

- 1.1 “The NHS is the public service most valued by the British people”. So began the NHS Plan<sup>1</sup>, published in July 2000, which showed the need for radical change in the delivery of health services. It then set out the core principles on which the NHS should be based in future and many of the detailed changes which must be achieved over the next 10 years.
- 1.2 The Plan defined a re-building programme for the NHS designed to create a universal public service delivering what people expect in today’s world. It was underpinned by the decision taken in March 2000 to commit to a sustained increase in NHS spending. Over five years, the Government is increasing spending by a third in real terms, with the expressed aim, over time, of bringing health spending up to the EU average.
- 1.3 The Plan, like its equivalents in the devolved administrations, seeks to “universalise the best”, removing the significant variations in local performance and closing the gaps between the UK’s performance and those of other developed countries. It is based on present knowledge and best practice. However, looking ahead, there will be even more fundamental shifts in what is possible and even more rapid change. The best will move on and there is a pressing need to think about what this is likely to mean. What are people likely to want in 20 years’ time? What resources are likely to be required to deliver the service?
- 1.4 Against that background, in March 2001, the Chancellor of the Exchequer set up this Review with the following Terms of Reference:
  1. *To examine the technological, demographic and medical trends over the next two decades that may affect the health service in the UK as a whole.*
  2. *In the light of (1), to identify the key factors which will determine the financial and other resources required to ensure that the NHS can provide a publicly funded, comprehensive, high quality service available on the basis of clinical need and not ability to pay.*
  3. *To report to the Chancellor by April 2002, to allow him to consider the possible implications of this analysis for the Government’s wider fiscal and economic strategies in the medium term; and to inform decisions in the next public spending Review in 2002.*

*The report will take account of the devolved nature of health spending in the UK and the devolved administrations will be invited to participate in the Review.*

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<sup>1</sup> Department of Health (2000), *The NHS Plan – A plan for investment, a plan for reform*, Cmd 4818-1, The Stationery Office, London.

# 1 INTRODUCTION

- 1.5 I am conscious that trying to look ahead over such a long time is fraught with difficulties. The uncertainties are huge yet it is evident that many of the decisions being taken in the short term about, for example, the development of people, investment in new information technologies or in buildings could significantly constrain the health service's ability to respond appropriately and with flexibility to circumstances as they arise.
- 1.6 My aim in this interim report is to identify the key drivers of health need and cost over the next two decades. The report considers demographic shifts and medical and technological advances. I have also identified other key drivers, including patients' expectations, workforce development planning and the outlook for productivity.
- 1.7 This report sets out the evidence so far and explains the approach to its analysis. It consists of three sections:
- **Section A:** following the introduction in this chapter, Chapter 2 provides an overview and summarises the issues for consultation;
  - **Section B**
    - outlines the historical context (Chapter 3);
    - explores the issues around financing health care (Chapter 4); and
    - gives the international context to the Review (Chapter 5).
  - **Section C**
    - assesses the impact of health trends (Chapter 6);
    - analyses public expectations for the health service (Chapter 7);
    - discusses the issues around delivering a high quality service (Chapter 8);
    - explores changing health needs (Chapter 9);
    - considers technological advances (Chapter 10);
    - describes workforce and productivity issues (Chapter 11); and
    - looks at the differences between countries within the UK (Chapter 12).
- 1.8 My objective is to encourage feedback to assist me and my team in refining the analysis of the resources required for the future. While I would welcome views on the whole report, Chapters 7 to 12 pose specific questions for consultation on which it will be particularly helpful to have views before preparing a final report by April 2002.

## INTRODUCTION 1

- 1.9 The setting-up of the Review has been widely welcomed by those consulted so far. It is the first time in the history of the NHS that such a long-term assessment of resource needs has been attempted and it will inform future decisions and, doubtless, debates. It is right to be thinking through these long-term issues. In the process, I hope to develop methodologies which will help those who may subsequently be given the task of projecting long-term spending. They should benefit from enhancements to the data and information which I will suggest in the final report.
- 1.10 Wide consultation, domestically and internationally, has helped to inform the Review, which is drawing on research from across the world and on the best information available. I would like to thank the many people and organisations who have contributed advice, papers and presentations to the Review. The annex on the consultation process outlines how I took their views.
- 1.11 This report is being sent to organisations with an interest in health and social care. I will be holding consultation events in the English Regions, Scotland, Wales and Northern Ireland to hear the views of patients and consumers as well as those of practitioners. I also intend to gather more evidence internationally before compiling my final report.

I welcome comments from groups or individuals on the specific questions which this report raises by **22 January 2002**.

Please email responses to: [Derek.Wanless@hm-treasury.gsi.gov.uk](mailto:Derek.Wanless@hm-treasury.gsi.gov.uk) or by post to:

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## Introduction

- 2.1 The health service is immensely important. The quality of the health service in the UK will have an impact on our life expectancy, quality of life and life chances. Health and well-being in childhood affect educational attainment with consequences for people throughout their lives. Ill health in adulthood is associated with poverty.
- 2.2 The health service is also very important to our economy. It is the largest employer in the country. We spend one in every 14 pounds of our nation's income on public and privately funded health care. After social security payments, health is the biggest single component of public expenditure. 15 per cent of our tax and National Insurance Contributions (NICs) go to pay for the health service.
- 2.3 The health service also affects the productivity of UK business. Almost half of all NHS spending is for people of working age. Ill health imposes a significant restriction on the potential of the UK economy. Around 2 per cent of working days are lost due to short-term sickness, while more than 7 per cent of the UK's working age population is unable to work due to long-term sickness or disability at a cost of over £12 billion a year in welfare benefits. Research has shown that if average life expectancy could be increased by five years (i.e. to Japanese levels) then UK GDP could be between £3 billion and £5 billion a year higher.
- 2.4 The NHS is an institution which the vast majority of people value and wish to retain:
- 80 per cent of people think that the NHS is critical to British society and must be maintained; and
  - 75 per cent want to retain a universal health service and oppose a two-tier health service.
- 2.5 Although it does many things very well, standards of health care in the UK have fallen behind people's expectations. We are not keeping up with the quality of service provided routinely in many other countries. A combination of cumulative under-investment over at least 30 years and organisational and delivery arrangements which are not designed to meet the challenges of providing health care in the 21st Century are generally held to be responsible.

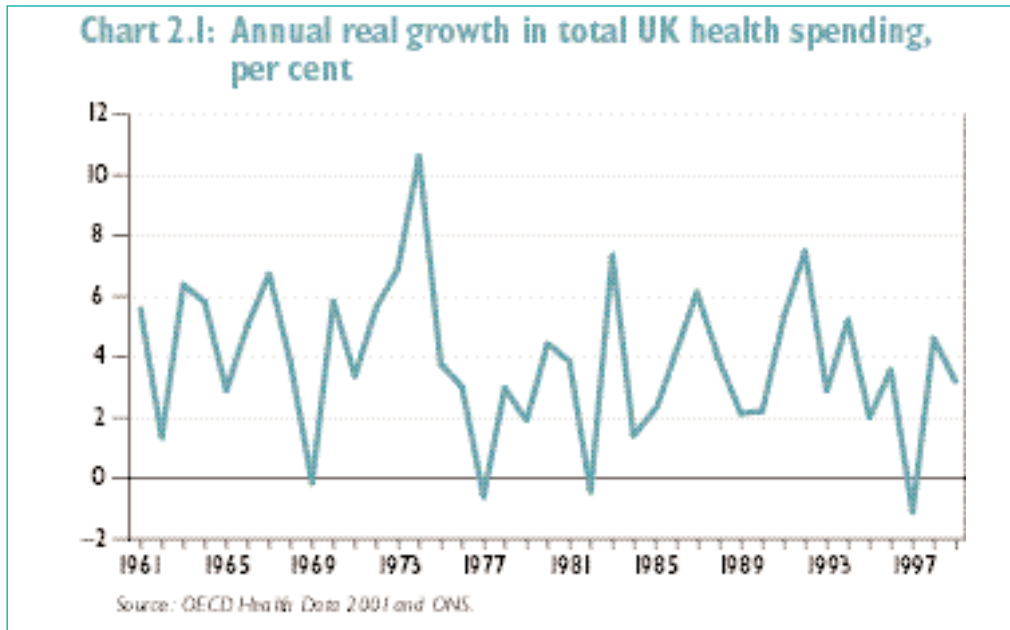
## 2 OVERVIEW AND ISSUES FOR CONSULTATION

- 2.6 To tackle these problems, in the March 2000 Budget, the Chancellor of the Exchequer announced a substantial increase in spending on health care. Health spending will rise by more than a third in real terms over a five year period. In July 2000, the Government set out a 10-year programme to modernise the health service in its NHS Plan for England (similar plans have been published for Scotland and Wales).

### The Review's objectives

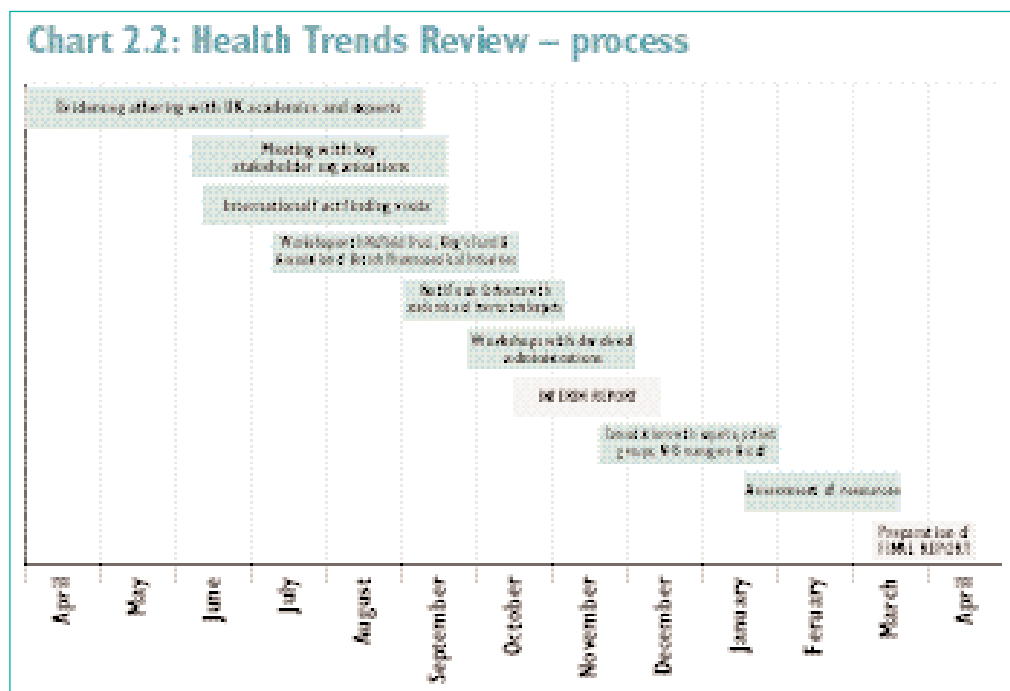
- 2.7 Building on these steps, the Chancellor has asked me to examine the long-term resource requirements for the UK health service. In doing so, my starting point is the NHS Plan. This Review is focused on the long term; where do we need to be in 20 years' time? It does not attempt to plot a detailed path from where we are now to where we need to be in 20 years. That would require consideration of very many other factors, such as the capacity for change.
- 2.8 This is the first time in the history of the NHS that the Government has commissioned a long-term assessment of the resources required to fund the health service. Although making long-term projections is fraught with uncertainty, I am convinced that it is an important and valuable exercise. The NHS Plan sets out a long-term programme of modernisation. Coupled with the clarity about long-term funding requirements which I hope this Review can provide, this sets in place the basis for much greater transparency about what patients and the public in the UK can expect from their health service in return for their tax and NICs contributions.
- 2.9 It should also have considerable benefits for the management of the health service. The NHS cannot be effectively managed on a short-term basis. Good management requires clarity about the long-term, strategic direction of the service coupled with the flexibility to respond decisively and appropriately to changes as they occur.
- 2.10 Over the past 40 years, spending increases have varied considerably from year to year (see Chart 2.1). This variability can only have added to the difficulty of managing the service effectively and efficiently.

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## Review process

2.11 In undertaking this Review, I have been conscious of the wide range of information and expertise which already exists both around the UK and internationally on these issues. Within the time we have available to undertake our analysis, the wide scale commissioning of new research is not possible. For this Review, my approach has been to draw together the best available information from as wide a range of sources as possible. Inevitably, there are some important gaps in the knowledge base. In these areas I have sought to work with experts to see if further work can be undertaken to improve the robustness of the evidence. Chart 2.2 provides an overview of the Review process.



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2.12 In this, my interim report to the Chancellor, I have not tried to estimate the resources required over the next two decades. To do so would be premature. The report sets out the evidence gathered to date and the resulting issues on which I need to take a view before I can consider the overall resource requirements. Although I have been able to gather a large amount of evidence, I am aware that many other people will have useful contributions to make. I want to take account of these views and assess the most robust evidence possible before coming to a judgement about the expected resource requirement.

### Scope of the Review

2.13 In commissioning this Review, the Chancellor recognised that the UK in 20 years' time will have become a very different place. Any assessment of the resources required to deliver a high quality NHS needs to take account of that changing environment. Specifically, the Chancellor asked me to assess how changes in technological, demographic and medical trends would affect the cost of providing a high quality health service.

2.14 Consultation with experts has identified three further factors which the Review must consider. These are changes in:

- patient and public expectations;
- health needs gives different patterns of disease; and
- the roles and pay of the health service workforce and the overall productivity of the health service.

Over the next 10 years, the commitments to modernise the service set out in the NHS Plans and National Service Frameworks (NSFs) will begin the process of catch up and the achievement of consistency. This has long-term cost implications which will be considered in the Review.

### Financing health care (Chapter 4)

2.15 This Review has been commissioned to estimate the resources required to run the NHS in 20 years' time. It is not set up to examine the way in which those resources are financed. My Terms of Reference specify that I should examine the resources required for a *publicly funded, comprehensive and high quality* health service and I am asked to identify the key factors that will determine the resources required. I have therefore needed to consider whether the method of funding the health service is itself a factor determining the resources required.

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- 2.16 Health spending in most major countries is predominantly public financed – the US being the main exception. In the UK, 83 per cent of health spending is publicly funded. This is high by international standards – the EU average is 75 per cent<sup>1</sup>. Although a higher proportion of health spending is publicly funded in the UK, publicly-funded health spending accounts for a smaller share of GDP than in any of the seven European and Commonwealth countries considered as the most important comparators for this Review<sup>2</sup>.
- 2.17 Public funding of health care can come from two sources: general taxation and social insurance. Private funding comes mainly from medical insurance and out-of-pocket payments by patients. Work by the OECD suggests that a greater share of public financing of health care is associated with better population health outcomes for a given level of expenditure. In terms of its impact on the economy, the evidence suggests that, in general: *“private health spending has no advantages over public health spending. The most obvious consequence of shifting from public to private spending is to shift the burden from the relatively rich to the relatively poor”*<sup>3</sup>.
- 2.18 There are relatively high levels of dissatisfaction with health systems in many developed countries, whatever the funding system and overall level of resources devoted to health. The UK system of financing appears to be relatively efficient and equitable. It delivers strong cost control and prioritisation and minimises economic distortions and disincentives. A further key advantage of the UK’s funding system is its fairness, providing maximum separation between an individual’s financial contributions and their use of health care.
- 2.19 The main disadvantage of a predominantly social insurance based model is that the revenue base is more concentrated, falling on employment to a greater extent than in countries with a higher proportion of general taxation funding. As a result, many countries such as France with a tradition of social insurance have been shifting the balance in their funding towards general taxation.
- 2.20 Private funding mechanisms tend to be inequitable, regressive (those with greater health needs pay the most), have weak incentives for cost control, high administration costs and can deter appropriate use.

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<sup>1</sup> 1998 unweighted average.

<sup>2</sup> France, Germany, the Netherlands, Sweden, Australia, Canada and New Zealand

<sup>3</sup> Normand C (1998), Ten popular health economic fallacies, *Journal of Public Health Medicine* 20: 129–132.

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- 2.21 My conclusion is that there is no evidence that any alternative financing method to the UK's would deliver a given quality of health care at a lower cost to the economy. Indeed other systems seem likely to prove more costly. Nor do alternative balances of funding appear to offer scope to increase equity.
- 2.22 The main weakness of public financing of health care (whether through general taxation or social insurance) is that it provides limited scope for expression of individual preferences and choice. Where there is a clinical need for a particular service, a process is needed to decide whether the service will be available through the NHS or not. Such a process must be acceptable to the public. The National Institute for Clinical Excellence (NICE) and NSFs provide the main building blocks for this process. On equity grounds, I do not think it right that some individuals should be able to access clinically necessary services through the NHS by paying when others whose need is at least as great could not simply because they could not afford to pay.
- 2.23 However, as patient expectations increase, the UK will need to consider whether to provide a mechanism to allow patients to express their preferences for greater choice in non-clinical services. There are currently limited charges for non-clinical services such as single maternity rooms and car parking. The NHS Plan announced the Government's intention to negotiate contracts with private companies to install bedside TVs and phones with modest charges for the service. It may not be considered appropriate for public money to be used to offer patients greater choice of non-clinical services when these resources could be used for better treatment and clinical care for all. Such patient charges for non-clinical services may offer a way to extend choice for these services without diverting NHS resources away from clinical care. These are matters for consideration, if thought necessary, after this Review, or subsequent reviews, have reported on the likely total resources required in the long term.
- 2.24 The key conclusion for my Review is that the current method by which health care is financed through general taxation is both a fair and efficient one. I believe that a continuation of a system of funding broadly similar to that at present is not, in itself, a factor which will lead to additional resource pressures over the next two decades.

### How the UK compares with other countries (Chapter 5)

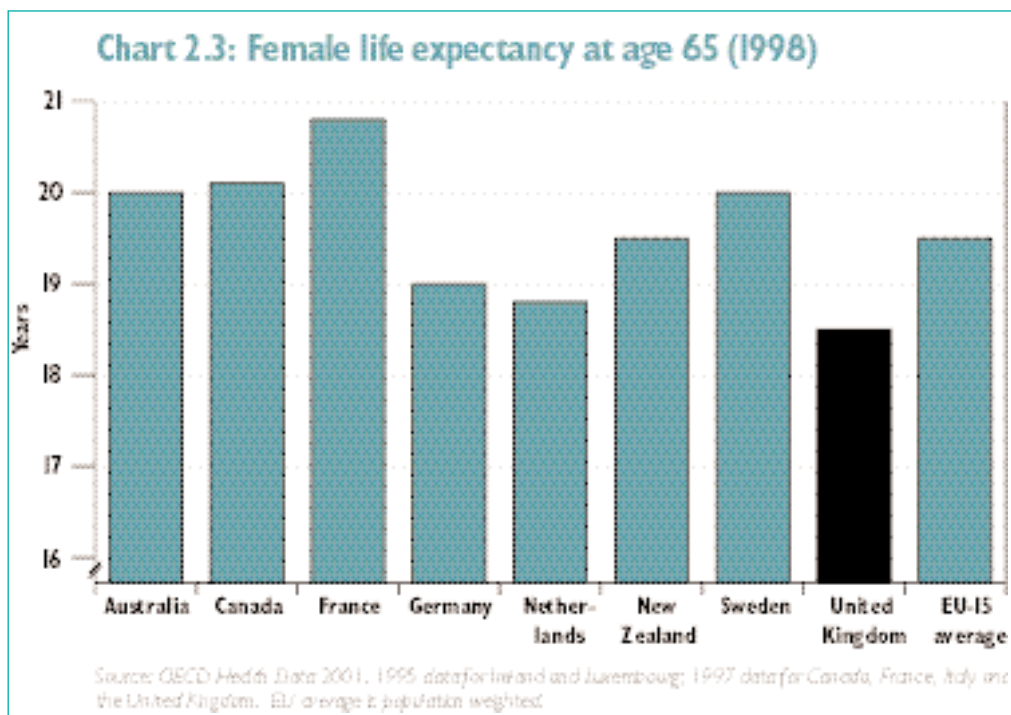
- 2.25 Seven countries have been identified for the Review to provide a relevant benchmark for standards in the health service. These are countries that all have broadly similar levels of income per head of population and which all aspire to provide comprehensive, high quality health care to their populations. The seven countries are:

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- **European:** France, Germany, the Netherlands and Sweden; and
- **Commonwealth:** Australia, Canada and New Zealand.

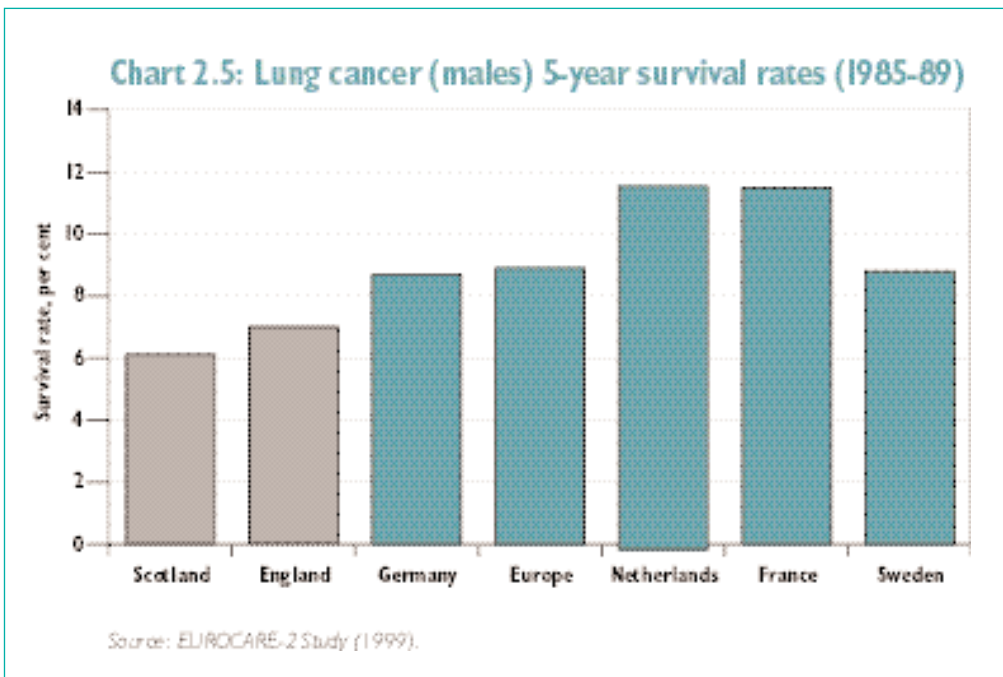
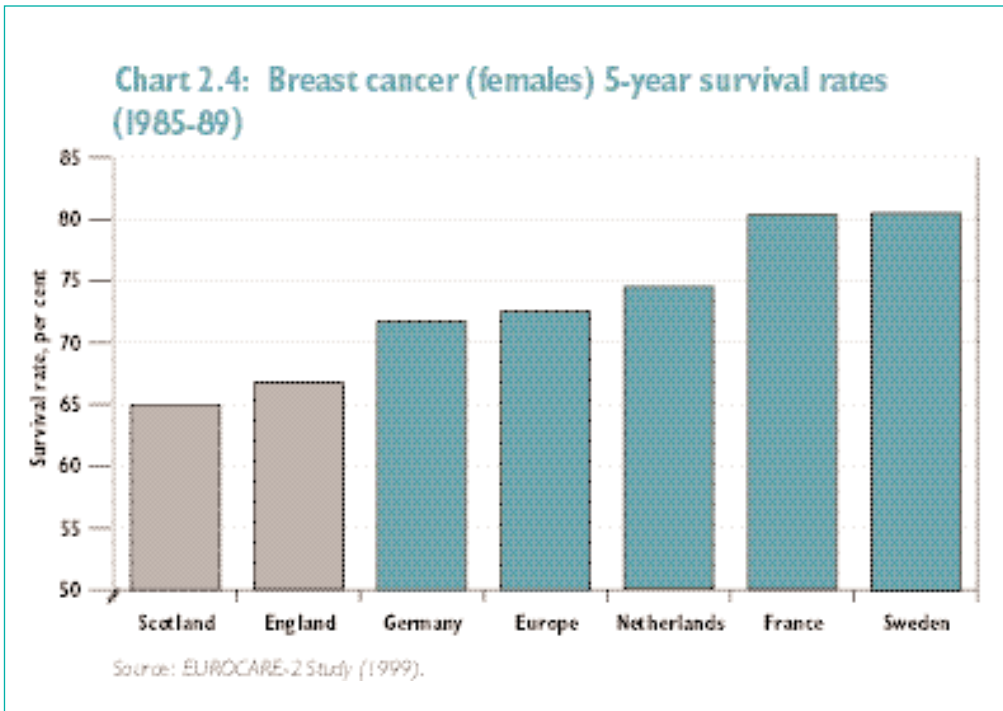
Health outcomes in the UK are generally poor in comparison with these seven countries. The outcomes for women are relatively worse than for men. Some of the headline facts are:

- in the UK, women have a shorter life expectancy at birth and at age 65 than in any of the seven comparator countries;
- more women in the UK die prematurely than in any of the other countries with the exception of New Zealand;
- more children die in the first year of life in the UK than in any of the other countries, again with the exception of New Zealand. With some countries the differences are marked 5.8 children per thousand in the UK die before their first birthday compared with 3.4 in Sweden;
- life expectancy at birth and premature mortality for men in the UK rank around the middle of the group of comparator countries; and
- life expectancy at 65 for men in the UK is lower than in all the countries except the Netherlands.



2.26 Survival rates for cancer, which accounts for a quarter of all deaths in the UK, are improving but lag well behind those in other European countries.

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2.27 These measures focus on population mortality which is an important measure of the outcomes achieved by a country's health care system. But there are other aspects of quality which are important to people. The comparative data on these are more limited. However, the data that do exist suggest that we lag behind. For example, waiting times in the UK are above those in other countries and more UK patients report difficulties seeing a specialist when they need to.

## Why are UK health outcomes below other countries?

2.28 The health of a country's population is the result of a complex mix of factors. Population health depends on:

- the age structure of the population;
- the population's genetic profile;
- lifestyle, environmental and socio-economic conditions; and
- the effectiveness of the health service.

There is considerable debate about the relative contribution of these different factors. Thomas McKeown<sup>4</sup> most famously argued that health care had only a limited role to play in population health. He attributed most of the improvement in mortality over the past century to other determinants of health. More recent evidence suggests health care can nevertheless make an important contribution to health, attributing around one sixth of the increase in life expectancy during the last century to medical interventions<sup>5</sup>.

2.29 Recent work by the OECD has sought to explain the reasons for the differences in health outcomes between countries. The work indicates that health outcomes are influenced by a range of economic, environmental and lifestyle factors including:

- GDP per head (positive effect);
- the proportion of white-collar workers (positive effect);
- alcohol consumption (negative effect);
- smoking (negative effect); and
- pollution (negative effect).

The OECD analysis also finds that the health service is a significant factor. More health care resources and a larger share of publicly-funded health care are associated with better health outcomes.

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4 McKeown T (1976), *The Role of Medicine, Dream, Mirage or Nemesis?* The Nuffield Provincial Hospitals Trust, London.

5 Much of this work has been undertaken by Bunker and colleagues in the US, for example Bunker JP (1995), *Medicine matters after all*, *Journal of the Royal College of Physicians of London* 29:105-12.

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2.30 The work suggests that much of the difference in the UK's health outcomes can be explained by the UK's comparatively low level of health care resources. In this analysis, the number of doctors per head of the population is used as a proxy. The negative impact on health outcomes of the UK's low number of doctors per head compared to other countries is partly offset by the positive effect of the UK's reliance on public funding of health care and its relatively high proportion of white-collar workers. *Alongside the consultation questions raised later, I would welcome views on the value of this work and any other related research which helps to provide a better understanding of the reasons behind the difference in health outcomes between the UK and other countries.*

### Economic environment

2.31 One of the most important determinants of health spending is the robustness of the economy. Countries with a higher level of GDP per head are able to spend more on health in absolute terms and typically devote a greater share of their nation's income to health care. The economic climate also impacts on many of the trends affecting the health service, for example, levels of poverty and inequality will influence the pattern of morbidity and the use of health services.

2.32 For this Review we will not be looking at the implications of different macroeconomic environments for the resources required for the health service over the next 20 years. The Review assumes that the Government achieves its central economic objective of delivering economic stability and rising prosperity.

### Approach (Chapter 6)

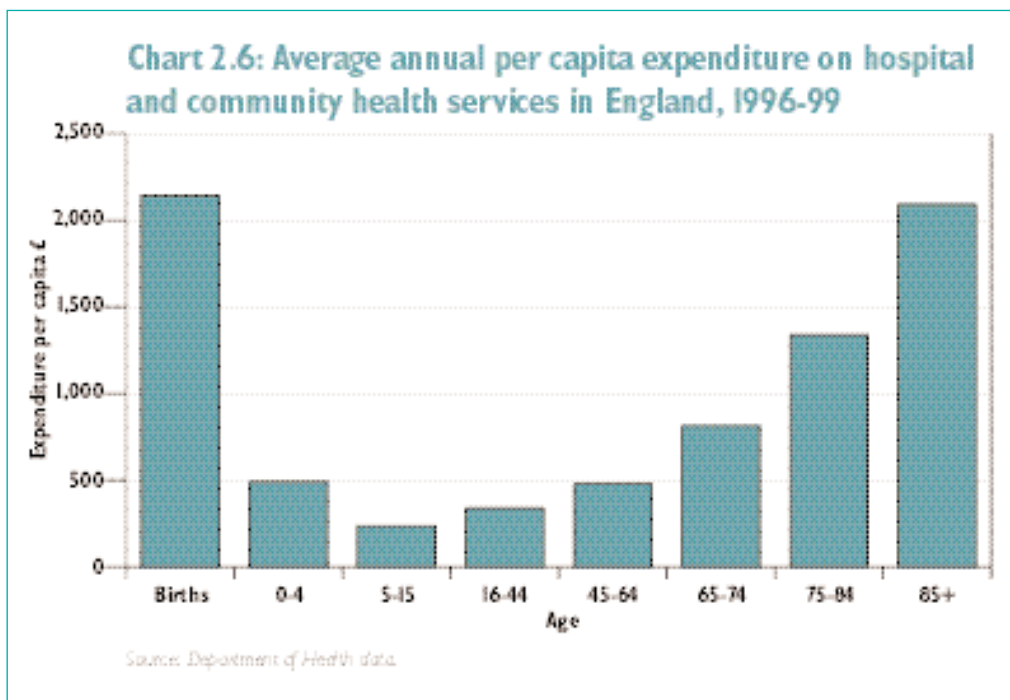
2.33 My preferred approach to assessing the resources required to deliver a high quality health service was to make estimates on a disease-by-disease basis. When I began the Review, I hoped to focus on those diseases accounting for the majority of the burden of disease and cost in the UK. We could then quantify the estimated cost of providing a high quality service in these disease areas and assess how this would change over the next two decades in the light of changes in expectations, technology, demography and health care needs and productivity. The advantage of this approach is that it would be transparent and provide a clear link between health outcomes and cost. Unfortunately, it has not been possible to follow this approach in a comprehensive way. We have only been able to use this disease-based approach for five areas, covering around 10 per cent of NHS expenditure:

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- coronary heart disease (CHD);
- cancer;
- renal disease;
- mental health; and
- diabetes.

2.34 In other areas the quality standards have not been specified and there are insufficient data on health care costs by disease. As the Government extends the NSFs to more diseases, it will be possible to use the approach more widely. However, to do this, the NSFs will need to include better information on their long-term cost implications and the possible impact of new technologies.

2.35 To complement the disease-specific work, we are therefore developing a life course approach which involves assessing how changes in the factors affecting health care will impact on the cost of delivering a high quality health service at the different stages of people's lives.



### Changing patient and public expectations (Chapter 7)

2.36 One of the main factors affecting the resources required for the health service in 20 years' time will be the quality standards the service seeks to deliver. The starting point for the Review has therefore been an attempt to understand how quality standards will change over the next two decades.

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2.37 For this Review, McKinseys have looked at how wider trends in society and customer experiences in other sectors are likely to affect the expectations of patients and the public in the future. In 20 years' time, patients are likely to be very different (see Box 2.1).

### Box 2.1: Tomorrow's patient

The patient of the future will:

- be better informed;
- be more educated;
- not have enough time to get things done;
- be more affluent;
- be less deferential to authority and professionals;
- have more to compare the health service against; and
- will want more control and more choice – they will reject “one size fits all” services.

For example by 2004, almost 40 per cent of the adult population in the UK is forecast to be using the internet. Over half of current users have used the internet for health-related issues. There are around 10,000 health information websites within the EU and this is growing by 300 per month. This is increasing patients' access to information but also raises issues about its quality and reliability.

2.38 We will therefore be basing our projections on the belief that patients will expect the health service to provide:

- **Safe, high quality treatment**
  - the best treatment outcomes with minimum variation between hospitals and different parts of the country
  - more rapid uptake of effective, new technologies
  - more proactive primary care services
  - staff who are 'at their best'
- **Waiting within reason**
  - for months, read days or weeks
  - for weeks, read hours or days
  - for hours, read minutes

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- **An integrated, joined up system**
  - a hassle free service where there are effective links and good communications between the different parts of the service and beyond
- **Comfortable accommodation services**
  - “not the Ritz but not the YMCA”
- **A patient-centred service**
  - people are not all the same – their attitudes to health and priorities are different. The health service will need to respond to this to meet people’s needs as individuals
  - More choice - but over what? Accommodation services? Timing of treatment? Range of treatment?

2.39 Despite these changing expectations, it is assumed that patients and the public will continue to support the NHS and its core values. The ethos of the health service – care based on need – commands almost universal support in the UK. Over the next two decades, despite the move to a more consumerist society, patients and the public are likely to continue to expect the health service to be equitable and fair.

## Questions for consultation

- Q7.1 The Review is based on the assumption that the core principles for the health service set out in the NHS Plan will remain valid over the next 20 years. Are there any further important principles that will emerge?
- Q7.2 How do standards of health care in the UK currently compare with patients’ expectations for a high quality, comprehensive NHS?
- Q7.3 What will patients and the public expect from a high quality, comprehensive health service in 20 years’ time? Is it right for the Review to base its projections on:
- safer, higher quality treatment;
  - faster access, ‘waiting within reason’;
  - a more integrated, joined-up system;
  - more comfortable accommodation services; and
  - a more patient-centred service?
- Q7.4 In 20 years’ time will patients continue to expect the health service to be equitable and fair?

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### Delivery high quality health care (Chapter 8)

- 2.40 Delivering a high quality health service means implementing world-class standards. The NHS Plan and the NSFs set out a 10-year programme to modernise the health service in England (Plans have also been produced for Scotland and Wales). Implementing these plans will be a major step along the way towards delivering what patients and the public expect from their health service and which matches the outcomes achieved by other health care systems.
- 2.41 Implementing the NSFs would reduce cancer deaths by a fifth and save 20,000 lives each year from CHD alone. Delivering best practice in the five disease areas identified for the Review will increase costs. The amount of additional investment required varies considerably between different disease areas. One of the most significant increases is the additional costs of prescribing cholesterol reducing drugs (statins). These have been found to have significant health benefits for people at risk of CHD. The evidence suggests that it costs around £8,000 for each life year saved from heart attack. If all 6 million people considered at high risk of CHD were treated with statins this could add up to £2 billion a year to health service costs.
- 2.42 The Review will need to assess whether the areas identified are the main cost drivers and whether the estimates of their impact on resources are robust.
- 2.43 Delivering high quality will require improvements beyond the NSFs. The main areas will be:
- improving clinical governance across the NHS;
  - reducing waiting times;
  - modernising the NHS estate and improving accommodation services; and
  - improving patient information, using ICT more effectively to help people to take more responsibility for their own care.

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## Questions for consultation

Q8.1 Has the Review identified the main trends and cost drivers associated with 'universalising the best':

- delivering the National Service Frameworks;
- improving clinical governance across the NHS;
- reducing waiting times;
- modernising the NHS estate and improving accommodation services; and
- improving patient information, using ICT more effectively to help people to take more responsibility for their own care?

Are these the right areas and are the cost estimates robust?

Q8.2 Will patients in future want more choice? What aspects of increased choice in the NHS should the Review examine?

## Changing health care needs (Chapter 9)

2.44 We have identified three main areas that may lead to important changes in the health needs of people in the UK over the next 20 years. These are:

- **demography** - including changes in both the overall size and the age structure of the population;
- **morbidity** - the level of ill health and pattern of disease and disability; and
- **the likelihood of seeking care** - the extent to which people look to the health service to manage their health needs.

## Demographic changes

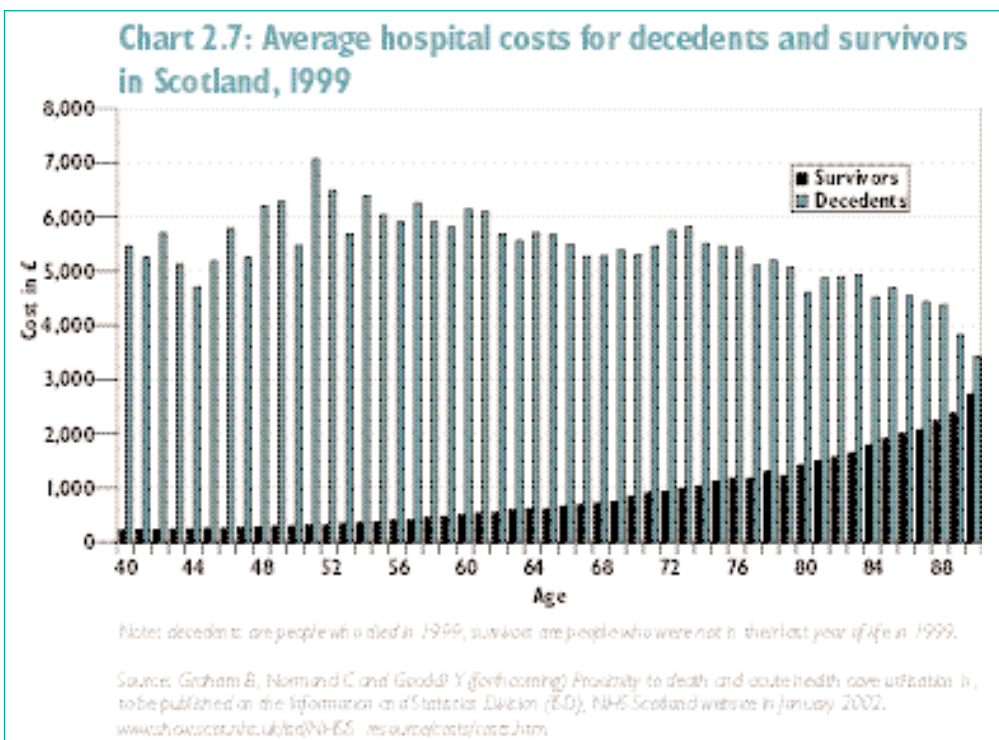
2.45 The UK population is growing and it is ageing. The conditions that account for the majority of the burden of disease in the UK are primarily related to old age, for example, cancer and CHD. As a result, spending on health varies significantly with age. The beginning and end of life are the most expensive. Just over a third of all spending on hospital and community health services is for people who are over the age of 65.

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- 2.46 Changes in the size and age structure of the population will affect the level of resources required for the health service. Over the next 20 years, the UK population is projected to increase by around 5 million people. The number and proportion of elderly people will rise as the baby boom generations reach older age and mortality rates continue to fall. The number of the very elderly will increase over the next two decades by more than a third.
- 2.47 Unfortunately, in the past, official projections of the population have not been very accurate. They have regularly overestimated both the number of deaths and the number of births. Over the next two decades, depending on the assumptions made about the birth and death rates and the amount of net migration into the UK, the population increase could vary from just under 2 million people to almost 8 million people (an increase of between 3 and 13 per cent). This is based on relatively conservative assumptions about the improvements we can expect in life expectancy. They are clearly challengeable.

### The impact of an ageing population

- 2.48 Although this degree of uncertainty will impact on the robustness of any expenditure plans for the health service, demographic changes have had less of an impact on health spending than many people tend to think. There is a widening body of evidence which shows that proximity to death has a larger impact on health care costs than age. On average, around a quarter of all the health care someone consumes in their lifetime is consumed in the last year of their life. As Chart 2.7 shows, the cost of the last year of life does not rise with age; if anything, it appears to fall.



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- 2.49 It is therefore possible that the effect of an ageing population will be to postpone rather than increase health service costs. Previous studies have suggested that demographic change will add less than 1 per cent a year to costs. If ageing postpones costs the impact on costs could be lower.
- 2.50 The accuracy of the population projections is an issue for other parts of the public and private sectors. Accurate projections of the number of old people and life expectancy are very important for social care services and for pension planning. The evidence suggests that the need for social care services rises sharply with age.

### The changing needs of the elderly

- 2.51 The studies which suggest that the UK's ageing population will not have a major impact on the cost of the health service tend to assume that the health needs of the elderly do not change. The evidence presented to me for this Review so far suggests that this assumption is questionable. There are two particular factors which the Review needs to focus on:
- whether longer life expectancy will be matched by longer, healthy life expectancy; and
  - whether older people in the future will have higher expectations.
- 2.52 The evidence on the former is mixed. Healthy life expectancy in the UK has been increasing but not at the same rate as overall life expectancy. Research in the US shows strong evidence of a substantial decline in the number of old people with severe disability. UK evidence backs this up. But the trend in the UK is for more people to report health problems. This suggests that while severe disability may decline, the number of minor health problems may well increase as more of us live longer.
- 2.53 The generation of old people who are alive in 20 years' time will have lived very different lives to those of their parents. But the likely impact on their health is not clear cut. On the positive side, they are less likely to smoke, will have had access to health care throughout their lives thanks to the NHS and will be on average better off. On the negative side, they are more likely to be obese, have led sedentary lifestyles and lived in a society with greater income inequality.

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2.54 The greater affluence of the next generation of older people is one of the factors which is likely to drive up the expectations of older people over the next 20 years. US health insurers are reporting a growing trend for elective operations to be performed on increasing numbers of people at older ages. These include, for example, cataract operations and hip and knee replacements. Age discrimination is a recognised problem in the UK health service. It is becoming, and will continue to be, increasingly unacceptable. This will lead to more health care use among older people.

### Changing morbidity and the impact of health promotion

2.55 The age structure of the population is one of the most important factors determining the pattern of morbidity in the UK. Over the next 20 years, as a result of the ageing of the population, chronic conditions will account for an ever increasing share of the burden of disease. But there is unlikely to be a significant change in the major burdens of disease within the UK. There is considerable evidence of a large environmental and lifestyle element underlying most of the chronic diseases which account for the majority of the spending in the health service today. To change the level and pattern of morbidity requires more fundamental changes in these environmental and lifestyle factors. The most important include:

- smoking;
- poverty and inequality;
- diet;
- exercise;
- alcohol; and
- pollution.

2.56 The effects of changes in these underlying influences on health will extend well beyond the 20 year timescale of the Review. So we cannot do justice to the potential beneficial impact that initiatives in this area could have, reducing the burden of disease and potentially some of the costs of the health service. But, over the next two decades, change could have some impact.

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2.57 Tackling poverty or pollution or reducing smoking will require action beyond the health service. Indeed, in some cases, other parts of government or society have more scope to influence these factors than the NHS. In some areas, the Government has already set itself targets to improve the UK's performance - for example for smoking and poverty. This raises the question of how much of any additional resources for health should be spent on health care and in particular on the NHS. A full investigation of this is beyond the scope of my Review, but is clearly an important question. It is not easy to address - the potential benefits of reducing people's exposure to these lifestyle or environmental risks are clear. But evidence on the best ways to achieve this is often more limited. I greatly welcome the Government's Review of Inequalities in Health which is being undertaken for the 2002 Spending Review.

### Questions for consultation

Q9.1 Are there any other key changes in the health needs of the UK population that are likely to have a significant impact on expenditure over the next 20 years? Are there data available so that their impact can be quantified?

Q9.2 How will the trends in the number of elderly people, their morbidity and expectations affect social care and its relationship with health care in the future? How will the impact on health and social care differ?

#### *Demography:*

Q9.3 How is life expectancy likely to change over the next 20 years? What do the changes mean for the assumptions the Review should make about the future size and structure of the population and the future patterns of disease?

#### *Morbidity:*

Q9.4 Will there be a compression or expansion of morbidity among future elderly people?

Q9.5 What health promotion and disease prevention interventions over and above smoking cessation are likely to have a significant, sustained impact on health service utilisation over the next 20 years? To what extent will health inequalities change? What impact will this have?

#### *Likelihood of seeking health care and expectations:*

Q9.6 How are future elderly people's demands for health care likely to differ from the current elderly? How will their changing expectations relate to health service use?

Q9.7 What evidence is available on trends in the likelihood of people seeking care for a given health problem?

## 2 OVERVIEW AND ISSUES FOR CONSULTATION

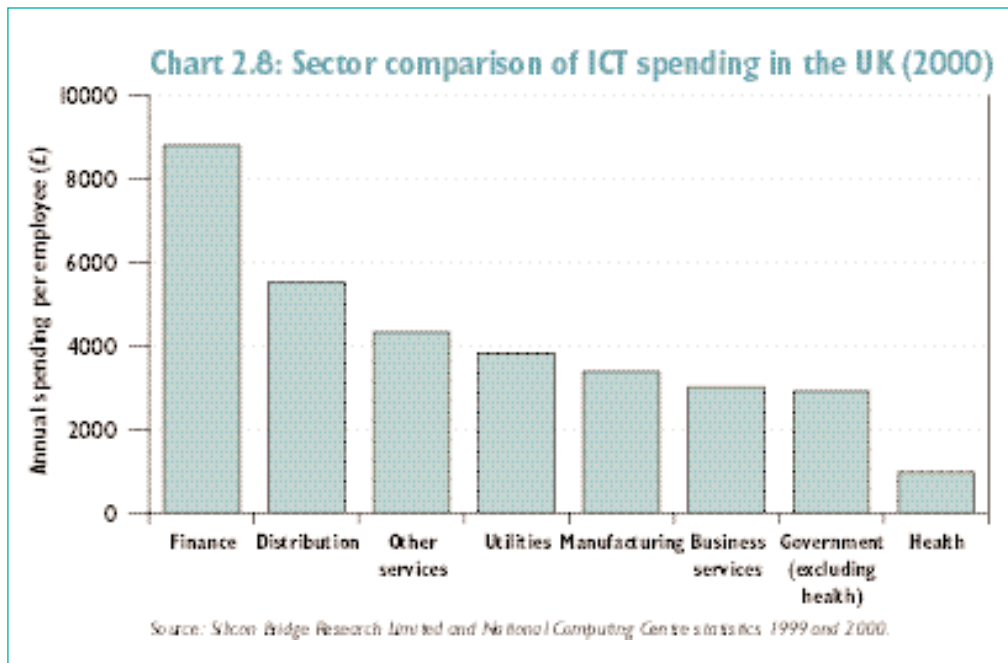
### Technology and medical advance (Chapter 10)

- 2.58 Technology is one of the most important drivers of health spending. A survey of 50 leading health economists in 1995 found that some 80 per cent agreed with the statement “The primary reason for the increase in the health sector’s share of GDP over the past 30 years is technological change in medicine”<sup>6</sup>.
- 2.59 Over the past 20 years, technological change is estimated to have contributed around 2 percentage points a year to health service spending. This is similar to the estimated impact in the US, although it equates to a significantly higher level of spending on technology in the US.
- 2.60 At first sight, it may seem surprising that technology should increase costs – technology generally is one of the main factors behind improvements in efficiency and productivity across the economy. In the health service, many new technologies will reduce the average cost of a particular procedure or treatment. For example, heart bypass surgery has become more effective and cheaper over the past two decades. However, such effects appears to be small compared with the wider impact of technology. Overall technology has increased health expenditure as it has both enabled many more people to be treated and opened up new areas of treatment.
- 2.61 The UK has been relatively slow to adopt new technologies, leaving it lagging behind many other countries. It is, of course, possible that some other countries adopt new technologies too quickly. Being quick is not necessarily a good thing if the new technology is found not to be effective. The appropriate response to new technologies is for rapid and consistent diffusion across the health service once robust evidence of their cost-effectiveness is available. NICE will have a pivotal role to play in providing this evidence base. It will be crucial to ensure that positive evidence-based recommendations are resourced and negative recommendations upheld.
- 2.62 The UK has a particularly poor record on the use of information technologies in the health service. It is behind other countries and other sectors in exploiting the benefits of ICT. Around 1½ per cent of health spending in the UK is on ICT compared to 6 per cent in the US. In other sectors, the share of spending on IT is much higher.

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<sup>6</sup> Fuchs VR (1996), Economics, values and health care reform, *American Economic Review*, Volume 86:1-24.

## OVERVIEW AND ISSUES FOR CONSULTATION 2



2.63 Over the next two decades, technological developments including new drugs are likely to continue to add to total expenditure. Although the uncertainties are large, the key trends include:

- more rapid diffusion of existing technologies as the NSF's are implemented and the UK catches up with good practice;
- the development of more drugs that reduce the risk of disease. Treating risk rather than waiting for diseases to develop offers considerable potential to improve health but may significantly increase the number of patients using a technology. Statins (drugs which reduce cholesterol) are an example of this. Current evidence suggests that using them to treat people at risk of CHD is cost-effective and would increase the number of people who would benefit from treatment by 6 million;
- new technologies such as digital TV, telephone-medicine and home monitoring increasing the opportunities for people to take greater responsibility for their own health and health care;
- more minaturisation and electronic communications allowing more diagnosis and treatment to move from hospitals to primary care;
- an increasing prevalence of some diseases as drug therapies and other technologies improve and those diseases are treated increasingly as chronic rather than acute conditions; and
- new treatments for diseases where there are currently few treatment options. One of the areas with the biggest potential impact is Alzheimer's disease.

## 2 OVERVIEW AND ISSUES FOR CONSULTATION

- 2.64 Radical new technologies such as genomics, proteonomics and stem cell therapy offer the prospect of major changes in the way medicine is practiced and have the potential for significant impacts on health outcomes and costs. But there is uncertainty about the likely pace and extent of such developments over the Review period.
- 2.65 The impact of technology on cost over the next two decades is subject to considerable uncertainty. But it is clear that over previous decades the UK has been slow to adopt and diffuse new technologies. As a result we are now behind best practice. The Review's preliminary estimate is that technology has previously contributed around 2 percentage points a year to the cost of the health service. The historical contribution is likely to represent a 'floor' in terms of the increase required over the next 20 years. Over the next decade, the main cost pressure is likely to come from more rapid diffusion of existing technologies which have been found to be cost-effective as the UK catches up with best practice. The subsequent decade may see more fundamental changes as new fields of medical science start to have a wider impact across the service.

### Questions for consultation

- Q10.1 Is it right to conclude that, in aggregate, technology and medical advance will increase expenditure?
- Q10.2 Have the main drivers of future spending on technology been identified? Which do you expect to be the most important in terms of impact on the health service over the next 20 years?
- Q10.3 Is the top-down approach the best way to estimate the historical impact of technology growth and does the Review's preliminary estimate that technology has historically contributed around 2 percentage points to health spending growth provide a plausible floor to what will be required in future?
- Q10.4 What rate of growth of technology spending do you think will be required over the next 20 years?
- Q10.5 How much of an impact do you expect genetics and stem cell technology to have over the next 20 years and what will be the implications for health spending?

## OVERVIEW AND ISSUES FOR CONSULTATION 2

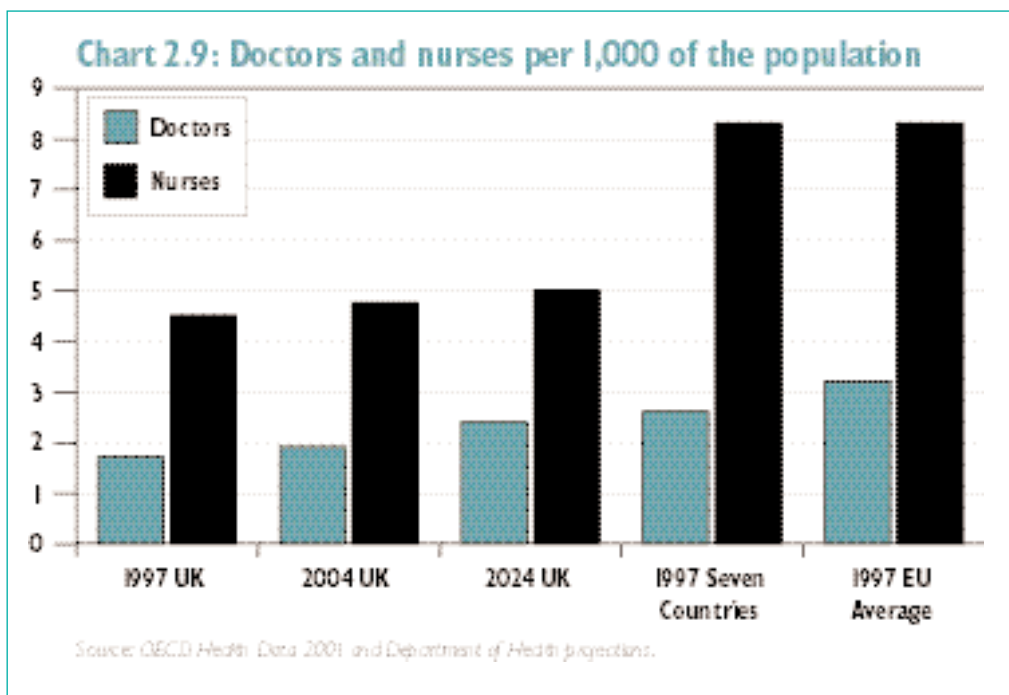
### The future workforce (Chapter 11)

2.66 The NHS employs over 1<sup>1</sup>/<sub>4</sub> million people and the social care sector a further 1 million. Health care is a people business. The number and mix of staff in the health service is a major determinant of the quality of care, its efficiency and total cost.

2.67 Two thirds of health spending is on pay. The cost of the health service's workforce has been an important driver of spending over the past 20 years. Staff costs have increased by 2 percentage points more than inflation and above the rate of increase for earnings in the economy as a whole.

2.68 The UK does not have enough health professionals – doctors, nurses and other qualified staff. The UK currently employs fewer doctors and nurses per head of population than most European countries. The Government recognised this in the NHS Plan and has embarked on a programme to increase the number of doctors by 20 per cent and the number of nurses by 10 per cent by 2004. It has also increased the number of training places to ensure further growth in the number of professional staff. Over the next 20 years, the planned expansion in training places will increase:

- the number of doctors by a further 50 per cent;
- the number of nurses and midwives by a further 7 per cent; and
- the number of other qualified staff by a further 80 per cent.



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2.69 While the number of qualified staff can be an important constraint on the health system, the number of people is not in itself a guide to the quality and efficiency of a country's health service. That depends on the skills of the staff, the way they are used and the other resources, particularly technology, which supports them. Differences in the organisation and efficiency of different countries' health care systems means that there is scope for large variations in the productivity of doctors and nurses in different countries. As a result, there is no evidence that the UK should seek to match the EU average number of doctors or nurses per head of population. The 'right' number for the UK will also depend on the scope for skill mix and productivity changes.

2.70 In addition to increasing the number of staff, the roles of health care professionals are expected to change significantly over the next 20 years. The evidence and emerging trends suggest that in two decades' time:

- individuals will be responsible for more of their care – either managing minor illnesses without the need of support from health care professionals or, working with health care professionals, taking a more active role in their own treatment;
- most primary care will be provided by nurses and other health care professionals in a range of community-based settings;
- health care assistants will undertake a large part of the routine work of nurses;
- GPs will focus on patients with more complex needs and provide a wider range of diagnostic and treatment services. This will allow more services to move from secondary to primary care;
- GPs will become more specialist. They will work in teams including, for example, community physicians, paediatricians, geriatricians and psychiatrists;
- more older people will be supported at home or in intermediate care facilities. Their treatment will be managed by the community-based specialists; and
- major acute hospitals will focus on providing 24-hour intensive and high dependency care. They will be centres of excellence for tertiary and high technology services. They will be staffed by doctors who are increasingly specialised and will be the centre of care networks linked to community-based services.

## OVERVIEW AND ISSUES FOR CONSULTATION 2

### Questions for consultation

Q11.1 What are the key changes in the roles of health care professionals that are likely to occur over the next two decades, in particular:

- what is the scope for a significant expansion in nurse-led services;
- how will the use of health care assistants change;
- how will the roles of specialist and generalist doctors change; and
- how will partnerships with other professionals, especially social care, change?

Q11.2 Will the current training places give the UK the number and mix of health care professionals it needs?

Q11.3 How can a mismatch between the demand and supply of skilled labour in the health service be avoided? What implications will this have for the cost of the workforce?

### Health care productivity

2.71 The resources required to deliver a high quality health service in 20 years will depend on the total increased demands which the health service has to meet and the unit costs of doing so. The cost of health care will depend on the improvements in productivity and efficiency which can be achieved over the next two decades.

2.72 Historically, productivity in the NHS has increased by around 2 per cent a year. Accurately measuring productivity is very difficult, especially in the health service where robust measures of both volume and quality are difficult to obtain. However, the growth in health service productivity appears to have been broadly in line with the trend for the economy as a whole. This Review seeks to identify areas where there are significant opportunities for improvements in productivity in the long term.

## 2 OVERVIEW AND ISSUES FOR CONSULTATION

2.73 There are four areas identified so far which appear to offer the most potential:

- more self-care by patients allowing, for example, more minor diseases to be treated without the need for a visit to the doctor, or supporting patients with chronic diseases to monitor their own health and report this to their health professional. Technological developments will be a key determinant of the pace of change;
- better use of information and communication technology (ICT) – the current ICT infrastructure in the health service is very poor. More systematic use of ICT should lead to significant improvements in the effectiveness and efficiency of health care;
- better use of the skilled workforce:
  - there seems to be evidence to support radical changes in the skill mix of the health service workforce, extending the role of nurses and other health care professionals and breaking down professional boundaries;
  - a significant increase in contact time – on average at present health care professionals spend much less than half of their time while at work with patients<sup>7</sup>; and
- redirecting existing NHS resources towards treatments which are cost-effective. NICE's work developing a body of clinical guidelines for treatment and the NSFs will be critical. But the NHS then needs to ensure that the guidelines are consistently implemented across the service.

Realising these productivity gains will require significant commitment and, in many cases, up front investment.

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<sup>7</sup> Lathrop P (1993), *Restructuring Healthcare*. Jossey-Bass Inc San Francisco and Durrow Consultancy.

## OVERVIEW AND ISSUES FOR CONSULTATION 2

### Questions for consultation

- Q11.4 What is the scope for significant gains in the productivity of the health care workforce beyond the 2 per cent a year growth which might be expected for the UK workforce as a whole? Will productivity gains be more likely to improve quality and outcomes or to reduce costs and improve efficiency?
- Q11.5 What other factors will drive productivity gains and what are the potential barriers to achieving them? Is it skill mix, contact time or other workforce and organisational factors?
- Q11.6 What would be the impact of patients becoming much more involved in their own care?
- Q10.6 What should be the main priorities for the health service in increasing investment in information and communication technology (ICT)?

### Variations within the UK

- 2.74 The four countries of the UK have different health needs reflecting differences in their populations, environmental and economic factors. Mortality and morbidity rates are higher in Northern Ireland, Scotland and Wales than in England. However, alongside these greater health needs the three countries have more health care resources. Funding per head, the number of hospital beds and professional health care staff are all above the levels in England.
- 2.75 While there are different starting positions in each country, many of the trends affecting health care are UK wide and may be strongly influenced by international factors. Overall, the major health trends outlined in this report seem likely to impact similarly across the UK.

## 2 OVERVIEW AND ISSUES FOR CONSULTATION

### Questions for consultation

- Q12.1 Are there any health trends that will affect different parts of the UK in different ways which need to be taken into account in the final report?
- Q12.2 How much of the variations between the countries of the UK is attributable to different levels of social deprivation?
- Q12.3 What specific aspects of morbidity and mortality are likely to vary from the UK average in each country?
- Q12.4 What impact, if any, will the differing forms of NHS organisation and management in the four countries of the UK have on resource needs?
- Q12.5 Will diverging population trends require a different approach to health care in England, Scotland, Wales or Northern Ireland?
- Q12.6 How will devolved responsibilities for health and social care affect technology diffusion and workforce development?
- Q12.7 What variations in health need between the English Regions need to be taken into account in the Review?

### Next steps

- 2.76 The remainder of this report sets out in considerably more detail the evidence which we have been able to gather on each of the main factors that will affect the health service over the next two decades. Wherever possible, we have tried to ensure that individual chapters can be read in isolation. This means that some of the material appears in more than one place.
- 2.77 This interim report is a consultation document – given the considerable uncertainty surrounding many of the changes which are likely to occur over the next two decades, I would greatly value feedback from as many people as possible on the evidence which we have been able to gather. This feedback will be used to refine the models through which we will produce the resource requirements for a comprehensive, high quality service in 20 years' time.
- 2.78 I will therefore be continuing to consult with people to test our tentative conclusions and to explore the questions which we have posed. To do this we will be holding a programme of events with experts, patient groups and those working in the health service.