

Evolution of the needs of older persons

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ABSTRACT. *Most countries in the world experienced a major increase in life expectancy during the 20th century and a resulting aging of their populations. Further gains in life expectancy are uncertain, particularly in developed countries already characterized by a high longevity, and little is known concerning the health state of future generations of the elderly. But there is no doubt that further population aging will produce larger numbers of older persons both in developed and developing countries. As the prevalence of most chronic diseases is high in old age, population needs change rapidly in health care systems still organized essentially to provide acute care to children and young adults. Old age is heterogeneous, but a large proportion of older persons is affected by multiple chronic diseases, resulting in a wide range of needs. Health systems will have to adapt to this new situation while still providing appropriate responses to acute diseases affecting all ages. Although future needs are difficult to quantify, their nature is already apparent. Providing for these needs will require a major investment in manpower, a diversification of services delivered by health care systems, changes in the training of health professionals and extensive research to define effective treatments for elderly patients with multiple co-morbidities.* (Aging Clin Exp Res 2002; 14: 287-92)

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INTRODUCTION

The evolution of health care needs in old age is closely related to the worldwide phenomenon of demographic transition and population aging. Decreases in infant mortality and fertility combined with an increasing life expectancy have led, in a large number of countries, to a growing proportion of aged individuals with specific health care needs.

Demographic aging first occurred in the developed world; the proportion of the population aged 65 years and over has increased regularly in the past decades and,

within this broad age category, the rate of increase has been generally higher for the oldest age groups (Table 1) (1). In addition, as gains in life expectancy benefited women more than men, feminization of old age was simultaneously observed during the second half of the 20th century. Most developing countries are also facing a demographic transition, albeit with some delay. Although the proportion of very old individuals is still limited in populations of the developing world and the imbalance between men and women is less pronounced, a growing number of individuals is reaching the age of 65 (2). Since 1980, developing countries accounted for more than half of the world's population aged 65 and over, and their share is constantly increasing. According to demographic projections from the United Nations, the world's population aging will continue in the 21st century, and at a faster pace in developing countries (3).

Developed and developing countries are not only at different stages of demographic transition: developing countries show much greater heterogeneity (2, 4). The AIDS epidemic in Africa and the one-child policy in China are examples of circumstances that impact on the structure of populations and on care needs (2, 5). Demographics, but also the economic, social and cultural environment of the elderly in Asia, Latin America, North or sub-Saharan Africa cannot be compared. Consequently, this paper focuses mainly on the evolving health needs in developed countries, although it must be borne in mind that many developing countries will be confronted with similar needs in a future that is, for some, very near.

THE EPIDEMIOLOGICAL TRANSITION

It is generally recognized that the chronological age of an older person does not say much about his/her health, since inter-individual variations in health are greatest in advanced age. However, from a public health perspective, young and old populations are undoubtedly different. With the emergence of large cohorts of individuals reaching, and dying at, an advanced age, aging countries

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Table 1 - Evolution of the proportion of older persons in four developed countries, 1960-1997. Source: OECD Health Data 2000 (1).

	1960	1970	1980	1990	1997
Percent ≥65 years old					
France	11.6	12.9	14.0	14.0	15.7
USA	9.2	9.8	11.2	12.4	12.5
Canada	7.5	7.9	9.4	11.2	12.3
Japan	5.7	7.1	9.0	12.0	15.1
Percent ≥80 years old					
France	2.0	2.3	3.1	3.8	4.1
USA	1.4	1.8	2.4	2.8	3.1
Canada	1.2	1.5	1.8	2.3	2.7
Japan	0.7	0.9	1.4	2.4	3.0

are experiencing an epidemiological transition characterized by changes in the main causes of death and the morbidity profile.

Aging-related diseases are those diseases that are rare where old age is an exception, but that have become widespread in populations with a long life expectancy. They surface as a public health problem when fewer persons die from causes that are not age-related. These diseases are detected, and their progression is most frequently documented, as a result of their contribution to mortality, because mortality statistics are widespread. While infectious diseases, which affect all age groups, used to be the main causes of death in Europe in past centuries, and are still a major contributor to mortality in developing countries, the current leading causes of death in developed countries (and in some developing countries as well) are cancer, cardiovascular diseases, cerebrovascular diseases and respiratory disorders (6-9). Unlike most infectious diseases, death from such conditions is frequently preceded by a prolonged period of poor health, disability and high levels of health care utilization (10-12).

Other aging-related diseases have a high prevalence and compromise the quality of life in old age, but their fatality rate is lower and their burden is better appreciated by morbidity statistics. Dementia is a major public health problem since there is currently no effective treatment and it has a huge impact not only on the sufferers, but also their families and the health care systems (13). Its prevalence increases markedly with age, both in developed and developing countries (14). Other mental health problems, such as mood disorders, are frequent in old age; suicide rates are the highest in old age in many industrialized and developing countries (15). The risk of hip fractures also increases sharply with age, and an estimated 40% of women (13% of men) experience osteoporotic fractures at some stage in their life (16, 17). Arthritis is reported in half of the US population aged 65 years and over (8). Hypertension and diabetes, when not adequately controlled, induce vascular diseases and they remain major causes of

heart disease and stroke. Sensorial decline also limits a person's autonomy; cataract is a common cause for loss of visual acuity, and glaucoma can still lead to blindness (18). While effective treatments exist, they are not widespread in developing countries.

MORTALITY, MORBIDITY AND NEEDS FORECASTS

Although past trends in life expectancy and the current morbidity profile of older populations are extensively documented, there is a high level of uncertainty regarding the future. The important question is whether the needs of older populations over the next century can be quantified on the basis of projections that take into account a continuous rise in life expectancy and stable age- and gender-specific morbidity rates (19-21). While many developed countries are still registering increasing longevity, life expectancy at advanced ages has shown no improvements in the Netherlands in the past decade (22). This last observation accords with the first part of Fries' theory, which postulates both a natural limit to human longevity and a compression of morbidity toward the end of life as larger proportions of populations approach this limit (23). The second hypothesis implies that, as populations age, gains in health expectancy are mostly in the form of additional years of good health. Results from the Global Burden of Disease project, which compares mortality and morbidity data across a wide range of developing and developed countries, are consistent with morbidity compression in countries with longer life expectancies at age sixty (24). Further checking of this assumption would require direct comparisons of age- and gender-specific health states across generations. Unfortunately, few countries have successive waves of health surveys, and data collected in such repeated surveys may not be identical; most studies relate to data collected in the United States. Bearing these limitations in mind, recent reports converge in describing constant declines in morbidity during the years 1980-1990s, following an initial period (1960-

1970s) of increasing disability rates (25-32). Recent work by Freedman and Martin indicate that decreasing disability rates in the most recent years were associated with a rise in diagnosed chronic conditions. The authors attribute this observation to earlier diagnosis and improved treatment of chronic diseases (33). According to Liao et al., improvements also characterized the quality of the last year of life in recent years (34).

In spite of the optimistic view of improved health among the elderly in the past 20 years, there is no scientific evidence to suggest that this trend will continue for the next 50 years. In addition, health care needs are likely to grow even if health improves, because the number of individuals reaching a very advanced age is expected to increase markedly even under the most conservative demographic assumptions.

Other factors that will also affect the care needs in coming years include the evolution of care expectations of the elderly. When old age is no longer the unexpected experience of a few isolated individuals, but rather the common experience shared by a large proportion of the population, needs for appropriate care become apparent, and passive acceptance of sub-optimal treatments cannot be expected on a large scale. This phenomenon is illustrated by the deinstitutionalization of long-term care and the development of home care policies in industrialized countries during the past 20 years, followed by more recent efforts to improve medical care within nursing homes and the community (35-37). Needs change not only because selected diseases become more prevalent, but also because health expectations of (and for) older persons are likely to increase when a majority of the population reaches an old age. Another, more unpredictable, factor that might affect the care needs of an older population is medical progress. The discovery of an effective treatment for dementia would not only transform, for many individuals, the forced acceptance of an incurable disease into a need for therapy, it would also have a profound impact on the need for nursing homes.

If the needs of older populations cannot be accurately projected, we can confidently accept the notion that they will be great, that they will increase in absolute terms and that their adequate coverage will involve an evolution and a diversification of the types of care supplied by health systems. Of course, the recognition that most chronic diseases originate in childhood and young adulthood should form the basis for primary prevention and health promotion interventions designed to modify the risk profile and reduce the prevalence of chronic diseases in the long term. In developing countries, primary prevention is particularly attractive since it does not require sophisticated medical equipment and, given the young age structure, it involves and benefits the whole population. However, it would be naïve to expect that interventions essentially in the domain of primary prevention will help in-

dustrialized countries face the specific needs of an aging cohort of baby-boomers, whose needs are largely determined by their past environment and health behaviors.

Appropriate care will include the early detection and treatment of chronic conditions, as well as measures of secondary and tertiary prevention. A major problem today for individuals with chronic diseases (at any age) is the need to obtain appropriate care in health systems essentially designed to provide acute care to children and young adults affected by a monopathology. Chronic diseases induce needs for a variety of care categories: acute care, continuous medical care, rehabilitation care, long-term nursing care, help in basic or instrumental activities of daily living and, occasionally, palliative care. A failure to provide appropriate care of one type usually results in higher needs for other categories of care.

A monopathology approach to the needs of old age often does not make much sense. First, it must be recognized that many older persons accumulate more than one disease. Secondly, from a public health perspective, efforts focusing on the eradication of a specific disease will only cause one type of morbidity to be replaced by another, since chronic disorders such as cardiovascular or cerebrovascular diseases, arthritis or mental illnesses have a very high prevalence in old age (38). Adaptations of health policies are necessary to move from a disease-based approach to one based more on quality of life. At the same time, it is essential to remember the heterogeneity of needs in old age: individuals present pathologies that affect all age groups, and may or may not suffer from chronic diseases that are frequent in their age group. Both levels of needs must be addressed in clinical encounters.

EVOLVING NEEDS FOR MEDICAL CARE

Older populations need secondary and tertiary prevention, time, a variety of levels of care and appropriate medical care. Population aging has already prompted new needs for a range of surgical procedures that produce major improvements in functional status and quality of life, e.g., joint replacements or cataract surgery. Rates of hip replacements, for example, have increased markedly and are expected to continue growing (39, 40). With developments in anesthesiology and outpatient surgery, cataract extraction has spread rapidly. Needs recognition and access to such elective procedures could nevertheless be further improved in order to avoid suffering, reduced mobility and the considerable need for help in activities of daily living (41, 42). But secondary and tertiary prevention cannot be reduced to prosthetic surgery. A central need for the elderly is the detection of a state of frailty at a stage where chronic conditions have not yet resulted in disability (43-46). Frailty is a recent concept in search for an operational definition but, according to geriatricians, it can be detected with clinical experience (47). Physicians' training should include the acquisition of this experience,

as well as the practice of extensive geriatric assessment from the earliest signs of frailty. Although results from evaluative studies of preventive geriatric assessment in healthy populations remain controversial, the most recent analyses are encouraging, and interventions specifically directed to older persons perceived as frail but not yet disabled require further testing (48). Nutritional interventions or mental health care, for example, are likely to improve the functional evolution and quality of life of frail older persons provided they are tailored to the individual and based on an extensive, and not exclusively medical, history.

The needs of the elderly can be detected if health professionals have time to ask and listen, not only in respect of health problems but also functional limitations, health behaviors and environmental circumstances. Such problems can be appropriately addressed only if health care systems offer a diversity of resources for rehabilitation and palliative care and if physicians are trained to deal with co-morbidities and chronic symptoms. Chronic musculoskeletal, cardiac, pulmonary or neurological diseases are associated with high levels of pain or dyspnea, but recent reports demonstrate that adequate pain control and palliative care are frequently not provided to older patients, even in the case of cancer (49, 50).

Finally, older persons also have medical needs for screening, diagnostic and treatment activities that should, in old age as at any other age, conform to the principles of evidence-based medicine. Many authors point to ageism in medical practice, based on different patterns of medical prescription. Part of the observed underuse of effective treatments in advanced age is attributed to the exclusion of older persons from clinical trials and a resulting uncertainty, among practitioners, concerning the effectiveness and safety of treatments for older patients with multiple co-morbidities; age-related exclusion in clinical trials appears particularly inappropriate as far as strongly age-related health problems, e.g., stroke, are concerned (51, 52). But underuse is also observed for interventions known to improve the outcome, including the quality of life, at an advanced age (53, 54).

EVOLVING NEEDS FOR CARE MANAGEMENT

The care needed in aging populations is not exclusively provided by the medical profession. Preventive interventions, rehabilitation, long-term and palliative care, for example, require the involvement of a large variety of health professionals. In addition, social workers or home helpers act in complex situations and work closely with health professionals. Movements towards managed care and health care networks are prompted by the growing needs for continuity and coordination at all stages of care delivery: between professions, between various levels of care intensity, and between diverse care settings.

There are two ways to improve the necessary coordination and continuity of care. One is to encourage an active participation of older persons in their care management (55). This requires an extensive learning effort on the part of the elderly and their families in mastering the increasing complexity of health care systems in terms of an awareness of the available resources and activities. This is not an easy task in health care systems that are still largely organized essentially for the provision of acute medical care. Increasing the autonomy and power of long-term care beneficiaries in selecting their care providers through financing mechanisms is one example of this current trend (56-58). The main limitations of this approach are in the ability and willingness of frail older persons to act as coordinators of their own care. The other option is to designate a health professional, usually the primary care physician or a community nurse, as a care coordinator, if not as a gatekeeper. The limitations in this case concern the efforts required from health professionals in order to overcome the boundaries of their professional training and invest time in activities that are not valued in terms of prestige or financing (59). Patient empowerment and professional case management are, in fact, complementary approaches. A balance of the two must be found in each individual situation according to the specific skills and preferences of patients, while taking into account the organizational structure of the local health care environment. Needs for coordination and continuity of care will increasingly be translated into needs for providing information to older persons and their families, for professional training in case management, including communication skills, and for financing mechanisms that reward the personal investment of health professionals in such activities.

CONCLUSIONS

Further trends in population aging will undoubtedly lead to a higher prevalence of chronic diseases and to larger proportions of the population being affected by multiple health problems. Although many authors share an optimistic view based on the past evolution of the morbidity profile of the elderly, there is still much uncertainty concerning both the theory of morbidity compression and future trends in life expectancy. One commonly held view states that even major improvements in morbidity will not balance the impact on health systems of growing numbers of very old individuals.

We already know the specific health problems faced by the oldest in our society and realize that nowadays their care is frequently inappropriate across all types of health services. Our ability to translate these health problems into needs for health care is limited by:

- a lack of scientific research on the effectiveness of many treatments in older individuals with multiple health conditions;

- a lack of knowledge regarding the preferences of older individuals for a variety of care options; and
- a lack of experience regarding the impact of appropriate care of the elderly on their health status and, consequently, on their real needs.

Older persons need improvements in the technical dimensions of their care, at all relevant levels of care; investments are necessary in outcome research that includes elderly subjects and measures both specific and global endpoints. The diffusion and implementation of results in the medical profession will require considerable effort. Older persons also need improvements in the relational dimensions of their care. This implies the need to attach greater importance to the time devoted by professionals, to elicit the patient's priorities, to improve compliance with prescriptions and to coordinate care between inpatient, outpatient and home care, between social assistance and medical care, between formal and informal care. Case management should not be promoted primarily as a cost containment measure; it should be a claim from health professionals moved by considerations of quality of care and it should be taught in medical schools.

The needs induced by population aging should develop a duality in health care. Ideally, health systems should be able both to provide acute care and promote medical progress for the benefit of all age groups, including the elderly, and to offer appropriate care for chronic diseases and their consequences, likewise for the benefit of all age groups, including younger patients. In their clinical encounters, physicians should meet the needs for both acute and chronic care in the same individual. This implies an ability to work simultaneously on two registers with differing rhythms that may be difficult to reconcile. Choices are sometimes precipitated by a scarcity of time or financial resources. Any decision to reject this duality for economic considerations should be legitimized by a democratic and explicit process of priority setting, based on scientific evidence gathered for all levels of care and for all population groups.

Finally, a limited health budget is not the only factor that may compromise the ability to meet the needs of the elderly in the future. The first resource in chronic health care is skilled manpower. While long-term care has been debated at length, the shift of policies observed in many developed countries from nursing home to home-based care may be restricted by the lack of nurses and home helpers. Rehabilitation and palliative care also require considerable human investment, and improvements in the relational aspects of medical consultations will generate an increased need for professional time. Health needs assessment is legitimated by the wish to improve the performance of care systems. In developed and developing countries, the primary need in respect of health care for the elderly is for skilled human resources.

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