

# Problems of an Aging Population in an Era of Technology

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## A b s t r a c t

*With the substantially growing number of elderly persons in Canada and the rest of the developed world, the need for adequate health and social care will increase. Health and social service providers must develop policies and programs allowing the elderly to lead rich and independent lives for as long as possible. As advances in age-related diseases are made, the elderly will potentially live longer and lead more active and fulfilling lives. Society, governments and those involved in the care of the elderly must meet the new challenges of this aging population in a humane and respectful way.*

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There have been tremendous demographic changes in aging since the turn of the 20th century, with substantial increases in average life expectancy at birth.<sup>1-4</sup> The challenge facing all western societies is twofold: ensuring that present and future elders can look forward to improvements in their function and care, and countering the decreasing societal commitment to the elderly, who are often perceived as a “burden.”

The 1991 Canadian census revealed that Canada's 3,170,000 seniors comprise 11.6% of the population.<sup>4</sup> By the year 2011, seniors are expected to comprise 14.6% of the population, with those over 85 being the fastest growing segment.

Federal and provincial governments as well as health and social agencies are concerned about the present “explosion” in the senior population, as evidenced by the increasing number of reports, policy papers, and medical articles and journals focusing on the elderly.<sup>5-8</sup> As well, special academic and medical programs in gerontology and geriatrics are being developed throughout Canada. Since 1981, geriatrics is a certified medical specialty recognized by the Royal College of Physicians and Surgeons of Canada.<sup>9</sup>

### Age-based Rationing

Fiscal restraint has impacted most western countries. As a result, health care costs have been targeted for reductions, the rationale being that costs will continue to spiral upward because of the aging population and, if not curtailed, will “bankrupt” society.<sup>8</sup> The result has been a move towards health care rationing focused on the older population. Some believe

that by supporting the elderly we are depriving the younger population of its rightful resources, thus contributing to a potential conflict of generations.<sup>10,11</sup> This argument equates the long-term benefits and costs of interventions between older and younger populations, and suggests that there are justifications for rationing based either on age alone or on age combined with other factors such as decreased clinical efficacy in older and frailer populations.<sup>10,11</sup>

Those opposed to age-based rationing highlight the poor predictability of age as a marker for clinical benefit and the dangerous implications of excluding elders from potentially effective care.<sup>12</sup> The ethical implications of age-based rationing raise concerns about the impact on society's values if we allow the old and frail to be marginalized. Unfortunately, in many jurisdictions government-supported geriatric programs are being restricted. If the perceived value of the elderly is diminished, it is not unthinkable that governments will be more likely to shrink services for this population without outraging the rest of society.

The increasing number of older persons also challenges our health care services in other ways. Emergency room care and long-term care placement of the elderly have become familiar issues in North America.<sup>13</sup> Many of the acute beds in general hospitals are filled by older patients. Some hospitals have reacted by creating special “geriatric” units to deal with acute and “chronic” or long-term geriatric patients.<sup>14-16</sup> Increasing and upgrading the standards of chronic facilities for the elderly is also a challenge,<sup>17</sup> as is establishing new initiatives to meet the needs of this population and their families.<sup>18,19</sup>

## Life Expectancy and Lifespan

On average, in North America, individuals between the ages of 65 and 69 have about 15 more years of life expectancy; between the ages of 75 and 79, life expectancy reaches almost 10 years, and over the age of 80 it is more than 6 to 7 years. Those that survive longest, continue to survive longest. However, quality of life is more important than actual life expectancy. Although older people may continue to live longer, they will likely be dependent on social and medical services.<sup>20</sup> A change in this ratio can have a substantial impact on quality of life and the costs of providing care.

Attitudes in the general population and among some health care professionals can interfere with the delivery of optimal health care to the elderly. For example, it is often erroneously assumed that older individuals become senile and lose their ability to function physically and intellectually. Although some individuals may develop illnesses or become compromised physically and mentally, it is possible for most older persons to maintain a high degree of physical and intellectual activity into their very late years.<sup>1,5-7</sup> The actual prevalence of dementia in the aged population has been variously reported and appears to be higher in the very aged than we previously estimated.<sup>21</sup> Clearly diseases such as Alzheimer's have a major impact on the well-being and functioning of individuals and their families, and are a real challenge to health care providers. Multidisciplinary health maintenance programs based on a clear understanding of attainable goals for the elderly have to be developed and implemented.<sup>18,19,22</sup>

We are beginning to understand the biological basis of aging, which might allow us to differentiate between changes due to the aging process and those due to diseases that could perhaps be avoided, postponed or modified. Important work has been done using cell culture techniques to demonstrate a biologically based maximum lifespan for each living species.<sup>23</sup> For human beings this lifespan is estimated at approximately 85-90 years, with some people living well over 100 years.<sup>24,25</sup>

A great deal of effort is being focused on determining if human beings can live in such a way to decrease or eliminate those risk factors for disease which interfere with fulfilling a lifespan. Perhaps with proper health care and lifestyle modifications, more people could postpone the development of medical problems so as to compress morbidity and mortality to the very end of the potential human lifespan. Theoretically, people would stay healthy until their mid-80s and then develop all their diseases suddenly and die, without experiencing common chronic cardiac, respiratory and neurological disorders.<sup>26</sup> Perhaps with realistic and well-directed health maintenance programs, some of these goals could be reached.<sup>27</sup>

A proliferating array of articles and books suggests that taking proper care (eating well, exercising, avoiding risk factor exposure, etc.), could potentially extend life expectancy to 120 or 130 years or more. Many physicians and scientists do not take these suggestions seriously and criticize the tenuous scientific basis of many of the recommendations. Objective articles about the use and abuse of megadose vitamins are necessary to

help physicians direct their patients to reasonable and safe nutrition programs.<sup>28</sup>

Despite the cautionary attitude of most health care professionals, many individuals — at significant personal and financial cost — attempt to follow some of these recommendations to prolong their life. Even though there are identifiable risk factors that, if modified, can improve life quality and expectancy, one has to look at the data very carefully before making extreme dietary modifications or undertaking major lifestyle changes.

## Caring for the Elderly

Those caring for the elderly must be sensitive to and aware of the specific indications and dangers of medications. There are many wonderful and potent pharmacological products, but they frequently have potentially serious side effects. Health care providers must carefully and routinely monitor the use of all medications, including prescription drugs and proprietary medications.<sup>29,30</sup>

Another concern in the delivery of health care to the elderly is the question of institutional care — who needs it, who will benefit and who will pay?<sup>31,32</sup> In Canada and more so in the United States, we currently have a patchwork system in which some individuals are sometimes inappropriately placed in long-term care facilities. Furthermore, the care in such facilities may not be adequate or optimal. Community-based geriatric care is being assessed and developed in an attempt to keep people in their own homes with their family for as long as possible, with appropriate professional and homemaking help.<sup>18,19</sup>

For individuals involved in health care for the elderly, personal qualities of caring and sensitivity are as important as professional skills or academic achievement. We must learn to communicate with our elderly clients with patience and respect. We must be willing to do so. We must not be afraid to physically touch our patients when appropriate. Many older people feel that they are no longer worthy of physical attention or affection. Showing that we care can go a long way in establishing a sense of mutual comfort, respect and trust.

The essential question we must ponder is whether a lack of commitment to the elderly population affects the principles on which society is based. To consider care issues primarily — if not exclusively — as an economic problem will ultimately compromise our social values. We are all in the process of becoming "the elderly." If we do not understand that the way we treat them reflects on our values and those we instill in our children, we will all ultimately suffer.

## Conclusion

Seniors are the fastest growing segment of our population. Society in general, legislators, health care providers and individuals must plan so that those entering their senior years will have something positive, secure and fulfilling to anticipate.

With major advances in medical science, the 21st century holds great promise for the elderly. If, however, the foundations and principles are not based on a committed system that

values the elderly as integral and important even when frail and disabled, we will have sacrificed the principles of a society that truly respects and cares equitably for all of its members.

Arnold Toynbee wrote, "The lifespan of any civilization can be measured by the respect and care that is given to its elderly citizens and those societies which treat their elderly with contempt have the seeds of their own destruction within them." Let us hope that Canadian society will respond positively and creatively to the challenge of its aging population. ♦

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