reach older age in good health – and remain healthy and productive for longer – the benefits will be shared by all.

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