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# Population aging today: demands, challenges and innovations

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## ABSTRACT

The paper discusses the social and, particularly, the health consequences resulting from the expansion of the numbers of elderly people in Brazil over a short period. The data used were from the 1998 and 2003 *Pesquisa Nacional por Amostra de Domicílios* (PNAD, the national household sampling survey), and they express an improvement in elderly people's health conditions and similar distribution of chronic diseases across all income groups. If, on the one hand, elderly people present greater disease burden and incapacities and they use healthcare services more, on the other hand, the current models for healthcare for the elderly are shown to be inefficient and high-cost. Creative and innovative structures are required, such as social centers with health assessments and treatment. Foremost on the agenda for Brazilian public policy, priority should be given to maintaining elderly people's functional capacity, with monitoring of their health conditions; preventive and differentiated actions relating to health and education; and qualified care and multidimensional comprehensive attendance.

**DESCRIPTORS:** Demographic Aging. Old Age Assistance. Health of the Elderly. Social Conditions. Delivery of Health Care. Preventive Health Services. Brazil.

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## INTRODUCTION

Prolongation of life is an aspiration of any society. However, it can only be considered to be a real achievement to the extent that quality is aggregated to the additional years of life. Thus, any policy aimed towards elderly people must take into account their functional capacity and their need for autonomy, participation, care and self-satisfaction. It must also make room for the possibility of acting within a variety of social contexts and constructing new meanings for life at advanced ages. Furthermore, fundamentally, it must encourage preventive healthcare and comprehensive healthcare.

Today, reaching old age is a reality for populations, even in poorer countries. Even though the substantial improvement in the health parameters of populations seen over the twentieth century is far from being equitably distributed in different countries and socioeconomic contexts, aging is no longer the privilege of the few.

The growth of the elderly population is a worldwide phenomenon and in Brazil, the changes are occurring in a radical and very rapid manner. The most conservative projections indicate that in 2020, Brazil will have the sixth largest population of elderly people in the world, with more than 30 million individuals.<sup>1</sup>

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The speed of the process of demographic and epidemiological transition experienced by Brazil over recent decades has brought out a series of crucial questions for managers and researchers within the healthcare system. These questions have repercussions for all of society, especially within a context of great social inequality, poverty and institutional fragility.

The scenario becomes more complex when it is noted that, simultaneously with the general lack of resources, there are two age groups, the elderly and the young, that require specific programs and public resources. Managerial skill and creativity and a capacity to innovate are required in order to administrate these shortages.

Brazil today is a “young country with white hair”. Every year, 650,000 new elderly people are incorporated into the Brazilian population. Most of them have chronic diseases and some have functional limitations. Over a period of less than 40 years, Brazil has gone from a mortality scenario that was particular for a young population to a situation of complex and burdensome illnesses typical of long-living countries, characterized by multiple chronic diseases that last for years, with requirements for constant care, continual medication and periodic examinations.

The number of elderly people in Brazil went from three million in 1960 to seven million in 1975 and 20 million in 2008: an increase of almost 700% in less than 50 years. Consequently, diseases particular to old age have come to have greater expression throughout society.

One of the results from this dynamic is the greater demand from elderly people for health services. Hospitalization and length of bed occupancy are greater for them than for other age groups. Thus, aging of the population translates into greater disease burden in the population, more incapacities and increased use of the health services.

Recent studies<sup>12,20</sup> have shown that chronic diseases, along with their incapacities, are not inevitable consequences of aging. Prevention is effective at any level, even at later stages of life. Therefore, an emphasis on prevention is the key to changing the present situation.

In their daily lives, elderly Brazilians live with the fear of violence, lack of medical and hospital attendance and scarcity of leisure activities, along with the low amounts of their retirement and other pensions. Despite the substantial increases in their value over recent years, the amounts are still recognized to be small. On the other hand, the national household sampling survey (*Pesquisa Nacional de Amostra de Domicílio*, PNAD) has already shown some positive repercussions from these increases.<sup>11,18,19</sup>

In addition to the lack of information, prejudice and disrespect for third-age citizens, there is the precariousness of public investments and even of human resources for meeting the specific needs of the elderly population, in terms of both quantity and quality.

The facts and the evidence indicate that changes to the care provided for the elderly population are urgently needed. The prevailing models have been shown to be inefficient and expensive. Thus, new planning and management methods become necessary, since the provision of care demands creative and innovative structures, with proposals for differentiated actions. In this way, the system can gain in efficiency and elderly people can fully enjoy the years provided by advances in science.<sup>7</sup>

In Brazil, the efforts are still sporadic and disjointed. Recently, the Ministry of Health included elderly people's health as a priority item on the country's healthcare agenda. A new national healthcare policy was proclaimed,<sup>a</sup> which had the aim within the scope of the Brazilian National Health System (SUS) of ensuring comprehensive health attendance for the elderly population. It emphasized healthy and active aging based on the paradigm of functional capacity, dealt with multidimensionally.<sup>b</sup>

However, the practical effect has still not been observed. The burden of care is still preponderant and the notable degree of disjointedness within the healthcare system makes it difficult to put into operation any logic based on evaluations capable of covering the multiple aspects of elderly peoples' lives (Veras & Caldas, 2004).<sup>17</sup>

The theoretical reference for this multidimensional approach bears the seal of the World Health Organization (WHO), which has taken on the document “Active aging: a reference point for drawing up policies.” This text presents the main challenges that need to be faced around the world in relation to the aging of the population. It highlights the fact that health can only be created and maintained with the participation of several sectors.

Furthermore, WHO recommends that health policies relating to aging should take into consideration the determinants of health over the whole course of life (social, economic, behavioral, personal and cultural, along with the physical environment and access to services), with particular emphasis on the questions of gender and social inequality.

Thus, the organization of the system to provide efficient attention for the elderly population constitutes one of the main challenges that the health sector has to face up to, as rapidly as possible.

<sup>a</sup> Brasil. Lei 10.741, de 1º de outubro de 2003. Dispõe sobre o Estatuto do Idoso e dá outras providências. *Diário Oficial da União*, 3 out. 2003.

<sup>b</sup> Ministério da Saúde. Portaria nº 2.528, de 19 de Outubro de 2006. Aprova a Política Nacional de Saúde da Pessoa Idosa. *Diário Oficial da União*, 20 out. 2006.

The present paper aims to stimulate the discussion regarding the need for effective public policies to maintain elderly people's functional capacity, for new prevention and comprehensive care strategies, and for innovative focus on care for the elderly.

## FUNCTIONAL CAPACITY AND PREVENTION

The concept of functional capacity takes on fundamental importance in thinking of new care policies for elderly people based on quality of life. In other words, the capacity to maintain the physical and mental abilities needed for an independent and autonomous life is fundamental. The main risk factor in most chronic diseases among elderly people is age itself. However, this longevity does not stop elderly people from conducting their own lives autonomously and making decisions regarding their interests. Elderly people like this, who maintain their independence and self-determination (individuals' capacity to exercise their autonomy), should be considered healthy, even if they present one or more chronic diseases.

The basic guidelines of the National Policy for Elderly People's Health are good examples of the concern for promoting healthy aging, with maintenance and as much improvement as possible of elderly people's functional capacity, with disease prevention, recovery of the health of those who become ill, and rehabilitation of those whose functional capacity becomes restricted.<sup>4</sup> The guidelines of this National Policy are as follows: a) promotion of active and healthy aging; b) comprehensive, integrated healthcare for elderly people; c) stimulation of intersectoral actions aimed at comprehensiveness of care; d) provision of resources capable of ensuring quality of healthcare for elderly people; e) stimulation of participation and strengthening of social control; f) continuing training and education for SUS health professionals within the field of elderly peoples' healthcare; g) publicity and information about the National Policy for Elderly People's Health. For healthcare professionals, managers and users of SUS; h) promotion of national and international cooperation regarding experiences of healthcare for elderly people; and i) support for the development of studies and research.

From the public health point of view, this way of conceptualizing a policy for elderly people's healthcare is the most appropriate means for structuring it and making it viable. Therefore, all initiatives for health promotion, assistance and health rehabilitation must have the target of improving, maintaining or recovering individuals' functional capacity for as long a time as possible, thus giving value to autonomy and physical

and mental independence. This goes beyond a simple diagnosis and treatment of specific diseases.<sup>8</sup>

Physical or mental dependence is a significant risk factor for mortality. Its risk is greater even than the risk in the diseases that lead to this dependence, given that not everyone with such diseases becomes dependent. Thus, new priorities and health actions to guide present-day health policies need to be established.<sup>5,9,10</sup>

## PUTTING A PREVENTIVE MODEL INTO OPERATION

Although the main concepts of preventive healthcare have already been assimilated by the professionals within this field, great difficulty in putting them into operation are perceived, particularly with regard to the age group of elderly people. Despite the presence of the discourse of prevention,<sup>a</sup> most health services are curative and traditional and argue that it would be difficult to measure the effectiveness of such programs from a financial point of view.

Since 1986, there has been concern for showing the effectiveness of the preventive model and characterizing effective practices that would lead to changes in health determinants.<sup>b</sup> Despite the continuing dichotomy between the discourse (widely incorporated) and its implementation (little accomplished), some steps have already been taken.

## EARLY DIAGNOSIS AND HEALTH MONITORING

Within the field of public health, epidemiological information should be valued because of its capacity to predict events and enable early diagnosis, especially in relation to chronic diseases, thereby delaying the appearance of such complaints and improving quality of life and the therapeutic approach.<sup>17</sup>

Monitoring of the health conditions of a given population, along with the factors associated with these conditions, is a key instrument for guiding prevention strategies, which should have the following objectives:

- favorably influencing the natural history of the disease;
- anticipating the emergence of complications;
- preventing the exacerbations and complications of chronic diseases;
- increasing patients' involvement in self-care;
- constructing a database on chronic diseases.

<sup>a</sup> The term "prevention" is no guarantee of an effective program. There are many inefficient primary prevention and health promotion programs and actions.

<sup>b</sup> Ottawa Charter: health promotion in industrialized countries. In: First International Conference on Health Promotion, 1986; Ottawa, Canada. [cited 2009 Mar 10]. Available from: [http://www.saudepublica.web.pt/05-PromocaoSaude/Dec\\_Ottawa.htm](http://www.saudepublica.web.pt/05-PromocaoSaude/Dec_Ottawa.htm)

The classical prevention model that is systematized in the book “Preventive Medicine”, by Leavell & Clark,<sup>6</sup> has not been completely applied, since only one dimension for each of the three prevention levels (primary, secondary and tertiary) proposed by these authors has been given value. Leavell & Clark recommended two levels for primary prevention and two levels for secondary prevention. For elderly people, the ideal would be to advance this concept and work in the three preventive levels, with two distinct degrees of intervention.<sup>22</sup> To begin with, the terminology needs to be updated. For example, for a first level of secondary prevention, “early diagnosis and treatment” is used, directed towards elderly people whose functional capacity is preserved. These individuals may be attended at medical services by clinicians or non-geriatric generalists, provided that they are trained and qualified.

With regard to a greater degree of complexity, such as individuals who are already frail and at a more advanced stage, care should be centered on the presence of a geriatrician and health professionals with problem-solving capacity regarding care for frail elderly individuals, with multiple geriatric syndromes and loss of functional capacity, by means of treatment and rehabilitation actions. Evaluation of the degree of functional capacity is done by means of multidimensional instruments.

For effective healthcare planning, adequate prognosis and clinical verdicts for obtaining precise diagnoses are essential. Medical practice has shown that diminished functional capacity among elderly people is what makes them dependent on more complex levels of care provision. This may be caused by evolution of the underlying disease, poor administration and its sequelae, or through inadequate care received, of family, social or institutional nature.

## ERRORS AND CHANGES NEEDED

Many elderly people present several coexisting problems and frequently seek large numbers of specialists, thereby overloading the healthcare system. In addition to increasing the cost of care, these do not necessarily represent cost-effective interventions, since significant iatrogenic effects may occur. To avoid excessive numbers of unnecessary consultations at health services, it is therefore necessary to organize a structure differing from what already exists for other age groups.

One of the “bottlenecks” of the care model is that the clientele is insufficiently identified and poorly held. Criteria of severity need to be used.<sup>25</sup> The lack of a structured system generally means that the first attendance occurs when a disease is at an advanced stage.

This increases the costs and reduces the possibilities for a better prognosis.<sup>17</sup>

Another obstacle is in the traditional medical approach focused on a principal complaint. The habit of bringing together all the signs and symptoms into a single diagnosis certainly does not apply to elderly people, who generally present multiple chronic diseases.

Therefore, a healthcare model for elderly people that has the aim of being effective and efficient needs to apply all the levels of prevention and have a well-designed flow of actions relating to education, health promotion, avoidable disease prevention, postponement of diseases and rehabilitation from illnesses. Thus, the model should have a stage subsequent to picking up and identifying risks among elderly clients, in which the possibility of treating non-geriatric diseases and referral for geriatric care is included, when there is a need for specialized treatment.<sup>18</sup>

The growth in the numbers of elderly people and greater use of the healthcare system consequent to longer lifespans and multiple chronic diseases thus constitutes a major bottleneck and challenge for the healthcare system.<sup>15,16,21</sup>

## COMMENTS

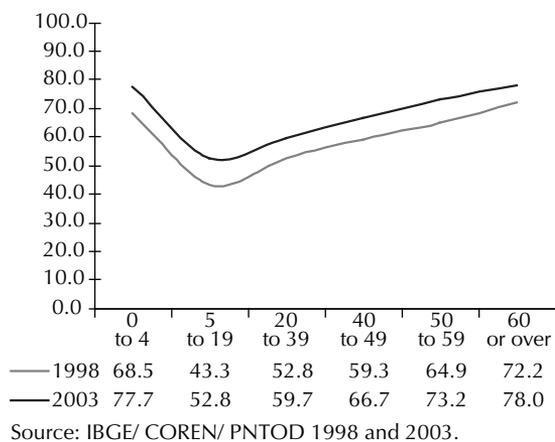
Health promotion and preventive healthcare policies have proven their effectiveness around the world. Recent international studies have confirmed these trends and indicated reductions in dysfunctional states among elderly people.<sup>15</sup>

There is thus a scenario of a healthier elderly population, despite the consequences that the aging process causes, with regard to increased numbers of chronic diseases and the greater need for healthcare attendance among aging populations that are increasingly living until greater ages.

Since 1998, the Brazilian Institute for Geography and Statistic (*Instituto Brasileiro de Geografia e Estatística*, IBGE) has been including a health supplement in PNAD, every five years. The sample for this survey was designed to be representative of the Brazilian population and constitutes the most wide-ranging source of information on health available in this country. The samples relating to the years 1998 and 2003 were composed, respectively of <sup>28</sup>,<sup>943</sup> and <sup>35</sup>,<sup>042</sup> individuals aged <sup>60</sup> years or over

The PNAD data<sup>a</sup> show that the number of consultations expands (Figure 1) as the population ages and elderly people get more chronic diseases. More consultations lead to greater consumption of medications, more

<sup>a</sup> Fundação Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios: Acesso e utilização de serviços de saúde. Rio de Janeiro; 1998.



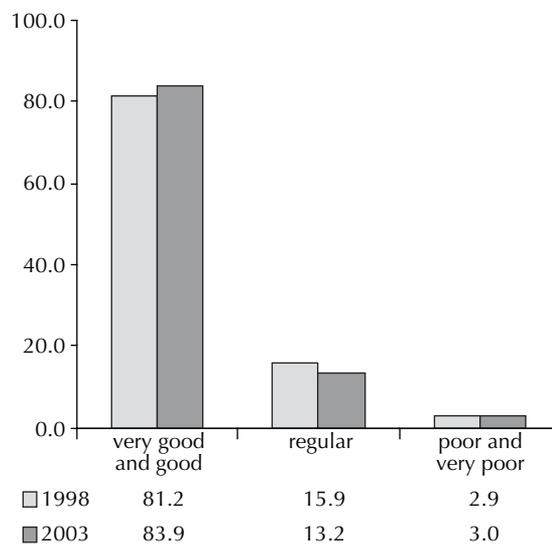
**Figure 1.** Proportion of individuals who had medical consultations over the last 12 months, according to age groups. Brazil, 1998-2003.

complementary tests and more hospitalization. Health-care needs according to age have a distribution pattern that follows a “J” curve. In other words, individuals at the beginning and, particularly at the end of life present more health problems. The big difference is that diseases at young ages are acute and therefore of lower cost, while those of elderly people are chronic and have high cost.<sup>18</sup>

The PNAD survey on the health of the elderly population in Brazil indicates that between 1998 and 2003, there was an improvement in the health conditions of individuals aged 60 years or over.<sup>13</sup> The causes explaining this reduction are multifactorial, such as improvements in medical technology, greater access to health services, behavioral changes, increased educational level and increase social status of elderly people. This would be consequent to the social programs for income transfer focused on the poorest sectors, such as the expansion of the Family Grant program, the benefit of continued contributions, rural retirement pensions and the increase in the value of the minimum monthly salary.<sup>11,14</sup> The Continued Contribution Benefit consists of payment of one minimum monthly salary to elderly people whose proven per capita family income is not more than 1/4 of the minimum salary.

The information from PNAD show that there was a drastic reduction in the proportion of elderly people in the lowest income group (elderly people with family income of up to half a minimum monthly salary per capita), from 21.5% in 1993 to 12.5% in 2003.<sup>14</sup>

The PNAD surveys also demystify the idea of dissatisfaction among SUS users. In evaluating the attendance received, a significant majority of the elderly people approved of the service provided. Only 2.9% in 1998 and 3% in 2003 thought it functioned poorly or very poorly (Figure 2).



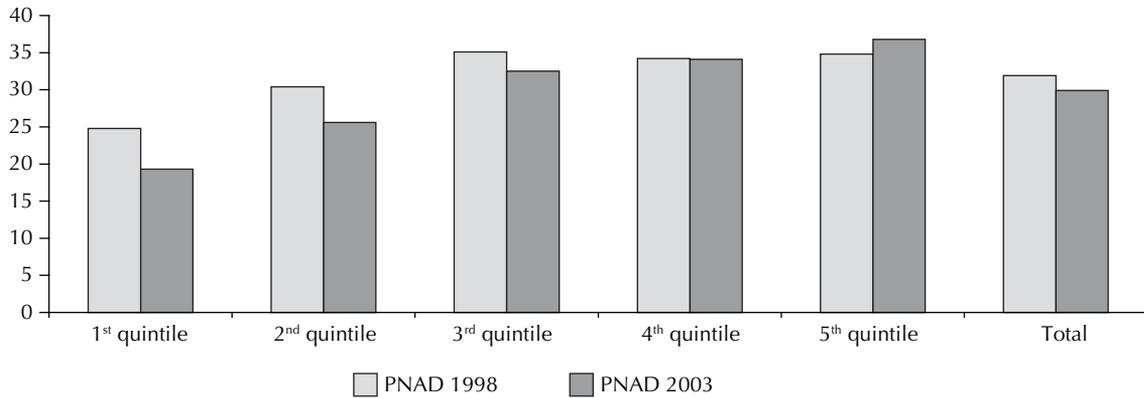
**Figure 2.** Elderly population's evaluation of the attendance provided by the Brazilian National Health System. Brazil, 1998- 2003.

Another observation from PNAD that has been little disseminated relates to the similar proportions of individuals with chronic diseases in all income groups of the population (Figure 3). Thus, poor and risk individuals have similar numbers of chronic diseases. Among the population, out of every three individuals, one has a chronic disease and, among the elderly, eight out of ten have at least one chronic disease.

The comparative data from PNAD ought to stimulate the health sector to design more up-to-date models and/or expand the models, in order to provide greater problem-solving capability and more appropriate costs than in the models currently available.

It is known that the proportion of elderly people who are not frail, and therefore in a good state of health, is large. Most of these individuals of advanced age have mean incomes greater than the general population. A policy focusing on maintaining functional capacity through preventive programs, investments in methodologies for early detection of diseases, monitoring of chronic diseases and personalized medical systems, among other measures, could be proposed. This could be instead of the spontaneous demand model, in which hospitals are the centerpiece of the system.

One emblematic example of the practices in the private sector can be seen in the United Kingdom. The clients of one of the largest insurers receive financial benefits to leave their cars unused, walk and use a pedometer as a heart monitor. They also obtain discounts when buying fruit and vegetables at a supermarket that is associated with the healthcare company, and there is a financial incentive to practice physical exercises in gyms.



**Figure 3.** Proportion of elderly people who reported chronic diseases, according to mean family income, divided into quintiles of per capita income. Brazil, 1998-2003.

All these positive factors may lead to up to a fivefold reduction in the cost of health insurance policies. This British experience has not arrived in Brazil, and it is not known whether it would have a positive effect or would be accepted by society. In any event, the message is that health plans operate using a type of mutualism, in which the less healthy consume more medical services and inflate the amount paid by those whose functional capacity is preserved and are in good form. For many years, the health sector in Brazil has had difficulty in accepting financial stimuli aimed at getting individuals to take greater care of their health. On the other

hand, the current practice in other parts of the private sector, such as among car insurance companies, is to use such stimuli.

Therefore, the emphasis must be on maintaining functional capacity while seeking to “compress morbidity”, using a term coined by Fries.<sup>2,3</sup> This means developing strategies aimed at postponing death as much as possible through delaying the evolution of diseases, in order to take life towards the threshold of the maximum limit for the existence of the human species, while maintaining quality of life, with autonomy and independence, or in other words, with functional capacity.

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