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Costs of elderly health care in Brazil: challenges and strategies[I]

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As with many other developing countries, Brazil faces the rapid aging of its population over few decades. Unlike what happened in developed northern hemisphere countries, Brazilians are getting older before the country in general, and elders in particular become richer. With an area of 8.5 million km^2 (world 5th largest), Brazil has a population of 190 million inhabitants (2010 census) with 20.6 million above 60 years, nearly three million above 80 years.[1] By 2025 the senior population is expected to top 32 million, as illustrated in Figure 1. The life expectancy at birth is now 67.3 years for men and 75.2 years for women.[2] At the age of 60, people can expect to live another 20 years.[3,4] The health expenditure is a little over US$300 year/per capita,[5] or 8% of the GDP.[6]

Despite accelerated progress in many fields, Brazil is still a poor country with great natural resources but with a big gap between rich and poor. It is the 8th largest economy in the world, but still has 16.2 million people, (8.5% of its population) living in extreme poverty (less than US $1.25 per day).

As in the whole world, chronic diseases are highly prevalent among the elderly. Recent studies[1] indicate that 77.4% of Brazilians over 60 reported some disease, and this proportion rises to 81.3% among those over 75 years. When analyzing the number of illnesses, 48.9% of the population over 60 report more than one chronic disease, rising to 54% in those over 75 years. Among the most prevalent diseases, hypertension occurs in 50% of the elderly; back pain and osteoarthritis occur in 31.5% and 24.2%, respectively.[1]

In terms of functionality, the percentage of seniors who had great difficulty or who could not walk 100 meters grew from 12.2% (2003) to 13.6% (2008). This increase can be explained by the increase in life expectancy. Among those aged 75 or older, the percentage of those who reported difficulty or disability was 27.2%. Since women are the majority in this group, 15.9% of women (vs. 10.9% of men) reported having difficulty walking 100 meters.[1]

Challenges here include finding solutions for a community where health perception does not match the actual morbid condition. Consequently, adherence to prevention and treatment of potentially severe diseases such as hypertension or diabetes is a serious problem. It should be noted that the variables related to health and their perception in the elderly include not only diseases per se but also physical/social frailty and lack of family support.

Additionally, Brazil has problems related to its size. Great distances, the marked cultural and racial heterogeneity among the various regions of the country, 22% of its population under the poverty line and a fast decrease both in family size and in the dependence ratio[7] require decisions to guarantee a minimum social support to a growing elderly population.

The Brazilian health system has three subsectors: (i) the public (SUS), where services are financed and provided by the government, at federal, state, and municipal levels, according to a decentralized policy; (ii) the private (for-profit and non-profit), in which services are financed with public or private funds (charitable institutions, foundations, etc.); (iii) the private health insurance subsector, with different forms of health plans, varying insurance premiums, and differentiated tax subsidies.[8]

It is interesting to note that the right to use government health resources is universal, and extends to people with private health plans.

Among Brazilians over 60, only 27% are affiliated with health plans, and, among those over 80 years, this proportion falls to 20%. Thus, SUS is nominally responsible for 73% of health care among the elderly, and 80% among the very old population in Brazil.[9]

SUS has a structured system available through the internet (www.datasus.gov.br) that allows access to information and current data related to health care, in particular to, but not only, hospital admissions. In this perspective, the data that will be addressed correspond to this database and reflect health services available to 70 to 80% of the elderly people in Brazil.

The annual budget of the Ministry of Health is approximately US$ 49 billion, of which approximately US$ 37.5 billion is earmarked for the financing of SUS.

Brazil has few geriatricians: at the time of writing, slightly more than 1,000 Brazilian doctors have geriatric certification (one geriatrician for over 22,000 elderly Brazilians).

Thus the problem of the elderly in Brazil requires solutions applicable to a rapidly growing population, with multiple illnesses, very limited financial resources and scant family support. Solutions must be simple, easily applicable, with a good cost-benefit relationship.

We accessed data relating to general health and to the health of elderly people in Brazil; we initially identified the most relevant issues regarding the public care costs for the elderly: hospital costs, outpatient costs, long stay institutions, home care, vaccinations, training of caregivers and providing medication.

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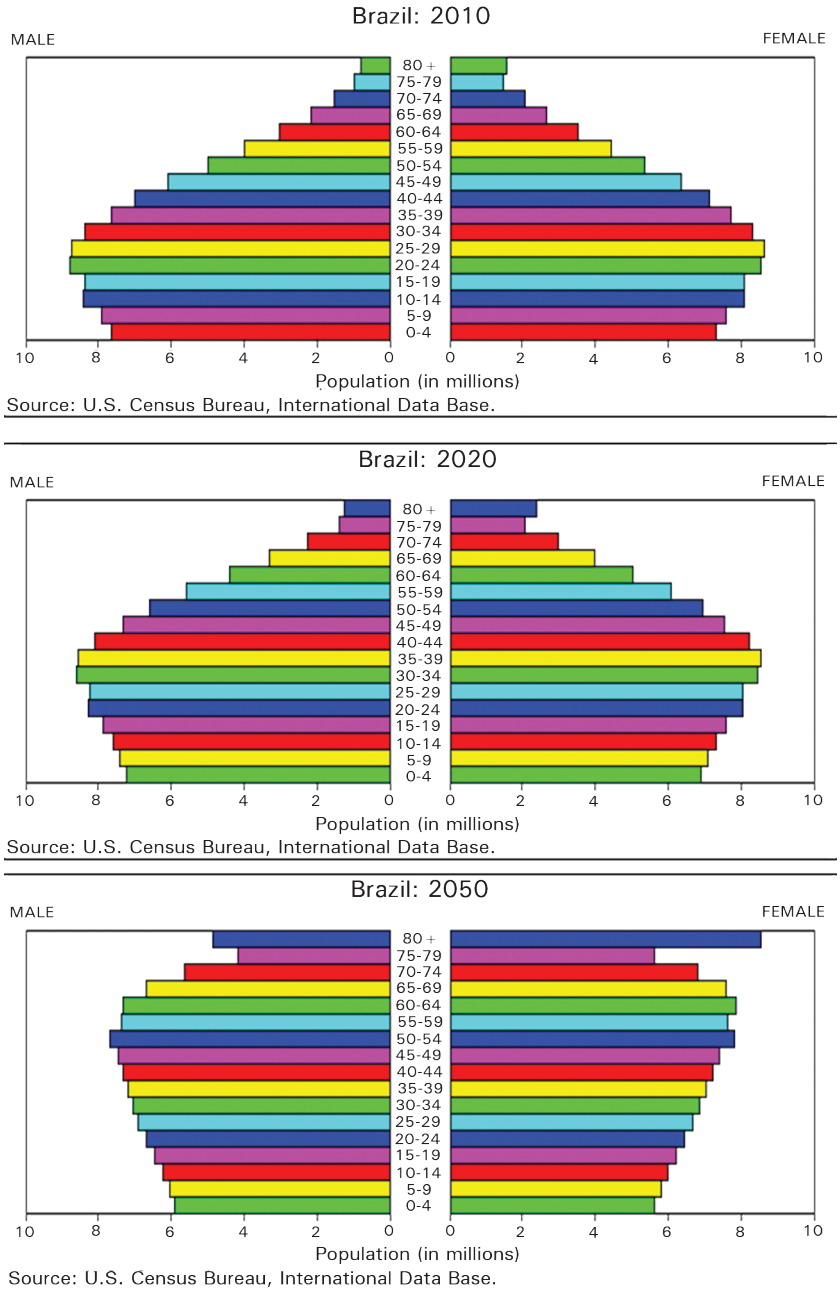

Figure 1 - Demographic evolution of Brazil. Source: U.S. Census Bureau - International Data Base.

The data contained in the Ministry of Health data systems were collected and tabulated and presented as figures. We also used data from international institutions such as the World Bank and the Pan American Health Organization. Wherever necessary, we used the mean exchange rate between the Brazilian Real and US$ prevailing in 2011.

HOSPITAL COSTS

The total cost of hospitalization through SUS in the years 2010-2011 was nearly US$ 7 billion, with the cost of elderly hospitalization at US$ 2 billion, or 34% of the total. Because the proportion of elderly in the population is about 10%, it can be seen that this population group has a per capita cost more than three times that of the overall population, surpassed only by the per capita cost of newborn infants, as shown in Figures 2 and 3.

Ambulatory costs

The cost of outpatient care in SUS reached, in 2010-2011, values close to US$ 8 billion, mostly targeting clinical procedures, diagnosis and medications. However the item Health Promotion and Prevention received only about US$ 5 million or 0.065% of the total outpatient expenditure.

The SUS database does not provide age stratification, but considering that the demand for ambulatory care of the elderly is even more intense than that for hospitalization, this

points to a seriously undersized ambulatory care budget. The point is illustrated in Figure 4.

NURSING HOMES AND LONG STAY INSTITUTIONS

Support for chronic, social, demented or terminal patients for hospitalization represents a more difficult problem in Brazil. Nursing Homes exist mainly in large cities, but only a few of them work in association with SUS. Asylum institutions exist in the whole country, usually supported by religious institutions, but in insufficient numbers. Frequently, patients remain with their own family, with some kind of support from civil and/or religious communities.

Home care systems are frequent in the cities, mostly linked to private health plans. A public health home care system is under development in many parts of the country.

Hospices are rare in Brazil. Dying people are generally maintained in hospital or at home, with their families. The strong family ties more prevalent in the Latin-American population accept this kind of structure better than their North European/North American counterparts.

Long-stay institutions related to health services such as nursing homes are not common in Brazil, being much more targeted to social support than to health.

A study at national level[10] registered 3549 institutions. Most of these (65%) are philanthropic in nature, reflecting their origin. Only 6.6% are government, with a predominance of local administrations, totaling 218 institutions, far fewer than those provided by Vincentian religious institutions, which number approximately 700.

Surveyed institutions harbor approximately 100,000 people, of whom 84,000 are elderly, representing less than 1% of the elderly population. Women predominate (57%) among residents. On average, the institutions are small, housing about 30 residents and are working at full capacity, using 91.6% of the existing 109,447 beds.[11]

On average, each institution spends US$ 450/month per resident, with a very wide range (US$ 58 to U$ 5,750). It is important to consider that these values generally do not include medication or health services, often supported by SUS in the ambulatories.

The cost of an institution is greatly affected by its legal nature and the provision of offered services. Philanthropic institutions are granted some tax exemptions and are more

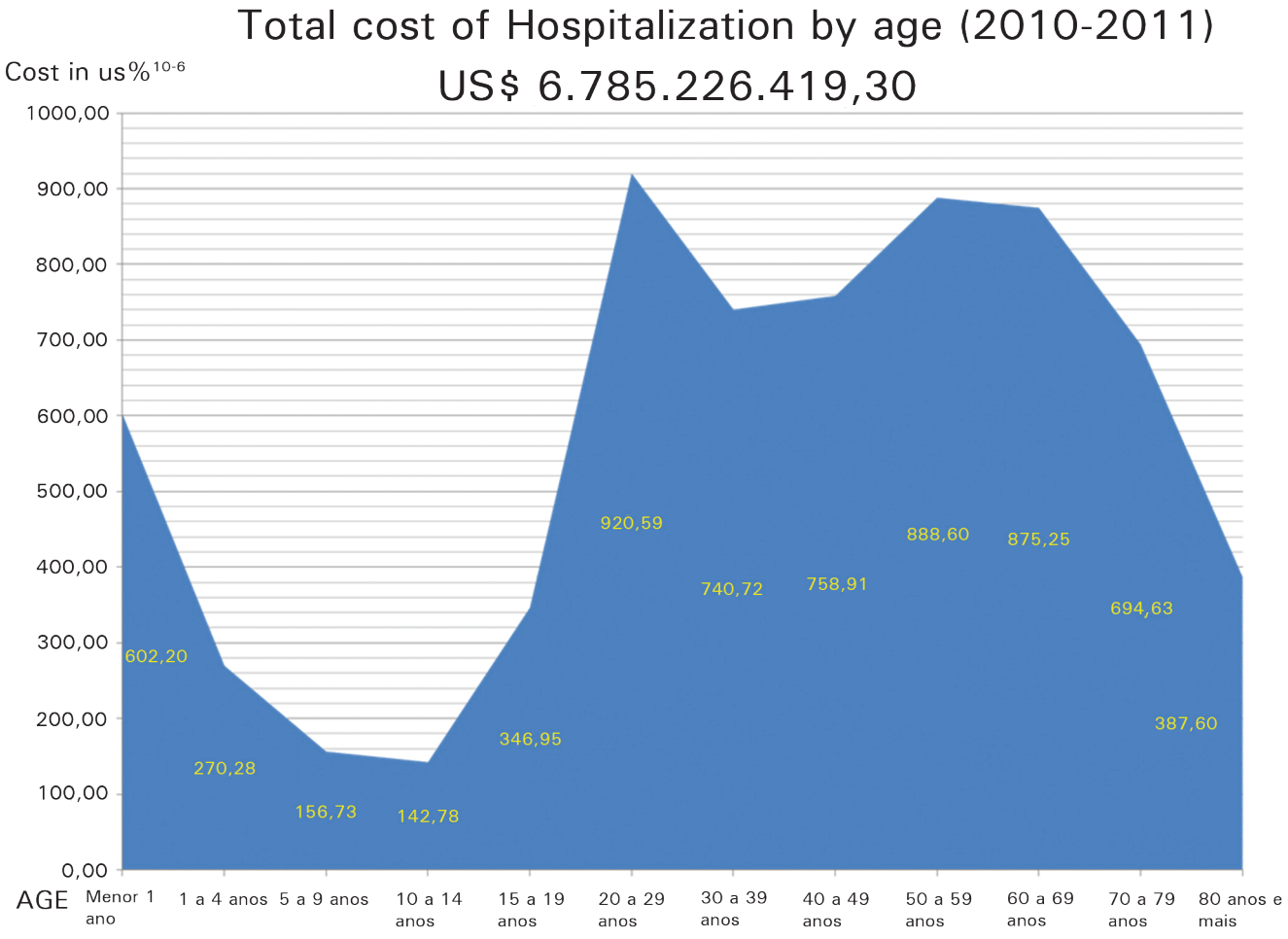

Figure 2 - Total cost of hospitalization by age (2010-2011): US$ 6.8 billion

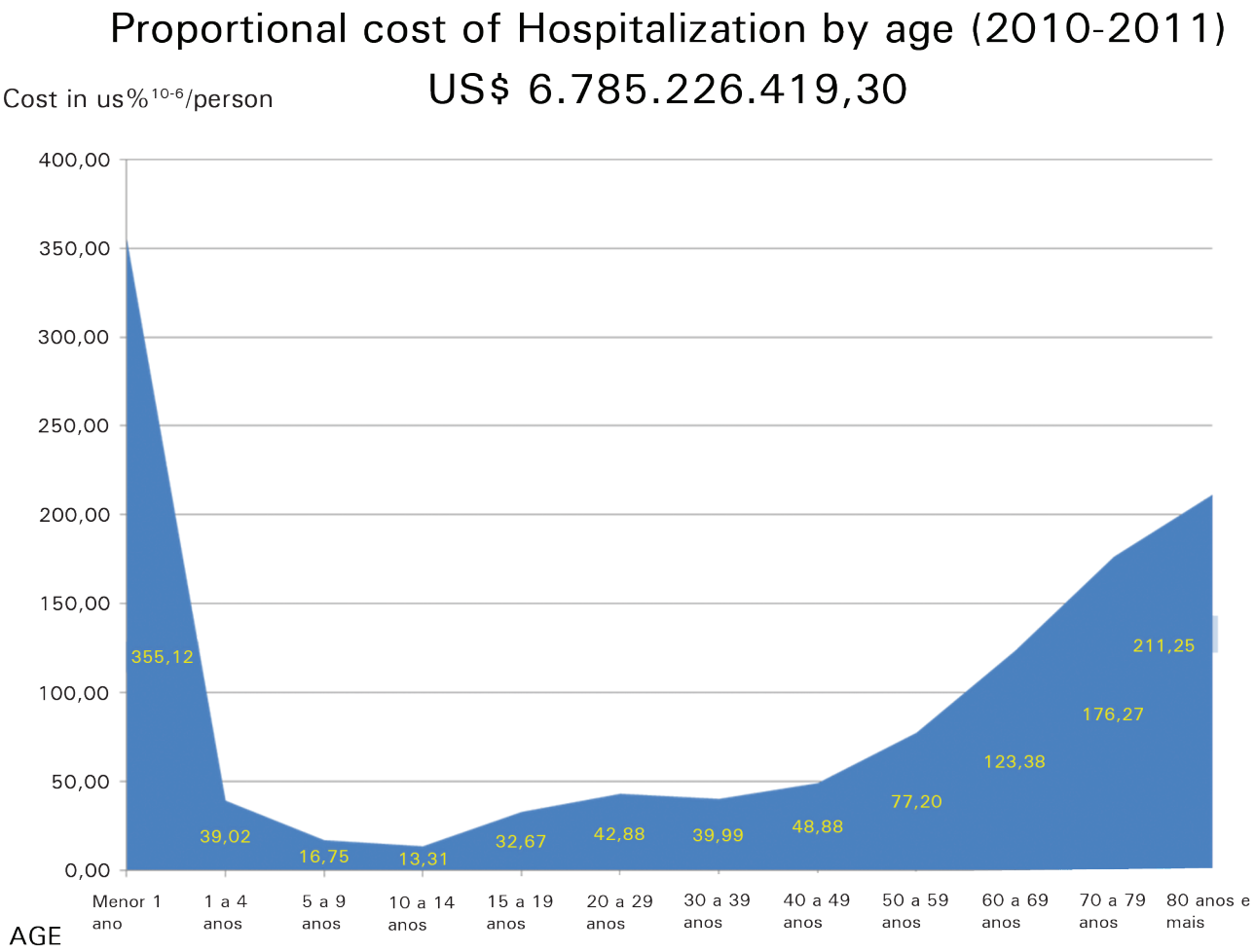

Figure 3 - Proportional cost of hospitalization by age (2010-2011).

likely to rely on donations and volunteer staff. To sustain their operations, institutions rely on patient fees (57%), own resources (13%) or public financing (20%).

With increasing demand, we observe a tendency towards an increase of private institutions in recent years. Between 2000 and 2009, 58% of new private institutions are for profit.

HOME VISITS

The Programa Saúde da Família or Family Health Program is one of the most important and successful instruments of health care in Brazil. Conceived in the nineties, it is based upon the concept of decentralization of care, which is now at family level through multidisciplinary Community Health Teams for primary care. Each team includes a doctor, a nurse, an auxiliary nurse and four to six community health workers. Community health teams work in close integration with their communities; each team looks after 120 families in a defined area and aims to provide home visits to every household at least once a month.

This program was originally structured as a project for maternal and child health, but progressed to incorporate primary care addressing chronic diseases; at present it is expanding nationally and provides comprehensive primary care services in 95% of all municipalities, covering over 55% of the population - more than 85 million people.[12]

In this decentralized model, financial resources and logistic structure are provided by local municipal administration, using resources transferred from federal to local administration. Fifteen years after its inception, the program includes 250,000 community health workers and 30,000 general practitioner doctors (generalistas). The cost-benefit relationship of this intervention is clearly positive, with expenditures of US$ 31.00-50.00 per capita per year.[13]

When all costs are added (including installation expenses), the annual cost of each team is around US$ 62,000.00 and the unit cost per family is US$ 10.65.[14]

VACCINATION

The annual vaccination program for the elderly began in 1999, to provide protection against influenza, pneumonia and tetanus. Influenza shots are given annually in a nationwide campaign in April/May, (autumn in the southern hemisphere). Anti-pneumonia and anti-tetanus vaccinations were given at the start of the influenza campaign and then at 5 and 10 year intervals, respectively, in the course of routine visits. All

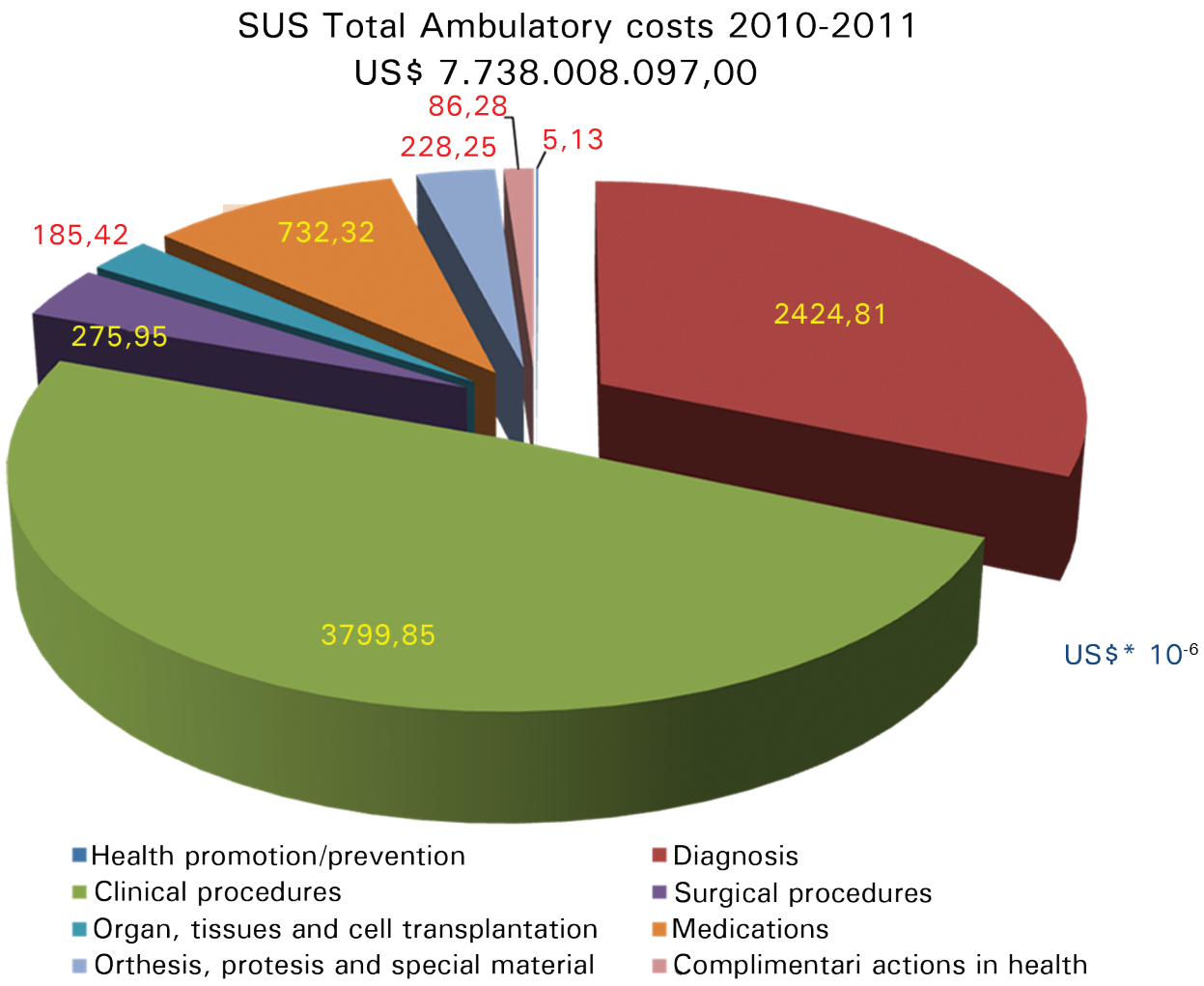

Figure 4 - Total SUS ambulatory costs (2010-2011): US$ 7.7 billion.

these vaccinations are free for elderly, children under 2 years, pregnant women, and caregivers.

This Program began in 1999, with 4 million doses of Influenza shots, rising to 17 million in 2010, to 33 million in 2011, at the cost of US$ 143 million in 2011. At the time of writing, nearly 80% of the Brazilian elderly population and their caregivers are expected to have vaccination coverage against Influenza.[15] In 2011. Over these years it became clear that the elderly vaccination program helps to prevent influenza and its complications, and has had a significant impact in reducing hospital admissions, deaths and expenditure on medication to treat secondary infections.[16]

The cost benefit relationship for vaccination is clearly positive. In 2010 the cost of vaccination was close to US140 million and the cost of hospitalization (including only pneumonia and bronchitis in people over 60 years) was near US$180 million. For people over 60, studies show that vaccination can reduce the number of hospitalizations for pneumonia by up to 45%. Among residents in nursing homes and/or long-stay institutions for the elderly, the reduction in mortality reaches 60%.[17]

CAREGIVERS

Training programs for familial informal caregivers of elderly people is a theme that requires a special comment. It is arguably the most effective and cheapest intervention for elderly care, mainly for those with daily life activity limitations. The explosive growth of demand for this kind of training could reflect (i) the strong family sense still existing in Latin America, (ii) the real growth in the elderly population and (iii) the provision of employment for a sizeable population.

There are no data about the number of caregivers for the elderly in Brazil; only one percent of the aged people live in Long-Term Care Institutions, which shows that a majority of the elderly, mainly the poorest, live with their families.

Caregiver training provided by the Ministry of Health also includes bibliographic support with teaching material, such as the Guia Prático do Cuidador de Idoso (practical guide for primary caregivers of the elderly). Hundreds of thousands of copies have been issued.

MEDICATION

Medication often represents a big problem in elderly support both because of costs and especially because of poor adherence rates among the elderly. A special support program called Farmácia Popular (Popular Pharmacy) provides free access to the more common medications for chronic diseases (Hypertension, Diabetes, Epilepsy, Parkinson, Arthritis, etc).

This program costs the Ministry of Health an average US$ 1.8 billion per annum, but the cost-relationship is obviously positive. The price of drugs provided to the elderly varies between zero and five percent of normal market prices.

GENERAL SUMMARY

At this moment Brazil is at a decisive turning point in its history. While recent international scenarios favored rapid economic development, the national scenario shows that there is still a long way to go in the quest for social development extended to the entire population.

It is undeniable that significant steps have been covered on this route, particularly over the last 20 years. The improvements in social indicators and health bring hope of better days. According to World Bank data, poverty (measured as a purchasing power of $ 2 per day) fell from 20% in 2004 to 7% in 2009.[18]

Infant mortality fell from 48/1,000 to 17/1,000, in five years. Hospital admissions for diabetes and stroke have decreased by 25% in five years. The proportion of underweight children under the age of five fell by 67%; over 75% of pregnant women now receive seven or more pre-natal visits; immunization coverage for diphtheria, tetanus and pertussis in children under one year is above 95% for most municipalities,[19] and the national coverage for influenza is around 80% of population.

Much of these results seem to be related to decentralization policies and the incorporation of the family into the health community, with obvious cost benefits.

However, in spite of these positive data, major challenges remain: the country is still undoubtedly poor, with an aging population growing at high speed and requiring increasing resources in areas such as control of chronic diseases, disability, trauma prevention and health promotion. Social support for the elderly must still improve considerably to achieve desirable levels.

The National Healthcare system, SUS, nominally accountable for three quarters of the elderly population still requires additional funds. Even a 43% budgetary increase for the Ministry of Health last year (from $ 27.5 to $ 48.2 billion including $ 37.5 billion for SUS) was insufficient; additionally, bureaucratic constraints regarding the release of such funds still represent an obstacle; low professionals wages and low investment capacity add to the problem.

The structured geriatric care in Brazil, the largest in South America, is still inadequate to face the challenge of aging in Brazil. With a number close to 1,000 geriatricians (one geriatrician per 22,000 elderly) and with a great disparity in the distribution of this human resource, large geographical areas have virtually nonexistent geriatric coverage. Most geriatricians are found in the richer, more developed southeast region, and specially concentrated in large cities.

The perception of this demographic and epidemiological limitation began 15 years ago. The awakening of society to this problem was reflected in the long tortuous route of elaboration and adoption of the Federal Act know as "Estatuto do Idoso", enacted in 2003.[20] It recognizes many rights of elderly people: preference in public health assistance, free medication for chronic diseases in public institutions, 24 hour family support when hospitalized, free transportation in buses and subways, minimum monthly financial support of US$ 312 and more rigid criminal penalties for elderly abuse and neglect. All of this has configured an important improvement in quality of life for the Brazilian elderly.

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