

Safilou-Rothschild, Constantina

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ARE OLDER PEOPLE RESPONSIBLE FOR HIGH HEALTHCARE COSTS?

CONSTANTINA SAFILIOU-ROTHSCHILD*

The cost of public healthcare is continuously rising and 15 percent of the European population aged 65 and over consumes 60 percent of healthcare resources. In OECD countries, the over 65 age group accounts for 40 to 50 percent of healthcare spending and their per capita healthcare costs are three to five times higher than those under 65. Projections for Europe forecast that the population over 65 years old will increase from around 16 in 2000 to 23 in 2025 and to 30 percent in 2050, and, that healthcare costs are likely to grow at an average annual rate of 5 to 6 percent, most of this cost attributed to increasing ageing. Public expenditures on healthcare are projected to increase by 1 to 2 percent of GDP due to ageing in most OECD member states between now and 2050 – a relatively small amount in comparison to the total increases since

1950. In addition, if it becomes possible to maintain the proportion of a lifetime spent in good health as overall life expectancy increases, these additional costs could be halved (Liddle and Lerais 2007).

Table 1 is representative of the type of data responsible for propagating the belief that the increased numbers of older people are responsible for enormous (occasionally termed “catastrophic”) increases in healthcare costs. There is no question that the number of old people will increase as long as life expectancy increases. Yet economic analyses have shown that the expected increase in per person health expenditure caused by greater longevity will be less than expected because of the concentration of expenditures at the end of life rather than during extra years of a relatively healthy life (Yang, Norton and Stearns 2003). Other researchers have shown that while both age and proximity to death have significant effects on quarterly hospital costs, age effects are small compared with the tripling of quarterly costs that occurs with approaching death in the last year of life. The 5 percent of patients in the last year of life generated approximately half of the hospital expenditures for those aged 65 and over (Seshamani and Gray 2002). Of course, the cost of nursing home care increases with age but because



* Institute for Environmental Policy, Pireas, and 50+Hellas, Athens.

Table 1
National healthcare costs in 1994 and projections for 2015 by age and healthcare sector for the Netherlands

| | Age group | | | | Total | | Annual growth rate % |
|----------------|---------------|------|---------------|------|---------------|-----|----------------------|
| | 0–64 | | >65 | | million euros | % | |
| | million euros | % | million euros | % | | | |
| 1994 | | | | | | | |
| Acute care | 4,560 | 54.9 | 3,742 | 45.1 | 8,302 | 100 | |
| Long-term care | 3,129 | 38.3 | 5,501 | 61.7 | 8,180 | 100 | |
| Total | 7,689 | 46.7 | 8,793 | 53.3 | 16,482 | 100 | |
| 2015-I | | | | | | | |
| Acute care | 5,105 | 49.4 | 5,232 | 50.6 | 10,337 | 100 | 1.1 |
| Long-term care | 3,298 | 31.5 | 7,175 | 68.5 | 10,473 | 100 | 1.2 |
| Total | 8,402 | 40.4 | 12,408 | 59.6 | 20,810 | 100 | 1.1 |
| 2015-II | | | | | | | |
| Acute care | 6,101 | 40.5 | 8,977 | 59.5 | 15,078 | 100 | 2.9 |
| Long-term care | 7,058 | 51.2 | 6,724 | 48.8 | 13,781 | 100 | 2.5 |
| Total | 13,158 | 45.6 | 15,701 | 54.4 | 28,859 | 100 | 2.7 |

Note: 2015-I = demographic projection; 2015-II = demographic projection + age-specific trends.

Source: Polder, Bonneux, Meerding and Van der Maas (2002).

Table 2
Share of population and hospital expenditures by age group, 2002 and 2026, England

| | 0–4 | 5–15 | 16–44 | 45–64 | 65–74 | 75–84 | 85+ |
|-------------------|------|------|-------|-------|-------|-------|------|
| % of population | | | | | | | |
| 2002 | 5.8 | 14.0 | 40.9 | 23.8 | 8.1 | 5.5 | 2.0 |
| 2026 | 5.4 | 11.9 | 36.0 | 26.2 | 10.4 | 7.3 | 2.7 |
| %-point change | –0.4 | –2.1 | –4.9 | +2.4 | +2.3 | +1.8 | +0.7 |
| % of decedents | | | | | | | |
| 2002 | 0.2 | 0.2 | 3.5 | 13.1 | 18.7 | 33.7 | 30.7 |
| 2026 | 0.1 | 0.1 | 2.5 | 12.0 | 17.1 | 32.9 | 35.2 |
| %-point change | –0.1 | –0.1 | –1.0 | –1.1 | –1.8 | –0.8 | +4.5 |
| % of expenditures | | | | | | | |
| 2002 | 7.9 | 3.4 | 24.9 | 20.1 | 13.1 | 18.4 | 12.5 |
| 2026 | 7.3 | 2.8 | 21.3 | 21.9 | 13.7 | 19.0 | 14.0 |
| %-point change | –0.6 | –0.6 | –3.6 | +1.8 | +0.6 | +0.6 | +1.5 |

Source: Seshamani and Gray (2002).

Table 3
Share of population and hospital expenditures attributable to people in their last year of life, 2002 and 2026, England

| Age group | 2002 | | 2026 | |
|-----------|---|---------------------------|---|---------------------------|
| | Share of age group in last year of life (%) | Share of expenditures (%) | Share of age group in last year of life (%) | Share of expenditures (%) |
| 0–4 | 0.03 | 1.54 | 0.02 | 1.02 |
| 5–15 | 0.01 | 0.65 | 0.01 | 0.44 |
| 16–44 | 0.09 | 3.83 | 0.07 | 3.10 |
| 45–64 | 0.56 | 18.97 | 0.47 | 16.48 |
| 65–74 | 2.35 | 43.06 | 1.68 | 36.81 |
| 75–84 | 6.24 | 55.94 | 4.63 | 51.44 |
| 85+ | 15.90 | 64.63 | 13.47 | 63.04 |
| All ages | 1.02 | 28.98 | 1.02 | 27.98 |

Source: Seshamani and Gray (2002).

Table 4
Average number of hospital days per year according to status, Germany

| Age group | Survivors | Persons in their 3 rd last year of life | Persons in their 2 nd last year of life | Persons in their last year of life |
|-----------|-----------|--|--|------------------------------------|
| –24 | 0.8 | 9.3 | 11.2 | 24.2 |
| 25–34 | 0.9 | 13.4 | 12.0 | 28.6 |
| 35–44 | 1.1 | 13.7 | 22.5 | 34.7 |
| 45–54 | 1.9 | 11.0 | 15.5 | 39.2 |
| 55–64 | 2.3 | 6.9 | 12.4 | 40.6 |
| 65–74 | 3.0 | 9.0 | 12.4 | 36.4 |
| 75–84 | 4.8 | 8.5 | 11.4 | 31.8 |
| 85+ | 5.4 | 5.1 | 6.3 | 23.2 |

Source: Busse, Krauth and Schwartz (2002).

hospital costs predominate in total health expenditures, the related research still finds a concentration of costs towards the end of life. A number of empirical studies confirm the findings of high levels of healthcare resources mainly occurring in the 12–18 months before an individual's death (Brockmann 2002; Dixon et al. 2004).

Individually older patients actually consume fewer healthcare resources than younger patients since, mainly because of age discrimination, they are less

likely to receive intensive care or to undergo surgery or complex interventions. In fact, the most expensive patients are the ones who die young. If only the last year of life is counted, the 45–64 year olds have the highest number of hospital days; and if the last three years are taken into account, the 35–44 year olds use the most hospital days (Busse, Krauth and Schwartz 2002). Overall, it seems that *the negative image of the “expensive older patient”* may be a myth that needs to be dispelled (Zwifel, Felder and Meiers 1999; Jacobzone 2002).

Table 5
Share of persons admitted to hospital at least once a year according to status (%), Germany

| Age group | Survivors | Persons in their 3 rd last year of life | Persons in their 2 nd last year of life | Persons in their last year of life |
|-----------|-----------|--|--|------------------------------------|
| –24 | 7.7 | 17.9 | 32.1 | 56.0 |
| 25–34 | 7.5 | 25.0 | 28.6 | 50.0 |
| 35–44 | 7.7 | 34.1 | 30.6 | 59.6 |
| 45–54 | 10.2 | 24.5 | 38.0 | 74.6 |
| 55–64 | 12.5 | 28.3 | 35.2 | 80.2 |
| 65–74 | 14.9 | 30.6 | 39.3 | 81.2 |
| 75–84 | 20.2 | 34.0 | 37.5 | 82.4 |
| 85+ | 20.6 | 21.6 | 27.6 | 70.2 |

Source: Busse, Krauth and Schwartz (2002).

If, however, the population is not simply getting older, as assumed in the Eurostat demographic projections, but also getting healthier, there will be improvement in life expectancy in terms of years lived in good health and health costs will be squeezed within the very few last years of life (“compressed” morbidity). Also New Zealand calculations suggest that even plausible modest improvements in older persons’ health could offset about one-third of the extra healthcare costs imposed by population aging (Bryant and Sorenson 2006). This highlights the importance of investing in population health as a means of mitigating future economic impacts of ageing populations (Suhrcke et al. 2005).

It must be pointed out that the examination of healthcare costs as well as projections about such costs are primarily focused on widely available hospitalization costs. The calculation of healthcare costs, however, cannot be separately examined from social care costs, especially when dealing with aging-related costs. Wanless (2002) correctly argues that any future reviews of aging and health costs should fully integrate modeling and analysis of health and social care. Indeed, even underestimated available data from Britain show that the ageing of the population is a more important cost pressure for social care than for healthcare.

While there is considerable agreement that health costs are increasing in Europe as well as in North America, the contention that this increase is primarily due to increasing population aging is less solid. Other important factors besides aging play very important roles in increasing the cost of healthcare. These other factors can be grouped in four distinct categories: (a) unhealthy lifestyles: smoking, obesity and overweight and lack of exercise; (b) poor quality of healthcare: lack of primary and secondary prevention, adverse drug reactions and other preventable medical injuries, and age and gender discrimination in healthcare delivery; (c) lack of adequate rehabilitation care and social care; and (d) a number of non demographic expenditure drivers, such as higher wages for health professionals, rising administrative costs, new treatments because of new medical technology and new drugs and better coverage of the population (Bryant and Sorenson 2006). We shall examine all these additional factors in some detail.

Unhealthy lifestyles

There is considerable evidence that unhealthy lifestyles such as smoking, lack of physical activity and obesity can have a major impact on the required level of healthcare resources (Wanless 2002). The calculations healthcare costs caused by smoking in Germany

Table 6
Number of hospital days per year of persons admitted to hospital at least once according to status, Germany

| Age group | Survivors | Persons in their 3 rd last year of life | Persons in their 2 nd last year of life | Persons in their last year of life |
|-----------|-----------|--|--|------------------------------------|
| –24 | 10.8 | 52.1 | 34.8 | 56.0 |
| 25–34 | 12.4 | 53.7 | 41.9 | 50.0 |
| 35–44 | 14.5 | 40.3 | 30.6 | 59.6 |
| 45–54 | 18.3 | 45.0 | 38.0 | 74.6 |
| 55–64 | 18.3 | 24.4 | 35.2 | 80.2 |
| 65–74 | 20.3 | 29.4 | 39.3 | 81.2 |
| 75–84 | 23.8 | 25.1 | 37.5 | 82.4 |
| 85+ | 26.2 | 23.4 | 27.6 | 70.2 |

Source: Busse, Krauth and Schwartz (2002).

Table 7
Costs of smoking in Germany in 1993 (in million euros)*

| Smoking attributable costs | Neoplasms | Cardiovascular diseases | Respiratory diseases | Total costs |
|----------------------------|----------------|-------------------------|----------------------|-----------------|
| Direct costs | | | | |
| Prescribed drugs | 7.7 | 784.3 | 316.5 | 1,108.0 |
| Outpatient care | 56.2 | 756.7 | 329.3 | 1,193.9 |
| Acute hospitalization | 303.7 | 1,361.1 | 498.0 | 2,162.8 |
| Rehabilitation | 50.1 | 177.9 | 96.1 | 324.2 |
| Total | 417.7 | 3,079.5 | 1,239.9 | 4,737.1 |
| Indirect costs | | | | |
| Mortality | 2,013.5 | 1,816.1 | 237.2 | 4,173.7 |
| Morbidity | 1,194.4 | 4,196.7 | 2,972.1 | 8,363.2 |
| Work lost days | 161.1 | 1,290.0 | 2,006.8 | 3,457.9 |
| Early retirement | 1,033.3 | 2,906.7 | 965.3 | 4,905.3 |
| Total | 3,208.4 | 6,012.8 | 3,208.9 | 12,537.4 |
| Total costs | 3,626.1 | 9,092.3 | 4,449.3 | 17,274.5 |

* Calculated by stratifying smoking prevalence in nine age groups.

Source: Welte, König and Leidl (2000).

show high direct and indirect costs involved for all age groups (Welte, König and Leidl 2000).

There is also evidence that obesity has roughly the same association with chronic health conditions as does twenty years' aging from 30 to 50, this association being mirrored in healthcare utilization. Namely, obesity is associated with a 36 percent increase in inpatient and outpatient spending and a 77 percent increase in medications. In the case of current smokers, the increase in inpatient and outpatient costs is 21 percent and 28 percent the increase of medications costs (Sturm 2002). An American study also concluded that while in all age groups obesity increased direct healthcare costs by 54 percent, in the age group 65–74 the increase amounts to 104 percent (Thompson 2008).

It has been estimated that the present value of the expenditure savings for the Australian government would provide savings of about 2 US dollar for every 1 US dollar of expenditure in public health programmes to reduce tobacco consumption (Suhrcke et al. 2005). In Europe, there have been relatively few economic evaluations of preventive activities, such as the cost effectiveness of the smoking cessation programmes in Britain: the average cost per life saved was 684 British pounds and the estimate of cost-effectiveness rose to 2693 British pounds (Godfrey et al. 2005).

Poor quality of healthcare

While adverse drug reactions (ADR) have negative health consequences for all ages, they occur much

more often among older persons who more frequently take many types of medicines than do younger persons. It has been shown that the risk of ADR is related to the number of medicines taken and that nursing home patients appear to be particularly vulnerable to ADR. In addition, around 7 percent of all hospital admissions are related to ADR, although as many as 80 percent of these reactions are preventable as they are due to a drug treatment procedure inconsistent with present-day knowledge of good medical practice. However, in the case of older patients the knowledge of pharmacological principles and the way that ageing affects drug kinetics and response is also necessary. Furthermore, dose-related failure of existing therapy to manage the condition adequately (because of age discriminatory healthcare) may be one of the most important reasons for hospitalization of older people (Routledge, O' Mahony and Woodhouse 2003). While the majority of patients hospitalized with ADR recover, they may need hospitalization of several days and from 1.5 to 3 percent of them die. ADR leading to hospitalization represents a cost up to 466 million British pounds annually for the British National Health System that can be significantly reduced with better healthcare delivery (Pirmohamed et al. 2004).

Other preventable medical injuries are iatrogenic injuries and include hospital-acquired nosocomial infections, pressure sores and surgical and peri-operative complications. Older patients are much more vulnerable to all these medical injuries partly due to the aging process and partly to inadequate care provided. These injuries are usually responsible not only

for older patients' deteriorating health but also for increasing the cost of required healthcare in terms of hospitalization and medical interventions. Considerable cost reductions appear to be possible if principles of error prevention and geriatric research are applied in all care settings (Rothschild, Bates and Leape 2000).

Older patients suffering more often with chronic illnesses (e.g. heart failure) than younger persons require expensive re-hospitalizations because there is no comprehensive discharge planning with post-discharge support. European and North American studies have shown that expensive re-hospitalizations can be reduced if patients are well informed about their illness and about self-management, and are provided with the follow-ups that facilitate their transition to home care. While the mean cost of such interventions is low, the mean annual reduction in overall costs (because of the reduction of re-hospitalization rate) appears to be rather considerable (Phillips et al. 2004).

In Britain more than 30 percent of people over 65 years old living in the community fall every year, often more than once, and the risk of falling and of fatality increases with age (Jensen et al. 2002). While only 3 to 10 percent of these falls results in serious injury, even for those who do not sustain any major physical injury as a result of a fall, the psychological trauma or fear of falling itself may lead to self-imposed reduction in physical activity (Close 2001). Because of the frequency of falls and their serious health and mobility consequences for older people, resulting health and social care costs are significant. Tables 8 and 9 present the costs of such falls in Britain.

There is considerable evidence provided by medical research according to which, in the case of several life-threatening conditions (such as acute myocardial infarction, heart failure, or cancer), older patients are

significantly less often provided with appropriate and effective medical treatment than younger patients suffering from the same conditions. In Sweden, for example, only a quarter of all heart failure patients are treated with ACE inhibitors – few of them being older patients, despite the fact that they constitute the most effective as well as cost-effective treatment of the condition (Ryden-Bergsten and Andersson 1999). The situation is, however, perpetuated for several reasons. First, older people are underrepresented in randomized, controlled treatment trials and in this way there is no evidence whether or not invasive medical interventions and particular drugs are effective for older people (Shah, 2004). Second, in the absence of clear evidence of effectiveness in the case of treating older people, physicians tend to avoid undertaking possibly risky medical interventions, while medical insurance companies attempt to save extra expenses caused by such supposedly risky treatments. Because of the combination of all these factors, age discrimination in older persons' access to effective healthcare continues (Safilidou-Rothschild 2007).

There has recently been considerable debate in Europe and the United States as to whether or not it is ethical to ration medical treatment and healthcare on the basis of age and cost benefit considerations (Williams 1997; Robinson 2002). The prevailing themes have been the perception of lesser cost-effectiveness of older people's healthcare and the preference for greater investment in younger people. Such age rationing seemed to take place more often when healthcare modalities, such as dialysis or transplantation, were scarce or were perceived to be scarce (Killner 1988; Rothenberg 2005). The scarcity issue was defended because it was argued that the healthcare needs of younger people have priority over those of old people since the use of medical care by younger people is more effective in preserving life and in maintaining normal function than when used by old people. However, there is no guarantee that

Table 8

Costs of accidental falls per 10,000 people in thousand British pounds*

| Age group | Fall on same level from slip/trip/stumble | Fall on or from stairs or steps | Fall from one level to another | Unspecified fall | Total |
|-----------|---|---------------------------------|--------------------------------|------------------|---------|
| 60–64 | 65.4 | 30.9 | 80.9 | 101.9 | 279.2 |
| 65–69 | 173.1 | 74.5 | 20.8 | 319.0 | 587.4 |
| 70–74 | 163.8 | 63.3 | 23.5 | 180.9 | 431.5 |
| = or >75 | 468.5 | 60.5 | 138.1 | 838.9 | 1,496.1 |
| Mean | 248.2 | 57.2 | 77.2 | 427.4 | 810.0 |

* Incidence data are from 1999 and costs are expressed in 2000 British pounds.

Source: Scuffham, Chaplin and Legood (2003).

Table 9
Breakdown of costs of accidental falls by resource use (in % of total costs for each age group)*

| | 60–64 | 65–69 | 70–74 | = or >75 | Total |
|-----------------------------------|-------|-------|-------|----------|-------|
| Ambulance journey | 5.2 | 2.6 | 4.5 | 3.4 | 3.5 |
| Accident and emergency attendance | 6.4 | 3.2 | 5.6 | 4.1 | 4.3 |
| Hospital inpatient | | | | | |
| Outpatient attendance | 71.8 | 58.6 | 61.2 | 42.6 | 49.4 |
| General practice consultations | 4.4 | 2.2 | 3.0 | 1.2 | 1.8 |
| Long-term care | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Total | 12.0 | 33.2 | 25.5 | 48.5 | 40.8 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* Incidence data are from 1999 and costs are expressed in 2000 British pounds.

Source: Scuffham, Chaplin and Legood (2003).

the denial of appropriate medical care to older people will be tied directly to redistribution of this care to afflicted younger age groups (Battin 1987).

While at present, clear-cut discussions of rationing of expensive medical treatment of older persons have become less frequent, the concept and the practice have not disappeared; they have often gone underground. Thus, the analysis of data from German hospitals suggests that healthcare is informally rationed according to the age and sex of the patient (Brockmann 2002) and a similar type of rationing has been reported regarding the treatment of angina in Scotland (Murphy et al. 2006). Similarly in Italy, the age and sex rationing was evident in lesser hospital expenditure for women than for men and for older patients-over 65 than for younger ones (Gabriele et al. 2006).¹

Inadequate rehabilitation and social care services

In general older patients have less easy access to rehabilitation services (Cottin et al. 2004) and to long-term care. In the Czech Republic, for example, while there is an abundance of acute-care hospital beds, there are few beds for rehabilitation and the long-term care. The main problem of care for old and chronically ill people is not only the absence of geriatric departments in most hospitals but also the lack of capacities for rehabilitation and continuing care. After old people are discharged from hospitals and go home, they are still in an unstable condition and

need long-term care that is not available. For this reason, they soon end up back in hospital (Holmerova 2004).

The French experience seems to be similar – old people who lose their autonomy have great difficulty finding nursing services and assistance at home that allow them to continue living at home but always can find place in hospitals when they need treatment for an acute phase of their illness (Doucet, 2002). Furthermore, Arfeux-Vaucher et al. (2006) suggest that older people (and especially those over 80 years old) resort to emergency and/or to hospitalization because available social services are not able to take care of them so they can stay at home or because there is no place for them in rehabilitation or geriatric units. In this way, health statistics show high numbers of older people without acute health problems in emergency services and in hospitals and doctors hurry to discharge them in order to “free beds”.

Non-demographic expenditure drivers

Economic analyses undertaken in New Zealand concluded that non-demographic (rather than demographic) factors dominate the expenditure growth in healthcare (Bryant and Sorenson 2006). Firstly, when a country's economy is doing well, governments may be willing to spend more on health and there is considerable pressure for the wages of health professionals to increase. Secondly, different types of new medical technology that can either help decrease or increase healthcare costs. They can decrease healthcare costs when they provide more effective screening, diagnosis and treatment of diseases; or when they help decrease disability and the need to use expensive medical treatments and pharmaceuticals. On the other hand, new medical innovation can increase healthcare costs by increasing

¹ Widespread age rationing has been reported, for example, (a) in the use of statins for the secondary prevention of coronary heart disease; (b) in the revascularization of older hospital patients with ischaemic heart disease where an age-related selection bias leads to fewer referrals for exercise tolerance testing and cardiac catheterization and angiography despite indications that such interventions are equally beneficial for them as for younger patients; (c) in the treatment of cancer; (d) in the exclusion of older people from dialysis; and (e) in the low percentage of patients over 60 years having access to renal transplantation despite the fact that such transplantation can be performed safely and successfully in patients with end-stage renal disease who are 60 years and older.

the life expectancy of people with different chronic or multiple health conditions that require long-term treatment and medication; or by propagating a more expensive technology that does not offer advantages over the less expensive existing technology (European Commission 2007). Thirdly, healthcare costs for people over 65 years increase because of the introduction of new and more expensive drugs and shifts in dosages within each therapeutic class. In Canada these shifts were found to be responsible for a 90 percent increase in per capita healthcare costs between 1985 and 1999 (Evans et al. 2001). Fourth, electronic health records and information-sharing technologies, which can greatly boost productivity, are inadequately used. There is little doubt that widespread computerization could greatly cut healthcare cost by reducing the paperwork burden of health personnel and hospitals, by heading off medication errors (and adverse drug reactions), and by reducing the costly repetition of diagnostic tests as patients change doctors (New York Times Editorial 2007). It has been calculated that potential financial benefits of the widespread adoption of electronic medical record systems could eventually save more than 80 million US dollars annually. Furthermore, health information technology that enables prevention and management of chronic disease could eventually double these savings while increasing health and other social benefits (Hillestad et al. 2005).

Conclusion

In conclusion, it seems that attributing increasing healthcare costs to increased aging of the population is an easy scapegoat solution. Rising healthcare costs have many other significant expenditure drivers. Furthermore, healthcare costs cannot be measured only by health costs. It is necessary to examine different types of social care costs together with direct healthcare costs.

There is considerable evidence pointing to other important factors responsible for high health costs that are also responsible for older persons' relatively poor quality of healthcare. The examined evidence also suggests that the key to lowering future healthcare costs lies in the improvement of healthcare system in general and particularly the improvement of older persons' healthcare.

Despite the existence of some hard data concerning the expected reduction of healthcare costs through

the improvement of lifestyles, the improvement of healthcare system and its organization and implementation style, there are no overall economic analyses and projections taking all of these possible reductions into consideration when projecting future healthcare costs. And social costs incurred in the care of older persons are not integrated in these projections.

Of course, there are good reasons for this lack of systematic economic analysis and projections. Relevant data are not always complete or available for many countries and there are many ever-changing dynamic factors that can alter thoroughly these calculations. For instance, biotechnologies are revolutionizing the ageing experience by offering early diagnoses, new treatments such as regenerative and genetic interventions and ultimately disease prevention.

References

- Arfeux-Voucher, G., M. Dorange, I. Besson and J. Gaussens, (2006), "Recours à l'hôpital des personnes âgées prises en charge à domicile", Recherche auprès de Services d'Aide à Domicile et de Services de Soins Infirmiers à Domicile, Paris: Fondation Nationale de Gerontologie.
- Battin, M. P. (1987), "Age Rationing and the Just Distribution of Health Care: Is There a Duty to Die?", *Ethics* 97, 317–340.
- Brockmann, H. (2002), "Why Is Less Money Spent on Health Care of the Elderly Than for the Rest of the Population? Health Care Rationing in German Hospitals", *Social Science Medicine* 55, 593–608.
- Busse, R., C. Krauth and F. W. Schwartz (2002), "Use of Acute Hospital Beds Does Not Increase As the Population Ages: Results from a Seven Year Cohort Study in Germany", *Journal of Epidemiology and Community Health* 56, 289–293.
- Bryant, J. and A. Sonerson (2006), "Gauging the Cost of Aging", *Finance and Development* 43, 48–50.
- Close, J. C. T. (2001), "Interdisciplinary Practice in the Prevention of Falls – A Review of Working Models of Care," *Age and Ageing* 30-S4, 8–12.
- Cottin, Y. et al. (2004), "Specific Profile and Referral Bias of Rehabilitation Patients After an Acute Coronary Syndrome", *Journal of Cardiopulmonary Rehabilitation* 24, 38–44.
- Dixon, T., M. Shaw, S. Frankel and S. Ebrahim (2004), "Hospital Admissions, Age, and Death: Retrospective Cohort Study", *British Medical Journal* 328, 1288–1290.
- Doucet, H. (2002), "Personnes âgées et soins de santé", *Gerontologie et Société* 101, 47–48.
- Evans, R. G., K. M. McGrail, S. G. Morgan, M. L. Barer and C. Hertzman (2001), *APOCALYPSE NO: Population Aging and the Future of Health Care Systems*, SEDAP Research Paper 59, McMaster University, Hamilton, Ontario.
- Gabriele, S. et al. (2006), *Demographic Factors and Health Expenditure Profiles by Age: The Case of Italy*, ENEPRI Research Report 18, Brussels: European Network of Economic Policy Research Institutes.
- Godfrey, C., S. Parrott, T. Coleman and E. Pound (2005), "The Cost-Effectiveness of the English Smoking Treatment Services: Evidence from Practice", *Addiction* 100, 70–83.
- European Commission (2007), *Healthy Ageing: Keystone for a Sustainable Europe. EU Health Policy in the Context of Demographic*

- Change, Draft Working Paper of the DG SANCO, DG ECFIN and DG EMPL, Brussels.
- Hillestad, R., J. Bigelow, A. Bower, F. Girosi, R. Meili, R. Scoville and R. Taylor (2005), "Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings and Costs", *Health Affairs* 24, 1104–1117.
- Holmerova, I. (2004), *EUROFAMCARE, Services for Supporting Family Carers of Elderly People in Europe: Characteristics, Coverage and Usage*, National Background Report for the Czech Republic, Prague.
- Jacobzone, S. (2002), "Healthy Ageing and the Challenges of the New Technologies. Can OECD and Health-Care Systems Provide for the Future"? in: OECD (ed.), *Biotechnology and Health Ageing. Policy Implications of New Research*, Paris, 37–54.
- Jensen, J., L. Lundin-Olsson, L. Nyberg and Y. Gustafson (2002), "Fall and Injury Prevention in Older People Living in Residential Care Facilities: A Cluster Randomized Trial", *American College of Physicians* 136, 733–741.
- Killner, J. F. (1988), "Selecting Patients When Resources Are Limited: A Study of US Medical Directors of Kidney Analysis and Transplantation Facilities", *American Journal of Public Health* 78, 144–147.
- Liddle, R. and F. Lerais (2007), *Europe's Social Reality*, Consultation Paper from the Bureau of European Policy Advisers, available from http://ec.europa.eu/citizens_agenda/social_reality_stocktaking/docs/background_document_en.pdf.
- Murphy, N. F., C. R. Simpson, K. McIntyre, F. A. McAlister, J. Chalmers and J. J. V. McMurray (2006), "Prevalence, Incidence, Primary Care Burden and Medical Treatment of Angina in Scotland: Age, Sex and Socioeconomic Disparities: A Population-Based Study", *Heart* 92, 1047–1054.
- New York Times Editorial (2007), "The High Cost of Health Care", November 25.
- Phillips, C. O., S. M. Wright, D. E. Kern, R. S. Singa, S. Shepperd, H. R. Rubin (2004), "Comprehensive Discharge Planning with Postdischarge Support for Older Patients with Congestive Heart Failure", *Journal of American Medical Association* 291, 1358–1367.
- Pirmohamed, M., S. James, S. Meakin, C. Green, A. K. Scott, T. J. Walley, K. Farrar, B. K. Park and A. M. Breckenridge (2004), "Adverse Drug Reactions As Cause of Admission to Hospital: Prospective Analysis of 18 820 Patients", *British Medical Journal* 329, 15–19.
- Polder, J. J., L. Bonneux, W. J. Meerdink, P. J. Van der Maas (2002), "Age-Specific Increases in Health Care Costs", *European Journal of Public Health* 12, 57–62.
- Robinson, J. (2002), *Age Equality in Health and Social Care*, Paper Presented to the IPPR Seminar, at the King's Fund, UK, available from www.ippr.org.uk/uploadedFiles/projects/Robinson%20Final%20Paper.doc.
- Rothenberg, L. S. (2005), "Withholding and Withdrawing Dialysis from Elderly ESRD Patients: Part 2 – Ethical and Policy Issues", *Geriatric Nephrology and Urology* 3, 23–41.
- Rothschild, J. M., D. W. Bates and L. L. Leape (2000), "Preventable Medical Injuries in Older Patients", *Archives of Internal Medicine* 160, 2717–2728.
- Routledge, P. A., M. S. O' Mahoney and K. W. Woodhouse (2003), "Adverse Drug Reactions in Elderly Patients", *British Journal of Clinical Pharmacology* 57, 121–126.
- Ryden-Bergsten, T. and F. Andersson (1999), "The Health Care Costs of Heart Failure in Sweden", *Journal of Internal Medicine* 246, 275–284.
- Safliou-Rothschild, C. (2007), *Age Barriers to the Access to Health Care*, Review of the Literature Prepared for the Healthy European Ageing Advocacy Forum, mimeo.
- Suffham, P., S. Chaplin and R. Legood (2003), "Incidence and Costs of Unintentional Falls in Older People in the United Kingdom", *Journal of Epidemiological and Community Health* 57, 740–744.
- Seshamani, M. and A. Gray (2002), "Ageing and Health-care Expenditure: The Red Herring Argument Revisited", *Health Economics* 13, 303–314.
- Shah, R. R. (2004), "Drug Development and Use in the Elderly: Search for the Right Dose and Dosing Regimen", *British Journal of Clinical Pharmacology* 58, 452–469.
- Sturm, R. (2002), "The Effects of Obesity, Smoking, and Drinking on Medical Problems and Costs", *Health Affairs* 21, 245–253.
- Suhrcke, M., M. McKee, D. Stuckler, R. S. Arce, S. Tsoлова and J. Mortensen (2006), "The Contribution of Health to the Economy in the European Union", *Public Health* 120, 994–1001.
- Thompson, J. W. (2008), *Health Care Plan Cost Variation by Obesity Classification and Age Group*, Presentation at Academy Health ARM 2008: Costs and Consequences of Adult Obesity, Little Rock, AR, June 10.
- Yang, Z., E. C. Norton and S. C. Stearns (2003), "Longevity and Health Care Expenditures", *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 58, 2–10.
- Zweifel, P., S. Feider and M. Meiers (1999), "Ageing of Population and Health Care Expenditure: A Red Herring?" *Health Economics* 8, 485–496.
- Wanless, D. (2002), *Sharing Our Future Health: Taking a Long-Term View*, Final Report, London: HM Treasury.
- Welte, R., H.-H. König and R. Leidl (2000), "The Costs of Health Damage and Productivity Losses Attributable to Cigarette Smoking in Germany", *European Journal of Public Health* 10, 31–38.
- Williams A (1997), "Intergenerational Equity: An Exploration of the 'Fair Innings' Argument", *Health Economics* 6, 117–132.