



HEALTH CARE AS A
HANDICRAFT INDUSTRY

Professor William J Baumol



Annual Lecture 1995

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*A look at the contribution of relative
productivity growth to the ill health of
health care expenditure, and at how to
adapt to this chronic cost disease*



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Professor William J Baumol is one of the leading economists in the world and is Professor of Economics and Director of the CV Starr Center for Applied Economics at New York University, Professor Emeritus and Senior Research Economist at Princeton University and an honorary fellow of the London School of Economics. He is the author of more than twenty books on subjects ranging from industrial organisation to the economics of the performing arts. His major contributions to economic thinking have included the analysis of relative price effects in the public sector and the theory of contestable markets, which has transformed economic thinking about competition in the last decade. The current focus of his research is productivity growth and he was a leading contributor to the debate on US health care reform in 1994.

Office of Health Economics

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FOREWORD

The seemingly inexorable rise in real health care costs (i.e. over and above the rate of inflation) has been a cause of great concern to governments throughout the world. Few economists in the world are better qualified than William Baumol to help us understand what is driving up real cost and how we can design a health care system that enables us to live with these cost increases.

His explanation – that the ‘handicraft’ nature of the technology of providing health care means it will inevitably have lower productivity growth than the economy overall – is more fundamental than the usual explanations offered of an ageing population, demand inducing new technology, and consumer pressure.

The argument is given added weight by the fact that it was his seminal research into relative price effects arising from differential productivity growth that first brought him to international attention more than 30 years ago. His view that the provision of health care can be made more competitive, so improving efficiency, will encourage many, as his theory of contestability, which first surfaced in the 1980s, has shaped modern economic thinking about industrial structure and competition. However, his thesis is that competition and greater efficiency will not fundamentally alter the relative productivity, and so cost, of health care. Society has to face up to the rising real costs of health care.

Professor Baumol’s solution will please many in the UK committed to a strong NHS. It is simply that we accept that spending on health care will rise as a share of national income. We must avoid the fiscal illusion of believing that we cannot afford to put up taxes in order to spend more on the NHS and other public services. Economic growth means that we can afford more of everything – private and public consumption.

However, in designing a health care system that will provide good health care for the whole population, Professor Baumol sets out some important attributes that will discomfort many supporters of the NHS. Drawing on his research during the US health care reform debate on the Clinton Plan, in which he participated as a strong supporter of plans to achieve universal coverage, he argues that publicly financed health care inevitably risks arbitrary cost cutting as politicians seek to keep taxes down. Far better to fund health care through a regulated private sector, with government as a residual purchaser for those who might otherwise be uninsured.

He also argues that good information can drive consumer choice and so make competition work, improving efficiency. Consumer choice must be constrained by co-payment, i.e. patients must pay something directly when visiting a doctor or obtaining a prescription medicine.

Of course this perspective reflects, in part, what is achievable in designing a health care system in the US. His views on the inevitability of rising real costs can be challenged as simplistic, and, of course, health care is not one production process or technology, but a bundle of technologies. Some of these may even be capable of productivity improvements that exceed the average for the economy. The evidence, however, suggests that the 'handicraft' effect has dominated and will continue to do so. Many of his points will give pause for thought to those on both sides of the UK debate about the NHS internal market. He suggests that information, choice and competition can improve efficiency, but there are limits. We should reconcile ourselves to spending more on health care as we become a richer nation and not penny pinch. We can afford it – the rising real cost of health care is a sign of our rising prosperity. In the long term, however, publicly funded health care may be cut. If taxes do not rise the choice is to design a privately financed system that provides high quality universal coverage, or to allow a publicly funded service to be steadily eroded.

I hope that readers will find this lecture gives them new insights into the health care financing debate and develops their thinking, whatever their economic and ideological perspective. My final, pleasurable, task is to thank Professor Baumol for delivering his stimulating paper at the 2nd OHE Annual Lecture on 5 April 1995, and to thank Lord Peston who chaired the lecture and subsequent discussion.

Adrian Towse
Director, Office of Health Economics

A LOOK AT THE CONTRIBUTION OF RELATIVE
PRODUCTIVITY GROWTH TO THE ILL HEALTH
OF HEALTH CARE EXPENDITURE, AND AT HOW
TO ADAPT TO THIS CHRONIC COST DISEASE*

I. INTRODUCTION

Throughout the industrial world health care is undergoing a financial crisis – a crisis whose source seems poorly understood, and whose resolution evades those who design public policy. It is thus an appropriate moment for a fundamental review of the logic underlying the structure of public programmes of health care, and its implications for that structure.

In this paper I will review, with the eye of an economist, some of the main problems that a governmental-sponsored programme of health care should address, and I will discuss very briefly some of the measures that have been proposed to deal with these problems. First, however, I will discuss at greater length, the critical issue of the persistently rising *real* (inflation-adjusted) costs of health care, and the reason why no major industrial country in the world has been able to overcome this difficulty, despite the very large variety of programmes that different countries have adopted. I will argue that the problem is, at bottom, not attributable to inefficiency, waste or greed on the part of anyone involved. Rather, I will provide evidence that the upward spiral of health care costs has a much more mundane source: the distinctive technological character of health care activities, including pharmaceutical and other types of research. Moreover, I will show why there is no imminent prospect of a substantial slowdown in the rate of increase in health costs, but I will, nevertheless, end up by demonstrating that this constitutes a problem for society considerably less serious than it appears.

*Sue Anne Batey Blackman's invaluable assistance in the preparation of this piece adds to my heavy debt to her. I am, of course, extremely grateful to the organisations that supported the research: the Alfred P. Sloan Foundation, the Price Institute for Entrepreneurial Studies, and the CV Starr Center for Applied Economics. I am also indebted to Professors A.J. Culyer and Carol Propper and to Mr. Adrian Towse, for their very helpful comments.

First a disclaimer. I am not a specialist in health economics and, in particular, I can claim no expertise on the health care system of the UK. Hence, despite very kind invitations from the sponsors of this meeting to offer some remarks on the issues that face those who manage and design the British arrangements and institutions I have concluded that this would constitute inexcusable presumption on my part. Yet, since I have participated rather intensively in the formulation of some of the health care legislation that was recently proposed in the US it seemed excusable to offer a precis of some of the main issues that the debate over that legislation brought to our attention: My activities there, together with my experience in the design of regulatory policies and, in particular, those related to rate structures for large firms, may enable me to offer some observations that those more knowledgeable about the circumstances in the UK may conceivably find illuminating and perhaps even useful.

It is arguable, however, that the specter that haunts those who manage any system of health care – a specter that resists all attempts at exorcism – is the persistence and universality of rising real cost, that is, the growth of cost over and above the rate of inflation in the economy generally. It has spread fears in every industrialised economy, not only over financial manageability but even over the ultimate viability of any national commitment to universal health care of reasonably high quality. I therefore begin my discussion with this issue, which is by no means pertinent only to the US, and shall focus on possible causes and their implications for policy and for the general welfare.

II. THE COST CRISIS IN HEALTH CARE

There is hardly an election in an industrialised country nowadays in which a promise to contain these costs is not expected of every viable candidate. In the US President Clinton has repeatedly stressed this issue as one of the most critical facing society, noting that rising costs have raised prices beyond the means of a substantial proportion of the population.

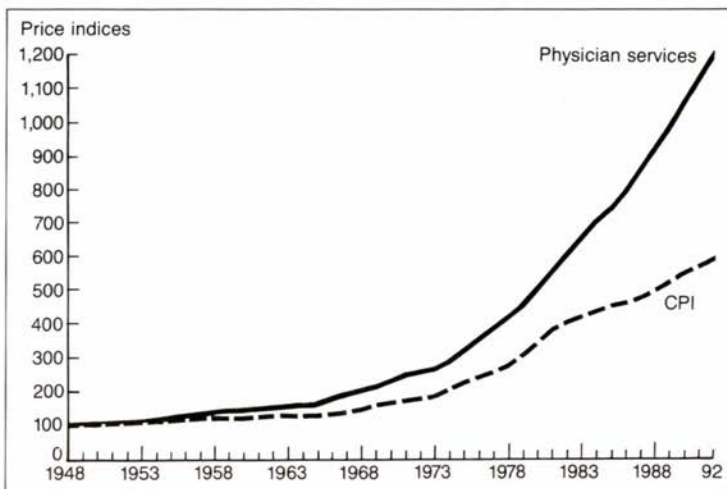
In the discussion that follows I will suggest that not only health care, but also education, police protection, the performing arts, legal services and a number of other significant economic activities, share both this problem of growing costs, and also at least one source of the problem. Until that source is recognised, I will argue, policies that

attempt to deal with the galloping costs are likely to prove ineffective or worse. Once the source of these rising costs is understood, however, promising courses of action to address the problem or, at least, ways of living with it, do suggest themselves. Thus, while the beginnings of the discussion will appear suitably grim, the story, it can be promised, will have a rather happier ending – though one that does still depend on the rationality and insight with which policy makers are prepared to approach the matter.

It is often noted that the cost per capita (or cost as a share of average income) of health care in the US is considerably higher than it is in most other countries. We can be fairly certain from the statistical evidence that this is true, despite the well-known pitfalls besetting comparison of prices in different countries with their different currencies. The shortcoming of this conclusion, in my view, is not that it is suspect, but that it focuses upon the wrong issue. The pain society experiences from the cost of health care does not derive primarily from its *level* at some particular date but, rather, from its *growth rate* over time. What makes the problem so difficult to deal with is the fact that high as the costs may have been yesterday, they are considerably higher today, and will be substantially higher still tomorrow. Note that here I refer not to mere price inflation, but to what economists call ‘real price increases’, that is, price increases *above and beyond* the rate of general inflation of prices in the economy. It is these real price increases that so confound policymakers’ efforts to deal with the financing of health care and cause suspicion and disillusionment among taxpaying citizens.

The magnitude and persistence of the rates of growth of the real prices are sufficiently striking to leave little doubt that even if the time derivatives, that is the rates of increase of the real costs of health care and education, are not the only difficulty, they are surely a major component of the problem of health care financing. Let me review some of the facts, beginning with US data. In Figure 1 we see how the price of physicians’ services (upper curve) has cumulatively outstripped the economy’s rate of inflation (lower curve). From 1948 to 1992 the annual rate of increase in the price of a physician’s services (the price charged by the doctor to the patient) was more than 5.5 per cent, compared to an average annual increase of 4 per cent in the government’s measure of overall inflation, the Consumer Price Index, or CPI (Figure 1 shows the graphs of these two series). This difference may not seem very large, but over the 44 years in question it means

Figure 1 *Index of price of physician services vs. CPI. for the US, 1948-1992.*



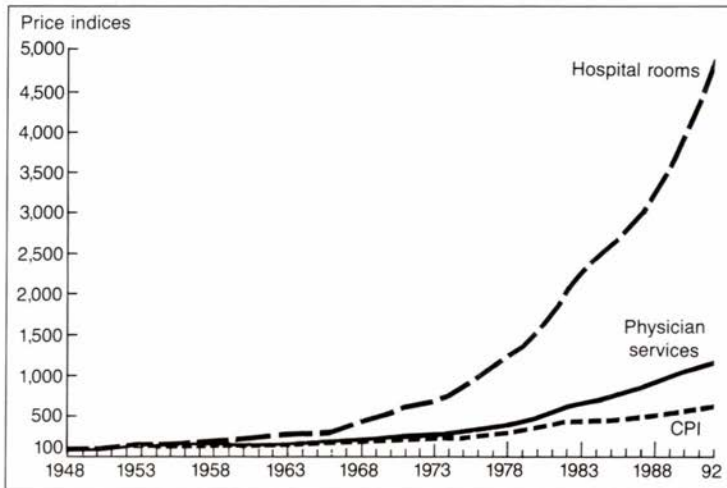
Data source: US Bureau of Labor Statistics

that the price of a doctor's services has increased by approximately 1,100 per cent in nominal terms, or more than 100 per cent in terms of dollars of constant purchasing power.

Over the same period, the price of a hospital room increased even more rapidly, by a considerable margin, than the cost of a visit to a physician. The cost of a hospital room is reported by the US Bureau of Labor Statistics to have risen at an average annual rate of 8.8 per cent compounded, which over the 44-year interval cumulated to nearly a 5,000 per cent nominal increase. This amounts to a 700 per cent rise in terms of dollars of constant purchasing power – that is, after full correction for the economy's overall price inflation during this time interval. Figure 2 reports the hospital-room cost data and shows how it makes the rise in the real price of a physician visit seem modest by comparison.

Increases of this magnitude clearly constitute a serious threat to the government's budget where health care is financed by the public sector or, where individuals bear the cost directly, to the quality of medical care that middle and lower-income persons can afford. In an affluent society such as ours, that is dedicated to promoting the

Figure 2 *Indices of cost of hospital rooms, physician services and CPI, 1948-1992, for the US*



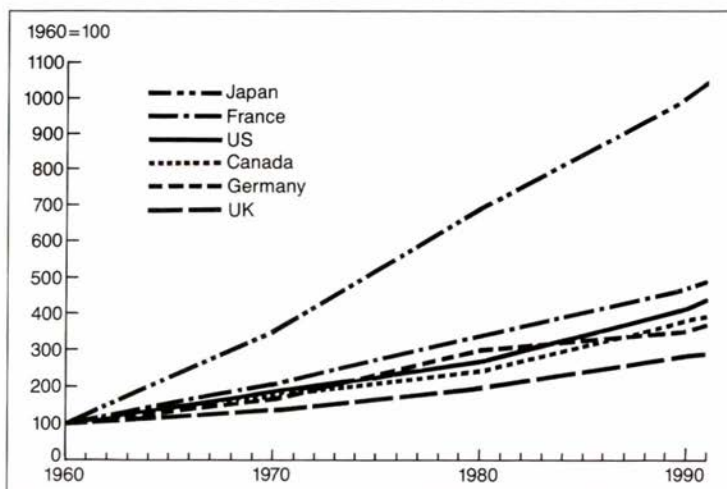
Data source: US Bureau of the Census and BLS

general welfare – including the provision of medical care meeting some minimum standard of acceptability – the rising price of medical care clearly represents a problem of the utmost importance.^[1]

There remains the question whether the problem of steadily growing real cost of health care is an issue peculiar to the US. It has been suggested that other countries exercise firmer control over their medical costs, and nevertheless continue to offer better and more affordable public services. There is, undoubtedly, much truth to this contention, and it reflects, among other influences, a variety of public policies – a greater commitment to social services financed by tax rates far higher than those in the US, stricter controls on the fees charged

1 There have, of course, been some offsetting, beneficial developments. Growing scientific knowledge and improved medical techniques indisputably mean that patients are getting better care for their money than they were forty years ago. More than that. To the extent that innovation has reduced the length of treatment some illnesses require, expenditure per illness must have risen correspondingly less quickly than cost per patient-day.

Figure 3 *Index of real per-capita health expenditures, six OECD countries, 1960-1991 (1960 = 100)*



Source: OECD Health Systems, 1993

by physicians, and so on. Still it must be remembered that there are few industrialised countries in which similar complaints about *rates of cost increase* are not heard.

Let us, then, examine what the data show. The OECD provides data on the real per-capita costs of health care for a number of countries, that is, data corrected for inflation and, hence, expressed in terms of a currency of constant purchasing power. Figure 3 provides for the more than three decades, 1960-1991, the information for six major industrialised economies, Canada, France, (West) Germany, Japan, the UK and the US. The data have been calculated to start from a common base (1960 = 100) to make their comparative growth rates easier to discern.

The picture that emerges is clear. Japan easily experienced the most rapid growth rate of the six countries, but that is presumably attributable to the low level of expenditure on the health of its population with which it began after World War II. All the other countries in the sample exhibit fairly similar growth rates, with the UK the lowest of the six.

Much more important for our purposes is the fact that per-capita

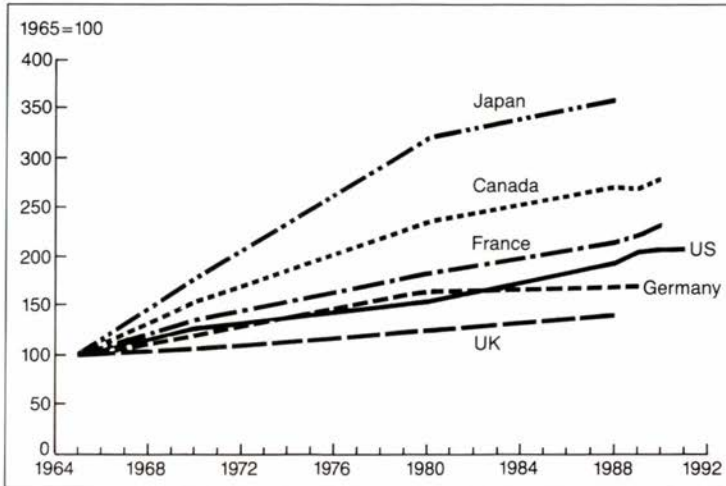
cost in each of the six countries grew persistently and substantially faster than its economy's overall rate of inflation. Moreover, there was no decade in which any one of the countries experienced a decline in these costs, even after full adjustment for inflation.

We may digress briefly to show that a similar phenomenon is to be observed in the cost of education (as it is for each of the other services previously mentioned as victims of a similar problem). We can look at the cost of education per student for six countries: Japan, the UK (1965-1988), Germany (1965-1989), Canada, France (1965-1990) and the US (1965-1991).² We derived these indexes (1965 = 100) by taking total expenditures of educational institutions, dividing by total enrollment, and then adjusting for inflation. The resulting indexes of real education cost per student are shown in Figure 4. Here we see that for each country, despite the deflation of the numbers, every one of the curves remains upward-sloping, meaning once again that the cost of education per student rose quite consistently faster than the general price level in each of the countries in the sample.

At least two conclusions are suggested by our quick review of the data. First, it should be clear that there is no country whose health care or educational system provides any sure model for a quick fix of the problem of the rising real cost of those services. Second, the universality and persistence of the problem – the fact that it has endured for three decades at the very least, and has beset many countries – indicate that the causes are more fundamental than the particular administrative or other institutional arrangements adopted in any one country. Let us, then, inquire into at least one possible source of the rising-cost phenomenon.

2 The data for the US includes expenditures of all educational institutions, public and private, at all levels. The expenditure figures for the other countries are confined to public institutions, which constitute the bulk of their educational institutions. The US figures are from US Department of Education, while the source for the statistics for the other countries is the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The general price indexes – the gross domestic product (GDP) deflators – come from the Organisation for Economic Cooperation and Development (OECD).

Figure 4 *Index of real education expenditures per student, six countries, 1965-1991 (1965 = 100)*



Sources: UNESCO and US Department of Education

III. THE PERSISTENCE OF PRODUCTIVITY-GROWTH DIFFERENTIALS AND THE COST DISEASE

The issue is surely complex, and no single explanatory hypothesis can pretend to account for a set of problems whose roots are undoubtedly sociological and psychological as well as economic. Still, there is one influence that goes far in accounting for the difficulties that have just been described, and that at the same time at least suggests the general directions one must pursue if a way out is to be found.

It should be kept in mind that the following discussion focuses throughout, not upon the *level* of costs, but upon their real *rates of increase*. In the US, for example, there are many influences, actual or alleged, notably malpractice lawsuits against doctors and others involved in health care, lack of competitiveness in the profession and high earnings of physicians, that clearly may help to explain the levels of those costs, but I am aware of none beside the one about to be described that seems to account for the way in which *growth* in health and education costs persistently outpaces the rate of inflation in many

countries. For my country the evidence indicates that in recent years malpractice payments per physician have been declining (see, e.g., Hay [1992, p. 121, Table 6.1]), competitiveness among health care providers has been rising, and, at least for substantial periods, the real earnings of physicians have, on the average, been approximately constant (according to the 1991 *Statistical Abstract of the United States*, during the period 1975-1988 median net physician incomes actually declined somewhat in real terms).³

How, then, can one explain the source of the rising-cost problem? It is almost exactly a quarter century since William Bowen and I [1966] first reported our analysis of what is now called the 'cost disease of the personal services', including health care, education and a number of other services, with its profoundly disturbing presage of the future. I remind the reader of this not to gloat over the accuracy of our depiction of the future (though I cannot deny that it is a source of some uneasy satisfaction). Indeed, we were not the first to offer such an analysis, and we explicitly denied at the time that we were providing a forecast. Still, the course taken by the economy since then, as it had for so long a period before, followed disturbingly closely the gloomier of the scenarios that our model suggests and undertakes to explain.

A major source of the cost disease was traced to the differences in the productivity growth rates of the various parts of the typical developed economy. It is productivity growth that, on this view, creates both private affluence and public squalor (to borrow from Galbraith), and it is not by mere happenstance that at the same time, in the words of the poet, 'wealth accumulates and men decay'. For it is inherent in the technological structure of the economic growth process that a particular set of economic activities, many of them the very activities that are generally considered most critical for the welfare of the society, are condemned to a pattern of spiralling increases in their real prices that appears to put them beyond the reach of both the individual and the state.

It is hardly surprising that, while overall productivity in the

3 During this same period teachers' salaries in elementary and high schools were increasing slightly in real terms (US Department of Education [1992, p. 811]), so that doctors' incomes were actually rising more slowly than those of schoolteachers.

industrial world has been growing rapidly, the pace of growth in different industries has varied substantially. What is more unexpected is the persistence of the pattern of differences in productivity growth between economic sectors. A given sector of the economy does not usually fluctuate haphazardly between periods of relatively slow and relatively rapid advance in productivity. Rather, the industries in which productivity was expanding slowly a century ago are, by and large, the very same ones that are still the laggards today. And the endurance of productivity stagnancy in those industries has imposed upon them a distinctive price history that is the fundamental symptom of the cost disease of the personal services. This cost disease phenomenon occurs when the services, in a class that will presently be described, are plagued by cumulative and persistent rises in their costs, increases that normally exceed to a significant degree the corresponding rate of increase for commodities generally, i.e., they almost always outstrip the economy's rate of inflation.

The services in question, which I call the handicraft services, include, most notably, health care, education, legal services, welfare programmes for the poor, postal services, police protection, sanitation services, repair services, the performing arts, restaurant services and a number of others that will soon suggest themselves. The common element that characterises them all is the relatively labour-intensive, handicraft attribute of their supply processes. None of them has, at least so far, been fully automated and liberated from the requirement of a substantial residue of personal attention by their producers. That is, they have resisted reduction in the amount of human labour expended per unit of their output. Not that the growth in their rates of labour productivity has always been zero. On the contrary, in almost every case there has been some rise in the productivity of these personal services with the passage of time; but over longer periods it has been far slower than the rate of productivity increase characteristic of the economy as a whole. That is why we characterise these handicraft services as stagnant.

There are at least two reasons why rapid and persistent productivity growth has eluded the handicraft services. First, some of them are inherently resistant to standardisation. Before one can undertake to cure a patient or to repair a broken piece of machinery it is necessary to determine, case by case, just what is wrong and the treatment must then be tailored to the individual case. The manufacture of thousands of identical automobiles can be carried out on an assembly line and

much of the work done by industrial robots, but the repair of a car just hauled to a repair shop from the site of an accident cannot be entrusted completely to automated processes. A second reason why it has been difficult to reduce the labour content of these services is the fact that in many of them quality is, or is at least believed to be, inescapably correlated with the amount of personal attention devoted to their production. Teachers who cut down the time they spend on their classes or who increase class size, doctors who speed up the examination of their patients, or a police force that spends less time patrolling the neighbourhood are all held to be shortchanging those whom they serve. This, then, is why the handicraft services have consistently proved unamenable to steady and substantial productivity growth, that is, to reduced labour content. To see the implications for costs and prices, let me return to a (slightly edited) quotation from our description of the relationship (Baumol and Bowen [1966, pp. 167-171]).

IV. CUMULATING REAL PRICE INCREASES: THE FATE OF THE HANDICRAFT SERVICES

Let us imagine an economy divided into two sectors: one, the progressive sector, in which productivity is rising, and another, the stagnant sector, in which productivity is constant. Suppose the first economic sector produces automobiles, and the second, performances of Haydn quartets. Let us assume that in automobile production, where technological improvements are possible, output per work-hour is increasing at an annual rate of 4 per cent, while the productivity of quartet players remains unchanged year after year. Imagine now that the workers in the automobile industry recognise the growth in their own productivity and persuade management to agree to a matching rise in wages. The effect on the auto industry is easy to trace. Each year the average auto worker's wage goes up by 4 per cent, but her output increases by exactly the same percentage. Then, the one effect on cost is exactly offset by the other – total cost and output both rise four per cent. As a consequence, labour cost *per unit* (the ratio between total labour cost and total output) remains absolutely unchanged. This process can continue indefinitely in our imaginary world, with auto workers earning more and more each year, with cost per car remaining stationary, and with no rise in automobile prices necessary to maintain company profits.

But what of the other industry in our little economy? How is quartet performance faring in this society of growing abundance? Suppose that the quartet players somehow succeed in getting their wages raised, and that their standard of living, though below that of the auto workers, maintains its relative position, also increasing 4 per cent per year. What does this situation imply for the costs of quartet performance? If the earnings of string players increase by 4 per cent per year while their productivity remains unchanged, it follows that the direct labour cost per unit of their output must also rise at 4 per cent, since cost per unit is equal to total cost divided by the number of units of output. If in a forty-hour week the string player provides just as many performances as he did the previous year, but his wage is 4 per cent higher, the cost per performance must have risen correspondingly. Moreover, there is nothing in the nature of this situation to prevent the cost of performance from rising indefinitely and at a compounded rate. So long as the musicians are successful in resisting erosion of their relative incomes, the cost per performance must continue to increase along with the performer's income. Cumulatively rising costs will beset the performing arts with absolute inevitability.

Indeed, with productivity per work-hour roughly constant, *any* increase in the musicians' wage rates, however modest, must lead to a corresponding increase in costs. If wages go up 4 per cent elsewhere in the economy, but performer incomes rise by only 2 per cent, the direct labour cost of each performance must also increase by 2 per cent unless there is an offsetting reduction in the number of labour-hours per performance, that is, an offsetting rise in productivity.

It is important to recognise that ordinary price inflation plays no role in the logic of our analysis. That is, so long as the wages of musicians in this two-sector economy continue to increase at all, the cost of a live performance will rise, cumulatively and persistently, relative to the cost of an automobile, whether or not the general price level in the economy is changing; the extent of the increase in the relative cost of the performance will depend directly on the relative rate of growth of productivity in the automobile industry.^[4]

4 Any overall price inflation in the economy, which affects the prices of all goods and services, contributes a separate, additional monetary cost increase on top of the handicraft services' innate price increases.

Moreover, though it is always tempting to seek some villain to explain such a cumulative run of real price increases, there is no guilty party here. Neither wasteful expenditure nor greed plays any role. It is the relatively stagnant technology of live musical performance – its inherent resistance to productivity improvements – that accounts for the compounding rise in the cost of performance of quartets.^{5]}

It will be evident that the foregoing analysis is applicable to many other personal services. In particular, the services that have been labelled ‘handicraft’ all appear to have difficulties persistently impeding growth in their productivity very similar to those that beset the musicians in our parable. Clearly, health care has taken giant steps in quality improvement over the decades, but while the amount of physician time spent per patient-visit or per illness may have declined somewhat, it has done so only marginally; in education there has been no marked change in class size, and therefore no large variation in number of students served per teacher-hour, and it is widely judged that there has been little if any improvement in quality. The output of an hour of police protection, or an hour of postal delivery time, or an hour of street cleaning time has probably been enhanced by the use of motor vehicles in terms of territory covered, but the increase has probably been modest (criminal activity has also been ‘enhanced’ by the use of motor vehicles), and certainly has not been continuous and cumulative. The productivity of trial lawyers and actors or musicians engaged in live performances has risen to a minuscule degree at most, and while automotive repair services have done somewhat better, the increase in their productivity has still been well below that of automobile manufacturing. The circumstances of the insurance industry follow directly from what has just been said, for the purchaser

5 The advent of mass media has, of course, contributed spectacularly to productivity in musical performance, increasing enormously the number of listeners reached by a given number of hours of performance. Yet, that has not solved the problem. The costs of television broadcasting, for example, are increasing at a compounded rate very similar to that of live performance. The reason is that the very rapid growth of productivity in the high-tech portion of broadcasting has made the cost of television transmission an ever-declining portion of the total budget of broadcasting activity, leading the live performance component to constitute a constantly rising share of the total. For a full discussion and the statistical evidence, see Baumol, Blackman and Wolff [1989, Chapter 6].

of an insurance policy simply is acquiring a bundle of several handicraft services – health care, auto repair, legal services, and so on, and as we have just noted, productivity growth in the supply of this bundle has surely lagged. A final class of handicraft activities to be noted here is particularly significant in terms of the state of society. The care of the indigent and related programmes seem to benefit from no significant source of productivity growth – they appear to remain fundamentally unchanged, handicraft activities.^[6]

The upshot is that all of these services suffer from a rise in their costs that is terrifyingly rapid and frighteningly persistent.^[7] They threaten the strained budgets of the individual families, the municipalities and the central governments of the entire industrialised world. And, as financial stringency becomes more pressing, it is understandable that spending on these services is cut back or, at most, increased by amounts barely sufficient to stay abreast of the overall price inflation in the economy. But since the costs of the handicraft services are condemned to rise, persistently and cumulatively, with greater rapidity than the rate of inflation of the economy, the consequence is that the supply of these services tends to fall in quantity and quality. This undoubtedly is not the only source of increasing public squalor, but it must surely have made a significant contribution.

6 This is also apt to be true of transfers – cash payments to the indigent – if those payments are adjusted regularly to keep up with the costs of the services needed to prevent the living standards of indigent persons from declining.

7 The cost disease analysis also has an implication that may help to account for the high relative level of health care cost in the US. It must be remembered that, despite widespread impressions to the contrary, productivity levels in all or virtually all other countries still remain well below those in the US. If that is so, we should expect the graphs for their medical costs as well as those for other handicraft services to have intertemporal shapes very much like those shown for the US in Figures 1-3, but that their heights should not yet have reached the levels of the American figures. The point is that we are all going rapidly uphill, but the US began climbing earlier.

V. TOWARD VIABLE POLICY: CAN WE AFFORD ABUNDANT HEALTH CARE?

The pervasive fiscal difficulties that threaten quality of life in the industrialised countries have many roots. However, the evidence that has been presented here indicates that a considerable share of the problem is attributable to the cost disease. If inflation proceeds at a rate of, say, four per cent per year, but the costs of education per pupil and of other municipal services rise at a rate of six per cent, then a tax base that expands only a little faster than the rate of inflation is sure to lead to growing financial problems for the city. Medical costs and insurance premiums that considerably outstrip the rate of inflation year after year would appear to put vital health care services beyond the reach of all but the wealthiest families. If I am right in arguing that the cause of this predicament is the nature of the technology of the supply of these services, and that the course of development of such technology does not lend itself to easy modification, then the implication would seem grim indeed.

Yet, I shall argue now that, far from there being no exit, the very structure of the problem is such as to offer society all the resources requisite for its solution. Contrary to appearances, we can afford ever more ample medical care, ever more abundant education, ever more adequate support of the indigent, and all this along with a growing abundance of private comforts and luxuries. It is an illusion that we cannot do so, and the main step needed to deal effectively with these fiscal problems is to overcome that illusion. This conclusion may strike the reader as implausible in light of all that has been said. Yet, the conclusion is inescapable, if only our future productivity record bears any resemblance to that of the decades past which brought the industrial world ever-better health care and ever-more education, despite rising costs. Even if it were true that productivity in the handicraft services was not increasing one iota, their rising prices could still not put them beyond the reach of the community; on the contrary, it would remain true that society could afford ever more of them, just as it has in fact been getting ever more of the health care and education that seem steadily to become to an ever greater degree too expensive to afford.

As was pointed out some time ago by David Bradford [1969], in an economy in which productivity is growing in almost every sector and declining in none, it is a tautology that consumers can have more of every good and service. To achieve this goal, some *limited* quantity of

the inputs used to produce goods whose productivity is growing relatively quickly (the 'progressive' outputs) need be transferred into the production of the stagnant, handicraft, services. Then productivity growth will still permit expansion of the progressive output quantities, despite the limited decline in their inputs, while the outputs of the stagnant service will grow because more input is devoted to their production. To achieve such a goal – ever greater abundance of everything – society must change the proportions of its income that it devotes to the different products. In these circumstances, it is a fiscal illusion that underlies the view that consumers as a group cannot afford to pay the rising costs of education, health care, and other such services.

We can suggest the magnitudes that may be involved by using current US data on price trends and expenditures on health care and education to illustrate the point. We will now see what would be entailed if the real prices of education and health care continue to grow at their current rate for the next 50 years, if overall US productivity rises for that period at its historic rate of (approximately) two per cent, and if real educational and health care outputs maintain an unchanged share of GDP – that is, if the economy were to produce more of education, health care and everything else, keeping their relative outputs completely unchanged. It should be emphasised that the resulting numbers do not pretend to constitute anything like a forecast – they are intended to be no more than a suggestive extrapolation. Or rather, they are intended as an indication of what the economy will be *capable* of achieving for the public, if historic price and productivity trends continue. Of course, as the share of health care and education services in GDP increases, overall productivity growth in the economy may well decline. I assume a steady 2 per cent growth rate in overall productivity only for simplicity of exposition.

In 1990 less than twenty per cent of national expenditure, that is, GDP, consisted of outlays on health care and education. However, if the real outputs of health care and education are to grow for 50 years exactly in step with the rise in real GDP permitted by growing productivity, then the rise in the *relative* cost of our two services clearly means that the share of national expenditure devoted to these two items will also have to rise. This alone is hardly surprising, but the magnitude of the required change in outlay proportions *is* startling. Straightforward arithmetic shows that by 2040 medical outlays, instead of constituting 12 per cent of the total, as they did in 1990, must rise to more than 35 per cent of the total. And the share of

expenditure devoted to education will have risen from under 7 per cent of the total at the beginning of the period to nearly 30 per cent at the end. In other words, if current relative price trends and output proportions continue as they are now, by the time four decades of the next century have passed, education and health care alone will absorb well over half of GDP!

This undoubtedly seems devastating, on first consideration, but it is not, for it will not prevent consumers from *more than trebling* their consumption of *each and every* good and service, including manufactured necessities and luxuries of every variety, as well as health care and education. The same sort of arithmetic used to obtain the figures in the preceding paragraph tells us the consequences for output if the number of hours of labour performed in the US remains constant but productivity in the economy grows at its historic average rate and each industry's output level is adjusted to retain the same share of total output. It shows that in that period the output of every good and service, including education and health care, can increase to more than 3.5 times its 1990 magnitude. This growth is the necessary consequence of growth of productivity at a rate of two per cent per year for fifty years. It means that the nation cannot possibly end up with *less* real purchasing power, despite the startling rise in the extrapolated cost of our two services.

And a little thought confirms that this can continue indefinitely. Some observers think that nations lack the purchasing power to continue to pay for health care with its ever-rising real costs. But the ever-growing productivity in the rest of the economy, that is at the root of the problem, shows that this conclusion is incorrect. Each nation's purchasing power grows constantly as the number of hours one must work to purchase a given bundle of food, automobiles and health care continues to decline. It is only a question of how a nation chooses to spend that purchasing power, the growing fruit of its labour.

An analogy can perhaps make the sanguine character of the basic conclusion clearer. Suppose we think of the public's consumption of goods and services as the purchase of a bundle containing many components, just as the purchase of a car includes the acquisition of seats, engine, steering wheel, etc. Imagine that the price of steering wheels is increasing at an impressive rate, but that because of the decline in the costs of the other components, cars (equipped with steering wheels) grow less expensive every year. Would one really conclude that steering wheels are growing unaffordable, even when their price grows to 65 per cent of the declining price of the car?

VI. GENERAL HEALTH CARE ISSUES IN THE US AND THE UK – SOME PRELIMINARY REMARKS

Having gone as far as I can here in examining the issue upon which this paper focuses, I will turn next to some brief observations on the design of a health care system that surfaced in last year's American debate. It will be seen that some of the pertinent attributes are immediately relevant to the British arena, while others are quite remote. There is, however, one background matter that deserves some initial observations and that is undoubtedly of interest in both our countries. That matter is the current role of competitiveness and the part that it can prospectively play in the future in protecting the interest of the general public in the workings of the health care system.

The degree of competitiveness or contestability of health care services in the US has been a subject of substantial controversy. On the one side of the matter, there is the profusion of providers of care, including unaffiliated physicians, among whom the prospective patient is able to choose, in at least a substantial share of communities in my country. Moreover, no one has suggested that there has been extensive collusion among doctors in the prices they charge for their services. Prices can and do differ from one doctor to another and from one health maintenance organisation to another, and doctors do also charge different fees to different patients, making price fixing all the more difficult to carry out.

On the other hand, it is argued that there are severe impediments, both 'natural' and 'artificial' to competitiveness or contestability of the markets for medical services. Licensing requirements have been instituted, arguably with the best of intentions, but they *do* restrict supply, and make entry into the profession more difficult. It has been suggested, perhaps somewhat less plausibly, that medical schools too, have restricted both admissions and graduations, with similar consequences. It has also been argued that complaints about overcharges as well as malpractice are usually settled by panels of physicians who are predictably sympathetic to their colleagues. Above all, it is maintained rather persuasively, that competition in the medical-services markets is restricted by the position of the patient or the prospective patient, who is ill informed about the comparative fees charged by different providers, who is untrained in the field and is consequently unequipped to judge the relative skills and records of

competing providers, and that in many cases, the moment when choices must be made is a moment of emergency, when neither the patient nor anyone accompanying the patient is in a position to gather the data requisite for an informed selection.

It should be noted that to the extent these impediments do actually prevent effective competition they serve also to handicap any prospects of contestability of the markets. A contestable market is one characterised by extreme ease of exit and entry so that overcharges or poor service by incumbent providers will rapidly attract new rivals, producing a punishment that fits the crime by taking away the customers of the incumbents. But if licensing, the requirement of a protracted study period, and restrictions on number of students graduated from medical school all effectively undermine ease of entry they certainly prevent contestability of the markets. Moreover, even if entry were easy, limits of consumer information and ability to choose might well have similar effects.

Yet, whatever the state of competitiveness of the markets for medical services in the US may be, there can be little question that *their competitiveness is growing*. That is, while the ideal of competitiveness may or may not still be far from attainment, all the evidence indicates that we are coming closer to that state of affairs. For example, the advent and very rapid growth in number and membership of the privately owned and operated HMOs (health maintenance organisations) and comparable organisations that seek to attract members by providing comprehensive but economical service has certainly added to the forces of competition. The number of physicians per capita has been expanding since 1960 and, with that, the pressures for doctors to compete for patients. Moreover, the proportion of applicants to medical school that are granted admission and the proportion of medical students who graduate have also grown. This and much other evidence indicates that, whatever one may judge on the presence or absence of competition in the field, it has certainly been increasing, not declining with the passage of time, as it would have had to have done if it were to constitute an explanation of rising health care costs.^[8]

8 For a much more thorough and sophisticated econometric study of the subject by an economist employed by the Federal Trade Commission (one of the two anti-trust agencies in the US federal government) see Noether [1986]. That study provides strong evidence for the conclusion in the text.

What is the implication of these remarks on competitiveness for circumstances in the UK? Here, as already admitted, I am in no position to provide answers. However, some pertinent hints will arise in the course of the sections that follow, as the requisites and benefits of effective competition are discussed.

VII. GENERAL ATTRIBUTES OF A DESIRABLE HEALTH CARE PROGRAM: EIGHT GOALS FOR POLICY MAKERS

I believe the following list includes the characteristics that are most important in determining whether a health care programme is acceptable in terms of the public interest. The nature of my own experience means, unavoidably, that it is oriented toward the circumstances and political orientation of the American scene, particularly in terms of its concern about the role of the free market and private enterprise. I will also frame the discussion in this and the following sections in terms of a health care programme that is being designed from scratch, as it were, rather than one that is already established and for which only incremental modifications are likely to be considered. My list of desiderata for a health care programme is, then, a list rather different from that implicit in discussions by some UK economists.

1 Universal Coverage. The most fundamental and widely agreed-upon attribute of a health care programme is that it provides to all persons a basic set of services that is guaranteed against termination for any reason.

In addition, there are a number of other attributes of a health plan for the nation on which most careful observers would probably agree. They include:

2 Minimal Role of Government. A good health care programme should minimise public sector interference in the delivery of health care, that is, in choice of medical techniques, directions of research, and other matters that seem best left in the hands of professionals, to be determined in a decentralised manner, rather than by a government bureaucracy, even one that is competent and completely dedicated to the public interest.

In addition, in the US it is widely held that only a minimum of the required financing for a health care programme should pass through public sector channels. Later, I will offer a reason that constitutes some

justification for this second presumption, making it more than a mindless manifestation of loyalty to the market mechanism in all things.

However, if the goal of universal health care is to be achieved, the government nevertheless cannot avoid playing a substantial role, notably in financing the care of impecunious consumers, providing general oversight of the programme, and in guaranteeing adequate information to consumers in their choice of health care providers.

3 Quality Maintenance. There must be safeguards against unjustifiable cuts in quality of care dictated by cost-cutting pressures or other incentives. Here, as we will see, both governmental and market-oriented measures are possible.

4 Innovation. The health care programme must not destroy the incentives for research that have contributed so much to medical progress. In this arena, a prime danger is posed by the use of government price controls as a means to circumscribe costs, because those who set the price controls are prone to providing inadequate compensation for the risks of a programme of research and development. This is particularly likely to be true of ceilings upon compensation for the very high number of prospective pharmaceutical products that can be expected to fail during the research process and later. Obviously, failure to permit recoupment of the costs of such unavoidable failed experiments can serve as a very substantial disincentive for investment in medical R&D.

5 Adverse Selection. The programme must prevent the practice by health care provider organisations of keeping costs low by offering their services only to persons likely to entail low risk, while foisting the high cost of riskier patients upon residual providers whose quality of care is likely to be depressed. This is a very real problem, and one that needs to be guarded against. However, at least in principle, it can be dealt with by prohibiting any community or health service provider from rejecting any applicant for its services unless the provider has attained capacity, and by prohibiting the providing organisation from terminating its supply of health care services to any consumer.

6 Discouragement of Capricious Overuse. A health care arrangement that includes no usage charge to the consumer is an invitation to excessive use. If only to prevent such overutilisation of

services, some usage-based charge is necessary. We will also see that in a health care system that rests on the market mechanism, some charges are unavoidable if consumers are to be supplied with an incentive to avoid wasteful and needlessly expensive service providers.

7 Incentives Against Voluntarisation of Poverty. If the charges just mentioned are not negligible, the very poor will have to be partially or totally exempted from them. This means that an initially unemployed individual who takes on a job is likely to find that this subsidy is curtailed or eliminated as a consequence. If the resulting change in health care costs to the individual is substantial it can serve as a substantial disincentive against acceptance of gainful employment. To avoid this, ways must be found to write the rules so that those on public assistance can enter the work force without facing sudden steep increases in payments that make the move economically disadvantageous.

8 Cost Containment. Through an appropriate set of rules and incentives, the programme should seek to keep costs and their rate of increase to a viable minimum. However, this necessarily involves some trade-off with quality of service and the range of health care benefits provided. Moreover, we will see later that there are severe limits to what can rationally be expected from a cost containment programme, limits that many may find surprising and disappointing.

VIII. PROGRAMME PROVISIONS FOR ACHIEVEMENT OF THE GOALS

The preceding list of desirable attributes of a health care programme leads us directly to the design of a set of provisions that are needed to attain the enunciated goals. These are all proposals that arose during the course of the American debate.

1 Managed Competition. Two well-recognised approaches to cost containment (goal 8) are competition and price controls. Most health care programmes in countries other than the US have relied on price controls, using a variety of means, such as fixed annual salaries for doctors and/or detailed setting of prices for each medical procedure provided under the programme (sometimes, but not always, accompanied by the prohibition of 'balance billing' – a supplementary charge for a procedure by a doctor to the patient, over and above the

officially designated fee).

I will return to price controls later, but in the US, with its strong (and not unreasonable) preference for private enterprise, competition seems likely to be the preferred approach, and one that is supported by most economists. In my country this sort of arrangement has been referred to as 'managed competition', meaning supply of health care service by a set of competing private groups, some non-profit, some profit-seeking, but all operating under a set of rules adopted by the public sector, rules intended to protect quality and to discourage cost increases. The competition in the programme is provided by health care suppliers' pursuit of customers, with consumers completely free to select from among the rival suppliers who offer their services in the geographic area.

There is good reason to believe that competition can work, provided that the appropriate opportunities and incentives are offered. Certainly, experience in other economic arenas demonstrates that effective competition can deliver goods and services to the public at prices that are strikingly low in relation to costs. It must, nevertheless, be recognised that because a health care system must deal with a substantial number of independent enterprises of varying size, mode of organisation and services offered, managed competition in health care will probably entail significantly higher administrative costs than, say, those under the single-payer provincial plans of the Canadian variety, where the government agencies in charge can treat all suppliers exactly alike, thereby permitting administrative simplification and, perhaps, also scale economies. But, aside from administrative costs, under managed competition the price of health care should not generally be higher or rise more quickly than under a government-operated programme, and, indeed, market forces may well force them to rise less rapidly.

There are at least two prerequisites for an effective managed competition programme. First, the consumers of health care services must have readily available to them the information necessary for them to make rational choices among the suppliers available to them. Second, consumers must have an effective incentive to avoid excessively-costly suppliers and to balance cost against quality in a rational manner. Let us then consider in turn these two matters – the provision of the requisite information and the appropriate incentives.

2 Getting Health Care Information to Consumers. As just

noted, managed competition can control prices and maintain quality only if the health care-consuming public is fully informed about the features and the past record of each health care plan that is offered. Unfortunately, there is no simple and unexceptionable way in which this information can be provided. Health services are inherently extremely heterogeneous, and one provider can have a far better record than another in one procedure applied to a particular type of patient, and yet its record in other arenas may be distinctly inferior. One hospital may deal with particularly unhealthy or more elderly patients and its high mortality record may consequently grossly misrepresent the quality of its services. Nevertheless, some approximative, if imperfect, measures of health care quality surely can be devised, and they can surely be expected to improve with accumulation of experience. Consumers making their periodic choice among supplier organisations clearly must have readily available to them reasonably accurate information on types of services supplied by each organisation, the extent of the experience of the organisation in each arena (e.g., how many heart-bypass operations it has carried out), data on quality of services (mortality and morbidity adjusted for differences in age and physical condition of those served by the provider in question), treatment delays, patient complaints, and so on. Clearly, without this vital information, consumer choice is reduced to hit-or-miss guesswork, and managed competition will fail to achieve its objectives. In addition, consumers will require from each provider full information on the fees it charges, and the services it offers in return.

The role of information provision is, clearly, one that must be assumed by government in any effective programme of managed competition. This function will include determining the types of information each provider will be expected to supply, devising means to standardise the information to ensure its comparability, overseeing its collection, checking for accuracy and disseminating the information among consumers. Of course, a governmentally-operated health care system also cannot escape these tasks if the civil servants who are responsible for quality and cost containment are to be able to carry out their work effectively.

3 Financial Incentives for Rational Choice by Consumers: Co-payments by Families and Individuals. Under managed care, the strongest incentive for cost containment is provided by making it

expensive for consumers to patronise inappropriately costly suppliers. The Clinton administration's proposal that employers be responsible for 80 per cent of the *average* cost of health care in their geographic area provided a double and powerful incentive of this sort. Under this sort of arrangement, the remaining 20 per cent of the cost for which the family is responsible, on average, provides an inducement to switch to a cheaper health care provider. But there is a further incentive: The family's payment under this plan is based not only on the charges of the provider it selects, but also on the average annual cost incurred for health care by all the residents in the geographic area. It is from this average payment, *and not from the consumer's actual expenditure*, that the employer's contribution is determined. As I will show now, this arrangement greatly magnifies the incentive for a consumer to seek out economical providers. An example will make the point. Suppose a family chooses a health plan that offers full care for an annual fee of \$1,700 in a geographic area where the average annual fee is \$2,000. Then, under the terms of the Clinton plan, the employer will pay 80 per cent of *the higher figure* (80 per cent of \$2,000, or \$1,600). The family will then have to pay the difference between the employer contribution and the price of the health care supplier's plan, which is only \$100, rather than the \$400 the family would have had to pay if it had selected the \$2,000 plan. Thus, a 15 per cent reduction in the price of the programme selected by the consumer will have led to a 75 per cent reduction in the annual payment by that consumer. Many families will then probably select a supplier whose plan is priced below the average for the community, and those who choose a more expensive supplier will pay proportionately more. This is a strong incentive for cost containment.

4 The Trade-Off Between Quality Control and Cost. A managed competition arrangement with well-informed consumers can also effectively balance quality and cost. A provider who inappropriately sacrifices services as the easy way to reduce costs will drive away customers as effectively as if his prices were excessive. This is exactly how the free competitive market ensures product quality in other areas of the economy, and how it achieves a balance between quality and cost. Moreover, to be effective this does not require all or even a majority of consumers to be well-informed on the quality and costs offered by different providers. The threat of loss of any substantial number of customers can act as a powerful incentive to suppliers.

This contrasts directly with the governmentally-managed health care programmes that one finds in many countries. In those programmes the balancing of quality and cost depends on legislated fee schedules and the powers, dedication and vigilance of the civil servants assigned to the task. There exists little clear evidence on the relative effectiveness of these two approaches in striking the right balance between quality control and cost. Each of these approaches may be able, in suitable circumstances, to carry out the task with reasonable effectiveness but, as we will see in section 7 below, price controls, which are the prime instruments for containing costs in government-operated health care systems, can produce a host of deleterious consequences.

5 Incentives against Voluntary Perpetuation of Poverty.

Universal coverage requires that the very poorest families escape the cost of health care altogether. But these families will face a substantial deterrent to moving out of public assistance if, by doing so, they are then required to shoulder the full financial burden of health care cost. There are four possible ways to prevent this:

- a) Have government pay for everyone's health care (a single-payer system);
- b) Make the cost assumed by a newly employed individual insignificant by adopting very low basic health care entitlements – probably an arrangement that is socially unacceptable;
- c) Reduce health care subsidies to poor families very gradually as their incomes rise. But such a provision will also entail provision of health care subsidies (negative net health-tax payments) to some relatively well-off families, which is also probably unacceptable;
- d) Make individuals and families directly responsible for only a very limited proportion of their health care costs. The Clinton administration plan split the cost, with 80 per cent borne by employers (before shifting to customers or employees) and would have substantially reduced the deterrent to job-market entry, because the incremental health care burden to the newly employed then is only some 20 per cent rather than 100 per cent of the cost.

6 Channelling of Finances – The Private versus the Public Sector. Under the terms of several of the plans proposed in the US, a substantial proportion of the finances of the health care programme flows through the private sector, with employers and employees both making their payments to private insurance firms which, in turn, use

the money to reimburse hospitals, doctors and firms that provide health care services. Of course, funding for the indigent cannot bypass the public sector, but proposals to continue use of the private sector as financial conduit are designed to hold down government's role as far as possible.

That has two virtues. First, it serves to include more of health care in the private sector's share of GDP. This has not yet become a major problem in the US, but we should be warned by the European experience, e.g., the case of Sweden, where expenditures undertaken by the welfare state have now reached a bit more than 70 per cent of GDP. Some Swedish economists conclude that it is hardly a coincidence that their GDP has dropped from fourth place among OECD countries in 1970 to fourteenth place in 1991 (Lindbeck et al [1994, pp. 10, 98]). Whatever its other virtues, experience suggests that government is simply not the most efficient supplier of goods and services.

The second benefit of exclusion of a substantial proportion of health care finances from public sector channels stems from the cost disease of the personal services. If the cost disease analysis continues to predict cost behaviour in portions of the services sector as accurately as it has in the last quarter-century, then the cost of health care can be expected to continue to rise rapidly and persistently, aggravated materially by the aging of the population. And, if health care financing derives from the public sector, this cost increase can confidently be expected to lead to irresistible political pressures for cost cutting – probably achieved largely by drastic reduction of services.

7 Price Controls. All or virtually all national health care programmes in the industrialised world make some use of price controls – limited or extensive. Controls are applied to doctors' fees, the total incomes of medical personnel, hospital charges, prices of pharmaceuticals, and so on. Some of these price controls have been suggested for the US programme, if only as a standby, for use if other cost-containment provisions fail. Economists, of course, generally oppose the use of price controls, believing, on the basis of their analysis and historical experience, that they invariably produce detrimental results such as:

a Evasion of Price Controls (Black Markets). Almost always, price controls have elicited responses that were either entirely illegal or

conflicted with the spirit of the rules. In health care programmes that make use of price ceilings (which simultaneously tend to become price floors), medical personnel have sought to have their procedures reclassified, disguising them as higher-priced activities. There are also reports, from countries where doctors are paid a fixed fee per visit, of drastic shortening of office visits. Physicians require patients to return for several short visits for what would formerly have entailed only one. In Japan, it is an open secret that sought-after specialists also have a fixed schedule of bribes, and that many physicians profit considerably from the arrangement under which they themselves prescribe and sell medications to their patients.

b Reduced supplies. Price ceilings also generally reduce the supply of the item whose price is constrained. For example, in Europe, tight ceilings on pricing of pharmaceuticals are reported to have led to delays in the introduction of new drugs. R&D in the pharmaceutical industry still continues at relatively high levels, probably because the drug firms have been able to shift part of the cost to American consumers, who may, as a result, be forced to pay a good part of the bill for the world's pharmaceutical research. An immediate danger of price ceilings on new drugs is that such artificially low prices will include compensation for the R&D cost of the product in question, but will not cover the cost of the many failed experiments that are needed to produce one successful product.

c Income ceilings as efficiency disincentive. As used to be true in regulation of prices charged by airlines, railroads and telecommunications services, ceilings can be imposed on the *net earnings* of the supplier rather than on the *prices* of individual products. In some places a similar ceiling has been put on the earnings of medical personnel. When earnings ceilings were imposed on regulated industries in the US, it led to a sharp reduction in growth of productivity. In medicine income ceilings have also made a documentable difference. Repeated studies have confirmed that, under plans that pay surgeons a prespecified annual income, substantially fewer surgical procedures are performed per 1,000 patients than under programmes that compensate surgeons by means of a fixed fee per procedure (in one study, fee-for-service surgeons performed six times as many operations as fixed-income surgeons). One can, perhaps, be pardoned for guessing that the rate of surgery is well above the optimal level in the one case, and far below it in the other.

IX. IMPLICATIONS FOR HEALTH CARE POLICY

Before concluding my discussion I must apologise once more for building so much of it upon American data, experience and preconceptions. Those constitute the information that, for obvious reasons, I have studied most closely. The problem is that a markedly US flavour has inappropriately been imparted to the qualitative side of my discussion and its implications for policy. Yet there are several things that can be said that are equally applicable to the case of the UK.

First, my discussion suggests that every country may well want to consider *some* increase in reliance upon the market mechanism and real competition among health care providers. The provision of information to consumers about the quality and range of services offered by different health care providers, with consumers given greater freedom to choose among them, may increase the incentive to serve consumer demands more effectively. Perhaps some loosening of the pricing rules, permitting providers to compete in price as well as in quality of service may prove beneficial in the longer run. I do not pretend to be in a position to argue that this is necessarily a better way for Britain to follow. But having read some British discussions about the difficulties of monitoring of quality and the containment of costs, I do suggest that such changes merit careful investigation rather than rejection out of hand.

Second, the discussion indicates that the concern over the rising share of GDP constituted by medical cost may be excessively alarmist. The difficulties it entails may be more political than economic. Rising costs seem superficially to condemn society to ill-conceived and panicky reductions in the health care it provides to the public. The main message of the analysis here, however, is that one should be slow to react by the cutting of services, for rising productivity means that the nation can really expect to be able to afford a good deal more health care in the future than it does now.

Third and last, particularly for the pharmaceutical industry but also for medical R&D generally, there is the implication that price controls will offer political benefits only at a high social cost. Price controls can undermine the research and development process by preventing adequate compensation of the unavoidable risks of R&D and the plethora of failures it must produce for every successful and, sometimes, invaluable innovation.

Yet there are obviously severe limits to the applicability of the prescriptions I have discussed to the current UK system. That system is, of course, characterised by four pertinent attributes: a) universal coverage and finance through general taxation, b) relatively little consumer choice of primary care provider, c) purchase of secondary care on the consumer's behalf by agents over whom the consumer has no choice⁹, and d) competition between suppliers for contracts placed by the consumer's agents, i.e., a very limited role for the consumer in the form of managed competition that has been adopted.

Given this structure, there is obviously a very limited scope for direct use of the set of provisions related to competition that I have outlined. For example, while cost-sharing may be helpful in curbing wasteful consumer use of medical services, it may not make any sense as an instrument of competition when consumers do not directly choose health care suppliers, but this choice is made for them by agents. Similarly, the discussion of price controls requires substantial reformulation if it is to be applicable to the UK, where hospitals are being given freedoms to pay salaries that reflect local demand conditions.

There are many other analogous issues. A fundamental matter entails means by which the role for government can be reduced. Similarly there is the issue of the ways in which the provision of information can be used to increase consumers ability to trade off quality and cost. More broadly, given my emphasis on consumer choice, how might the role for the consumer be increased? An investigation of the types of information that can be most useful to consumers may prove interesting to UK policy makers who, I understand, are currently trying to increase the amount of information in the system. There is also the crucial issue of the choice of incentives, such as those described in my earlier discussion, that lend themselves most readily to introduction into the UK system and are most promising in terms of the consumer benefits that may result. All these are subjects that I can only urge others, better informed about British circumstances, to examine. I believe that much can be gained by turning inquiry into these directions.

⁹ I am told that GP Fundholding does, in principle, give the consumer choice of the agent purchasing secondary care, although in practice there is no evidence that consumers do switch GPs depending on how they purchase secondary care.

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