

## Chapter 1

# How Much is Too Much? Value for Money in Health Spending

*This chapter starts with a look at recent trends – focusing on the last decade and a half – in health spending and its components. The main drivers behind health expenditure growth are then discussed and, on the basis of this, possible future spending pressure. The chapter then presents a brief assessment of the current macroeconomic situation facing OECD countries, drawing on the latest projections of countries' fiscal positions and concludes with a discussion of recent evidence on the degree of system inefficiency, suggesting that there is scope for addressing sustainability, financial or economic, by improving the efficiency of resource use to that of the best performers.*

## 1. Introduction

OECD countries have made tremendous strides in improving population health over recent decades. Life expectancy at birth has increased, rising on average by ten years between 1960 and 2008. Gains at older ages have been even more dramatic. Today, a woman aged 65 can expect to live a further 20 years, and a man an additional 17 years. Although socio-economic inequalities in health status and access to care remain, reductions in child mortality and gains in population health have continued to improve at a steady pace over the past few decades (OECD, 2009a). Levels of morbidity have fallen and infant mortality is now five times lower today than it was in 1960.

Part of these achievements can be put down to increased incomes and higher levels of education. But a good portion has originated in the improvements in health care itself. Technological change has brought better treatments and benefitted a wider section of the population. For example, improvements in anaesthesia combined with non-invasive surgery have meant that a greater number of older patients can be operated with less pain and faster recovery than before. Even in the past few years, huge improvements have been made in the treatment of stroke and other heart diseases, reducing mortality rates from these diseases dramatically. Public health has also improved with higher levels of immunisation which has limited the spread of communicable disease.

Health systems have also evolved such that almost all countries have some form of public or private insurance covering the risk of ill health and high medical costs and access to quality health care has also improved. Less developed OECD countries have progressed in this area: Mexico and Turkey have increased insurance cover for the poorest groups of the population. The historic health reforms in the United States pave the way towards mandated health insurance for a wider share of the population. Improvements in medical-practice standards have been accompanied by efforts to reduce the provision of inappropriate services and address shortcomings in the quality of care.

OECD health systems are more effective, provide higher quality care, and have given access to health care to a larger share of the population than ever before. However, these achievements have not come cheaply. Countries have confronted steady increases in the cost of health care spending over recent decades. Total health expenditure has now reached 9% of GDP for the average OECD country with seven countries having a ratio of over 10% (the United States, France, Switzerland, Austria, Germany, Canada and Belgium), compared with only three countries a half decade before. How much and what they consume in terms of health care, as well as the rate of growth of health spending, varies enormously between countries as do the health outcomes.

Looking to the future, OECD countries will continue to face upward pressures on health spending from a number of factors including demographic change, advances in medical care technology and the growing expectations from patients and the electorate at large. Since the public purse finances the vast majority of health-related spending in most

countries, these increasing demands for health services need to be seen in the current context of increasingly constrained public finances.

This, then, is the challenge for health systems. When those who pay for health look at what they get for their money, can they be sure that they are getting value for their money?

Talking of “value for money” in health expenditure is sometimes taken as a coded way of talking about “cuts” in spending. This is not what is meant in this publication. It is rather used in the sense of whether the benefits of spending exceed the costs. Increased value for money can come from reduced spending, it is true, but it can come equally from delivering more of the things that we value in our health systems.

There are as many different frameworks for looking at the benefits or objectives of the health system as there are analysts looking at the topic,<sup>1</sup> but they are all in reality very similar. The OECD analyses health care systems on the basis of four main pillars or objectives:

- The *first pillar* is whether health care systems provide widespread access to health care services and adequate insurance against the cost of care for the population at large in an equitable manner.
- The *second pillar* relates to whether the care provided is of high quality and whether health care providers are responsive to patient/consumer needs.
- The *third pillar* considers whether the cost of the health care system can be sustained over the longer haul given political constraints and choices imposed by the total government financial resources and the other calls on the public purse such as education.
- The *fourth pillar* is whether care is provided in an efficient and effective manner.

The first two objectives concern how well health care systems are performing in terms of health care supply and whether the provision of care services are of high quality and adapted to patient needs. The third and fourth criteria consider whether resources are adequate and being put to good use.

Furthermore, though not included in most listings of the objectives of the health system, it is also true that health is a significant sector of the economy, and is one that is usually under some form of public control. This means that the health system can sometimes be used by governments as an instrument in wider economic policies. For example, in the recent recession, spending on health has acted as an automatic stabiliser to the economy, and has been a source of jobs growth when most other sectors have been in decline.

The emphasis placed on health policy goals by individual governments can of course vary in importance both over time and between countries for very good reasons. Countries may legitimately have different priorities, reflecting their own societal preferences and needs. Priorities may also change over time to respond to different economic circumstances, health care needs, population expectations and advances in medicine. Indeed, the strengthening of health systems through net increases in spending to benefit from the opportunities brought by new technology and to tackle continuing unmet needs, while at the same time seeking efficiency improvements, may be seen as an optimal dual approach.

Nonetheless, wide differences remain across countries in both the level of resources allocated to health and in the efficiency and effectiveness with which they are used. There are wide differences in health outcomes which appear little related to the level of resources channelled into health care. Some countries probably are getting more “value for money” from their health spending than others. In theory, spending money more wisely rather

than seeking to spend more overall would be the appropriate policy response for those countries with low-performing health systems. But it is extremely hard to identify in just what ways a country is spending inefficiently. Health systems are complex, there are multiple objectives, and often information is inadequate.

If reallocating resources from low-performing sectors of the health system is hard, then to meet new demands for health care will require new resources. But how should policy makers decide whether such spending is justified? Judging how much public resources should be spent on health care at a given point in time can depend on two different measures of “sustainability” (Thomson *et al.*, 2009):

- On the one hand, so long as the value produced by health care exceeds its opportunity cost, that is the value that would have been gained by spending on other areas, then growth in health spending can be said to be *economically sustainable*. Once this cost becomes too high, and better gains would be achieved by spending elsewhere (either in the private sector or for other components of public spending), then health spending becomes economically unsustainable.
- *Financial sustainability*, on the other hand, becomes a problem when governments are unable to finance the existing level of resources because of an inability or unwillingness to generate sufficient revenues to pay for them, and when they cannot – or will not – allow any further “crowding out” of other forms of government spending.

It follows that it is possible for health spending growth to be economically sustainable, and yet not financially sustainable. However, it is necessary to acknowledge that in some countries, achieving “value for money” is not enough to ensure the sustainability of the system. When fiscal constraints are binding, health systems either have to find new sources of finance – most of which have their own drawbacks – or else health spending which produces benefits greater than their costs will have to be deferred. Some of the problems currently facing countries are not because the health system is not spending money wisely, but rather that they simply cannot raise enough money because of the economic conditions. Many OECD countries may now find themselves in this situation.

This report does *not* attempt to cover all the issues that might be relevant in achieving a high-performing health system. It does not consider the different forms of financing health, or the appropriate role of competition in health system delivery, for example, in detail. Rather, it looks at the most promising policy initiatives that countries are taking in order to increase “value for money”.

This introductory chapter starts with a look at recent trends – focusing on the last decade and a half – in health spending and its components. This discussion looks behind the OECD average to try and tease out some common characteristics among groups of countries. The main drivers behind health expenditure growth are then discussed and, on the basis of this, possible future spending pressure. The chapter then presents a brief assessment of the current macroeconomic situation facing OECD countries, drawing on the latest projections of countries’ fiscal positions and concludes with a discussion of recent evidence on the degree of system inefficiency, suggesting that there is scope for addressing sustainability, financial or economic, by improving the efficiency of resource use to that of the best performers.

Chapter 2 looks at the range of policy options and policy instruments which might affect health care costs, health care benefits and/or the relationship between the two, including both those designed to have short run effects and those that aim to change the

longer run path of spending through changes in the way health care systems are organised and governed.

The remainder of the report looks in detail at which initiatives can deliver the same care with reduced costs, or else produce more access to high quality health care services at a reasonable cost, including:

- The role of systematic, rational decision making in deciding the benefit package, paying for new technologies and applying evidence-based medicine (Chapter 3).
- The role of “pay for performance”, to reward providers who increase value for money by providing better quality care and analyses (Chapter 4).
- Efforts to increase value for money in health spending by reducing the demand for care through better co-ordination by health providers (Chapter 5).
- Policies that can be used to draw all the benefits from pharmaceutical spending (Chapter 6).
- Evidence on whether greater investment in health ICTs could increase access, reduce costs and increase quality of health care (Chapter 7).

## 2. Health care spending: developments over recent decades

### **The growth of total health care spending**

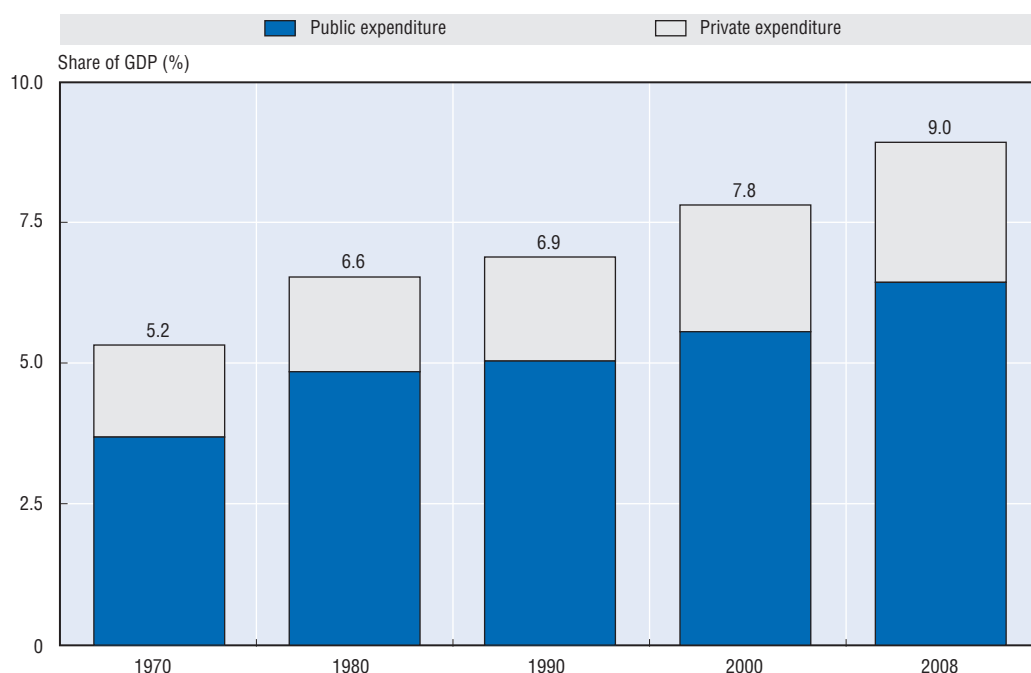
As noted in the preceding section, health spending has seen a near relentless rise over recent decades and had reached 9% of GDP by 2008 (Figure 1.1). Looking over the preceding 15 years, real per capita health spending grew at an annual growth rate of 3.9% for the OECD average (Figure 1.2). This compares with annual growth in GDP of around 2.6%. While the average rate of economic growth remained relatively stable throughout the period, growth in health spending has been more variable (Figure 1.3). During the mid-1990s, governments in some OECD countries applied cost-containment measures in response to the acceleration in the rate of growth of health spending experienced at the beginning of the decade. This resulted in health spending growth that was broadly comparable to average GDP growth (Huber and Orosz, 2003). However this slowing proved only temporary. Health spending began to rise rapidly again towards the end of the decade, reflecting deliberate policies in a number of OECD countries to relieve the pressures arising from the previous restrictive measures (*e.g.* in Canada, the United Kingdom and Ireland). The tighter budgetary controls adopted in these countries had constrained both the capacity for care and the level of activity. In the United States, a backlash against some of the more restrictive forms of managed care in the 1990s led to some easing and a rapid increase in costs at the same time (Colombo and Morgan, 2006).

### **Considerable country diversity**

OECD countries vary enormously in how much they spend on health and the rate at which health spending grows. Developments in the share of health care spending in GDP depend on the growth rate of GDP as well as the growth rate of health care spending itself (Figure 1.4). The combined effect indicates that there has been a degree of convergence among OECD countries in the ratio of health care expenditure to GDP. Some clustering of OECD countries based on their economic and several health spending growth patterns over the period may be observed:

- A number of high income countries such as Canada and some Scandinavian countries saw stable economic growth above 2% per year, but the growth in the predominantly

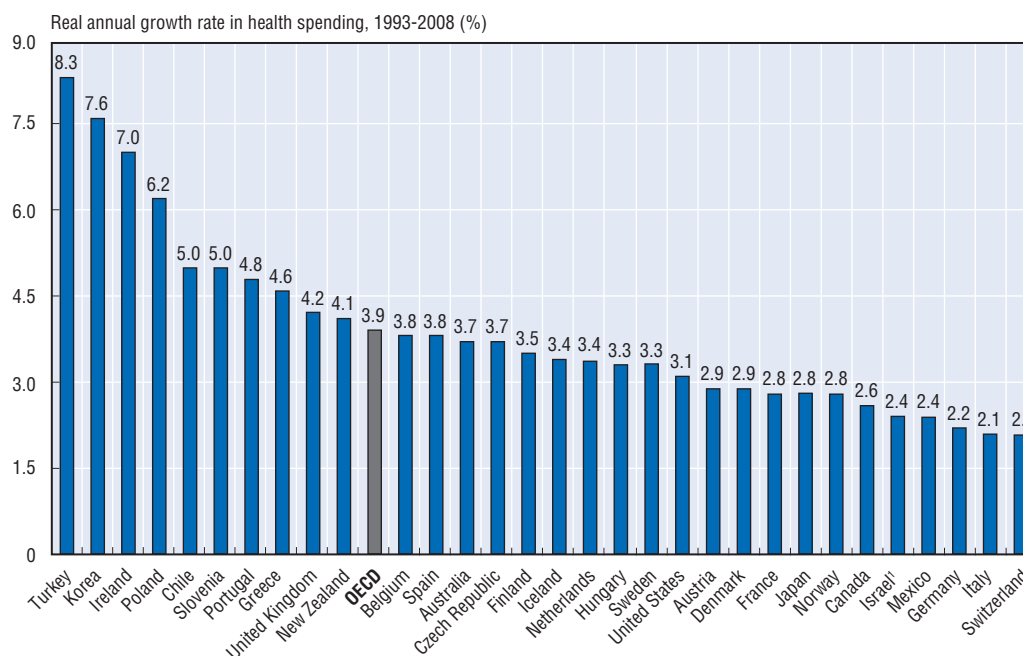
Figure 1.1. Average health spending as a share of gross domestic product (GDP) across OECD countries



Source: OECD (2010a).

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Figure 1.2. Annual growth in per capita health expenditure, 1993 to 2008

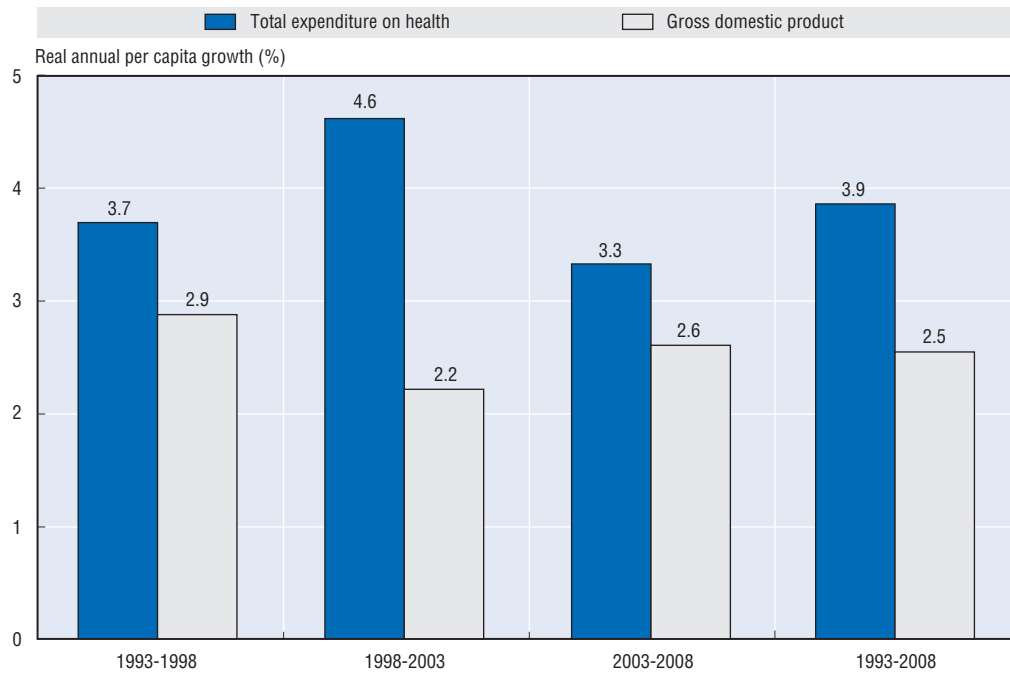


1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010a).

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Figure 1.3. **Growth in total health expenditure and GDP in OECD countries, 1993 to 2008**



Source: OECD (2010a).

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Figure 1.4. **Annual growth in total health spending and GDP, 1993 to 2008**



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010a).

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public-funded health systems was kept in check. In the case of Canada and Finland, spending constraints by provincial and municipal governments respectively were linked to the recessions of the early 1990s to address the growing public deficits. However, since the late 1990s, spending on health has been well above that of GDP in both of these countries.

- The United Kingdom and Australia – both with moderate to strong economic growth over the period – saw health spending growth generally outpacing that of the economy. The pressure for cost containment may have been less severe and in the case of the United Kingdom, additional public resources allocated to health became a deliberate policy towards the end of the 1990s.
- Low economic growth in Germany and Italy may have contributed to the constraining of health spending and therefore limited any significant increases in the health spending to GDP ratio. Per capita health spending increased, in real terms, by 2% per year on average in both countries. On the other hand, other countries experiencing low economic growth, such as Japan, France and Belgium still saw overall health spending growth greatly exceed that of GDP resulting in an increasing health to GDP ratio.
- Among some of the lower income countries of the OECD, relatively strong long-term economic growth was more than matched by considerable increases in spending on health. This was the case in Ireland, Korea, Poland and Turkey. Other countries such as the Czech Republic and Slovenia also experienced relatively high economic growth, but – contrary to the above – health spending growth, although high, did not significantly outpace that of the overall economy resulting in only moderate increases in the health to GDP ratio. In the case of Hungary, there was in fact a fall in the health spending to GDP ratio over the period.
- Finally, countries such as Portugal (and to a lesser extent Mexico) experienced relatively high growth in health spending, although economic development remained low. While their relative economic position (in terms of GDP per capita compared with the rest of the OECD) did not improve or indeed weakened, the resources devoted to the health care system improved considerably.

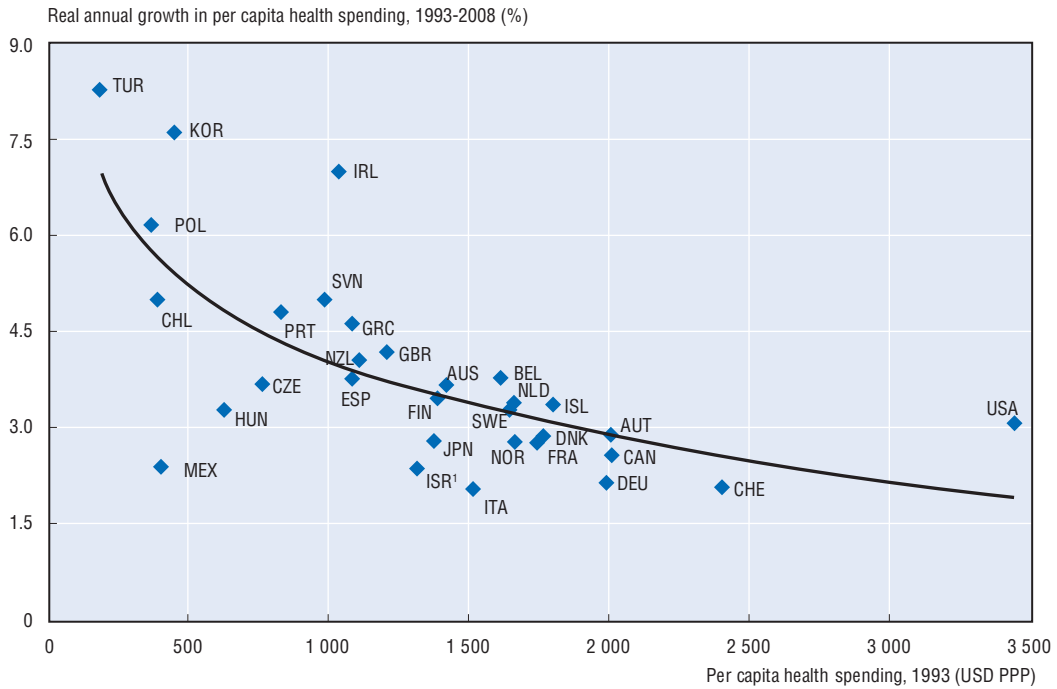
### **Spending over time and catch-up**

Focussing on growth of per capita health care spending, the very different patterns between OECD countries described above have come as a result of various economic and policy developments. Several mainly lower-income OECD countries made deliberate policy choices to finance expansions and improvements in health systems to bring their health systems up to OECD standards of care and access. Korea and Turkey, for example, saw significant reforms to increase the health care coverage of the population. There were also rapid increases in health spending in some of the eastern European countries.

Other, mostly higher-income, countries have aimed to – and been successful in – controlling costs. Real annual growth in per capita health spending varied from around 2% in Italy, Germany and Switzerland compared with well above 6% per year in Ireland, Korea and Turkey (Figure 1.5). This had led to some “catching up” or convergence across countries in the amount now spent on health.



Figure 1.5. Per capita total spending on health in 1993 and annual growth in spending, 1993 to 2008



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010a).


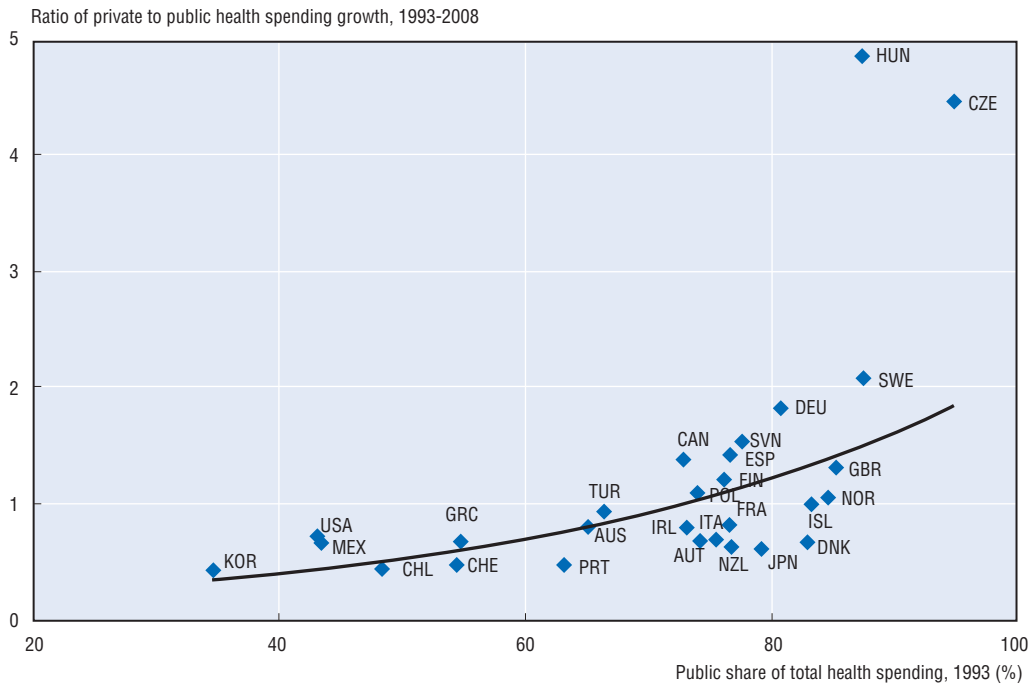
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Figure 1.6. Ratio of private to public health spending growth, 1993 to 2008



Source: OECD (2010a).

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The public share of total health spending has remained relatively stable on average across OECD countries since the early 1990s. Nonetheless, there has also been a degree of narrowing between countries in the relative importance of public and private financing of health care (Figure 1.6). That is, those countries that had a relatively high public share of health expenditure, and often more limited private insurance markets or cost-sharing arrangements (such as in the Czech Republic, Poland and Hungary) at the beginning of the 1990s, saw more rapid growth in private expenditure subsequently. In contrast, countries with a relatively low share of public health expenditure in the early 1990s tended to see public spending on health as the main driver of overall growth in health spending. This, for example, was the case in Korea, Portugal and Ireland, where, as we have seen, there were deliberate policies to widen coverage or to invest heavily in health systems.<sup>2</sup>

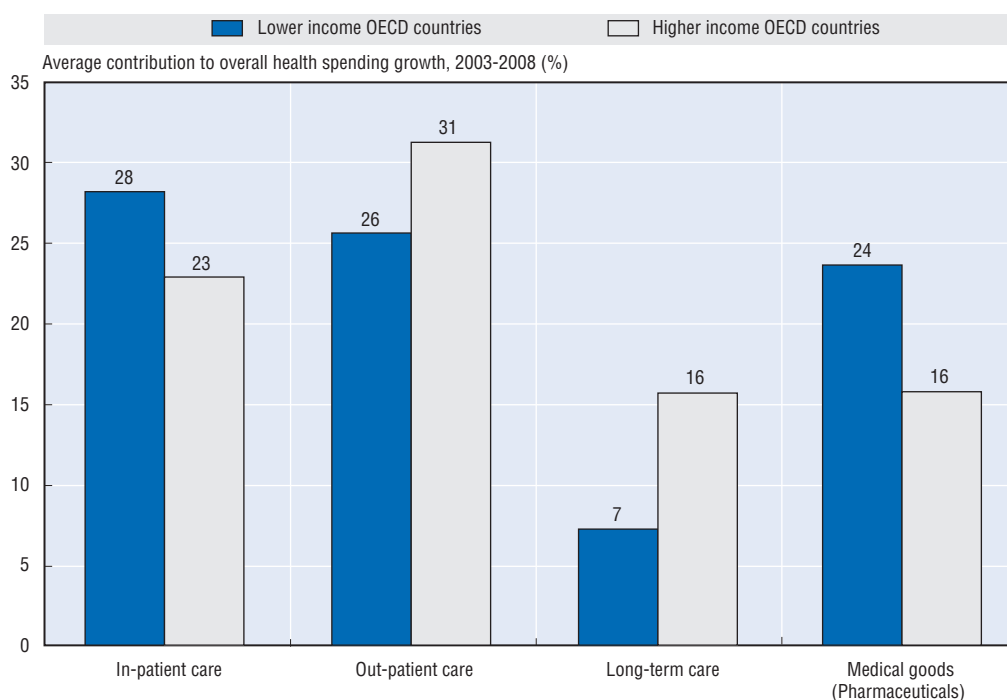
### 3. Spending by type of health care services

The allocation of health spending across the different types of health services and goods can be influenced by a wide range of factors, from the supply of resources and access to new or high-cost technology, to the financial and institutional arrangements for health care delivery, as well as clinical guidelines and the disease burden within a country. OECD data are able to break down spending into components of individual health care (in-patient, out-patient, pharmaceuticals, etc.) as well as those services benefiting the all or parts of the community, such as public health and administration of health care.

In-patient care (*i.e.* predominantly provided in hospitals) and ambulatory care together account for around 60% of health spending.<sup>3</sup> With in-patient care highly labour intensive and, therefore, expensive, high income countries with developed health systems have sought to reduce the share of spending in hospitals by shifting to more day surgery, out-patient or home-based care. Such services are an important innovation in health care delivery, often being preferred, when possible, by patients to staying overnight in a hospital. In the United States, elective interventions on a same day basis accounted for a quarter of the growth in US health spending between 2003 and 2006, compared with just 4% of the growth in Canadian spending.<sup>4</sup> Estimates of spending on same-day surgery performed by independent physicians for 2003 and 2006 suggest that this has been the fastest growing area of health care over this period (McKinsey Global Institute, 2008). In France, spending on day care now accounts for around 11% of curative care spending. By contrast, Germany, where day surgery in public hospitals was prohibited until the late 1990s (Castoro *et al.*, 2007), reported only 2% of curative care expenditure as services of day care.<sup>5</sup> More generally, lower income countries seeking to invest in and expand their health systems have generally seen the growth in hospital in-patient care outpace other areas of spending such that it has been the main contributor to overall health expenditure growth (Figure 1.7).

Spending on long-term care has increased significantly across OECD countries, as the demand for care from ageing societies rises. Expenditure on long-term care, either in institutions or in a home-based setting now accounts for more than 12% of total health spending on average, and considerably more in countries where there is already a sizeable elderly population. Both Germany and Japan, with more than 20% of the population over 65 by 2008, extended their range of social insurance schemes to cover the costs of long-term care, in 1995/96 and 2000 respectively.

Figure 1.7. **Contribution to health spending growth by main functions of health care, 2003 to 2008**



Source: OECD (2010a).

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In conclusion, OECD policy makers continue to be faced with unrelenting upward pressures in health care spending; population ageing, income growth and technological change will contribute to a continuation over coming decades. Nonetheless, large public sector deficits and rapidly rising public debt burdens suggest that governments may be less willing in the future to finance further increases in the supply of health care services. Health care may face cuts in financing in the same way as other areas of government responsibility. Looking beyond the economic cycle, recent OECD research suggests that there remain significant productivity reserves that many countries can draw on to mitigate future pressures. This raises the broader question of policies to slow the growth of health care spending, issues that are addressed in Chapter 2.

Spending on medical goods, being primarily pharmaceuticals, has also been rising rapidly across most OECD countries, consuming an increasing share of overall health expenditure. Since 1993, growth in pharmaceutical spending has averaged close to 4.5%, compared with the 3.9% annual rise in total health spending. By 2008, pharmaceuticals accounted for around 17% of total health spending or 1.5% of GDP. Since medical goods consume, on average, a smaller share of health spending, compared with in-patient and ambulatory care, their contribution to overall growth in health care spending has been smaller, typically accounting for about one fifth of overall health spending growth.

Again, there is much variation across countries. Although the growth in pharmaceutical spending tends to be relatively high in the lower income countries, the growth tends to be below that of in-patient and ambulatory care and therefore the share of pharmaceuticals in overall health spending has declined. In some high spending countries

such as Canada, for example, medical goods have been the main driver of increasing health expenditure, contributing almost one-third of overall growth. The United States, Austria and France have also seen relatively high growth in pharmaceutical spending. This contrasts to Japan and Germany, where tighter price regulation or moves to promote more generic prescribing took greater effect.

#### 4. The drivers of health care spending

A number of studies have attempted to identify the drivers of health spending growth and quantify their respective impact (Newhouse, 1992; OECD, 2006; Dormont *et al.*, 2006; Smith *et al.*, 2009).<sup>6</sup> Among these determinants, ageing of the population, rising national income, relative medical prices and technological progress have been given particular attention. The roles of medical supply and “defensive medicine” were also considered, especially in the United States, but found to be negligible. Most studies have used a growth accounting framework (see Denison, 1962). Within this broad framework, Newhouse (1992) estimates the contribution of known factors to health spending growth (1940-90) and assumes that most of the unexplained residual is attributable to changes in health technology. A more recent review of the earlier estimates using more recent data by Newhouse and colleagues (Smith *et al.*, 2009) indicates that between one quarter and one half of the increase in health care spending could be attributed to technology.

According to the literature, the contribution of ageing to past health spending growth appears modest. It ranges from 6.5% to 9% of the increase in total health care spending over the period 1960 to 1990 but the results depend on estimation strategy, type of data, country and period considered (OECD, 2006; Dormont *et al.*, 2006; Smith *et al.*, 2009).<sup>7</sup> Income changes are credited with having a higher contribution to health spending growth in all studies, ranging from 28% to 58%, depending on data and hypotheses on income elasticity of health expenditures (generally assessed as being between 0.6 and 1.0<sup>8</sup>).

Medical price inflation is not always included in models because of measurement problems. But Smith *et al.* (2009) estimate a contribution of medical prices to spending growth to range between 5-18% on the basis of two alternative assumptions about productivity gains in medical care. The contribution of technological progress is often measured as the residual when respective contributions of other factors have been estimated. Initial estimates by Newhouse (1992) attributed 50 to 75% of health expenditure growth to changes in technology. More recent estimates on US data over 1960-2007 range from 27.4 to 48.3% according to alternative working hypotheses (Smith *et al.*, 2009). Dormont *et al.* (2006), working on microdata, showed that “changes in medical practice” – for a given level of morbidity – explained about a quarter of health spending growth in France between 1992 and 2000.

Changing epidemiological patterns has also been put forward as a possible contributor to rising health spending. Prevention of infectious diseases together with the possibilities of long-term treatment of previously untreatable or badly treatable conditions has meant that chronic illnesses account for an increasing share of health spending. However, when controlling for the demographic effects and the quantity of services brought about through technology and treatment practice, the effect overall is thought to be minimal. Indeed, projections of health care spending in Australia between 2003 and 2033 showed that expected age standardised disease rate change actually had a favourable effect in disease areas such as cardiovascular disease and cancer, offset by dramatic increases in diabetes (AIHW, 2008).

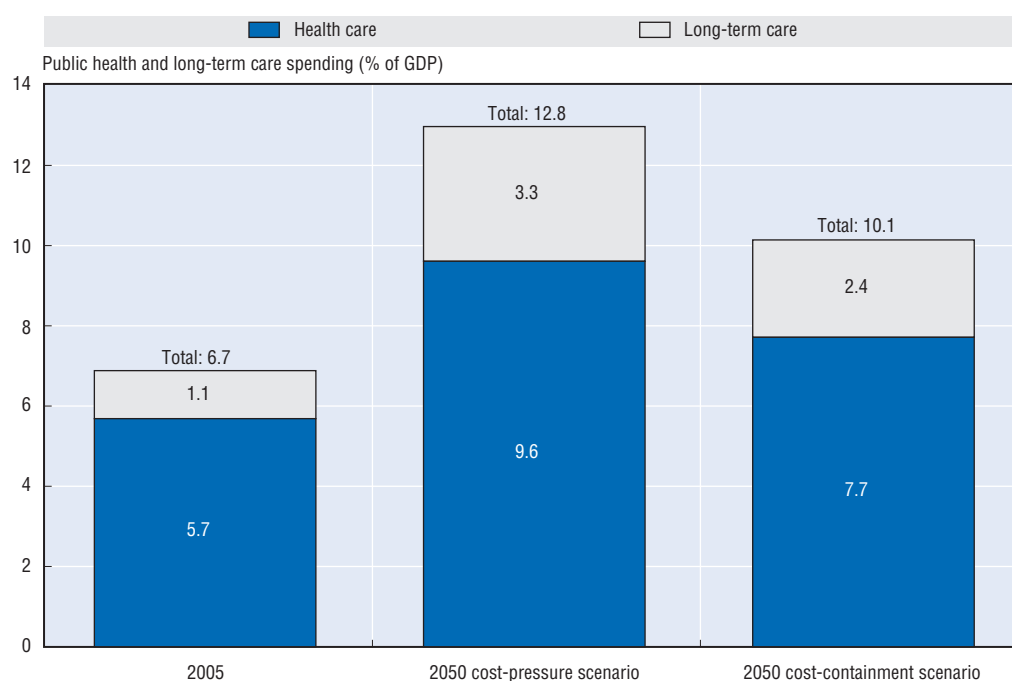
## 5. Will financial sustainability be a problem in the future?

Public spending on health and long-term care amounted to, on average, some 7% of GDP in 2007. As described above, it is not always enough to show that health spending gives good value for money by delivering greater benefits than costs. If the fiscal situation is such that it simply is not possible to raise sufficient funds to cover the spending, socially desirable expenditures will have to be reduced. This section considers the long-term projections in public spending, with the subsequent section considering the extent to which current fiscal circumstances are putting more countries in this unfortunate position.


Most recent OECD projections provide some indication of likely trends for health and long-term care. Projections are made for both of these components apart since the factors driving the two components are somewhat different. The results suggest that public expenditure on health and long-term care could rise to almost double current levels – from close to 7% of GDP in 2005 to some 13% by 2050 – assuming that growth in the *residual*, which are often referred to as technological change,<sup>9</sup> remains unchanged throughout the period (Figure 1.8). Alternatively, if governments were successful in reducing the size of the “residual” by half over the projection period, public health and long-term care spending would still increase by 3.5 percentage points of GDP to reach around 10% of GDP.

As discussed above, these increases come from several sources. As regards the changing age structure of the population, a rising share of older age groups in the population will put upward pressure on costs because health costs rise with age. However, the average cost per individual in older age groups should fall over time for two reasons. First, the projections assume lengthening of lifetimes, thereby putting off the high costs in

Figure 1.8. **Projections of public health and long-term care spending, 2005-50**



Source: OECD (2006).

StatLink  <http://dx.doi.org/10.1787/888932319231>

the period just prior to death into the future; and second, the effect of population ageing is also reduced because it is assumed that the longer life spans will be healthy ones.

Ageing-related effects are stronger for long-term care. Dependency on long-term care will tend to rise as the share of old people in the population increase. This effect is mitigated somewhat by the likelihood that the share of dependents per older age group will fall as longevity increases due to the assumption of “healthy ageing”. Additional effects coming from non-demographic factors: expenditures are likely to be pushed up by a possible “cost disease” effect, i.e. the relative price of long-term care increasing in line with average productivity growth in the economy because the scope for productivity gains in long-term care is more limited.

These average results hide striking differences across countries. In the cost-containment scenario, a group of countries stands out with increases of health and long-term care spending at or above 4 percentage points of GDP, over the period 2005-50. It includes rapidly ageing countries (Italy, Japan, Spain), countries that will experience a dramatic change in their population structure (Korea, Mexico, Slovak Republic), and countries with currently low labour participation, which may face a substantial increase in the demand for *formal* long-term care (Italy, Ireland, Spain). In contrast, Sweden which is in a mature phase of its ageing process and already spends a relatively high share of GDP on health and long-term care, is in the lowest range with an increase below 2 percentage points of GDP.

Despite uncertainties, sensitivity analysis suggests the results are fairly robust in some key respects. For example, under the assumption of “healthy ageing”, changes in longevity will have only a modest effect on spending. However, the projections for spending on long-term care are sensitive to the future development of labour market participation for the working-age population as higher participation reduces the capacity for “informal” care. An alternative scenario, where participation rates in countries where they are currently low converge towards levels in high-participation countries, has spending on long-term care rising by an additional 1-2% of GDP on average, but much more in some countries.

It is of interest to compare and contrast the results of this exercise with the many national long-term projections of public spending.<sup>10</sup> Table 1.1 provides the results from recent national projections together with the results from the OECD study for a selection of OECD countries. As with the OECD exercise, most of the models provide various scenarios under different sets of assumptions. The projections contained in the table are principally the base scenario, although, for example, Germany provides two forecasts based on relatively favourable and unfavourable conditions with regard to sustainability. It should also be noted that the aggregates of health and long-term care may differ from the OECD study in their definition and starting point, and thus may not be directly comparable. The national projections of spending can take into account differing assumptions of demographic, labour force and productivity changes as well as different health and policy scenarios.

The national results emphasise the range of long-term projections with increases in the health to GDP share of 2 percentage points or less in countries such as Germany, Italy, Korea, Switzerland and the United Kingdom compared to significantly higher increases in projections by France and the Netherlands. For the majority of countries, the projections appear not too dissimilar to the projection range from the OECD study.

Table 1.1. OECD and selected national projections of public health and long-term care spending, 2005 to 2050

|                | National projections                    |                       |                |                                |                 |                                 | 2006 OECD Study |                      |   |
|----------------|---|-----------------------|----------------|--------------------------------|-----------------|---------------------------------|-----------------|----------------------|---|
|                | Source                                  | Sector                | Reference year | Share of GDP in reference year | Projection year | Share of GDP in projection year | Sector          | Share of GDP in 2005 | Projected share of GDP in 2050 <sup>1</sup> |
| Australia      | Treasurer of Commonwealth of Australia  | Public health         | 2009-10        | 4.0%                           | 2049-50         | 7.1%                            | Public health   | 5.6%                 | 7.9% / 9.7%                                 |
|                |   | Public all aged care  |                | 0.8%                           |                 | 1.8%                            | Public LTC      | 0.9%                 | 2.0% / 2.9%                                 |
| Belgium        | Conseil Supérieur des Finances – CEV    | Public health         | 2008           | 6.1%                           | 2050            | 8.6%                            | Public health   | 5.7%                 | 7.2% / 9.0%                                 |
|                |   | Public LTC            |                | 1.2%                           |                 | 2.5%                            | Public LTC      | 1.5%                 | 2.6% / 3.4%                                 |
| Canada         | Parliamentary Budget Officer            | Public health         | 2007           | 6.8%                           | 2050-51         | 10.9%                           | Public health   | 7.0%                 | 8.4% / 10.2%                                |
|                |   |                       |                |                                |                 |                                 | Public LTC      | 1.2%                 | 2.4% / 3.2%                                 |
| France         | Le Sénat                                | Total health          | 2000           | 9.3%                           | 2050            | 17.4% / 19.4%                   | Public health   | 7.0%                 | 8.7% / 10.6%                                |
|                | DREES                                   | Total health          | 2004           | 10.4%                          |                 | 14.9% / 22.3%                   | Public LTC      | 1.1%                 | 2.0% / 2.8%                                 |
| Germany        | Federal Ministry of Finance             | Statutory health ins. | 2006           | 6.3%                           | 2050            | 7.8% / 8.5%                     | Public health   | 7.8%                 | 9.6% / 11.4%                                |
|                |   | LTC insurance         |                | 0.8%                           |                 | 1.7% / 2.3%                     | Public LTC      | 1.0%                 | 2.2% / 2.9%                                 |
| Italy          | Ministero dell'Economia e Delle Finanze | Public health         | 2008           | ~ 7.0%                         | 2050            | 9.0%                            | Public health   | 6.5%                 | 7.9% / 9.7%                                 |
|                |   |                       |                |                                |                 |                                 | Public LTC      | 0.6%                 | 2.8% / 3.5%                                 |
| Japan          | MHLW                                    | Public health         | 2004           | 7.1%                           | 2025            | 11.2%                           | Public health   | 6.0%                 | 8.5% / 10.3%                                |
|                |   | Public LTC            |                | 1.4%                           |                 | 3.6%                            | Public LTC      | 0.9%                 | 2.4% / 3.1%                                 |
| Korea          | Yonsei Uni./Gachon Uni.                 | Public health         | 2005           | 3.1%                           | 2050            | 4.9%                            | Public health   | 3.0%                 | 6.0% / 7.8%                                 |
|                |   |                       |                |                                |                 |                                 | Public LTC      | 0.3%                 | 3.1% / 4.1%                                 |
| Netherlands    | Ministry of Health, Welfare and Sport   | Public health & LTC   | 2009           | 9.7%                           | 2050            | 26.1%                           | Public health   | 5.1%                 | 7.0% / 8.9%                                 |
| Switzerland    | Federal Finance Administration FFA      | Public health         | 2005           | 4.4%                           | 2050            | 5.8%                            | Public health   | 6.2%                 | 7.8% / 9.6%                                 |
|                |   | Public LTC            |                | 0.5%                           |                 | 1.4%                            | Public LTC      | 1.2%                 | 1.9% / 2.6%                                 |
| United Kingdom | HM Treasury                             | Public health         | 2009-10        | ~ 8.1%                         | 2049-2050       | ~ 10.2%                         | Public health   | 6.1%                 | 7.9% / 9.7%                                 |
|                |   | Public LTC            |                | ~ 1.3%                         |                 | ~ 2.1%                          | Public LTC      | 1.1%                 | 2.1% / 3.0%                                 |
| United States  | CBO                                     | Medicare & Medicaid   | 2009           | 5.0%                           | 2035 (2080)     | 10% (17%)                       | Public health   | 6.3                  | 7.9% / 9.7%                                 |
|                |   |                       |                |                                |                 |                                 | Public LTC      | 0.9%                 | 1.8% / 2.7%                                 |

1. Projected share of GDP under the two scenarios: “Cost-pressure” and “Cost-containment”.

Source: Australia: “Intergenerational Report. Australia to 2050: Future Challenges”, Treasurer of the Commonwealth of Australia. January 2010; Belgium: Rapport Annuel, Comité d’Étude sur le Vieillessement, Conseil Supérieur des Finances, June 2009; Canada: “Fiscal Sustainability Report”, Office of the Parliamentary Budget Officer, February 2010; France: “Les déterminants macroéconomiques des dépenses de santé : comparaison entre quelques pays”, annexe au rapport Vasselle : Rapport du Sénat sur l’assurance maladie, 2004; Germany: “Second Report on the Sustainability of Public Finances”, Federal Ministry of Finance. June 2008; Italy: “Le tendenze di medio-lungo periodo del sistema pensionistico e socio-sanitario – aggiornamento 2008”, Ministero dell’Economia e Delle Finanze – Ragioneria Generale dello Stato, 2008; Korea: “Forecasting Future Public Health Expenditures in Consideration of Population Ageing”, 2009; Japan: “Future Prospect of Social Security Expenditure and Contributions”, MHLW, May 2004; Netherlands: Ministry of Health, Welfare and Sport / Youth and Families, 2010; Switzerland: “Long-term Sustainability of Public Finances in Switzerland”, Federal Finance Administration, April 2008; United Kingdom: “Long-term Public Finance Report: An Analysis of Fiscal Sustainability”, HM Treasury, December 2009; United States: “The Long-term Budget Outlook”, Congressional Budget Office, June 2009, OECD: “Projecting OECD Health and Long-term Care Expenditures: What Are the Main Drivers?”, OECD Economics Department Working Paper No. 477, February 2006.

## 6. Is fiscal sustainability a problem now?

In determining how future government policy will likely affect public spending on health, it is important to recall the growing share of health in total government spending. In the years leading up to the current downturn, government spending as a share of GDP broadly declined, dropping from around 46% in 1995 to 41% in 2007 (see Joumard *et al.*, 2010 for further details). This can be put down to total GDP rising faster than government spending over the period rather than any contraction in total public expenditures (OECD, 2009b). In only two countries, Portugal and Korea, was there an increase in government spending as a share of GDP. Over the same period, the proportion of public spending allocated to health rose from around 12% to 16% of total government spending on average – only in Hungary did the share remain unchanged.

Within this broad context, the current economic slowdown that started in 2008 differs in nature from other recent recessions in that it has been global in both scale and timing. Almost all OECD countries have been affected. The most recent *OECD Economic Outlook* (No. 87, June 2010) recorded a decline of –3.3% in OECD GDP in 2009, with only sluggish growth forecast for most countries through 2010.

Much of the recovery from recession through 2010 has been driven by the unprecedented policy stimulus packages put in place by many OECD governments to support the fragile economies rather than any renewed underlying induced consumer demand. The result of such huge government measures together with the automatic effects of a recession – largely on revenues – has meant that the fiscal position of most OECD countries has deteriorated significantly with steep rises in government deficits in 2009. These deficits are estimated to remain close to 8% of GDP across the OECD in 2010, with only modest improvement foreseen in 2011. The ratio of gross government debt to GDP is expected to rise to 100% in 2011 for the OECD as a whole, up from just over 70% in 2007 prior to the financial crisis.

Such levels of government debt raise concerns about the budgetary environment and financial sustainability, meaning that governments will need to carefully review alternative strategies to start reducing the levels of government debt whilst not undermining the stimulus driven recovery. Therefore, in the medium term, there are likely to be increased pressures on public spending either through a mix of pushing through long-planned reforms, increased efficiency measures or indeed spending cuts.

Lessons from past recessions suggest that a prolonged period of “belt tightening” throughout the economy is likely with debt consolidation lasting some years after the onset of recession, and continuing as the economy starts to grow again (McKinsey Global Institute, 2010). Thus, the high government debt ratios of the current downturn could delay the start of deleveraging leading to a rapid rise in the share of health in GDP in the first couple of years, followed by a longer period of debt reduction.

### ***Where will pressures for restraint in health care spending likely be the strongest?***

Two sets of criteria can help identify where pressures for restraint of public health care spending are likely to be the strongest:

- First, countries with high levels of debt and/or large overall public sector deficits are likely to be more concerned about public spending and fiscal sustainability than countries with low deficits and debt-to-GDP ratios.



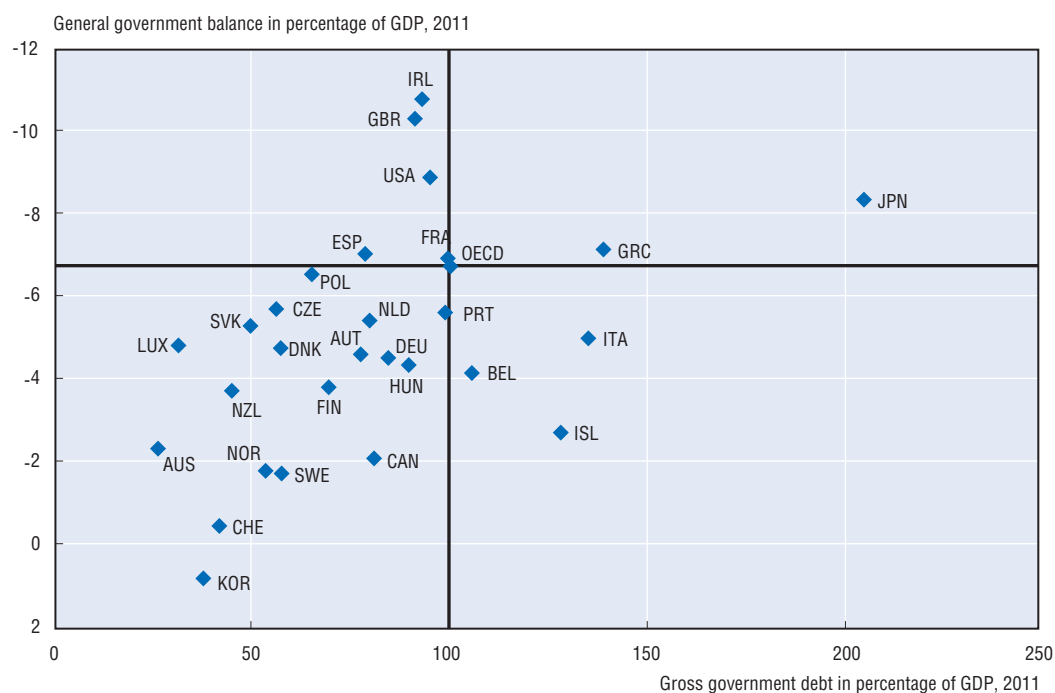
- Second, countries where spending on health care makes up a large portion of total government spending and/or where general government spending makes up a large share of GDP.

Recent events suggest that the first criteria set is probably of more immediate importance as it concerns, as mentioned, problems of fiscal sustainability. Countries with high levels of debt and large deficits (the top right hand quadrant) will face the greatest difficulty in financing increased spending (Figure 1.10).

The second set is critical in judging the scope for further increases in public health care spending on the basis of the economic sustainability criteria. Taking into account both the overall level of public spending in the economy and the share allocated to health care (on the assumption that it is harder to raise revenues in countries which already spend a lot and that health is more likely to be affected by public expenditure constraints, the greater the proportion of public expenditure which goes on health), a first approximation may be to say that countries falling in the top right part of Figure 1.10 are going to be more concerned about health expenditures than countries in the bottom left quadrant. This assertion can be modified by many other factors, including attitudes towards taxation and public spending, and the political priority that health has in public policy.

Countries with particularly weak fiscal conditions (i.e. above the OECD average) (see Figure 1.9) are the United Kingdom, Ireland, the United States, Greece, France and Japan, and to a lesser degree Portugal, Italy and Spain. Countries where public health care spending makes up a large share of GDP (that is, above average public spending as a share of GDP and above average health spending as a share of total public spending) may face higher pressures (Austria, Denmark, France, Germany and the Netherlands). Additionally, those countries

Figure 1.9. **Forecast debt-to-GDP and general government financial balances, 2011**



Source: OECD (2010b).


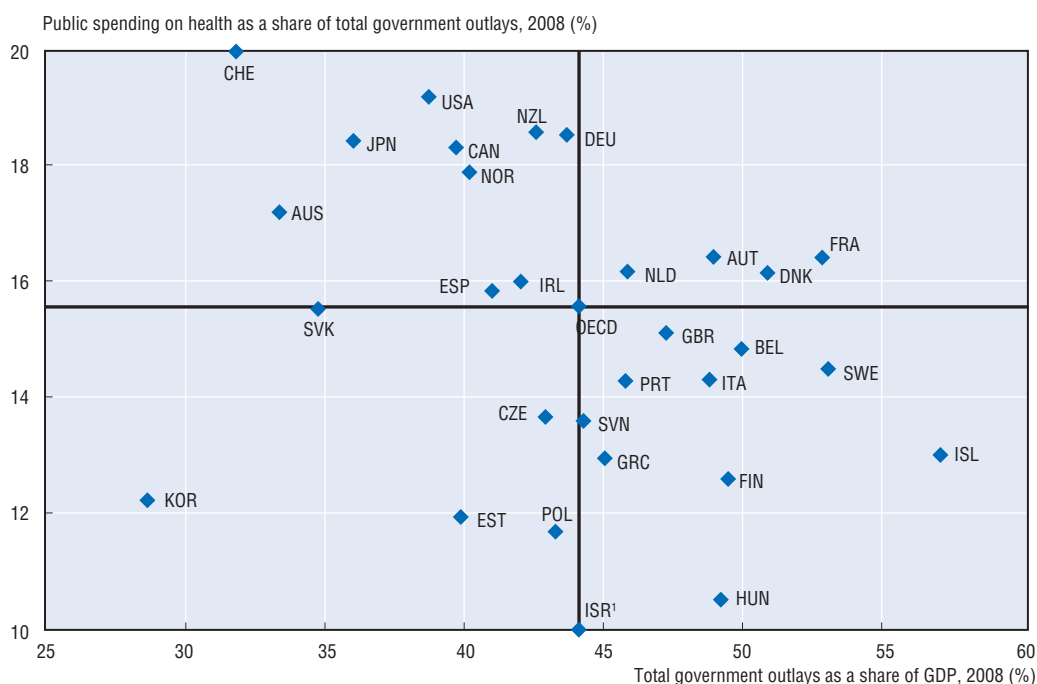

StatLink  <http://dx.doi.org/10.1787/888932319250>

Figure 1.10. **Public spending on health as a share of total government spending, 2008**



1. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2010a).

StatLink  <http://dx.doi.org/10.1787/888932319269>

where health spending already accounts for a sizeable share of total public spending may face a different set of challenges in order to further increase the overall provision for health care.

## 7. How can we ensure economic sustainability of health systems?

As noted in the introductory paragraphs, the system sustainability and efficiency objectives are closely linked: making health system more efficient and effective is likely to be one of the few ways of reconciling rising demand for health care and the public financing constraints just mentioned. Recent OECD research (Joumard *et al.*, 2008 and 2010) has examined the degree of inefficiency in OECD health systems and the scope for productivity gains. Estimates of the degree of health care spending efficiency are based on health care outcomes defined as those gains in health status that can be attributed to health care spending. A country is judged to be more efficient than another if it achieves higher life expectancy for a given level of health care spending, once confounding variables have been allowed for.

The results suggest that there is considerable scope for efficiency gains across OECD health systems. Indeed, life expectancy at birth could be raised by more than two years on average if countries were to become as efficient as the best performers. By way of comparison, a further increase in health care spending of 10% would increase life expectancy by only three to four months, holding the degree of measured inefficiency unchanged. Despite the limitations inherent in macro-level approaches, results are robust to changes in specification and estimation methods.

Correlations between overall system (outcome-based) efficiency estimates and (output-based) efficiency indicators often used for hospitals (*e.g.* average length of stays and occupancy rates for hospital acute care beds) are very low. This suggests that medical outputs can be produced very efficiently in one sub-sector but still have only a limited impact on the health status of the population. Alternatively such results may imply that high performance in the in-patient care sector is offset by inefficiencies in other sub-sectors of the health care system; and/or that co-ordination problems exist across sub-sectors.

Further tests suggest that overall system efficiency for individual countries are better correlated with quality of care indicators (such as avoidable admission rates in the in-patient care sector). Those countries with high levels of productive efficiency tend to be those with high quality of care, even though the quality of care indicators still does not have wide country coverage.

Finally, the study examined whether higher measured levels of efficiency were related to selected institutional arrangements. In this facet of the study, recent work by the OECD Secretariat (Joumard *et al.*, 2010) has served to identify institutional characteristics attributable to individual countries and to identify groups of countries with similar institutional arrangements and market or regulatory incentives (Paris *et al.*, 2009).

The results suggest that no sub-group appears to have consistently better efficiency outcomes. Indeed, within group differences appeared to be larger than across group differences in a number of cases. It would thus appear that no single type of health care system performs systematically better than another in improving the health status of the population in a cost-effective manner. In practice, OECD countries rely on quite different mixes of market and non-market regulation and need a range of policies to correct for the market failures that plague all health care systems. Put another way, the key message for policy makers is that it may be less the type of system that counts but rather how it is managed.

## 8. Conclusions

Health systems are economically sustainable when the benefits of health spending exceed their costs. But this is not necessarily enough to ensure the overall sustainability of the system, as sometimes fiscal constraints can be binding. This chapter has shown that health spending has gone up rapidly in many (but not all) OECD countries in recent years. Does this mean that they have become economically unsustainable? Although the chapter makes no attempt to assess the question in any systematic way, “probably not”, is the most likely answer. Health systems are delivering real improvements in health, in many of the main dimensions in which we judge health spending – access, quality, responsiveness, and so on. As long as they continue to deliver such improvements, it will be economically desirable to meet the future demand for more spending. But in the short term, the sharp deterioration in the public finances means that fiscal sustainability is a problem in some countries. Chapter 2 assesses the policy options available to countries to achieve value for money in health systems in the future, but also what options are open to those countries that need to control spending for fiscal reasons in the short term.

## Notes

1. Several alternative frameworks have been developed to assess the performance of health systems, either by defining the level of achievement of a defined set of goals (effectiveness), or by measuring the link between resources invested in health systems and the attainment of goals (efficiency) (WHO, 2000; Roberts *et al.*, 2004). These frameworks propose different sets of goals or objectives, for the health system itself, or for health policies but they all broadly reflect the same range of policy concerns.
2. In practice, public and private spending are closely linked. For example, in countries with cost-sharing arrangements, an increase in public spending on health care will lead, *pari passu* to a rise in private spending as well. To properly understand health spending trends over time and patterns between countries, it may be necessary to consider private and public components of expenditure together. In other words, it can be misleading to treat “private” expenditure as somehow fundamentally different from public expenditure for purposes of broad cross country analysis.
3. It is worth noting that the average shares of spending going to ambulatory and in-patient hospital care respectively have remained broadly unchanged over the past decade, despite the abovementioned rise in ambulatory spending in some countries and the need to improve ambulatory care for the growing numbers of the chronically ill (Hofmarcher *et al.*, 2007).
4. However, this shift appears to reflect regulatory issues. Public spending in the United States is largely Medicare related and prices are tightly controlled. Thus it is in the interests of hospitals to shift patients to ambulatory care where there are no controls of the price of interventions and increases in prices for private insurers appear to explain a significant part of this increase.
5. The relations between growth in health care costs and the structure of spending can be complex. While the shift from in-patient care to out-patient is expected to reduce average costs of treatment there is no clear relationship between the change in the share of health care spending on hospital care in total spending across countries between 1992 and 2007 and the real per capita growth in total (and public) health care spending over the same period.
6. Data used are for the United States (Newhouse, 1992; and Smith *et al.*, 2009) and for France (Dormont *et al.*, 2006). The time period of the data underlying the estimates are: 1960-90 for Newhouse (1992); 1960 to 2007 for Smith *et al.* (2009); and 1992 and 2000 for Dormont *et al.* (2006). Over these periods there was relatively little population ageing.
7. For the studies focusing on the United States, this may reflect the fact that over much of the earlier period under study, the baby-boom generation led to a fall in the average age of the US population.
8. Smith *et al.* (2009) explain that the raw or unadjusted elasticity between real per capita health spending and real per capita GDP is higher at between 1.4 and 1.7. However, this “expenditure elasticity” reflects not only a pure income effect but also other factors affecting health spending which are correlated with real per capita GDP such as technology, insurance and medical prices. A model used to derive an estimate of pure income effect leads to a remaining (partial) expenditure elasticity of 1.0 for 1960-2007. Taking into account medical price inflation (supposed to be higher in rich countries) further lowers the income elasticity to the range of 0.6-0.9 depending on the assumption on medical price inflation.
9. See preceding section on drivers of health care spending. The two main scenarios are referred to as the cost pressure scenario and the cost-containment scenario.
10. The 2009 *Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)* considered the demand-side effects of demographic change, health status and national income in projecting public health expenditures. The consideration of technological change based on assumptions used in the OECD projections has a significant effect on the pure demographic scenario to produce projections not dissimilar from the OECD results.

## Bibliography

- AIHW (2008), “Australia’s Health 2008”, Australian Institute of Health and Welfare.
- Castoro, C., L. Bertinato, U. Baccaglini, C.A. Drace and M. McKee (2007), “Policy Brief – Day Surgery: Making it Happen”, World Health Organisation on behalf of the European Observatory on Health Systems and Policies, Copenhagen.
- Colombo, F. and D. Morgan (2006), “Evolution of Health Expenditure in OECD Countries”, *Revue française des affaires sociales*, April-September.

- Congressional Budget Office (2009), *The Long-term Budget Outlook*, United States.
- Conseil Supérieur des Finances (2009), "Comité d'Étude sur le Vieillissement", Rapport Annuel, Belgium.
- Denison, E.F. (1962), "The Sources of Economic Growth in the United States and the Alternatives Before Us", Committee for Economic Development, New York.
- Dormont B., Grignon M. and H. Huber (2006), "Health Expenditure Growth: Reassessing the Threat of Ageing", *Health Economics*, Vol. 15, pp. 947-963.
- European Commission (2009), "2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)", Joint Report prepared by the European Commission (DG ECFIN) and the Economic Policy Committee (AWG).
- Federal Finance Administration (2008), "Long-term Sustainability of Public Finances in Switzerland", Switzerland.
- Federal Ministry of Finance (2008), "Second Report on the Sustainability of Public Finances", Germany.
- HM Treasury (2009), "Long-term Public Finance Report: An Analysis of Fiscal Sustainability", United Kingdom.
- Hofmarcher, M.M., H. Oxley et al. (2007), "Improved Health System Performance Through Better Care Coordination", OECD Health Working Paper, No. 30, OECD Publishing, Paris.
- Huber, M. and E. Orosz (2003), "Health Expenditure Trends in OECD Countries, 1990-2001", *Health Care Financing Review*, Vol. 25, pp. 1-22.
- Joumard, I., C. André, C. Nicq and O. Chatal (2008), "Health Status Determinants: Lifestyle, Environment, Health Care Resources and Efficiency", OECD Economics Department Working Paper, No. 627, OECD Publishing, Paris.
- Joumard, I., C. André, C. Nicq and O. Chatal (2010), "Health Care Systems: Efficiency and Institutions", OECD Economics Department Working Paper, No. 769, OECD Publishing, Paris.
- McKinsey Global Institute (2008), "Accounting for the Cost of U.S. Health Care: A New Look at Why Americans Spend More", MGI report.
- McKinsey Global Institute (2010), "Debt and Deleveraging: The Global Credit Bubble and its Economic Consequences".
- MHLW (2004), "Future Prospect of Social Security Expenditure and Contributions", Japan.
- Ministero dell'Economia e Delle Finanze (2008), "Le tendenze di medio-lungo periodo del sistema pensionistico e socio-sanitario – aggiornamento 2008", Ragioneria Generale dello Stato, Italy.
- Ministry of Health (2010), "Welfare and Sport/Youth and Families", the Netherlands.
- Newhouse, J.P. (1992), "Medical Care Costs: How Much Welfare Loss?", *Journal of Economic Perspectives*, Vol. 6, pp. 3-21.
- OECD (2006), "Projecting OECD Health and Long-term Care Expenditures: What Are the Main Drivers?", OECD Economics Department Working Paper, No. 477, OECD Publishing, Paris.
- OECD (2009a), *Health at Glance – OECD Indicators*, OECD Publishing, Paris.
- OECD (2009b), *Government at a Glance 2009*, OECD Publishing, Paris.
- OECD (2010a), *OECD Health Data 2010 – Statistics and Indicators for 30 Countries*, OECD Publishing, Paris.
- OECD (2010b), *OECD Economic Outlook*, No. 87, OECD Publishing, Paris, June.
- Office of the Parliamentary Budget Officer (2010), "Fiscal Sustainability Report", Canada.
- Paris, V., M. Devaux and L. Wei (2009), "Health Systems Institutional Characteristics: A Survey of 29 OECD Countries", OECD Health Working Paper, No. 50, OECD Publishing, Paris.
- Rapport du Sénat sur l'assurance maladie (2004), "Les déterminants macroéconomiques des dépenses de santé : comparaison entre quelques pays", annexe au rapport Vasselle, France.
- Roberts, M. et al. (2004), *Getting Health Reform Right: A Guide to Improving Performance and Equity*, Oxford University Press, New York.
- Seong, M.K. (2009), "Forecasting Future Public Health Expenditures in Consideration of Population Ageing", *Korean Journal of Health Economics and Policy*, Vol. 15 No. 2, pp. 1-20.

Smith, S., J. Newhouse and M. Freeland (2009), "Income, Insurance and Technology: Why Does Health Spending Outpace Economic Growth?", *Health Affairs*, pp. 1276-1284.

Thomson, S. *et al.* (2009), "Addressing Financial Sustainability in Health Systems", Policy summary for the Czech European Union Presidency Ministerial Conference on the Financial Sustainability of Health Systems in Europe, Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Treasurer of the Commonwealth of Australia (2010), "Intergenerational Report, Australia to 2050: Future Challenges".

WHO (2000), *The World Health Report 2000 – Health Systems: Improving Performance*, World Health Organisation, Geneva.