

The challenge of budgeting for healthcare programmes

by
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The OECD has created a Joint Network on Fiscal Sustainability of Health Systems. This article, developed as input to that project, seeks to summarise both why budgeting for healthcare is particularly challenging and why the challenge is often misunderstood. I argue that sustainability is a political, not fiscal, issue; that common explanations of increased spending, such as “ageing” and “technology”, are either inaccurate or unhelpful; and that the nature of public support for healthcare means that standard budgetary worldviews may not be appropriate in a representative system. For example, both a focus on “fiscal space” and distrust of dedicated revenues may be contrary to budgetary values of both representation and balance. I offer explanations of why demand for healthcare spending both is peculiarly intense and tends to expand because notions of “necessary” care expand. Budget-making is made more difficult by a uniquely confusing proliferation of ideas about how to control spending, many of which are supported more by disciplinary biases than by hard evidence. I conclude by considering the impact of two structural features: whether services are delivered by a bureau or as an entitlement, and whether it is funded by dedicated revenues. The challenges can be met, but hard-headed and sceptical budget analysis is especially important.

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1. Introduction

Since governments directly or indirectly assumed responsibility for citizens' access to healthcare, that commitment has created peculiar problems for government budgeting. Total healthcare spending is already a large part of any modern economy, and spending tends to grow more quickly than per capita GDP. Therefore, if governments finance care, that spending will be a large part of budgets and take up a large part of any available increments.

Recent experience within the OECD might suggest that many of these conditions have become less important. As budget processes caught up with the change in economic conditions from the financial crisis that began in 2008, the long-term pattern of healthcare spending increases suddenly stopped. Average spending growth of 5% from 2000 to 2009 was succeeded by "sluggish growth of 0.5% in 2010 and 2011". Average spending across the OECD declined from 9.5% of GDP to 9.3%. Governments that faced the most severe economic crises made substantial spending cuts, but many others reduced the trend to plus or minus one or two per cent.¹

Yet one should not base policy and projections on conditions created by the worst economic crisis since the Great Depression. We can only hope that at some point those conditions fade. What then?

The OECD has created a Joint Network on Fiscal Sustainability of Health Systems to bring together the expertise of both budgeting and health policy researchers and practitioners. This report offers one perspective on why budgeting for healthcare is especially challenging. It does not provide a list of benchmark policies. Its goal is to set out an understanding of the problem, which might help policy-makers assess alternative responses.

1.1. Healthcare and other policies

We can see how healthcare is especially challenging by comparing spending patterns for healthcare with education and pensions among a set of very roughly comparable OECD members.²

In 2010 total healthcare spending ranged from 9.1% of GDP in Australia to 12.0% in the Netherlands; the United States, then, was an extreme outlier at 17.6% of GDP. Public expenditure on health ranged from 6.1% of GDP in Greece to 9.5% in Denmark.³ The healthcare spending share of GDP across these countries grew by nearly 2 percentage points between 2000 and 2010.⁴

Total spending on education is lower in each of these countries. In 2009 total spending ranged from 4.9% of GDP (Italy) to 8.0% of GDP (Iceland). Public spending ranged from 3.6% of GDP (Japan) to 7.5% (Iceland).⁵ Spending growth has also been slower.⁶ The dynamics that drive spending higher appear to be weaker for education than for healthcare.⁷

Pensions are a more comparable source of budgetary stress. Public expenditure on pensions in many countries is a larger share of GDP.⁸ But government responsibility for the pension system appears to be much less broadly agreed across countries. This can be seen in the greater dispersion of spending shares: in 2009 public expenditure on pensions was under 6% of GDP in 7 countries (Australia, Canada, Iceland, Ireland, the Netherlands, New Zealand and Norway) and over 11% of GDP in six others (Austria, France, Germany, Greece, Italy, Portugal). Effects from aging populations could increase spending for both pensions and healthcare, and more directly so for pensions. Pension spending did rise more quickly as a share of GDP in some countries, mainly ones with higher proportions of elderly in the population.⁹ In spite of this more direct effect of aging, however, healthcare spending as a share of GDP grew more quickly than pension spending in most countries.

Moreover, there were countries in which the pension spending share actually declined, or grew much more slowly than the healthcare share. Thus governments may for political or historical reasons spend more on pensions than on healthcare, and history does constrain choices. Yet there appears to be more room to restrain pension spending, either because it is politically easier or it is easier to find effective policy instruments.

Due to the large and usually growing budgetary share for healthcare, many observers see programmes as a threat to budgetary sustainability, or fiscal stability.¹⁰ Yet the fact that healthcare is a major challenge may not justify claims it is “unsustainable”.

1.2. Meanings of “Sustainability”

It is common for budget-makers to worry about “fiscal space”.¹¹ From a fiscal space perspective long-term commitments, whether to pensions or medical care security, are inherently unwise. Citizens, however, may strongly prioritise those guarantees. Fiscal space arguments can claim that health care commitments displace productive public investment. But voters in many countries may, with good reason, have more confidence that money will be spent well for health care than for public investments. If healthcare spending crowds out other spending, that could be viewed as the legitimate result of representative government. Voters may also be willing to pay extra revenues in order to maintain health care programmes, and extra revenues would reduce any “crowd out”. In short, if health care is a priority for citizens, budget-makers who prefer lower taxes or other spending risk imposing their own preferences in the guise of “maintaining fiscal space”.

This is not to say just any spending is justified. Spending can be excessive and have major negative effects on the budget. If healthcare spending per person in the United States resembled the levels in other countries, much of the projected US long-term deficit problem would disappear. But that means US health care should be managed more efficiently. It does not mean care guarantees themselves would drive the budget out of control.

Nor should we assume healthcare spending must have “unsustainable” effects on national economies. That topic is addressed more fully below, but one reason for doubt should be mentioned here. The United States currently spends a share of its GDP on healthcare which would seem unthinkable and horrifying to policy-makers in any other country. It seems unnecessary and wasteful to many Americans. Yet the US economy certainly has survived that level of spending. If the United States can survive its much higher spending, why would that level be “unsustainable” for other countries?

The most plausible way in which spending can be “unsustainable” would be if political support for the expense could not be sustained. Fundamentally, this means political support for redistribution. In all modern economies, the average cost of medical care is now unaffordable for a significant portion of the population. All healthcare finance systems accordingly redistribute not just from the healthy to the sick, but from those with higher incomes to those with lower incomes. Systems are funded roughly in proportion to ability to pay; and if they are not then some people are likely to receive much less care. Therefore the capacity to spend on healthcare for all citizens depends on ability to collect necessary funds from the higher income strata within the country.

As the United States is an extreme case that suggests doubts about economic sustainability arguments, it is the clearest evidence of the political sustainability problem. The United States faces the most extreme redistribution challenge both because spending is so high, so costs are less affordable for individuals, and incomes are especially unequal, so average costs are even more daunting for the lower income groups.¹² In the US, limits on redistribution work not to make national health insurance unsustainable but to prevent its creation. The political struggle over health insurance expansion in 2009-10 showed both the importance and difficulty of redistribution. The major source of funding for expansion through the Affordable Care Act (as amended by the further Reconciliation Act) was a tax increase on high-income taxpayers. Yet the reform as passed did not promise universal coverage, because President Obama set a limit on total spending that could not possibly cover everyone. He judged that he could not enact enough redistribution to pay for full coverage.

Nations’ political systems have different levels of tolerance for redistribution; and economic growth, as always, makes spending easier to support. Yet in any given country there may be a point at which the political system is no longer able to collect enough money from people with higher incomes to pay for care for those with lower incomes. From this perspective “unsustainability” means that governments would have to break current promises to give relatively (never totally) equal access to necessary (however defined) medical (also however defined) care for all citizens. We can see this as a budgetary problem, but it is fundamentally a social challenge. The key consequence is worse healthcare and a perception of major inequities for a substantial portion of the population.

There will be political forces in any given country which do not see such inequalities as inequities. These citizens may see redistribution of income as more unfair than unequal access to healthcare. Whether budget-makers agree with this view will depend on their own values or whom they think they should represent.

Defining sustainability in terms of redistribution has further implications. From a budgetary perspective measures that reduce total spending by reducing the promised care might seem entirely reasonable, because that meets the challenge of matching the funds collected to the funds spent. Budget-makers are most concerned with national and budgetary aggregates. Voters, however, focus on their own budgets, which may be endangered by the same policies that improve government budgets. This difference largely explains why US policy experts hail a recent slow-down in the growth of healthcare costs, while opinion polls show that “almost sixty per cent of the American people” say, “the cost of healthcare for the nation has been going up faster than usual in recent years”.¹³ The slowdown in total spending may be attributed in large part to individuals having to pay more for care, so doing without.

Second, controls on spending that do not reduce adequacy and equity of care would satisfy both budgetary and consumer perspectives. Yet that should draw attention to another form of redistribution: healthcare spending redistributes income towards the providers of care. If one country provides the same services as another for less money, then the former is redistributing less income to medical providers.

Third, as in all public finance, the ways in which revenue is collected will shape the ease of collection. In general, less visible taxes are more viable than more visible ones, and taxes dedicated to popular purposes may be easier to raise than general revenues.¹⁴ Yet the advantages of less visible or more dedicated revenues would be true regardless of whether taxes are collected from higher-income citizens or others. In fact, less visible taxes (e.g. consumption levies) and dedicated payroll contributions tend to be regressive compared to income taxes.¹⁵ If healthcare is financed from less progressive sources it will redistribute less. Yet it still is fundamentally redistributive, compared to buying medical care on the market.

The following pages address some of these themes in more detail. Section 2 reviews how healthcare spending, as an independent variable, may influence the economy. Section 3 considers why the demand for healthcare spending appears to be especially strong and difficult to resist. To the extent this demand comes from the mass of citizens, it might be moderated by making the delivery of care more efficient. Section 4 therefore reviews why the pursuit of efficiency is so challenging. In Section 5 we turn to an overview of how systemic design differences – such as between “Beveridge” and “Bismarck” systems – might influence the challenge of budgeting for healthcare.

2. What is the effect of healthcare spending on a national economy?

Two arguments are especially prominent. The first presumes that higher spending on healthcare, usually through government budgets, will not be matched by higher revenues or offsetting cuts in other programmes. Then healthcare will lead to growing deficits, and so (all other things being equal) to lower national savings. Lower savings in turn will lead to lower investment, and so less economic growth.¹⁶ The second concern applies when healthcare costs are paid largely out of the income flow of employers – either through social insurance payroll contributions (as in Germany or France or Japan) or when employers purchase insurance as part of employee compensation (as in the United States).¹⁷ Then healthcare can raise the price of labour, so that employers hire fewer employees.

These concerns are widely shared. All things being equal, the effects likely run in the presumed, negative direction. There is little evidence, however, that the effects are large enough to justify viewing healthcare spending as a major threat to economic performance.

2.1. Effects from budget deficits

The effect of healthcare spending on the economy through effects on the budget depends on how the budget balance affects the economy. That is a highly contested topic; fundamental issues such as the effects of deficits on interest rates and inflation evoke deep disagreement.¹⁸

Yet claims that healthcare would reduce investment and so economic growth are less convincing than their ubiquity may suggest.

Analysis by the US Congressional Budget Office (CBO), for example, estimated during the 1990s that between 20% to 50% of any deficit reduction would be offset by individuals reducing their own savings so as to maintain consumption. Then between 32% and 47% of net savings would be devoted to reducing net capital inflows. Moreover, growth from higher investment would stop once that level of investment was needed to replace the extra depreciation on a larger capital stock. Thus in the 1990s mainline estimates of the overall effects of reducing the deficit by 3% of GDP ranged from GDP eventually being 1% to 6% larger; CBO's analysis was about 3%.¹⁹ These estimated effects in 20 or 30 years would have been far smaller than other factors influencing per capita real income, including simple uncertainty about projections.²⁰

An OECD analysis in 2004, based on 16 countries with data from 1970-2002, reiterated the slippage between budget savings and investment. It concluded that, "the evidence of partial, yet substantial, direct offsetting movements in private savings is strong. The aggregate initial offset is about half in the short term after allowing for income, interest rate and wealth effects (which have an important impact on saving), rising to around 70% in the long term".²¹ More recent CBO estimates of the effect of alternative fiscal scenarios in the US show effects similar to the 1990s projections. Thus if deficits were "larger by 0.2% in 2012, 2.5% in 2013, and 4.0% on average over the 2014-22 period", then "by the end of 2022 real GDP would be between 2.1% smaller and 0.2% larger".²² The baseline would benefit whoever received the larger growth – but would hurt whoever lost the 4% of GDP in lower spending and higher taxes.

An economy without the modest extra growth associated with higher savings is not "unsustainable". Beliefs about "unsustainable" budgets therefore must be based on doomsday scenarios about spiralling interest costs. There are two versions, which we might call slow-track and fast-track.

In the United States during the 1990s, Government Accountability Office (GAO) and CBO developed models of the slow-track road to collapse. They projected that over a long enough time, if left unchecked, deficits would become large enough to feed on themselves as interest costs burgeoned; eventually government borrowing would soak up all investment capital, there would be no way to offset depreciation, capital stock would decline, production fall, and the economy totally collapse.²³ Given this assumption that nothing else would ever be done, many budget commentators argued that social insurance programmes were unsustainable.

The slow-track argument, however, had some weaknesses. First, the United States actually balanced its budget from 1997-2001 with barely noticeable reductions in entitlement spending. Second, the idea that programmes are "unsustainable" confuses programmes with deficits. It presumes voters would not choose to pay for programmes or make them more efficient if the alternative were cutting benefits. This presumption so far does not fit US experience.²⁴

The fast-track argument involves market dynamics of interest costs. At some point, bond-holders could become less willing to hold a nation's debt because of fears the government would "either default on... or monetise the debt... in a way that would result in rapidly increasing price inflation that reduces the existing debt's relative value".²⁵ Some, however, would be willing to buy the debt at higher interest rates – raising deficits further in a fast version of the interest costs spiral to budgetary and maybe economic failure. Events since 2007 have heightened attention to this possibility.

Yet some of the nations that have suffered most from rising interest rates since the financial crisis, such as Portugal and Spain, had relatively conservative pre-crisis fiscal policies. Loss of confidence among bondholders could have had only a tenuous relationship to healthcare spending, and should have been more clearly related to the collapse of housing prices, attendant problems with private lending, and the current account balance.²⁶ The United States and Japan have run very large deficits without attendant increases in interest rates.²⁷ In Greece, where a true sovereign debt crisis is strongly related to the pre-crisis trend of budget deficits, healthcare costs appear to be at best a minor cause.²⁸

It seems fair to say that with better control of healthcare spending, or policies which collect extra revenues to match extra healthcare spending, allow more conservative public finance; and more conservative public finance can reduce the risk of capital flight and/or spiralling interest rates. Yet there is little if any visible link between healthcare spending and which countries have experienced the most severe debt and interest rate pressures in recent years.

None of these arguments that healthcare spending through government budgets will be economically “unsustainable” are convincing. Effective financing and control of spending are important for more traditional budgetary reasons, and political sustainability is still a major issue.

2.2. Effects on employment

Healthcare spending could directly affect employment in countries where it is funded largely by payroll contributions. This includes nations for which spending is not directly on-budget, the Social Health Insurance countries like France and Germany, as well as if an on-budget system has a dedicated payroll tax, as in American Medicare. The employer contribution then appears to be an extra cost for hiring each worker, raising the question in Germany of, as one article puts it, “how high can non-wage labour costs be raised without affecting international competitiveness?”. The authors reported that, “non-wage labour costs are increasingly viewed as the main cause for worldwide industries’ reluctance to invest in Germany and to create new jobs”.²⁹ A later OECD study made the same assumption that “rising healthcare costs have also put a strain on employment”.³⁰ Similar concerns are raised about the costs of coverage provided by US employers.³¹

Payroll contributions can only raise the cost of labour, and so reduce hiring, if employers cannot reduce wages by the same amount. Therefore any effect on hiring requires that wages be “sticky”.³² If a wage is already close to a legislated minimum, employers will not be able to reduce it as much as they are paying for healthcare. Wage cuts might also be prevented by union contracts, or competition within the labour market. These effects may be common, yet we should normally expect any effects on employment to be somewhat offset by wage restraint. They might also be offset by employment of those who provide the funded healthcare.

There is very little research to address the net effect of these factors.³³ Two exceptions are from the United States and Germany. The US study addressed the underlying dynamic, rather than the specific effects of mandated contributions. It asked if “industries where benefits were a larger share of total compensation were hit harder by rising healthcare costs”, looking at trends from 1987-2005. It concluded that, “industries with a higher share of benefits suffer greater employment and output loss due to rising medical prices”. The

report could not, however, measure possible offsetting increases in health-related employment.³⁴

The German study was conducted in the 1990s by the official Advisory Commission for Concerted Action in Healthcare. It may provide the most thorough review of relevant factors. One is that labour productivity in healthcare tends to be low; in a closed economy then, “employment could be increased simply by shifting demand from more productive, but less labour-intensive industries to less productive, but more labour-intensive healthcare services” – so long as the extra demand does not raise prices instead.³⁵ In an open economy, industries open to foreign competition could lose more jobs due to higher payments for healthcare; at the same time healthcare, and especially its labour-intensive services, face less international competition than other industries. Effects at that time would have varied by industry also due to different levels of insurance contributions and shares of non-wage labour costs within total labour costs. The Advisory Council commissioned a simulation based on the business cycle model of the German Institute for Economic Research, and it estimated that in Germany at that time, a one percentage point increase in the contribution rate, if used entirely for further consumption of healthcare, would result in a quite small increase in employment.³⁶

As the Advisory Council emphasised, such estimates deserve a great deal of caution. Effects should depend further on the conditions of the labour market. “Nonetheless”, the Council noted in a subsequent report, even “unproductive health services do stimulate demand and, given underutilised resources, increase employment and economic growth”.³⁷ The economic effects would be more positive if the services created better health among workers, who therefore could be more productive. From this perspective healthcare spending can be an investment as well as consumption. At the first meeting of the Joint Network, Professor Dr. Klaus-Dirk Henke built on this research to argue that, there “is no optimal health expenditure quota”.³⁸

As with the economic effects through budget deficits, the effect on employment from taxation of payroll to pay for healthcare should be complex and depend on many other factors. Yet rhetoric about unsustainability seems extreme. There are powerful reasons to worry about the prospects for employment in advanced industrial (or post-industrial?) economies. Globalisation likely means that, “the enormous growth in the global labour supply will affect the composition of employment, the distribution of wages and incomes, transitions into and out of employment and unemployment, job security, and other important aspects of the labour market”.³⁹ It is less clear that the effects of healthcare charges on employers are either strong in relation to the underlying trends, or clearly worsen employment.⁴⁰

2.3. Conclusion: A significant concern, but “unsustainable” only by assumption

A third argument is less amenable to analysis. It assumes that government spending or taxes inherently distort economic activity, so must be inefficient. For example, the George W. Bush Administration in the United States argued that spending for homeland security, unless offset by other spending cuts, would damage the national economy by reducing private investment. Moreover, raising taxes to pay for new homeland security would damage the economy further, for “every dollar collected in taxes results in distortions that reduce the efficiency of the economy and lower national income”.⁴¹

By this logic any government spending, or taxes to pay for it, hurts the economy; and it would be difficult to justify the systems of healthcare finance in any OECD member state. It suggests that perhaps policy-makers will have to live with existing inefficiencies, but any increase in spending or revenues should be resisted strongly, regardless of the cause served by the increase – whether it be healthcare or protection against terrorism. Policy-makers who take this view need no know more: policy is determined by the underlying assumptions about macroeconomic cause and effect.

Evidence related to more mainstream economics does not support the idea that healthcare programmes are economically unsustainable. Policy-makers still have good reason to worry about financing healthcare, because the programmes are a large share of budgets, and the social and political stakes in budget decisions are so high.

3. Demand for public spending on healthcare

We have seen that pressure to spend more on healthcare is stronger than pressures on even the largest other categories of spending, education and pensions. There are two basic reasons.⁴² First, public demand for the social definition of needed care is especially strong. Second, that social definition of need expands more quickly and continually than understandings of need for other expenditure, such as education or public investments. This process of “need” expansion may be mistaken for an increase in “technology”.

3.1. Socialised risks and consumption

Medical care is a good consumed by individuals. It may have community benefits, but those benefits are neither its essential nature nor the main reason for political demand.

When needed, medical care is as important to people as food, shelter, or clothing. Yet among those necessities of life, only medical care is generally provided, for everyone, through some socialisation of finance. Socialised finance is the norm, even in the United States, because costs are so high and incidence uncertain. It is not practical to pay from current income for the most important care. Yet it is also not practical to save, since many people could not save enough money without foregoing vital other consumption, and even those who arguably could save enough over many years might well need to pay for medical care before they had saved enough. Nor is borrowing practical for the most important care, because very sick people are not good credit risks.

Hence systems of private insurance, government insurance, government-mandated SHI, and government healthcare bureaus all redistribute from the healthy to the sick, and all but market insurance redistribute from lower to higher incomes. Only quite a small portion of citizens could imagine paying for all care they might need from their own funds; and many of those will have relatives and friends they want to be protected.

Public support for public or semi-public Statutory Health Insurance (SHI) healthcare systems is based on a mix of self-protective prudence and beliefs about equity. No system offers precisely equal care to everyone. In any given country there is some safety valve so that well-to-do patients can obtain better amenities and perhaps more personal service; in some countries this means they can avoid waiting lists by “jumping the queue”. There is however, much more equality of healthcare consumption, for a given level of illness, than of housing or shelter or clothing. I do not know of survey data that explains why, but the simplest answer is most likely to be true. There appears to be something basic about healthcare that makes inequality less acceptable in any country with enough wealth to do something about it.

Death and fear of death, or pain and fear of pain, are likely to attract more empathy than differences in diet or clothing or shelter. Anyone can imagine getting sick, so what it would be like to be sick and have no hope of rescue. Above some level differences in food or clothing or shelter can be viewed as wants rather than necessities. It is harder to view someone else's desire for the same chance to survive illness, or equal remission of pain, as simply a consumption choice. That is especially difficult if an economy clearly has the resources needed to offer everyone similar prospects for rescue. Therefore the standard for equality of chances is likely to be much closer to the maximum level of consumption for healthcare than for other necessities.

Equity here means equity of care, so relatively equal access to rescue, not equality of health. Outside of the public health community there seems to be little pressure for equal health in any country. It is doubtful that voters anywhere think government can or should equalise health. Government cannot be expected to eliminate the bad luck that allocates much of disease. Moreover, equalising the social determinants of health would involve massive restructuring of societies, in ways to which voters could object for many reasons unrelated to health. When a large portion of any society has access to life-saving rescue, however, it is logically possible to offer that to everyone without changing much else – except for collecting more money and training more caregivers. Inequality of rescue is both more frightening and less necessary than other inequalities.

Equality here means access to some social standard of necessary care – there will always be extras that are defined as consumption people might choose but not need. Countries define necessary care differently; there is wide variation in the terms of socialisation of dental care, mental healthcare, long-term care, and even the costs of prescription drugs.⁴³ The bounds of necessity are important questions for policy, and decisions can either limit or expand sharing. Yet if there is a plausible argument that a category has become a larger part of normal care over time – as certainly has happened with pharmaceuticals – there will be strong pressure to expand coverage. This is partly due to changes in practice, yet there is also a process of idea formation. When the health policy world declares that chronic care is the new crisis, or that chronic care can save money and pain by preventing the need for acute care, then unequal access to “preventive” medicines becomes a grave inequality.

Economists may assume that any non-market subsidy for consumption creates excess demand.⁴⁴ That is not helpful because no country could have a politically (and arguably morally) acceptable healthcare system without such “excess”. It also begs the question of why governments (or SHI systems) that are paying for care do not have sufficient incentive to control costs. For budgeting purposes, demand is political: how pressures to spend for healthcare compare to pressures to spend for other purposes or to restrain taxes. Support for healthcare spending appears to be unusually high.

3.1.1. Expanding “Need”: Outcomes, outputs and inputs

For the reasons given above, it is especially difficult for budget-makers to resist need for healthcare. Yet intensity of demand is not the same as extent of demand. Intense demand to meet perceived need would only create the kind of spending increases that are common if perceived need grows relatively quickly. What, then, drives perceived need for healthcare?

Policies involve outcomes, outputs, and inputs. In healthcare the outcome is recovery from, prevention, or amelioration of maladies. The outputs are services. The inputs are what is needed to produce the services and so (hopefully) outcomes. Therefore there are three basic ways the need for inputs (spending) can expand or decline. In order: i) conditions may change, ii) the production function may change, or iii) the definition of desirable outcomes and outputs may change.

If conditions become closer or further from a desired outcome level, that in turn will call for fewer or more outputs and so fewer or more inputs. If there is more crime, more police patrols become necessary. If there is an epidemic, more care is needed.

Here the basic question is how other factors shape health and so demand for healthcare. Increased wealth might reduce disease, but expanding inequality might increase it.⁴⁵ Economic development may increase wealth and so factors like nutrition and government spending on sanitation that improve health. Yet it also may be accompanied by overconsumption that leads to diabetes, or by pollution that makes people sick.⁴⁶ Immigration might bring into a country, populations with greater medical needs because of previous poverty or lack of treatment, but it also may attract especially healthy people who can overcome the barriers to immigration.⁴⁷ There are many possibilities, yet there is little reason to believe that, when they are all combined, over the past few decades social factors have made the residents of rich democracies systematically less healthy.

The exception is population aging. In any society, up until very advanced age, older people have on average higher healthcare costs than the rest of the population. As people live longer and have fewer children, both the average age of the population and the proportions that are old or very old rise. Thus many would expect an “ageing society” to raise healthcare costs. Yet while the direction of effect is likely right, numerous studies have projected that it is not large enough to cause a crisis. Cross-sectional studies have generally shown little or no correlation between a country’s age profile and its healthcare costs.⁴⁸ Time series analyses also suggest significant but small effects. One OECD study estimated that, “between 1981 and 2002... public health spending grew on average by 3.6% per year for OECD countries, of which 0.3% per year was accounted by pure demographic effects”.⁴⁹ A 2013 update reported average growth in real health spending between 1995 and 2009 at 4.3% per year, of which 0.5% was ascribed to ageing.⁵⁰

As a recent overview reports, “there is a growing consensus that ageing does not have to be an inevitable drain on healthcare resources”. Two “strands of research” explain why. First, much of the observed higher costs at higher ages are caused by the cost of dying. More 85-year-olds than 75 year-olds, on average, die. Dying is expensive; “proximity of death is a more important predictor of healthcare expenditure than ageing itself”, and so, “the high annual healthcare cost associated with older people is in large part the consequence of the fact that they are more likely to die within a year”.⁵¹ As people live longer there will be more 85 year-olds but that will be in part because fewer 75-year-olds die, which suggests that group will become less expensive. To put this another way, “if mortality falls over time, due to a permanent increase in longevity, fewer will be at the very end of life in each given year, mitigating healthcare costs”.⁵²

This reduction in deaths at each age then would interact with another observation: that in any nation, past a certain age, the costs associated with dying tend to decline, as do rates of healthcare utilisation.⁵³ There is also reason to believe that ageing is associated with “compression of morbidity” – that is, that most of the extra years are relatively

healthy. OECD's 2013 report assumed a healthy ageing effect and that, "consistent with a large number of previous studies... what matters for health spending is not ageing but rather the proximity to death".⁵⁴ Overall, then, in these projections "the demographic effect only accounts for a small increase in [public] expenditure. In OECD countries and on its own, it pushes spending from 5.5% of GDP on average to 6.2% in 2060".⁵⁵

On balance, ageing populations therefore should be expected to change objective conditions in a way that increases public healthcare spending. But that cannot explain the unusually high growth of healthcare spending compared to other public programmes, and justifies only modest worries about the future. Nevertheless, two other factors should be kept in mind. Population ageing could increase need to spend on long-term care by larger amounts, and much more proportionally, than the demand to spend on traditional healthcare.⁵⁶ Second, the most important effect of ageing on the ability to finance programmes may be on the revenue side. If healthy ageing is accompanied by a vibrant job market that allows extended working careers, there will be more revenue to pay for care for both working and non-working elderly. If healthy older workers cannot find employment, budget difficulties will be more severe. Hence analyses by OECD and the European Community have concluded that labour-market developments and policies greatly mediate any budgetary effect of ageing.⁵⁷

Need or demand for spending may also change because of changes in the production function – the relationship of inputs to outputs and outputs to outcomes. The production function determines the efficiency of care. Usually we hope innovations will create efficiencies. So perhaps electronic surveillance can replace expensive human patrols; or a cheaper drug will replace an expensive surgical procedure. But the inputs required may change in the opposite direction: criminals may find new ways to evade detection, requiring more effort; or experience may show a treatment has risks that require replacement by more expensive inputs.

Hence one question is whether the relatively rapid increase in healthcare spending as a share of GDP might occur because the production function becomes *relatively* inefficient over time. This is hypothesised as the Baumol effect or "Baumol's disease", on the grounds that healthcare is labour-intensive and so cannot be made more efficient as quickly as the rest of the economy. Thus if output grew at the same rate as the rest of the economy, inputs would grow more quickly.⁵⁸

The Baumol argument can be interpreted as reason not to worry so much about healthcare costs. If productivity of other goods and services is rising, then we are getting more even if healthcare consumes a larger share of income.⁵⁹ Yet this scenario is at the level of the entire economy. Given unequal incomes, pooling funds to pay for individuals' care still requires redistribution. If healthcare becomes a larger and larger share of total product, then ever more must be redistributed. The Baumol theory doesn't solve the budgetary challenge at all if the challenge is really about redistribution.

More important, is the theory actually true? There are many examples of technological change in medical care, including creation of less invasive procedures, doing a much larger share of procedures outside hospitals, drugs replacing psychoanalysis, and what the vendors and physicians call major quality improvements in imaging. It is hard to measure outputs in a comparative way, and hard to measure outcomes. But one indicator of improved production of outcomes is the fact that, across 16 nations over the decade to 2006-07, death rates from "amenable mortality" – conditions that could be successfully treated – declined by at least 20%.⁶⁰

If quality (outcomes) has improved substantially, that is not much help to budget-makers. Yet it does redefine the problem as how to resist or pay for demand for quality, rather than inherent inefficiency. Long-term care is more evidently a domain in which quality would be less dynamic and changes in delivery less common. OECD's recent spending model projects a Baumol effect for long-term care, but not for other healthcare.⁶¹

On balance, the Baumol theory does not seem helpful for policy-makers, and using it to explain previous spending growth requires too many assumptions. While the healthcare production function may be less amenable to efficiency improvements than other industries, the important questions for policy would be how it could be improved. OECD and other organisations have done extensive evaluations of alternative policies to improve the healthcare production function.⁶² Section 4 of this overview will identify some challenges to improving efficiency. For this section's discussion of forces that expand need, we might only note two factors.

First, both inputs and outputs are at least potentially choices. Somebody chooses to pay for inputs, and to approve payment for particular services (outputs). They do not happen automatically, or naturally. Therefore it does not make sense to see either as a matter of expanding need. They are certainly a policy lever, but if choices lead to higher spending, that is not remotely exogenous to the policy process – unless those who pay for care choose to cede control.

Second, the relationship between outputs and outcomes is complicated by the fact that the processes of the outputs are part of the outcomes. At one level, open heart surgery is an intermediate good: its purpose is to help the patient live longer and feel better afterwards, and we might evaluate it according to this outcome. Yet the service is itself an experience, and an especially unpleasant one. The benefit to the patient is really the result net of the pain and discomfort from the procedure. This is a reason why creating less invasive procedures can lead to greater consumption of care. From the patient's perspective, getting to the same (or a better) end state with less pain or recuperation along the way is a better outcome. In this way "technology", meaning invention of new processes, could legitimately lead to greater demand for spending.⁶³

Demand for spending may also grow because expectations for the desired outcome may change. Here the basic question is: what is this "healthcare" for which it is important to redistribute income so as to have a more equitable society?

In all policy areas, budgetary claimants work to increase the political priority of their programmes. One of their tactics is to highlight or redefine need. The military may redefine security to mean ability to deter more and more threats, education advocates may claim the job market requires more skills than it did twenty years ago, and environmental advocates will identify more and more threats.

This process may be more powerful for healthcare, however, because it involves far more than lobbying. It is a pervasive part of modern societies.

One way "need" expands is through the medicalising of social and individual conditions. Children are not doing well in school, because they are not paying attention. This has always been common, but it is transformed into Attention Deficit Hyperactivity Disorder. People are unhappy; it becomes a medical diagnosis, depression. A problem previously not discussed in polite company becomes medical (so ubiquitous in advertisements in the United States) as "erectile dysfunction". Alcoholism becomes not bad behaviour but a disease.

Some redefinitions are more easy to justify, and some less so. In all cases, however, they expand the concepts of disease and so of need. The incentives to do so range from desire to reduce blame on “victims”, to individuals and institutions finding medical definitions less challenging than the alternatives (if the child is sick it's not the schools' or parents' fault), to simple pursuit of profit by drug makers. Once a problem is officially medical, and a treatment is reimbursed by healthcare systems, there are strong incentives to diagnose and perhaps over-diagnose it.

Perceived need also expands due to increasing expectations of what is possible, so desirable. As people age, they have increasing aches, pains, and mobility problems. That could be viewed as an inevitable consequence of aging, or as something to be fixed. In the United States, Medicare spending for physical therapy burgeoned in the early 1990s. That could have been recognition of previously untreated need, redefinition of need, fraudulent services, or more likely a mix of all three.⁶⁴ Yet clearly service volumes increased without obvious change in need or technology.

In other cases improved technology has made care more desirable. Joint replacements made it possible to greatly relieve pain and immobility. That in turn would increase demand for care. Arthroscopic surgery made treatment of knee injuries much more attractive than it was in the early 1970s, when treatment was both much more invasive and seemingly less reliable. This dynamic should not be confused with, but can be combined with, a change in incentives for providers of care. If new technology makes providing a service more profitable (which means if payment rules do not recognise that change), providers are more likely to try to sell it to their patients.

This example points to a well-known pattern: demand by patients is largely induced by providers. We do not need to get into common health policy disputes about that process to recognise that this makes citizens' ideas of “need” for healthcare more easily manipulated by the sellers of care than is true for the “need” for defence or education.⁶⁵ Advocacy occurs in physician offices and other sites across the country every day.

Forces that expand demand further pervade societies, in news coverage of new treatments described as advances, and in some countries through advertisements. The idea that medical progress offers new miracles is deeply engrained in modern cultures, with some help from promotion by the medical industry. To a lesser extent in some countries than others, but probably everywhere, “new” is expected to be “better”. This gives the benefit of doubt to sellers which create new drugs and devices and treatments and expect buyers – governments or insurers – to pay more for those new products than for the products they might replace. The promise is that new outputs will yield better outcomes. And, if better outcomes are possible, they should be available to everyone due to the social desire for relative equality of rescue.

I cannot prove the case, but it seems likely that a significant portion of the excess growth in healthcare costs over per capita income is due to this dynamic – expanded services due to the belief that they will produce better outcomes, and in many cases to a further expansion of the aspects of life that are viewed as amenable to medical correction. We certainly have seen a vast expansion over time in the range of medical services, rationalised in these terms. Perhaps healthcare spending grows as a share of the economy in part because people view a larger part of life as a matter of health or medicine.

In this interpretation, if policy-makers want to better control healthcare costs, they will need to find better ways to resist the pressures to do more good through medical care.

That raises tough questions. After all, lives might be improved by ADHD drugs, or anti-depression medication. Should only rich people be able to resist depression with medications, as a consumption choice? In practice, however, these choices are not new. They were always present in the decisions about how much to socially fund services such as long-term care and mental healthcare.

Given the analysis above, in what sense can “technology” be a major cause of either past or projected growth in healthcare spending? In this framework “technology” per se does not tell us enough to mean much. Yet we can use the foregoing discussion to understand how technological developments can influence costs.

We should first distinguish new methods for delivering care (i.e. medical technologies such as new surgical processes, drugs and equipment) from management technologies (such as information systems that could reduce administrative personnel in hospitals). Management technology is rarely if ever described as a reason costs rise quickly.⁶⁶ Instead, “technology” generally means medical technology, and tends to be a residual after other variables are included in a model.⁶⁷ Even when measured, the variables can seem quite indirect – the 2013 OECD study uses information about patents and R&D expenditures.⁶⁸

The “effects of technology”, therefore, can easily be the effects of unmeasured policy choices. For example, new technology might be priced poorly. In fact, the expenses associated with any service, whether new technology or not, depend on its price. They do not occur at all without a decision to purchase it. Therefore the effects of technology on spending must be mediated through policy decisions. Sellers of any technology will claim it has a “cost” that must be paid if it is to be provided. Yet in many cases, such as drugs and devices, this includes substantial development costs. These can be spread over more or less years, and because they are sunk costs the seller has incentives not to risk receiving no payment at all. In other cases the “cost” includes expectations of income for sellers such as physicians and hospitals; again, there is unlikely to be an objective level.

Any claim that new technology “causes” a specific increase in spending makes sense only if we assume the pricing and purchase decisions could not be different. Yet we know these choices must vary, because the technology that could be used is the same in all rich democracies, yet both levels of spending and increases vary substantially. At best, the argument that technology “causes” spending increases must involve some minimum increase that, over time, no nation’s policy-makers have been able to resist.

The discussion above suggests some ways that minimum increase could occur, but also shows why “technology” may not be the best way to think about it. Increased medicalisation of social and individual problems appears to be a common trend. It has been termed “technology” because it is a residual in models of cost growth. Yet that does not mean the explanation is correct. The increase in physical therapy in US Medicare was not due to technical advances. Invention of ADHD drugs, or of new drugs for depression, probably encouraged more diagnoses, and success stories (accurate or not) probably encouraged worried parents and individuals to seek treatment. In these cases the availability of technology likely did induce demand. Yet even in these cases social factors other than technology, such as teachers’ (in)ability to maintain order in classrooms, shape the extent to which these services spread.

Thus new technology can create pressures for more spending, but the independent effect of technology from this dynamic is not likely to resemble the claims that simply define technology as a residual encompassing all other policy weaknesses and pressures

for extra services. And there is a further puzzle about technology as a “cause” of increased spending.

As the Baumol disease argument suggests, in many industries technological advance reduces the input costs of services. By standard economic logic, competition among sellers then should reduce prices. To take a healthcare example, as it became less expensive to do cataract surgery, prices should have fallen such that the incomes of ophthalmic surgeons did not increase much: in a competitive market, the benefits of efficiency-enhancing technology should mainly accrue to consumers.

This market logic may not work so well in many cases, but it clearly does not apply in healthcare. Consumers are either very poorly informed compared to providers; in no condition to shop; not interested in shopping; have little incentive to shop because the insurer is paying most of the charge; or all of the above. Normally payment rates are set or negotiated by large payers such as the government or cartels of insurers. Yet there is reason to doubt that these payers adjust prices enough in response to technological change. The common claim that “proceduralist” physicians see their incomes rise more quickly than “evaluative” physicians⁶⁹ shows the reason for doubt. If proceduralists are able to do more and more procedures, that means they have more output for their input. Yet the system is not capturing this efficiency; they are.

One of the puzzles in health policy discussion is how the “Baumol disease” argument and the “technology causes cost increases” arguments could both be believed. There has to be technology for it to cause cost increases. The question is why it would cause cost increases rather than greater efficiency. The answers can tell us something about the reasons healthcare spending has generally increased faster than GDP. First, some increases in spending are caused by increased demand that is created not by “technology” but by social processes of medicalisation and expansions of the standard for healthcare outcomes. Second, policy choices may overpay for or allow overuse of new technology; that is a failure of other policies, not an effect of technology. Last, healthcare policies in some countries mean that the efficiencies created by new technology are not fully captured for the system.⁷⁰ As a result prices do not go down as much as they should when new technology creates efficiencies. This too is not an effect of technology, but of other choices.

4. The challenge of efficiency

Regardless of the pressures that increase demand, the discussion above might only confirm that increasing efficiency – the ratio of output or positive outcomes to inputs – is the best way to resolve the tension between budget-makers’ need to restrain spending and public demand for care.⁷¹

Common methods to limit the input for a given amount of output are limiting the prices (inputs) paid for individual services; limiting the capital stock available to produce services; or reducing overhead costs by simplifying insurance. National differences in spending and spending growth are largely due to differences in these policy choices. They certainly explain most of the difference between the United States and other countries.⁷² Efficiency in this sense is also related to how institutions are managed. For example, the ways physicians are paid and managed can shape the productivity of hospital physical plant.⁷³ Hospital managers can be given incentives to meet targets for output improvement – though they may reduce what isn’t measured.⁷⁴ The staffing of a general practice can be more or less efficient, and the organisation of specialty care involves myriad opportunities for greater efficiency.

Yet improving efficiency in producing specific outputs faces a series of obstacles, ranging from resistance by the affected interests to measurement issues. Doctors and drug companies prefer and fight for higher prices. Hospitals are very complex organisations so hard to manage well, and they have so much overhead that cost allocations to specific services are quite arbitrary. Moreover, shifting a service from one venue to another does not eliminate all the costs in the first venue, because the overhead still exists. If the seller (particularly a hospital) can do so, it will shift the charges for overhead costs to other services. This is why “improvements in efficiency” that are almost universally endorsed among health policy analysts and budgeters may not save money. The primary example is shifting patients from inpatient surgery to outpatient surgery. Budget-makers must be very careful to avoid false efficiencies caused by flawed accounting.⁷⁵

Producing hospital services more efficiently, either within or outside the hospital, involves producing the same output more efficiently. Many efficiency ideas, however, seek to improve outcomes by changing outputs. For example, increasing primary care might provide better management of chronic conditions such as diabetes. If the new service (such as primary care) is less expensive than the old service (acute hospital care), then better outcomes will result from fewer inputs. This is the promise of many ideas, such as that evidence-based medicine (EBM) with cost-effectiveness analysis (CEA) will lead to reducing less efficient services and increasing the supply of more efficient services, and so both save money by keeping patients out of the hospital and improve patients’ outcomes. The promise is seductive; achieving it is rather difficult.

One problem is political. The providers who profit from selling the service that is to be replaced may challenge the analysis and exert political pressure against change. They may frighten patients with claims that “bureaucrats” are limiting their care, or form alliances with politicians who are opposed to the agency that sponsors change for some other reason. Policy-makers might make change less threatening to patients by making new services available first, hoping they are chosen by patients, and then (if the theory is correct) benefiting from savings on the other services. But then the policy begins with a new expense, and only promises of later reductions, and so requires a leap of faith from budget-makers. This may be particularly awkward because, often, policy-makers cannot be so confident that spending and outcomes will change in the desired ways.

In the most ambitious versions of theories about changing outputs, all activities should be compared and a package chosen that would maximise the overall output of “health”. This involves not just comparing different kinds of care for diabetics, but comparing care for diabetes with care for cancers or dementia. These ambitions are analogous, in principle, to budgeting for performance. Efforts to budget for performance, or results, occur in many countries, recur in many countries (especially the United States), and do not work very well.⁷⁶ A short list of why performance budgeting rarely succeeds would include the following:

1. Performance is very hard to measure even for a single activity, especially because it logically requires measuring a beginning state and end state, and then distinguishing the effect of the activity from other factors.
2. Results for different activities involve different outcomes, and any metric that seeks to compare them may seem (or be) arbitrary.
3. Different activities may serve different people with different utilities, and again any interpersonal utility metric may be questioned.

4. Not only citizens but policy-makers may evaluate different programmes differently, so performance budgeting means one set of policy-makers' preferences must prevail over others' preferences.
5. The level of performance does not actually say much about what funding is appropriate. Poor performance may be due to insufficient funds, so suggest more funding is needed so as to attain an important goal. Good performance could mean no more funding is necessary, and perhaps satisfactory results could be achieved with a little less.

The health policy equivalents may seem more plausible because it is easier to imagine comparing the outcomes of joint replacements and statin therapy than comparing the outcomes of defence spending and early childhood education. In theory, all health outputs can be compared in terms of their effects on quality-adjusted life years (QALYs) for patients. Yet even if it is easier to imagine a shared metric, that does not eliminate the other difficulties with performance comparisons. Moreover, hardly anyone in most political systems other than some health policy analysts accepts that QALYs are a reliable and objective metric.⁷⁷ Whether to spend a certain amount on asthma screening or joint replacements is a distributional question, so in that sense political.⁷⁸ Although it is possible to assess individual procedures or treatments (whether observers agree or not) in principle, there are far more services than could possibly be evaluated. Thus organisations such as the English NICE leave the vast majority of services unassessed – and NICE's judgments can still be very controversial. When the focus turns to the funding of alternative organisations, such as individual hospitals, there are continual disagreements over whether seemingly worse outcomes are due to having sicker patients (the risk-adjustment problem).

The obstacles to providing credible evidence that some services produce more health for the money than others do are aggravated by the timing issues mentioned above. Providing more primary care to the chronically ill first requires training and equipping more primary care providers. Extra spending on preventive care might (though it usually does not⁷⁹) lead to larger savings on acute care; but policy-makers who discount for uncertainty and have to worry more about short-term than long-term deficits may rationally want rather better proof of the return to investment than they usually will be able to obtain. This tension between long-term and short-term cost/benefit equations is common in many policy areas, but especially significant for most ideas about shifting the mix of healthcare services. Many of the most widely-promoted ideas at present, such as developing more evidence about treatments, investing in prevention and reorganising delivery, must cost more in the short-run in return for uncertain benefits in the long run. In practice, politically rational budget-makers might prefer more definite short-term savings, such as by underinvesting in the capacity to deliver hospital care, even if it might eventually blow up in political protest against a later government.

As the review above hints, there is one further challenge for policy-makers: too many alternatives. Budget-makers in any country should easily recognise this pattern, though they may not have defined it as a problem.

One only needs to browse the health policy journals, such as *Health Affairs* or *Health Policy*, to see a range of alternatives that could not possibly be matched in any other policy area, such as education or pensions.⁸⁰ The range can be bewildering. Get better evidence for care (EBM). Select more cost-effective care (CEA). Get people out of hospitals (they're expensive places). Do more primary care. Replace physicians with other caregivers. Create "medical homes". Integrate care through chronic care case management. Create

Accountable Care Organisations (ACOs, whatever that means). Pay for performance (P4P). Cut pay for non-performance (e.g. hospital-acquired infections). Standardise care. Reduce prices through limiting patents. Prescribe generic instead of brand-name drugs. Create better electronic medical records (EMR). Gatekeeping for services. Put financial risk on primary care gatekeepers. Regulate prices. Do a better job of regulating prices. Create price competition by deregulating prices. Bundle payments to limit incentives for increased volume. Charge the patients more so they will only consume what they really need. Reduce litigation. "Streamline" administration. Create competition among insurers. Simplify insurance by standardising it. Integration! Decentralisation! Incentives!

Some of these ideas will save money; some won't. Some have been extensively tried and some are more like "policy unicorns" – pretty creatures that have not been observed in nature.⁸¹ Many require technologies that have not been developed sufficiently for the ideas to work as promised – such as outcome measurements or risk adjustments. The flaws, however, have little or no influence on the advocates, and the advocates appear to be permanent parts of policy debate. "Managed competition", like communism, cannot fail. All disappointing results are blamed on insufficient implementation, not flaws in the basic theory.

Policy choices proliferate in part due to the immense division of labour in healthcare. Should policy target physicians' offices, hospitals, or drugs? Can some functions be shifted to less expensive (and critics would say less skilled) labour, such as nurses instead of doctors or nurses' aides instead of licensed nurses? The division of labour creates interest groups which clamour for other groups' business, claiming that will save money for the system – or resist, claiming that supposed savings are false. Policy alternatives proliferate further because of the many different tribes of experts in the healthcare policy community. Economists of various leanings, public health specialists, health service researchers, and other social scientists generate proposals which follow from their training and emphasise different problem definitions and policy instruments.⁸²

Many decision processes require procedures to reduce many alternatives to a few, and then more carefully investigate those. Selection of policies to increase healthcare efficiency does not require as much reduction, because multiple approaches can be implemented together. There is also some merit in trial-and-error. Yet having so many alternatives creates a risk that policies will be chosen not based on evidence of success, but more based on which seems to face least political opposition. After all, virtually anything will have credentialed experts who say it will work.

One goal of this project is to better link the work of the Health Policy division to budget-makers. That work may help budget-makers sort through alternatives. Yet there will be eminent experts in any country promoting virtually any idea, without regard for more neutral assessments. In the United States two of the world's leading health economists, David Cutler and Karen Davis, rejected estimates by the Congressional Budget Office and Medicare actuaries that the package of reforms in versions of the Affordable Care Act would do little to reduce spending. Rather than believe those estimates, they wrote, "it is imperative to cast a wider net than traditional evidence standards".⁸³

5. Effects of programme structure – beyond "Bismarck" vs. "Beveridge"

Budgeting strategies often include a macropolitics of structure.⁸⁴ Healthcare systems vary substantially in the structure of financing, and moderately in how care is delivered.⁸⁵ The budgetary challenge is affected by these choices.

5.1. Bureaus vs. Entitlements

The first involves the form of the promise to provide healthcare. Government spending programmes have two main forms: *bureaus* and *entitlements*.⁸⁶ In a bureau programme, government creates an organisation that will provide services – such as the national (or county) health services in many countries. Citizens are promised access to the bureau, which is responsible for providing care. In the entitlement approach, a government promises to pay cash benefits or reimburse for services according to some eligibility rules. In healthcare, that is the logic of social insurance or government insurance systems. Some providers in these systems might be owned by governments, but many will not be. The promise is that specific services will be paid for, as needed.

In a bureau or health service programme, funds are allocated to the organisation, their amount is a direct budget allocation, and the level of service that follows depends on how the organisation is managed. Budget control then follows from the original allocation – unless the budget is spent before the end of the year in a way that forces a supplemental appropriation. In an entitlement programme spending depends on the rules of payment for services and the demand for services, so it is hard to enforce a total in advance – although there are examples of automatic fee adjustments that can be effective.⁸⁷

Systems can involve mixes of the two principles. In many countries with entitlement systems governments own hospitals – though a different government may own the hospitals than operates the insurance system (Australia), or the insurance may be non-governmental (France, Germany). In a bureau system providers may not be officially employees of the state (as with general practitioners in the British national health services). The two approaches, however, clearly shape the budget challenge.

Bureau systems allow more direct management of providers – so greater ability to implement process efficiencies (e.g. “targets and terror”) if political authorities know how to do so. Cost overruns can be made less likely by sanctioning managers. Control of physical capacity can be easier if it is financed entirely from capital budgets; if anything, normal budget behaviour is likely to lead to underfunding capital in order to maintain operational funding.⁸⁸ Scholars and managers of bureaucracy are likely to notice all the limits on hierarchical control of organisations, and they are right.⁸⁹ Nevertheless, the range of instruments available for controlling behaviour is much wider within hierarchies than for outsiders trying to influence organisations. It is probably no accident that the best-known implementation of a policy that requires extensive planning and co-ordination such as electronic medical records are within large bureaucracies, such as the US Veterans Health Administration. Organisations are created because of their power to co-ordinate activity – however much that may fall short of the ideal.

If budget-makers are fortunate, they may in addition, be able to displace blame for public disappointment with the level of service to the “bureaucrats”, the agency managers who in theory, if they only managed better, could reduce waiting lists. If nothing else, policy-makers can spend many years responding to complaints by implementing new management initiatives. Cost controls for entitlements generally have to be more specific: definitions of exactly which services will be discouraged and exactly which providers will be paid less.

From a budgetary perspective, the entitlement form has fewer advantages. One could be flexibility. Governments that do not own capacity have fewer sunk costs in it, so may have more ability to shift resources.⁹⁰ If entitlements include semi-public bodies

responsible for management of the system, as with the German sickness funds and their associations, or the French CNAMTS (*Caisse nationale de l'Assurance Maladie des travailleurs salariés*), governments may sometimes be able to obscure or share the blame for cost controls. In the ideal case, those managers may be able to negotiate cost control with the providers, using the threat of government intervention to obtain agreements that might be as good as the government would have obtained, at less cost to the government. In the entitlement model governments also may bear less responsibility for failures or scandals in the delivery system. If cost control might lead to delivery failures, it seems better to have bought the services from somewhat separate organisations than for the organisations to be part of the government.

Policy-makers in many countries seem to be seeking some of the advantages of the bureau form within an entitlement design. They attempt to do this by bundling: paying not for individual services but for a package of services. When Dutch policy-makers hope insurers will control costs, they are asking insurers to take on the management responsibilities of a bureau. When American policy-makers have tried to move patients into Health Maintenance Organisations (HMOs) and now ACOs, the idea has been to make a lump-sum payment to these insurers and then have them manage costs – like a bureau. Attempts to pay all costs for an episode could only make sense if some organisation is created to manage across the different providers involved. In any of these cases, the potential advantage is that the bureau would get the blame for measures to limit costs, including any restrictions on output.

The risk is that organisations will try to do as little as possible for their lump payments, so as to maximise their operating margins. The result could be worse outcomes and less value for money – at best, economy without efficiency. In the theory of managed competition informed patients would recognise skimpy performance, risk adjustment would eliminate incentives to avoid sicker patients, and market forces would prevent organisational shirking; but this has yet to be demonstrated in practice. Concerns about government oversight also seem ubiquitous. From a bundling perspective, the logical way to pay hospitals is by giving them budgets. Yet numerous countries have moved towards efforts to pay hospitals by case and diagnosis, on the grounds that this provides better incentives for productivity.⁹¹

In the terms of this paper's previous discussion, the bureau form may be seen as a way to somewhat limit demand by directing it at the bureaus (in part) rather than the payers. The bureau form *probably* increases ability to make production of outputs more efficient. Neither form has a clear advantage for better linking outputs to outcomes, because that depends most on good theory about medical cause and effect. The entitlement form *may* have a slight advantage if policy-makers want to change the mix of outputs.

5.2. Dedicated vs. General Revenues

A second major choice is whether healthcare is financed by dedicated or general revenues. Social health insurance systems, like any social insurance system, are built on an assumption that entitlement to benefits is based on contributions towards the fund from which they are paid. Government programmes normally are funded from a pool of general revenues. So there is an historical association between the entitlement approach (as social insurance) and dedicated revenues, while bureau programmes are more likely to have general revenues. Yet there are numerous exceptions. Early social insurance systems often funded bureaus in the form of polyclinics. Canada's entitlement system is not traditional

social insurance, for most provinces do not have dedicated contributions. Increasingly, the finance of entitlements in traditional SHI systems is being supplemented with general revenues.⁹²

From a public finance perspective, dedicated revenues are problematic. As Alan Auerbach summarises, “We may end up relying too heavily on some taxes rather than others, thereby reducing the tax system's efficiency. Also, our mix and level of public spending may be distorted by the connections of particular types of spending to specific sources of funding. Money is fungible, in principle, so financing a particular type of spending in part with dedicated revenues ought to have no impact on overall spending of this type. But where dedicated revenues constitute a large share of the funding for a particular type of spending, the level of dedicated tax revenues can have a strong impact on the level of associated spending, with unattractive consequences”.⁹³

On the other hand, policy-makers have many motives for adopting dedicated taxes. Dedicated funding may make raising taxes easier because “taxpayers might be more willing to pay taxes if they perceive that these taxes are spent on something that they value, even if there is no tax-benefit linkage at the individual level”. A dedicated tax might be adopted also “either to protect or limit the amount of a particular type of spending”. Advocates of a programme may seek the security of “a claim on a specific source of revenue... On the other hand, one of the reasons advanced for providing a dedicated source of revenue such as the VAT for healthcare has been to try to force health spending growth to conform to the growth of VAT revenues. In either case, though, the influence of tax dedication on funding need not go in the right direction from a social perspective”.⁹⁴

Choices about dedicated funding therefore could influence both ability to control spending and to raise revenues – but in which direction? Although the issues are analytically separate, they are hard to separate in practice, because if dedicated funding raises revenues, it may reduce the need to limit spending. In a bureau system with particularly strong budget controllers and fiscal pressures, such as the United Kingdom for most of the history of the NHS, relying on general revenues is likely to lead to lower spending. But that doesn't answer the question of whether budget-makers are better off relying on general revenues than dedicated revenues, because there may have been more room to finance other programmes and control deficits in the United Kingdom if the NHS had had its own dedicated funds.

As a very provisional judgment, it appears that dedicated funds probably inhibit raising spending more quickly than that revenue stream. However, separate revenues make it difficult to cut spending below the amount of revenues.⁹⁵ On balance, if dedicated revenues allow collection of more money, they are likely to reduce budgetary pressures. Dedicated funding also clarifies budgetary consequences. When programmes are funded from general revenues, it is easy for virtually everyone to demand that their spending be protected, yet refuse to pay more because they want other people's spending to be cut.⁹⁶ If spending is financed from dedicated funds, it is more plausible to say the level accurately reflects public preferences.

As always, there are complications. The income on which most dedicated revenues have been based – wages – becomes steadily less adequate, as costs increase and the labour share of GDP falls in most countries.⁹⁷ This creates pressure to redistribute further by financing a part of care, in systems built on dedicated funding, from general revenues. Ironically, the fact that most of the money comes from dedicated funds may make a

portion of general revenues seem a small price to pay for preserving a large and highly popular programme.

Nevertheless, on balance dedicated funding appears to have budgetary advantages. From a budgetary perspective, the best structural combination may be a mostly bureau system financed mainly from dedicated revenues.

5.3. *The scope of coverage*

A third structural choice has been discussed in part earlier in this paper. What healthcare will be financed socially, and what will be treated as “wants” rather than “needs”, so as a matter for personal consumption instead of redistribution? In addition to what will count as medical care, it involves issues such as the extent of cost-sharing within the system of coverage, and the roles of gap and parallel insurance in healthcare systems.⁹⁸

The scope of benefits can only be a value choice. There is no “right” answer. Budget-makers, however, have good reason to at least insist that this be a choice – that expansions of the medical realm not continue without reflection. The extent of cost-sharing is almost a theological issue. It involves questions of fact – what the effects of cost-sharing are, for which types of people. Yet how people evaluate these facts, and even what facts they choose to accept, seems to vary greatly, partly with belief in equality in general and partly with faith in the merits of market forces. Budget-makers can only seek the best and most comprehensive research, and then decide based on their own values. Yet they should be aware that cost-sharing tends to be unpopular, for the same reasons as demand for healthcare programmes is high.

6. Implications from this overview

This analysis has been one scholar’s overview of the challenge of budgeting for healthcare. It questions conventional views in some ways, most notably by challenging the usual understanding of how healthcare programmes can be “unsustainable”. In conclusion, we can identify some of the core observations, and a few implications for policy choice.

1. Healthcare programmes are not “unsustainable” in an economic sense.
2. The sustainability of programmes in a political sense, however, is open to question. This involves the tolerance of political systems for redistribution.
3. Healthcare spending is so hard to control in part because citizens (voters) deeply value healthcare services. Political demand is strong and real. It is a demand for care and rescue, not “health”.
4. The intensity of demand does not explain its scope. That involves social processes which define “necessary care”. Provider-induced demand does not occur only in physicians’ offices. Budget-makers should seek ways to counter the processes that medicalise larger parts of individual and social life.
5. The pursuit of efficiency involves both relating inputs to outputs and outputs to outcomes. Improving the ratio of outputs to inputs is difficult, but less problematic than trying to adjust outputs to achieve outcomes more efficiently. The latter approach faces much the same obstacles as programme budgeting. The search for a better mix of outputs is worthwhile – but should be done very carefully.

6. "Baumol's Disease" (or, more neutrally, the Baumol effect) is not a useful observation even if true, and is not obviously true.
7. Both "ageing" and "technology" make some independent contribution to spending increases, but in each case the effect is much smaller than policy-makers often assume.
8. The effects of "technology" depend largely on policy choices, and "technology" is often an inaccurate name for the social process that expands ideas about need. Policy-makers should focus on choices such as prices, purchase of equipment, and defining the bounds of social sharing.
9. Pursuit of efficiency is made more difficult by the amazing variety of alternative proposals. Budget-makers must guard not only against policy being captured by interest group claimants, but against capture by enthusiastic tribes of experts. Good budget analysis, based on independence and hard-headed scepticism, is especially important.
10. The budgetary challenge is affected by whether programmes are organized as bureaus or entitlements. There is some reason to believe spending for bureau programmes is somewhat easier to limit.
11. The challenge is also influenced by whether programmes have dedicated funding. This is especially important because the intensity of demand for care means dedicated funding is likely to be possible. Although there are many qualifications to this claim, dedicated funding probably helps meet budgetary challenges.

Government support for citizens' medical care, whatever the form of the programme, has become a basic part of modern societies – even in the United States. In some cases (Canada, the U.K.) these programmes have become part of national identity. In others, such as Germany, they were part of creating the nation-state. These programmes have had major successes – in enhancing national solidarity and improving the populations' health.⁹⁹ Unfortunately none of that eliminates the basic challenge of budgeting: how to reconcile preferences about spending and taxing, details and totals. Yet the basic message of this paper should be that it is possible to find acceptable options. The usual suspects for inevitable spending increases – the Baumol effect, aging and technology – are not so important. Unlike with many programmes, dedicated funding is a real option. And there are many alternatives for spending control: the budgeting challenge is how to sort through them and distinguish wishful thinking from evidence.

Notes

1. The most substantial cuts were in Estonia, Greece, Iceland, Ireland and Portugal. "Health spending continues to stagnate, says OECD." *OECD Health Policies and Data*, 27 June, 2013. At www.oecd.org/newsroom/health-spending-continues-to-stagnate-says-oecd.htm. For a discussion of measures taken for 2010-11, see David Morgan and Roberto Astolfi, "Health Spending Growth at Zero: Which Countries, Which Sectors Are Most Affected?", *OECD Health Working Papers*, No. 60, <http://dx.doi.org/10.1787/5k4dd1st95xv-en>.
2. Comparisons are based on 23 countries: European OECD members that were not part of the former Soviet bloc, Australia, Canada, Japan, New Zealand and the United States.
3. *OECD Factbook 2013: Economic, Environmental and Social Statistics*. Available at <http://dx.doi.org/10.1787/factbook-2013-en>. Page 249. Note that no public/private breakdown for the Netherlands was provided for 2010; it can be difficult to determine what the classifications in the Netherlands should be.
4. Author's calculation from *ibid*, table page 249. This involves adding figures rounded to one decimal point and averaging over 23 countries, so is imprecise. The average came to 1.87 percentage points

- of GDP. Only one country, Iceland, saw a spending decrease as a share of GDP from 2000 to 2010, and that was only 0.2%.
5. Ibid, page 195.
 6. For an imprecise comparison see Table B4.2 from OECD, *Education at a Glance – 2013*. The table shows public expenditure on education as a share of GDP for 1995, 2000, 2005 and 2010. The definition of education spending, however, is more extensive than in the OECD Factbook, because it includes subsidies to households for student living costs (e.g. for scholarship students). The change between 2000 and 2010, also, is affected by the general decline in the denominator (GDP) in 2010.
 7. Much of the expansion of education “need” will involve longer periods of training, and only a portion of the population will be eligible for such expansion of tertiary education, while nearly all citizens could be eligible for further medical services.
 8. Examples as of 2009 were Austria, Belgium, Finland, France, Germany, Greece, Italy, Japan, Luxembourg, Portugal, and Spain. Pension figures are in OECD Factbook 2013, op. cit., page 215. For 2009 I am roughly calculating public spending from the tables, “Total expenditure on health as a percentage of gross domestic product” from OECD Health Data, downloaded from <http://dx.doi.org/10.1787/hlthxp-total-table-2013-2-en> and “Public expenditure on health as a percentage of total expenditure on health” from OECD Health Data, downloaded from <http://dx.doi.org/10.1787/hlthxp-pub-table-2013-2-en>.
 9. The old-age support ratio is the number of people of working age (20-64) per person of pension age (65+). An Excel spreadsheet of data is available at www.oecd.org/els/public-pensions/indicators.htm, under subhead 4, “Demographic and economic context”. I used the data part of the spreadsheet to rank-order the countries in this analysis for 2008, from having the largest share of elderly (1) to the least (23). If we look at the tables on health care and pension spending trends in the previous footnote, it appears that pension expenditure as a share of GDP grew more quickly than healthcare spending as a share of GDP in Finland, France, Ireland, Japan, the Netherlands, Portugal, and Sweden. We can see that this is associated with the old age support ratio by the fact that these countries ranked 1, 4, 7, 8, 11, 16, and 23. Ireland, at 23, is clearly an outlier!
 10. For a typical discussion see Benedict Clements, David Coady, and Sanjeev Gupta eds., *The Economics of Public Healthcare Reform in Advanced and Emerging Economies*, Washington, DC: International Monetary Fund, 2012.
 11. For a general discussion of the theme, see Allen Schick, “Budgeting for Fiscal Space”, *OECD Journal on Budgeting* 2009/2.
 12. In 2010 the United States had the largest gap between incomes of the richest and poorest deciles of the population among the 23 countries I am comparing. Among OECD nations, only Turkey, Mexico, and Chile had greater inequality. See OECD *Society at a Glance 2014*, Chapter 5, Table 5.1. as updated 4 Dec. 2013.
 13. Drew Altman, “Healthcare Cost Growth Is Down, Or Not. It Depends Who You Ask”, 5 March 2014. At <http://kff.org/health-costs/perspective/health-cost-growth-is-down-or-not-it-depends-who-you-ask/>.
 14. For a discussion of visibility by one of the most prominent sources for this argument, see Harold L. Wilensky, *Rich Democracies: Political Economy, Public Policy, and Performance*. Berkeley: University of California Press, 2002. For an overview of dedicated financing in the US context, see Eric Patashnik, *Putting Trust in the U.S. Budget: Federal Trust Funds and the Politics of Commitment*. Cambridge: Cambridge University Press, 2000.
 15. See, e.g., Neil Warren (2008), “A Review of Studies on the Distributional Impact of Consumption Taxes in OECD Countries”, OECD Social, Employment and Migration Working Papers, No. 64, <http://dx.doi.org/10.1787/241103736767>.
 16. See, e.g., William G. Gale and Peter R. Orszag, “Economic Effects of Sustained Budget Deficits,” *National Tax Journal* Vol. 56, No. 3 (2003), downloadable from www.brookings.edu/views/papers/gale/20030717.pdf, page 2.
 17. This is simplifying greatly.
 18. In addition, results of any analysis will depend on choices about modelling techniques and how to measure national savings, neither of which are straightforward. The discussion that follows cannot settle these issues, but offers some perspective. For an early example of analysis see R. Herd, “The Impact of Increased Government Saving on the Economy”, *OECD Department of Economics and Statistics Working Paper* No. 68, June 1989.

19. Sources can be found in Joseph White, *False Alarm: Why the Greatest Threat to Social Security and Medicare is the Campaign to "Save" Them*, Baltimore: The Johns Hopkins University Press, 2003, pp. 79-80.
20. Normal productivity growth would swamp the savings effect. In fact, technical adjustments in the Consumer Price Index would at least seem to increase workers' real incomes over that period by substantially more. See *False Alarm*, pp. 83-84.
21. OECD Economic Outlook No. 76 (Dec. 2004), Chapter 5, page 2; downloaded from www.oecd.org/eco/outlook/34081006.pdf.
22. United States Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2012 to 2022* (January, 2012), page 29. CBO added that GNP would be a better measure, and at the end of 2022 "real GNP would be between 3.7 per cent and 1.0 per cent smaller". Still, the midpoint is half of the total deficit change.
23. See the discussion in White, *False Alarm*, op. cit., pp. 84-88.
24. Voters clearly have chosen mainly to pay for rather than cut Social Security pensions, with continual contribution increases until 1983. Since then there has been no need. The solvency of the Medicare Hospital Insurance trust fund has been addressed by a combination of cuts to spending but not benefits (i.e. payment reforms), and higher contributions both through taxes and premiums paid by individuals with higher incomes. In short: by greater redistribution.
25. Marc Labonte, "The Sustainability of the Federal Budget Deficit: Market Confidence and Economic Effects", United States Congress, Congressional Research Service, Report R40770 (14 December 2012), available at www.fas.org/sgp/crs/misc/R40770.pdf, quotes page 1.
26. The Eurozone southern tier has also not had the option of monetising their debt, though fears they might leave the Eurozone could affect potential bondholders.
27. In each case interest rates may be low because there is far more capital than safe places to put it and in spite of the deficits Japanese and US bonds appear safer than alternatives. But the Japanese case appears to involve Japanese capital, while the US case involves the world's.
28. From 1999 to 2008 healthcare spending as a share of GDP did rise fairly quickly in Greece, from 8.7% of GDP to 10.1%. During the same time, however, spending rose as quickly in Canada, the Netherlands, New Zealand, Sweden, United Kingdom, and United States – none of which faced the same kind of bondholder response. The Greek crisis can more reasonably be ascribed to indications of fraudulent accounting, "overstaffing and poor productivity in the public sector" across functions, pensions that are extremely generous compared to other countries, and weak revenue collection – in part because the informal economy could exceed a quarter of Greek GDP. In other words, Greece is an exceptional case. For one summary see Rebecca M. Nelson, Paul Belkin and Derek E. Mix, "Greece's Debt Crisis: Overview, Policy Responses, and Implications". United States Congress, Congressional Research Service, Report R-41167 (14 May 2010), available at <http://fpc.state.gov/documents/organization/142363.pdf>, p5.
29. Stephanie Stock, Marcus Redaelli, and Karl Wilhelm Lauterbach, "The Influence of the Labour Market On German Healthcare Reforms", *Health Affairs*, Vol. 25, No. 4 (July/August 2006), quotes pp. 1146-47, 1148.
30. Nicola Brandt, "Moving Towards More Sustainable Healthcare Financing in Germany", *OECD Economics Department Working Papers* No. 612 (2008), p. 5. At <http://dx.doi.org/10.1787/242647737261>.
31. For example, in 2004 the same US corporations would have paid nearly \$1 300 extra in employee healthcare costs to build the same car in Michigan as in Ontario, which should inhibit hiring in Michigan. For a detailed review of the issues in the US context, see Office of the Assistant Secretary for Planning and Evaluation, United States Department of Health and Human Services (ASPE), "The Effect of Healthcare Cost Growth on the US Economy", Final Report for Task Order #HP-06-12, at aspe.hhs.gov/health/reports/o8/healthcarecost/report.pdf Cited hereinafter as ASPE 2008.
32. ASPE 2008 p. 13. This source provides a further review of the "range of factors including the legal or institutional environment under which a firm operates" (14) that would determine any effect on employment.
33. For example, the effect of healthcare costs on employment does not appear to be addressed in the series of *OECD Social, Employment and Migration Working Papers*.
34. See ASPE 2008, quotes pages 29, 34. This report sought to measure effects on overall unemployment by comparing states, and found weak, statistically insignificant indications that greater expenditure was associated with higher unemployment.

35. Advisory Council for Concerted Action in Healthcare, *The Healthcare System in Germany: Cost Factor and Branch of the Future. Volume I: Demographics, Morbidity, Efficiency Reserves and Employment*. Bonn, 1996. At www.svr-gesundheit.de/fileadmin/user_upload/Gutachten/1996/Kurz-f-engl96.pdf, p. 41.
36. *Ibid.*, pp. 41-45; the point estimate was an increase of 35 000 jobs, see page 44. Note that at a given point in time revenues might be increased to make up for deficits in a fund, so for past consumption expansions. If so it would not be financing new consumption, and might lead to a small decrease in employment.
37. Advisory Council for Concerted Action in Healthcare, *The Healthcare System in Germany: Cost Factor and Branch of the Future. Volume II: Progress and Growth Markets, Finance and Remuneration*. Bonn, 1998. At www.svr-gesundheit.de/fileadmin/user_upload/Gutachten/1997/Kurz-f-engl97.pdf, page 15. This second volume reported a slightly different model result, at page 18.
38. See the powerpoint presentation, "Improving value for money from a health economics perspective", from the conference. Downloadable from www.oecd.org/gov/budgeting/49094979.pdf. See also Klaus-Dirk Henke and Karl Martin, "Health as a driving economic force", Technische Universität Berlin Diskussionspapier 2008/2, at www.wm.tu-berlin.de/fileadmin/f8/wiwi/dok/diskussionspapiere_wiwi/dp02-2008.pdf. These possibilities are also noted in ASPE 2008.
39. David T. Coe (2007), "Globalisation and Labour Markets: Policy Issues Arising from the Emergence of China and India", OECD Social, Employment and Migration Working Papers, No. 63, at <http://dx.doi.org/10.1787/057638253043>, page 18.
40. There presumably would be situations where large differences in charges for comparable industries between comparable countries would be more significant, as in the Canada/US automobile industry comparison mentioned above.
41. US Government, White House Office of Homeland Security, *National Strategy for Homeland Security* (July, 2002), page 65. At http://permanent.access.gpo.gov/lps20641/nat_strat_hls.pdf. The report estimated the "deadweight loss" of taxes as an extra \$0.27 per dollar of revenue.
42. Arguably there is a third, but not much could be said about it. At any given time all citizens could need medical care – unlike education or pensions, though any citizen will need all three at some point in the lifecycle.
43. The classic review of the core policy reasons for such differences remains William A. Glaser, *Health Insurance in Practice: International Variations in Financing, Benefits, and Problems*. San Francisco: Jossey-Bass, 1991. See Chapters 12-15 for these four types of care.
44. For one discussion of disciplinary assumptions that may be hidden in plain sight, but determine conclusions in advance, see Thomas E. Rice, *The Economics of Health Reconsidered 2nd ed.* Chicago: Health Administration Press, 2002.
45. The effect of inequality is controversial; for one sceptical review see Angus Deaton, "Health, Income, and Inequality", NBER Reporter Research Summary (Spring 2003) at www.nber.org/reporter/spring03/health.html.
46. On pollution see Brad Plumer, "Coal Pollution in China is Cutting Life Expectancy by 5.5 Years", *Washington Post Wonkblog*, 8 July 2013 at www.washingtonpost.com/blogs/wonkblog/wp/2013/07/08/chinas-coal-pollution-is-much-deadlier-than-anyone-realized/.
47. Alexander Domnich, Donatella Panatto, Roberto Gasparini and Daniela Amicizia, "The 'healthy immigrant' effect: Does it exist in Europe today?", *Italian Journal of Public Health* Vol. 9, No. 3 (2012).
48. See the discussions in Bernd Rechel, Yvonne Doyle, Emily Grundy and Martin McKee, "How can health systems respond to population aging?", *European Observatory on Health Systems and Policies Policy Brief* 10, 2009. At www.euro.who.int/_data/assets/pdf_file/0004/64966/E92560.pdf and in Joseph White, "(How) is Aging a Health Policy Problem?", *Yale Journal of Health Policy, Law and Ethics*, Vol. 4, No. 1 (2004).
49. OECD Economics Department, "Projecting Health and Long-Term Care Expenditures: What Are the Main Drivers?", *Working Paper* No. 477 (2006), p. 11, at www.oecd.org/tax/public-finance/36085940.pdf.
50. Christine de la Maisonneuve and Joaquim Oliveira Martins, "A Projection Method for Public Health and Long-Term Care Expenditures", *OECD Department Working Papers* No. 1048 (July 2013) Table 2.1, page 9. At <http://dx.doi.org/10.1787/5k44v53w5w47-en>.
51. Rechel et al., *op. cit.*, p. 10.
52. OECD Economics Department (2006), *op. cit.*, p. 11.

53. See discussions in Rechel et al., op. cit.; OECD Economics Department, op. cit.; White "(How) Is Aging a Health Policy Problem?", op. cit.
54. De la Maisonneuve and Martins, op. cit., p. 13.
55. Ibid., p. 17. Note that these figures are lower than might otherwise be expected because they include the OECD countries that are at lower ends of healthcare expenditure because at earlier stages of economic development. For other studies with similar results see OECD Economics Department (2006), op. cit. and also Jonathan Gruber and David Wise, "An International Perspective on Policies for an Aging Society", in Stuart H. Altman and David I. Shactman eds., *Policies for an Aging Society*. Baltimore: The Johns Hopkins University Press, 2002, pp. 34-62.
56. See the long-term care tables in OECD Economics Department, op. cit.; also Martin Karlsson and Florian Kloth, "Some notes on how to catch a red herring: Aging, time-to-death and care costs for older people in Sweden". University of Oslo Health Economics Research Programme, *Working Paper* 2011:6. At www.med.uio.no/helsam/forskning/nettverk/hero/publikasjoner/skriftserie/2011/2011+6.pdf.
57. See for example European Community Economic Policy Commission, Progress Report to the ECOFIN Council on the Impact of Aging Populations on Public Pension Systems (7 November 2000) at www.consilium.europa.eu/uedocs/cmsUpload/Progress%20Report%20on%20the%20impact%20of%20ageing%20population.pdf; OECD, "Work Force Aging: Consequences and Policy Responses", OECD Working Paper No. AWP4.1, 1998) at www.oecd.org/els/public-pensions/2429096.pdf; Jean-Philippe Cotis, "Population Aging: Facing the Challenge", OECD Observer, 26 Sept. 2003, at www.oecdobserver.org/news/archivestory.php/aid/1081/Population_ageing:_Facing_the_challenge.html.
58. For the most recent of a half century of these arguments, see William J. Baumol, *The Cost Disease: Why Computers Get Cheaper and Healthcare Doesn't*. New Haven: Yale University Press, 2012. For a review that refers to many studies of the overall claim (not just limited to healthcare), and an argument that the basic dynamic exists, see William D. Nordhaus, "Baumol's Diseases: A Macroeconomic Perspective", National Bureau of Economic Research Working Paper 12218 (May 2006). At www.nber.org/papers/w12218.pdf?new_window=1.
59. See the interpretation in Amy Wallace, "The Case for Calm Over Rising Health Costs," *New York Times* (6 Oct. 2012) at www.nytimes.com/2012/10/07/business/cost-disease-offers-a-case-for-health-care-calm.html?_r=0.
60. Ellen Nolte and Martin McKee, "Variations in Amenable Mortality – Trends in 16 High-Income Nations." *Health Policy* 103(1), November 2011: 47-52.
61. De la Maisonneuve and Martins, op. cit. They note that it might have been possible to make such estimates for individual sectors (p. 13), but I'm sceptical because part of any efficiency increases would be substitutions across sectors.
62. Elizabeth Docteur and Howard Oxley, "Healthcare Systems: Lessons from the Reform Experience", OECD Economics Department Working Papers, No. 374 (2003). At <http://dx.doi.org/10.1787/884504747522>. Isabelle Joumard, Christophe André and Chantal Nicq, "Healthcare Systems: Efficiency and Institutions", OECD Economics Department Working Papers, No. 769 (2010). At <http://search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&cote=eco/wkp%282010%2925>. Rodrigo Moreno-Serra, "The impact of cost-containment policies on health expenditure: Evidence from recent OECD experiences," Paper prepared for the second meeting of the Joint Network on Fiscal Sustainability of Health Systems, 25-26 March 2013, OECD, Paris (unpublished). OECD Health has numerous studies of specific approaches. An excellent review for the US context is US Congressional Budget Office (CBO), *Key Issues in Analyzing Major Health Insurance Proposals* (December 2008). At <http://cbo.gov/sites/default/files/cbofiles/ftpdocs/99ss/doc9924/12-18-keyissues.pdf>.
63. Assuming there are no policy choices to ensure spending does not burgeon as a result. "Technology" is discussed further below.
64. See US Government Accountability Office (GAO), "Medicare: Outpatient Rehabilitation Therapy Caps Are Important Controls But Should Be Adjusted for Patient Need", HEHS 00-15R (8 October 1999). At www.gao.gov/products/GAO/HEHS-00-15R.
65. One common dispute is whether "induced demand" means that attempts to control prices do not work because providers will simply induce extra volume to compensate for the lost income. The answer, at least in the United States, is "No". For evidence see CBO, "Major Issues", op. cit., p. 109; Medicare Actuaries. 1998. Memorandum: Physician Volume & Intensity Response (13 Aug). www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/downloads/PhysicianResponse.pdf; Technical Review Panel on the Medicare Trustees Reports. 2000. Review of the Medicare Trustees' Financial Projections (December). www.cms.gov/Research-Statistics-Data-and-

- Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/downloads/TechnicalPanelReport2000.pdf. The other is whether medical care providers know that what they advise is the right course of treatment for the patient. The answer appears to be, "sometimes".
66. Various technology fads may waste large amounts of money in US hospitals, and perhaps elsewhere. But I'm not sure that makes hospitals different from other institutions, and at any rate arguments that technology causes rising costs focus on medical services.
 67. For one overview see Kaiser Family Foundation, "Snapshots: How Changes in Medical Technology Affect Healthcare Costs" (2 March 2007) at <http://kff.org/health-costs/issue-brief/snapshots-how-changes-in-medical-technology-affect/>.
 68. De la Maisonnette and Martins, op. cit. (2013), p. 42.
 69. Until the evaluators, in the United States, buy an imaging machine and start running a lot of tests. But that does not work for, say, endocrinologists. And it only works so long as policy allows them to buy the machines.
 70. But not in Japan, which has a very flexible price-setting system. See John C. Campbell and Naoki Ikegami, *The Art of Balance in Health Policy: Maintaining Japan's Low-Cost, Egalitarian System*. Cambridge: Cambridge University Press, 1998.
 71. The OECD and CBO studies cited earlier are very useful. My own analyses include "Cost of Healthcare in Western Countries". In David A. Warrell, Timothy M. Cox, and John D. Firth eds., *Oxford Textbook of Medicine*, 5th edition, Vol. 1, 112-116. Oxford: Oxford University Press, 2010; and "Targets and Systems of Healthcare Cost Control", *Journal of Health Politics, Policy and Law* (24:4), August 1999.
 72. Mark Pearson, "Written Statement to Senate Special Committee on Aging" (30 September 2009) at www.oecd.org/unitedstates/43800977.pdf.
 73. One issue is how to get satisfactory productivity from salaried physicians. This involves all the issues that normally apply to salaried personnel – sense of mission, possible sanctions, oversight, culture... But payment methods can be both more and less problematic than salary. At one end of the spectrum, if hospital physicians receive fees for each procedure, they have strong incentives to push hospital managers to maximise throughput. At the other end, if physicians are paid per session (e.g. 4 hours), and the time for a procedure does not divide neatly into that unit (perhaps it is normally 3 hours), then physicians might not work for all the time for which they are paid.
 74. The English NHS regime, under the Blair Government, of "Targets and Terror" to reduce waiting times has been described as an example of successful, if perhaps unpleasant, management. For one discussion with some citations see www.kingsfund.org.uk/projects/general-election-2010/key-election-questions/performance-targets. See also Carol Propper, Matt Sutton, Carolyn Whitnall and Frank Windmeijer, "Did 'targets and terror' Reduce Waiting Times in England for Hospital Care?", *Centre for Market and Public Organisation Working Paper No. 07/179* (November 2007). At www.bris.ac.uk/compo/publications/papers/2007/wp179.pdf. But the comparative data used for these analyses is a bit shaky; see the discussion of data problems in Sheelah Connolly, Gwyn Bevan and Nicholas Mays, *Funding and performance of healthcare systems in the four countries of the UK before and after devolution*. London: Nuffield Trust, 2011 (not 2010 version) At www.kingsfund.org.uk/projects/general-election-2010/key-election-questions/performance-targets.
 75. Uwe E. Reinhardt, "Spending More through 'Cost Control': Our Obsessive Quest to Gut the Hospital", *Health Affairs* 15(2) 1996: 145-154.
 76. For a discussion of the "long, if irregular history" of performance budgeting in the United States, see Allen Schick, "The metamorphoses of performance budgeting", *OECD Journal on Budgeting* Vol. 13, No. 2 (2013), pages 49-79. For an update on US experience with further commentary, see Joseph White, "Playing the Wrong PART: The Programme Assessment Rating Tool and the Functions of the President's Budget", *Public Administration Review* 72(1), January 2012, 112-120.
 77. For a good discussion of doubts about the concept see M. Ashmore, M. Mulkey and T. Pinch, *Health and Efficiency: A Sociology of Health Economics*. Milton Keynes and Philadelphia: Open University Press, 1989. For all their problems, QALYs are better than measures such as the US PART scores, which were pretty arbitrary. See White, "Playing the Wrong Part", op. cit., for why.
 78. It also involves judgments about efficiency that can be questioned: How much asthma or asthma-related misery will be reduced by screening? What is the value of the mobility advances from joint replacements? How do we know to whom to give the screening or surgeries, and doesn't the result depend on who gets them and who does them?

79. For a short recent summary of the issues see (no author) "The Economics of Prevention," *Academy Health Research Insights* (2012) at www.academyhealth.org/files/FileDownloads/RI_Econ_Prevention.pdf.
80. The September/October 2009 and May 2013 issues of *Health Affairs* are good examples of the variety. A quick look at the *Health Policy* website on 11 April 2014 found articles on 14 different aspects of costs either published in 2014 or in press as of that date.
81. See Bruce Vladeck, "Managed Care's 15 Minutes of Fame," *Journal of Health Politics, Policy and Law* Vol. 24, No. 5 (1999): 1207-11.
82. For one review see Joseph White, "Healthcare Reform: What is the Problem?" in Theodore R. Marmor and Philip R. De Jong eds., *Ageing, Social Security and Affordability* (Aldershot UK, Brookfield USA: Ashgate, 1998).
83. David M. Cutler, Karen Davis and Kristof Stremikis, "Why Health Reform Will Bend the Cost Curve", Commonwealth Fund Issue Brief (December 2009), page 10. At www.commonwealthfund.org/~/media/Files/Publications/Issue%20Brief/2009/Dec/1351_Cutler_Davis_Health_Reform_129_CAPAF.pdf.
84. Roy T. Meyers, *Strategic Budgeting*. Ann Arbor: University of Michigan Press, 1996.
85. The most common distinction is between "Beveridge" (essentially health service) and "Bismarck" (Social Health Insurance) systems. A good source on that distinction and how it is weakening is H. Rothgang, M. Carace, L. Frisina, S. Grimmeisen, A. Schmid and C. Wendt, *The State and Healthcare: Comparing OECD Countries*, New York: Palgrave MacMillan: 2010. For an alternative typology see Michael Moran, "Understanding the welfare state: The case of healthcare," *British Journal of Politics and International Relations* Vol. 2, No. 2 (2000): 136-60.
86. Joseph White, "Entitlement Budgeting vs. Bureau Budgeting", *Public Administration Review* Vol. 58, No. 6 (November/December 1998).
87. The major example is how the Germans have paid for physician services for many years. In essence, fees for each service are defined not in euros but in points; then the number of points each quarter is added up and divided into the budget allocation to create what is essentially a retrospective fee for each service. A similar approach has been designed, though perhaps not totally implemented, for public hospital payments under the French version of a DRG system.
88. Henry J. Aaron and William B. Schwartz, *Can We Say No? The Challenge of Rationing Healthcare*. Washington, DC: The Brookings Institution, 2005.
89. For a comprehensive explanation of the admittedly extreme circumstances of the United States, see James Q. Wilson, *Bureaucracy: What Government Agencies Do and Why They Do It*. New York: Basic Books, 1989.
90. This is one rationale for replacing ownership by contracting in an "internal market". How well it works in practice, however, is not so clear.
91. For a discussion of this developments see Reinhard Busse, Alexander Geissler, Wilm Quentin and Miriam Wiley eds., *Diagnosis-Related Groups in Europe: Moving towards transparency, efficiency, and quality in hospitals*. Maidenhead, Berkshire, England: Open University Press, 2011. There is great variation in use of DRGs, and in many cases they are being used more as a measurement tool than a payment category, but the trend away from set hospital budgets is clear.
92. On the current transitions see Rothgang et al. *The State and Healthcare*, op cit.; for the earlier history see Glaser, *Health Insurance in Practice*, op. cit.
93. Alan Auerbach, "Public Finance in Practice and Theory", Paper presented as the Richard Musgrave Lecture, CESifo, Munich (25 May 2009) p.20. At www.iipf.org/Auerbach_Alban_Public_Finance.pdf.
94. Ibid, p. 21.
95. This judgment is based on comparison of trends across countries as reported in Colleen Flood, Mark Stabile and Carolyn Tuohy eds., *Exploring Social Insurance: Can a Dose of Europe Cure Canadian Healthcare Finance?* (Montreal and Kingston: McGill-Queen's University Press: 2008). The main motivation for the conference is an example of calculations about possible effects. The organisers wanted to explore whether creating new social insurance for pharmaceutical benefits could both make coverage more adequate and equitable, and help provincial budgets by replacing general revenues that were being used for non-universal pharmaceutical benefits. In my chapter (pp. 233-249) I relied on both my own less systematic data and my interpretation of data reported in Sherry Glied's chapter, "Healthcare financing, efficiency, and equity".

96. For explanations of this dynamic see Anthony Downs, "Why the Government Budget Is Too Small in a Democracy", *World Politics* Vol. 12, Issue 4 (July 1960), pp. 541-563; Joseph White, "Making 'Common Sense' of Federal Budgeting", *Public Administration Review* Vol. 58, No. 2 (March/April 1998).
97. OECD, "Labour Losing to Capital: What Explains the Declining Labour Share?", Chapter 3 in *OECD Employment Outlook 2012*, OECD Publishing. At www.oecd.org/els/emp/EMO%202012%20Eng_Chapter%203.pdf.
98. The literature about cost-sharing is massive; a good review is Dahlia K. Remler and Jessica Greene, "Cost-Sharing: A Blunt Instrument", *American Journal of Public Health* Vol. 30 (2009), pp. 293-311. See also the discussions in the sources cited above in footnote 66. On the roles of private insurance, which sometimes is called "complementary" or "supplementary" but inconsistently across authors, see Joseph White, "Gap and Parallel Insurance in Healthcare Systems With Mandatory Contributions to a Single Funding Pool for Core Medical and Hospital Benefits for All Citizens in Any Given Geographic Area", *Journal of Health Politics, Policy and Law* 34:4, 2009, 543-83.
99. Recall the striking advances even over a recent decade in preventing avoidable mortality, as reported in Nolte and McKee, "Variations in Amenable Mortality", *op. cit.*

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