Financing health services in the United States, Canada and Britain

NUFFIELD/LEVERHULME FELLOWSHIP REPORT

by

J W HURST

King Edward's Hospital Fund for London

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PREFACE AND ACKNOWLEDGEMENTS

This Report is based on work carried out with the help of Nuffield/Leverhulme Travelling Fellowship which took me to Washington DC and Ottawa, between November 1980 and July 1981. The objective of the fellowship was to study methods of financing health services in the US and Canada and to bring back lessons which might be of use in the British debate on financing health services.

The Report was first drafted in 1981 which explains why most of the statistics it contains relate to 1977 or 1978. Some of the chapters were completed in 1982. It was not feasible to revise the entire Report prior to this publication in 1985. Although health service financing issues have moved on in some important respects in the intervening years, particularly in the United States, most of the conclusions which I drew in 1981/1982 still seem to be valid in 1985.

I was particularly grateful to the Office of the Assistant Secretary for Planning and Evaluation, in the US Department of Health and Human Services, and to the Policy, Planning and Information Branch of Health and Welfare, Canada, for providing me with office accommodation and other practical assistance in Washington and Ottawa respectively. Numerous members of these offices gave generously of their time to assist and educate me, especially: Gerard Anderson, Dennis Andrulis, Debbie Chudecek, Marsha Gold, Eleanor Kinney, Deborah Lewis, Gene Moyer, Clara Schiffer, Stuart Schmid, Jim Schuttinga and Dianne Wolman in Washington; and Bill Arrowsmith, Dave Beavis, Pierre Bellerose, Linda Buske, Phyllis Colvin, Gill Fortin, Keith Horner, Don MacDonald, Mike Murphy, Lother Rehmer, Dorotheen Scott, Art Smith, Bill Tholl, Madelyn Tuskovich and Lola Wilson in Ottawa.

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On a rainy visit to California in March 1981 I was fortunate to have discussions with Alain Enthoven of Stanford, Jim Lane of Kaiser Permanente, Joe Newhouse and colleagues of the RAND Corporation and Paul Torrens, William Shonick, Stuart Schweitzer, Lester Breslau and Milton and Ruth Roemer of the School of Public Health, UCLA.

I was privileged to join a group visiting Salt Lake City in May 1981, to study competition in the health sector under the auspices of the National Health Policy Forum. I am indebted to the Forum and to numerous individuals and organisations in Utah for the insights this provided.

When I was in Canada I had instructive conversations with: Bill Mennie, L Rowsell, D McNaught and Sharon French of Health and Welfare Canada; with Douglas Angus and Louis Fournier of Statistics Canada; with Ron Le Neveu and colleagues of the Ontario Ministry of Health; with Steven Wolfson of the Saskatchewan Health Dental Plan; and with Jack Bainbridge and colleagues of the Ministry of Health in British Columbia. I was particularly appreciative when Bob Evans of the University of British Columbia gave up an afternoon of his sabbatical leave to discuss health care financing issues with me and when his family introduced me to the best ice-cream in Vancouver.

I am grateful to the Nuffield/Leverhulme Travelling Fellowship Scheme and to the Department of Health and Social Security in London for financing this project. Moreover, I owe a huge debt to my colleagues in the Economic Advisers' Office of DHSS: to Andrew Roy for supporting my application, to David Pole for putting up with my absence, to Clive Smee for sowing the seed and for advice, to Robert Weeden for taking on my job with great skill while I was away, and to Jean Matthews and Pat Gowing for excellent assistance with data and typing. I owe a special debt to Mike Parsonage who was working on a similar topic while I was preparing this Report. His lucid ideas and penetrating comments are reflected in many places.

Finally, Jean Pierre Poullier of OECD kindly give me a number of excellent suggestions for improving the text, shortly before it was sent for publication. I wish I had been able to do more to take account of his comments.

Needless to say, none of the above persons shares any responsibility for any defects which remain in what follows. Also, any opinions expressed below should not necessarily be ascribed to the Department of Health and Social Security.

January 1985

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FOREWORD

by Professor Alan Williams
University of York

In all countries there appears to be widespread concern about the growing costliness of health care, and a desire to ensure that the resources used for health care are used as effectively as possible. The intrinsic difficulties in judging the efficiency of health care naturally lead people to hope that someone else may have solved the problems that they have found so intractable. Hence there seems to be a growing army of peripatetic investigators descending on other people's health care systems intent on carrying back a message of hope for the folks back home.

Many of these reconnaissance expeditions are so brief and superficial that they finish up doing little more than describing other people's systems, and commenting on the differences from the home grown product. It is, therefore, a pleasure to find one which adopts a much stronger analytical stance, and penetrates beneath the surface of the institutional arrangements to get to grips with the underlying problems with which all systems have to grapple.

The author undertook this study with the support of a Nuffield/Leverhulme Travelling Fellowship, on secondment from the DHSS Economic Advisers' Office, an arrangement which enabled him to study the health care system of Canada and the United States at first hand. His report contains new material assessing the performance, prior to 1978, of these two systems and the British one. No study of this kind could or should lead to snap judgements on how health provision ought to develop in future; and in any case there is a good deal of evidence to suggest that both users and providers of health care are understandably wary of radical change in the systems they are accustomed to. But though the author refrains from any general judgements, his bringing together of material on costs, the mechanisms of financing and provision, and such evidence as is available on the health status of the three populations, is of great interest and is an important contribution to the small but steadily growing literature on international health comparisons. As such it will repay the close attention of all those with a serious interest in that area of study.

SUMMARY OF REPORT

CHAPTER 1. INTRODUCTION

i. The aim of this study is to explore the effect of alternative methods of financing health services on health service performance - particularly performance with respect to efficiency and equity - in the US, Canada and the UK.

ii. An occasion for such a study was provided by the desire of the Conservative Government which came into office in May 1979 to review the method of financing health services in Britain.

iii. All countries face certain dilemmas in financing health services:

- health is seen as important but need is often related inversely to ability to pay
- the incidence of disease is often highly uncertain for individuals and families
- consumers are not able to judge very well what medical care they need or the quality of the medical care they have received.

iv. The study explores alternative ways of tackling these dilemmas by altering the way of funding services, the way of paying providers and the way of organising ownership of health care facilities.

CHAPTER 2. THE AMERICAN WAY OF FINANCING HEALTH SERVICES

i. The US has pluralistic arrangements for financing health care which are still evolving.

ii. Private and public insurance funds more than half of personal health care expenditure and over 70% of hospital personal health care expenditure.

iii. Direct payments fund nearly one-third of personal health care expenditure. They are especially important outside hospitals.

iv. Government involvement in health care funding has been increasing and now accounts for nearly 40% of all health care expenditure.

v. There are generous, and inequitable, tax exemptions for private insurance.

vi. Access to care is not comprehensive or universal. Publicly provided insurance is selective. 6% to 13% of Americans have no health insurance and many more have inadequate insurance cover.

vii. The ownership of health care facilities is predominantly private. Nearly two-thirds of short-stay hospital beds are owned by private, non-profit making bodies.

viii. Physicians and hospitals are paid mainly by fee-for-service and methods of reimbursement are predominantly open-ended.

ix. US governments have made determined attempts to plan health care. More recently steps have been taken to increase competition in health care markets.

CHAPTER 3. THE CANADIAN WAY OF FINANCING HEALTH SERVICES

i. In terms of health service financing, Canada is a close neighbour of Britain with comprehensive 'National Health Insurance' financed mainly from general taxation. On the supply side, however, hospitals are independent and doctors are paid mainly by fee-for-service.

ii. Canada relies on private expenditure (24% of total health expenditure) to a greater extent than Britain (12% of total health expenditure). Much of the difference is accounted for by Canada's greater reliance on private financing of dentistry and pharmaceuticals. In one major respect, Canada is less tolerant of private purchase of medical care than Britain. Private insurers are not allowed to cover services covered by public insurance.

iii. The main responsibility for regulating and supervising health services rests with Provincial Governments but public expenditure on health services is shared between Federal and Provincial Governments and the Federal Government lays down conditions for its participation which ensure a considerable degree of uniformity throughout the system.

iv. A high degree of cost restraint is possible in the Canadian system because of Government budgeting of expenditure.

CHAPTER 4. THE BRITISH WAY OF FINANCING HEALTH SERVICES

i. Britain's health services are funded mainly by general taxation. There are few financial barriers to access to health services in Britain. Such barriers are confined mainly to access to "luxuries" in the small private sector.

ii. There is general reliance on non-price rationing in the public sector.

iii. Britain's method of financing health services gives the Government considerable discretion over the rate of growth of the health sector. Costs can be contained tightly in the public sector by budgetary means or non-budgetary means.

iv. A high degree of clinical freedom and local management discretion co-exists with tight financial control.

v. Most payment is by salary or by capitation arrangements. Because the NHS is the main employer of several occupations, the Government is in a strong bargaining position over the remuneration of these groups.

vi. There has been a gradual introduction of more formal planning and monitoring of services but there is still a comparative absence of either clinical audit or consumer influences on the NHS. It is difficult to judge whether the combination of open access to services by patients and predominantly salary/budgetary arrangements for employing resources produces the right set of incentives to maximise the benefits of health spending.

vii. The small private sector is a sort of safety valve which allows for the purchase of 'extras' not available under the NHS. Costs are fairly well contained in the private sector because of the high proportion of direct payment and the relatively close-ended insurance arrangements which prevail.

CHAPTER 5. COMPARING THE PERFORMANCE OF HEALTH SERVICES AND THE LEVEL AND GROWTH OF HEALTH EXPENDITURE IN THE US, CANADA AND THE UK

i. The purpose of Chapters 5, 6, 7 and 8 is to explore the effects of the different methods of financing health services in the US, Canada and the UK on the performance of the health sectors in these three countries. Performance, here, is examined at an aggregate or macro level according to two main criteria: efficiency and equity. Equity is considered both in relation to the receipt of health services and payment for health services.

ii. To assist this comparison an attempt has been made to reconcile the boundaries of the health sectors in the three countries and to allow, where possible, for differences in factors such as the age structure and morbidity of the population.

iii. Reconciliation of the health accounts for the US, Canada and the UK reveals similarity in the pattern of spending across hospital, physician and other health services for the three countries. Spending on administration is highest in the US. After converting by Purchasing Power Parity exchange rates, indices of total health expenditure per capita in 1977 were: US = 250; Canada = 180; and the UK = 100.

iv. The US leads the three countries in the percentage of GDP devoted to health, followed by Canada. This is not surprising, in view of the well known positive relationship between the percentage of GDP devoted to health care and GDP per capita itself. However, over the past three decades, the US share of GDP devoted to health has grown much faster than the UK share, despite nearly identical economic growth per capita within each of these countries. This is consistent with the hypothesis that America has the more permissive health care financing mechanism. Canada presents an interesting contrast.

Before 'National Health Insurance' was complete in the early 1970s, the growth of health expenditure as a percentage of GDP was very similar to that in the US. Since 1970, however, Canada's percentage of GDP devoted to health has remained close to 8% whereas the US share has grown to 10%.

v. Deflation of health expenditure by an index of the price of health service inputs, suggests that health service inputs per capita have grown much more rapidly in the US than in the UK, despite the similarity in their per capita economic growth.

CHAPTER 6. EFFICIENCY OF HEALTH SECTORS

i. The aim of this chapter is to compare inputs of health services with intermediate outputs (services) and, where possible, final outputs (net improvements in health brought about by health services).

ii. Britain has fewer acute beds per capita than the US or Canada but similar numbers of long-stay beds per capita (hospital + nursing/ residential home beds combined). Allowance for the age structure of the population puts Britain behind the US and Canada for both types of bed.

iii. Britain has significantly fewer staff employed in health services per capita than either the US or Canada.

iv. With the exception of doctors, the payment of major groups of health service workers in relation to average earnings seeems to be similar in each country. Doctors, however, are paid twice as much in relation to average earnings in North America as in Britain.

v. A comparison of six major intermediate outputs per capita (such as short-stay admissions and prescriptions) accounting in total for about 75% of health expenditure in each country, suggests that the US and Canada may be only 10% - 15% ahead of Britain on the volume of intermediate outputs overall. However the US and Canada are 40% and 54% ahead of Britain, respectively, in short-stay admissions per capita.

vi. This suggests that most of the difference in per capita health expenditure between countries (see 6i above) is explained by differences in the unit cost of services rather than differences in volume.

vii. Before any allowance is made for the intensity or quality of services, labour productivity seems to be about 90 in the US and about 96 in Canada if Britain's labour productivity is set at 100.

viii. Hospital length of stay is significantly lower in the North American countries than in Britain. This may be due to their much higher rate of short-stay admissions.

ix. There is some evidence, particularly for certain diagnostic services and for the length of primary care visits, that the intensity of services per unit of intermediate output is greater in the North American countries than in Britain. But British rates of immunisation against childhood diseases are similar to those in the US.

x. American patients seem to wait longer than British patients for access to primary care but waiting time for in-patient elective surgery is probably longer in Britain.

xi. Comparisons of the quality and outcome of care between the three countries are not readily available. Infant mortality and expectation of life are very similar between the three countries but it is hard to draw conclusions about the performance of health services from this because mortality rates do not depend only on availability of health services. Surveys of consumer opinion in all three countries indicate a high degree of satisfaction with health services although, in the US, consumers are inclined to grumble about their cost.

CHAPTER 7. EQUITY

The main questions addressed in this Chapter are the relationship of the use of health services to health itself and the relationship of payment for health services to income.

i. Equity in relation to income. It is possible to explore the relationship between health, use of health services and payment for health services, all in relation to income in each country. In all three countries, the poor experience significantly higher rates of sickness than the rich, judging by self-reported chronic illness. In all three countries, use of hospital and physician services is higher for the poor than for the rich and in all three these gradients are steeper for hospital services than for physician services. In all three countries, the gradient of hospital use seems to be as great as, or greater than, the gradient of morbidity. In the US, however, extra use of physician services by the poor seems to be insufficient to compensate for their extra morbidity. In the UK, the picture for physician services is superficially similar to that in the US, but recent analysis of General Household Survey data by social class suggests that distribution of physicians' services is, in fact, fairly equitable. Dental services seem to be used more heavily by the rich than the poor in both the US and the UK. The same applies to the use of certain preventive services. This suggests that factors other than financing may affect the use of these services, since preventive services are heavily subsidised or free in Britain.

Payment for health services seems to be distinctly regressive in the US and either progressive or proportional to income in Canada and the UK.

ii. Geographical equity. Variations in per capita health spending were greater between US States at the end of the 1970s than between Canadian Provinces or English Regional Health Authorities. Taking crude mortality rates as a rough indicator of 'need', the US and England showed a weak association between per capita health spending and 'need' and Canada showed no association. The main explanation for per capita variations in health spending in the US, Canada and England was per capita income. However, for the constituent parts of the UK (as opposed to RHAs within England) an inverse association between health spending per capita and income is observed. If the targets set by the Resource Allocation Working Party had been attained in England at the end of the 1970s, there would have been a much higher correlation between health spending per capita and crude mortality, and a weaker association between per capita health spending and per capita income in England than in the US.

CHAPTER 8. RESEARCH ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN THE US

i. Evidence on the extent of unnecessary medicine in the US is circumstantial but compelling.

ii. The list of causes advanced for excessive spending on health care in the US includes: the dominance of health insurance; the availability of open-ended tax subsidies for health insurance; the reluctance of employers to exert market pressure on insurers; the permissive reimbursement practices of insurers; the lack of price competition among providers; the ability of doctors to induce demand; the growth of medical technology; and barriers to entry among providers.

iii. Most attempts by government in the US to contain health care costs by regulation have been unsuccessful.

iv. Considerable evidence has been gathered on the responsiveness of the demand for health care to price in the US. Higher prices certainly discourage demand but they seem to encourage supplementary insurance. The effects on health of deterring utilisation are not yet known.

v. Health Maintenance Organisations have shown that they can cut the costs of comprehensive health insurance by 10-40% but they have captured only a small share of the insurance market.

vi. Various criticisms of the Veterans Administration (which in some ways resembles the NHS) are explored.

vii. There is evidence that private nursing homes are more efficient than public nursing homes and that among private homes proprietary homes are more efficient than non-profit homes.

viii. 6% - 13% of Americans have no health insurance and many more have inadequate insurance.

ix. Community rating tends to break down in favour of experience rating in a competitive insurance industry.

x. Although the government programmes, Medicare (for the elderly) and Medicaid (for the poor), have improved access to health care for the groups they cover, inequities remain within these programmes, partly because of their co-insurance requirements.

xi. Medicare and Medicaid have placed financial strains on America's public general (charity) hospitals but these often remain the provider of last resort for the uninsured.

CHAPTER 9. DEBATES ABOUT ALTERNATIVE FINANCING MECHANISMS IN THE US

i. National Health Insurance (broadly greater involvement by the Federal Government in financing medical care) has been debated in the US for about 70 years. So far legislative action extends only to Medicare and Medicaid.

ii. In the late 1970s the emphasis in America's health care financing debate switched from extending coverage for the uninsured to cost containment. Attempts to pass a bill which would have authorised government regulation of hospital cost increases failed in Congress, however.

iii. The stress is now on 'pro-competitive' solutions whereby government would bring about cost containment by fostering cost consciousness and competition in private markets for health care.

iv. Two pro-competitive versions of what is, in effect, National Health Insurance, are explored. The stronger candidate seems to be Professor Enthoven's Consumer Choice Health Plan. This would work by: introducing vouchers for the poor and tax subsidies invariable with respect to the cost of insurance; placing the choice of health insurance with individuals rather than employers; requiring that insurance organisations follow rules designed to ensure 'socially desirable' competition; and organising physicians in competing

economic units such as Health Maintenance Organisations. This proposal pays careful attention to equity as well as efficiency concerns.

v. Various criticisms of such a scheme are noted, particularly the difficulty government would have in operating the rules designed to ensure 'socially desirable' competition. Also, providers are likely to be opposed to any form of cost containment.

vi. At the time of writing, it is not clear what legislative proposals, if any, will emerge from the 'pro-competitive' movement. There are signs that the Department of Health and Human Services may be backing away from comprehensive legislation. A number of minor steps towards strengthening competition have been taken, however.

CHAPTER 10. RESEARCH AND COMMENTS ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN CANADA AND THE CONTINUING DEBATE OVER NATIONAL HEALTH INSURANCE

i. Canada's high degree of control over total health expenditure has almost certainly been achieved by single-source, government funding and hard bargaining over physicians' fees under 'National Health Insurance'.

ii. There is evidence from Canada, as there is from the US, that doctors can induce demand for their services.

iii. Commentary by Canadian economists on charging for health services (other than nominal charging) tends to be hostile.

iv. There is evidence that 'extra billing' by physicians is a deterrent to access by the poor.

v. Saskatchewan has a highly successful and thrifty school dental service, staffed mainly by dental auxiliaries.

vi. There is considerable evidence that the introduction of national health insurance in Canada has improved access to health services by the poor.

vii. There remains controversey about National Health Insurance in Canada, but it concerns mainly the fringes of the system. The system is generally very popular and has received strong endorsement from two recent official reviews. Nevertheless, there are stresses and strains very like those in Britain.

CHAPTER 11. RESEARCH AND COMMENTS ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN THE UK AND PROPOSALS FOR ALTERNATIVES TO THE NHS

i. The advantages and disadvantages of the NHS have been hotly debated but little empirical evidence has been assembled to test the various rival hypotheses that have been advanced.

ii. Perhaps the most carefully thought-out alternative to the NHS is the proposal put forward in a BMA volume in 1970. This suggested the re-introduction of a market for acute health care with compulsory minimum insurance, offering at least the current level of services, backed by a voucher scheme for the poor. Higher-income consumers could opt out into private insurance. The State would continue to look after the chronic sick and long-term pyschiatric and geriatric patients. Private insurance companies would be obliged to follow rules designed to ensure socially desirable competition.

iii. This scheme is compared to Professor Enthoven's Consumer Choice Health Plan which it resembles.

CHAPTER 12. CONCLUSIONS

The conclusions of the report are drawn up under three headings.

i. Methods of Funding Health Services

Four methods of funding health services have been considered, direct payment, private charity, insurance and government tax funding.

Direct payment seems to fall at present mainly on the "fringes" of health services. US evidence suggests that, compared with the situation where patients are fully insured, greater cost sharing will cut the demand for medical care, but encourage supplementary insurance. It is not yet known to what extent cutting health care affects health.

Private charity tends to have been supplanted by government charity in all three countries. Attempts to combine private insurance and charity via community rating tend to break down in competitive markets.

Judging by US experience, conventional private and government insurance tends to leave gaps in coverage and leads to problems of cost containment. The incentive to economise by both doctors (who seem to be the main determinants of demand at the margin) and patients is eroded. Insurance companies, consumers, employers and government are not yet effective at restraining the subsequent rose in costs. HMOs present a sharp contrast. They have shown an ability to cut the cost of comprehensive care by combining provision with insurance.

Ideas for reforming American health care financing arrangements now centre around pro-competitive, pro-private market solutions: especially systems that provide vouchers for health insurance for the poor, promote cost consciousness at the time health insurance is purchased, encourage 'socially desirable' competition among insurance organisations and (hopefully) promote the growth of HMOs. These suggestions resemble pro-market alternatives suggested in Britain.

Government funding of health services from general taxation, judging by Canadian and British experience, is more successful at matching services to illness than US arrangements. Britain seems to be in the lead in geographical re-distribution of health expenditure. Payment for health care seems to be proportional to income or progressive in Canada and Britain rather than regressive as in the US. Similar stresses and strains over government funding have appeared both in Canada and Britain, however.

ii. Methods of Paying Providers

For hospitals the suggestion from all three countries is that prospective block budgeting is highly successful in controlling costs and allows considerable delegation of managerial authority.

On remuneration of doctors, America's fee-for-service arrangements, when combined with open-ended insurance, seem to contribute to what is perceived as excessive growth in health expenditure. Canada has discovered that expenditure on physician services can be restrained despite fee-for-service payment by hard bargaining over fees. As with the payment of dentists in Britain, the volume of services tends to increase in this situation.

iii. Ownership of Facilities

Evidence on the relative efficiency of public and private provision is mixed. On the one hand, overall labour productivity seems higher in Britain than in the US or Canada. On the other hand, length of stay in British acute hospitals is longer than in North American acute hospitals (there may be explanations other than inefficiency for this, however); private nursing homes in the US seem more efficient than public nursing homes; and Britain has a comparatively unfavourable (costly) balance of care within its long term institutional sector.

CHAPTER 1

INTRODUCTION

1.1 Why is the method of financing health services an issue?

The aim of this study is to explore the effect of alternative methods of financing health services on health services performance - particularly with respect to efficiency and equity - in the US, Canada and the UK. By efficiency, here, is meant the production of health services at an appropriate level in an economical fashion. By equity is meant fairness in the distribution of health services in relation to morbidity and fairness of the distribution of payment for health services in relation to income. Concepts of fairness will obviously differ between individuals and countries.

The immediate occasion for this undertaking was the desire of the Conservative Government, which came into office in May 1979, to review the method of financing health services in Britain. An exploration of alternatives to present arrangements, particularly those involving greater reliance on the private market, was called for.

All countries face certain dilemmas in financing health services. These dilemmas arise from peculiar characteristics in the demand and supply for medical care and may be summarised as follows.

a. Health is seen as important and there is almost universal support for the idea that the sick should not be denied necessary care. However, need is frequently related inversely to ability to pay. This stimulates a demand for private charity or Government support, either by transfers of cash, public insurance or provision in kind, but the taxes necessary to finance these may cause distortions elsewhere in the economy.

b. The incidence of disease is often highly uncertain for individuals and families. Even prosperous individuals can be overwhelmed financially by unexpected illness. This problem can be tackled by health insurance which allows individuals to exchange what is typically a small risk of incurring large medical

bills for the certain outlay of a more modest annual sum, the health insurance premium. Unfortunately, health insurance brings problems in its wake, such as risk selection (the tendency in a competitive market for premiums to be tailored to risk: the sickest individuals becoming uninsurable) and moral hazard (the incentive for insured individuals, and their doctors, not to economise on health care).

c. Consumers' ability to judge what medical care they need and the quality of the medical care they have received is poor, partly because sickness itself may impair judgement and partly because modern medical knowledge is far beyond the reach of most individuals. This weakens the normal consumer role and has two important consequences. First, the professional (doctor, dentist, optician etc) becomes an 'agent' for the consumer. He or she is put in a position of trust and advises on care. Most hospital care, diagnostic tests and pharmaceuticals are ordered by doctors, not patients. Secondly, governments (which are also in a weak position regarding information) tend to delegate regulation of the professions to the professions themselves. This is usually associated with professional licensure and the development of ethical codes governing professional behaviour. For example, there is often self-imposed avoidance of overtly commercial or competitive behaviour within the professions. All of this is open to abuse and not necessarily conducive to the efficient working of markets: the health professionals gain potential monopoly power and may be capable of generating demand for their own services.

Although many other products share one or two of these characteristics, few share all three. This makes its particularly difficult to find a solution to the health care financing problem.

1.2 What alternative solutions exist?

It is desirable, before embarking on a comparison of the methods of financing health services in the US, Canada and the UK, to set out the scope of the term "financing" as used in this study and a general classification of methods of financing health services.

In this paper "financing" is used as shorthand to cover: sources of funds for health services; methods of remuneration of health service providers; and the type of ownership of health service facilities and the objectives of owners.

a. Sources of funds

Figure 1.1 illustrates the way in which flows of medical services (at the bottom of the diagram) may be financed in various ways by flows of finance (at the top of the diagram). The main choice is between direct payment and various forms of indirect (third party) payment. Among third party methods of payments there is a choice between charity, private health insurance and Government finance.

There are further possible variations. For example, private insurance organisations may be profit-making or non-profit making. Government can arrange finance on a social insurance basis (as in many European countries) or mainly via general taxation (as in Britain). Employers may often join households in funding insurance cover.

b. Methods of remuneration

Here, the main choices are between fee-for-service, capitation payments or salary. Most health service workers in most countries are paid by wages or salaries but capitation allowances and fee-for-service are common for doctors and other independent practitioners in many countries.

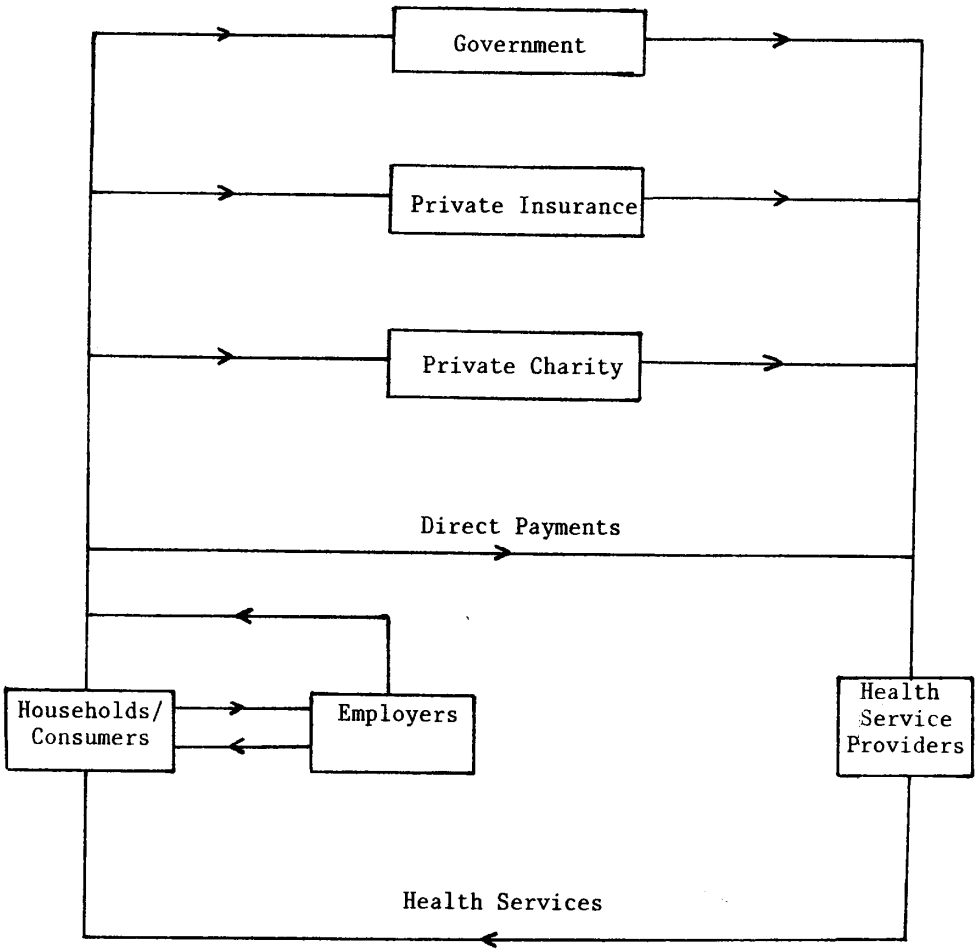
c. Ownership of facilities and objectives of owners

The main choices, here, are between private ownership and public ownership. Private owners may or may not pursue profits.

All three of these elements in health service financing may be cross-cut. There is a tendency to think that, say, private insurance goes with fee-for-service remuneration or that Government provision goes with salaried employment but such relationships are by no means necessary (Gravelle, 1980). Figure 1.2 illustrates possible combinations of these dimensions

Figure 1.1

Alternative Ways of Funding Health Services



of health service financing and provision. Funds can flow by various routes from the top left of the diagram to the bottom right.

In terms of diagram 1.2, the US, Canada and Britain all have systems of financing health services which are mixed. This provides some opportunity for comparing alternative financing arrangements side by side within the same country, particularly within the US. At the same time, it makes for difficulties in assessing which aspects of financing may be affecting performance when comparisons are made between the countries.

Figures 1.1 and 1.2 are, of course, highly simplified. It is worth drawing attention to three additional characteristics which may vary between systems.

a. The degree of redistribution

Figure 1.1 treats households as one sector. In fact, the household sector contains rich and poor, sick and healthy and one important issue in financing health services is the extent of redistribution between such households. There is a distinction, here, between selective and universalist systems of redistribution: that is, whether, in effect, Government subsidies are given only to the poor, or whether subsidies are given to all members of the community.

b. The extent of integration of financing

Some countries (such as Britain and Canada) tend towards single-source funding of health care. Other countries have competing sources of funds. Sole source funding can be open- or close-ended.

c. The extent of integration of the financing and provision of care.

Some health service financing institutions integrate funding and provision. For example, Health Maintenance Organisations in the US and, in a weaker sense, the NHS in Britain do this. Where there is separation of funding and provisions, as in say, the arms-length separation of

Figure 1.2

Alternative Methods of Funding Health Services, Paying Providers, and Ownership of Health Services

Households									
Employers									
	Direct Payments	Indirect, third party payments							
		Private Charity	Private Insurance		Government				
			For Profit	Not for Profit	Payroll Tax	Premium	General Tax		
								fee-for-service	Private Ownership
								budget/ salary	
								fee-for-service	Public Ownership
								budget/ salary	

private health insurance funds from providers, financing systems tend to be open-ended. That is to say, insurance funds tend, subject to prestated limits and exclusions, to pay for whatever care doctors consider necessary for eligible patients. Where there is integration of finance and provision, it is easier to make financing systems close-ended by, for example, placing budget limits on providers.

d. The extent of integration of provision

In Figures 1.1 and 1.2, private insurers and providers have each been treated as one sector. Of course, each sector may have various sub-sectors and the degree of competition among insurers payers and providers, when private, can vary widely.

Evans (1981,a) has made an interesting exploration of various forms of integration of finance and provision of health care.

1.3 Can we isolate the impact of financing mechanisms from other influences on health sector performance?

Health service performance may be affected by other factors, internal and external to health services, apart from the method of financing health services. These include the organisation of health services, the training and attitudes of staff, the education, attitudes and morbidity of patients, and the economic and cultural background. In what follows, attempts have been made to allow for such confusing factors from time to time. Fortunately, Britain, Canada and the US are all mature, industrialised countries and have similar cultural backgrounds.

1.4 Organisation of this Report

This Report is organised as follows.

Chapters 2, 3 and 4 describe existing methods of financing health services in the US, Canada and Britain, respectively.

Chapters 5, 6 and 7 contain a comparison between the performance of the American, Canadian and British health sectors using mainly published statistics.

Chapters 8, 9, 10 and 11 summarise some recent research on the effects of alternative health care financing mechanisms within each of the three countries and explore recent debates about alternatives within each.

Chapter 12 draws conclusions from the study.

There is an Appendix which discusses reconciliation of the accounts for the health sectors in the US, Canada and Britain.

CHAPTER 2

THE AMERICAN WAY OF FINANCING HEALTH SERVICES

2.1 Introduction

Arrangements for financing health services in the US differ sharply from those in Canada and Britain. First, the US relies more heavily on the private sector for funding and providing medical care than either Canada or Britain. In the US, there has been a greater willingness to rely on self-help and on the workings of the free market to fund and provide health services, although charity was usually available for the poor and there was always a strong element of non-commercialism and non-profit making among providers. Americans, by contrast to Canadians and Britons, have shown considerable antipathy towards "socialised medicine" and are relatively tolerant of the gaps in provision which still affect some sections of the American population. However, government's role in financing health care has been growing. Secondly, methods of finance and provision of health service in the US exhibit a high degree of pluralism. It is not just that the private sector exhibits a wide variety of financing and providing institutions but also that government programmes are numerous, fragmented and usually highly specific. Thirdly, despite the fact that financing and providing institutions have already undergone considerable evolution since World War Two, further change seems likely. The last two factors make it difficult to produce an account of the workings of the American health sector which is both brief and accurate.

2.2 Sources of Funds

Table 2.1 shows sources of funds for health expenditure in the US in 1980 in summary form. Nearly 60% of expenditure was funded from private sources. The table distinguishes between spending on personal health care and other expenditure such as administation, research and construction. Sections 2.2.1-2.2.3, below, concentrate on sources of funds for personal health care alone (nearly 90% of total health expenditure).

2.2.1 Direct Private Expenditure and Charity

The earliest type of funding for health care in the US was direct payment combined with private charity. Table 2.2 shows that direct payments still account for nearly one-third of America's total spending on personal health care in 1980. Philanthropy, however, now accounts for only about 1% of such spending. The amount of direct payment varies greatly between services. Only 9% of hospital expenditure but over 80% of expenditure on drugs and eyeglasses is met out-of-pocket.

2.2.2 Private Health Insurance

Private health insurance enables individuals to exchange what is typically a small risk of incurring large medical bills for the certain outlay of a more modest annual sum (the health insurance premium). Although insurers must charge for their expenses in providing this service, individuals who are risk-averse find it worthwhile to meet such expenses. Private health insurance accounts for just over 25% of all personal health care expenditure. It is purchased mainly by Americans with jobs. 80% of private insurance subscribers are enrolled in employer-related group schemes. Table 2.2 shows that private health insurance was concentrated on coverage for hospital and physicians' services, where the bills are relatively large and unpredictable.

There are three main types of private insurance organisation in the US:

i. non-profit making Blue Cross and Blue Shield Associations;

ii. commercial profit-making and mutual companies;

Table 2.1

Source of Funds for Health Expenditure in the US, Calender Year 1980

$ billion (figures in brackets are percentages of column total)

	Personal Health Care[1]	Other Health Expenditure[2]	Total Health Expenditure
Private Health Insurance[3]	60.9 (28)	11.5 (39)	72.4 (29)
Consumer Direct Payments	70.6 (32)	- (-)	70.6 (29)
Total Private	131.5 (60)	11.5 (39)	143.0 (58)
Federal	62.5 (29)	8.4 (29)	70.9 (29)
State/Local	23.9 (11)	9.4 (32)	33.3 (13)
Total Public	86.4 (40)	17.8 (61)	104.2 (42)
Total	217.9 (100)	29.3 (100)	247.2 (100)

Notes 1. Includes hospital care, physicians' services, dentists' services, other professional services, drugs and medical sundries, eyeglasses and appliances, nursing home care, and other personal health services.

2. Including expenditure on prepayment and administration, government public health activities, research and construction of medical facilities.

3. Including philanthropy and industrial in-plant expenditure.

Source Gibson and Waldo, 1981.

TABLE 2.2

Personal Health Care Expenditure by Source of Funds and Type of Expenditure: per capita Amount and Percentage Distribution, Calendar Year 1980.

Source of Payment	Total	Hospital Care	Physicians' Svcs	Dentists' Svcs	Other Prof Svcs	Drugs	Glasses	Nursing Home Care	Other Personal Health
				Dollar Amount per Capita					
Total	$940.62	$429.80	$201.18	$68.42	$23.30	$83.00	$22.10	$89.46	$23.34
Direct Payments	304.65	39.12	75.04	51.61	13.84	68.63	18.88	37.53	-
Third-Party Payments	635.97	390.68	126.15	16.82	9.47	14.37	3.21	51.93	23.34
Private Health Insurance	250.65	151.24	73.00	14.27	2.95	7.65	.89	.64	-
Philanthropy and Industrial In-Plant	12.36	5.33	.12	-	.25	-	-	.54	6.12
Government	372.96	234.10	53.03	2.54	6.26	6.72	2.32	50.75	17.22
Federal	269.91	178.32	40.64	1.45	4.50	3.36	1.94	27.70	12.00
Medicare	153.76	113.44	33.44	-	2.99	-	1.56	1.69	.64
Medicaid	59.96	22.46	5.44	1.13	1.29	3.18	-	24.46	2.00
Other	56.19	42.42	1.77	.32	.21	.19	.38	1.55	9.35
State and Local	103.05	55.79	12.38	1.09	1.76	3.36	.38	23.06	5.23
Medicaid	49.35	18.52	4.49	.93	1.07	2.62	-	20.17	1.55
Other	53.70	37.26	7.89	.16	.70	.74	.38	2.89	3.68
				Percentage Distribution					
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Direct Payments	32.4	9.1	37.3	75.4	59.4	82.7	85.5	41.9	-
Third-Party Payments	67.6	90.9	62.7	24.6	40.6	17.3	14.5	58.1	100.0
Private Health Insurance	26.6	35.2	36.3	20.9	12.7	9.2	4.0	.7	-
Philanthropy and Industrial In-Plant	1.3	1.2	.1	-	1.1	-	-	.6	26.2
Government	39.6	54.5	26.4	3.7	26.9	8.1	10.5	56.7	73.8
Federal	28.7	41.5	20.2	2.1	19.3	4.1	8.8	31.0	51.4
Medicare	16.3	26.4	16.6	-	12.8	-	7.1	1.9	2.7
Medicaid	6.4	5.2	2.7	1.7	5.5	3.8	-	27.3	8.6
Other	6.0	9.9	.9	.5	.9	.2	1.7	1.7	40.1
State and Local	11.0	13.0	6.2	1.6	7.6	4.0	1.7	25.8	22.4
Medicaid	5.2	4.3	2.2	1.4	4.6	3.2	-	22.5	6.6
Other	5.7	8.7	3.9	.2	3.0	.9	1.7	3.2	15.8

Source: Gibson and Waldo, 1981

iii. Health Maintenance Organisations or pre-paid group practices.

Blue Cross and Blue Shield were originally sponsored by hospitals and medical societies, respectively, in the Depression to help ensure that medical bills were paid. Being non-profit making, they escape certain taxes. They have about 40% and 33% respectively of the hospital and physician insurance markets (Smith Caroll and Arnett, 1979). The "Blues" originally practised community rating (charging all individuals in a geographical area the same premium) but competitive pressure from commercial insurance companies forced them to adopt experience rating (relating the premium to the risk experience of the subscribers). When the commercial insurance companies began to charge good risk groups lower premiums, the "Blues" were theatened with adverse selection (Krizay and Wilson, 1974). The "Blues" tend to provide fairly comprehensive insurance but often require the patient to pay a deductible (all costs up to a maximum) or co-insurance (a fixed percentage of each medical bill).

The commercial insurance companies emerged as a major force in American health insurance in the 1950s and 60s. They tended to supply indemnity insurance (they paid the subscriber rather than the provider a pre-arranged amount following medical contingencies) but they tend now to pay the actual charges of providers. They adopt experience rating and they tend to hedge their policies with ceilings and exclusions, especially for individual subscribers. They provide economy insurance packages (with greater consumer cost sharing) as well as more comprehensive insurance.

Health Maintenance Organisations (HMOs) are usually non-profit making bodies which differ sharply from other insurance organisations in that they combine health insurance with provision for health care itself (vertical integration between insurers and providers). All HMOs acquire income by offering fairly comprehensive health care to enrollees in exchange for a regular capitation payment, usually set by community rating. Once a subscription has been paid, care is either free to subscribers or subject to fairly nominal charges. A subscriber must accept care from the Plan in most circumstances and this means that insured care is available only at specific geographical locations. The majority of subscribers are of working

age and are enrolled through company plans. In some ways, HMOs resemble organisations like the NHS but they are private, membership is voluntary, and they have to compete for subscribers with conventional private insurance organisations. There are a number of varieties of HMO in the US. Some employ their own physicians in a group practice. Others involve office-based physicians on a fee-for-service basis and supply hospital care on a contractual basis. Some HMOs even own their own hospitals. Although HMOs currently account for less than 3% of the private insurance market in the US we shall see that they occupy an important place in various proposals for the future.

2.2.3 Government Health Insurance

The involvement of government in financing health care in the US tends to be selective. The two main programmes are Medicare and Medicaid, which account for about 30% of personal health care spending. Despite their similar names and their passage under the same Act, these two programmes are very different.

Medicare is a contributory social insurance programme run by the Federal Government, mainly for the elderly (65+) but also for the disabled and those with chronic renal failure. Part A of Medicare covers hospital, nursing home and home care, and is financed by the same compulsory payroll tax that finances social security cash benefits. Part B covers doctors' services and other medical expenses and is financed by general taxation and voluntary contributions from the elderly. Both parts of Medicare are subject to cost sharing and limitations (for example, a maximum of 90 days in hospital with a lifetime reserve of 60 days). Table 2.2 shows that Medicare accounts for 16.3% of total personal health care expenditure. It plays a particularly important role in financing hospital care.

Medicaid is a non-contributory programme financed out of general taxation and run jointly by State and Federal Governments for the poor. Strictly, it should not be described as a health 'insurance' programme because it is non-contributory. The scope of the programme varies widely between the 50 participating States but, in all, full

payment for hospital, laboratory, physician, family planning and skilled nursing home services (subject to limitations) is made for the following categories of welfare recipient:- aged poor, blind, disabled and families with dependent children. In addition, optional forms of cover for the poor and near-poor are eligible for cost sharing if States choose to extend their programmes in these directions. Table 2.2 shows that Medicaid accounts for 11.6% of total personal health care expenditure. It plays a particularly important role in financing nursing home care.

2.2.4 Other Government Programmes

Medicare and Medicaid account for about 60% of all public expenditure on health care in the US (much of this spending falls outside personal health care expenditure). The remaining 40% of public expenditure is made up as follows: 5% (of all public expenditure) goes on workmens' compensation, 8% on general hospital services including direct support of county and municipal hospitals, 4.5% on care of the armed services and their dependents, 6.5% on public health services, 6% on the Veterans' Administration, 2.5% on other health services, 4.5% on research and 2% on construction. A number of these programmes involve not only government funding but government provision of services. The most prominent examples are the Veterans' Administration, which provides direct "free" hospital and nursing home services to ex-servicemen, and support for county and municipal hospitals which, while increasingly serving insured patients, also continue to act as providers of last resort for both the ambulatory and in-patient needs of the indigent.

2.2.5 Tax Exemptions

In addition to the more visible government health care financing programmes, there is a large, less visible, programme of tax exemption for private insurance and medical expenses. This is now larger than Medicaid. All employer contributions to health insurance are deductible from taxable income, as is half of the cost of expenditure on health insurance made by individuals up to a ceiling of $150. In addition, certain direct medical expenses and any health insurance premiums excluded by the above formula are deductible if they exceed 3% of

taxable income. These exemptions provide powerful incentives for the acquisition of health insurance, especially through employer-run schemes. They are also highly selective in an inequitable fashion, favouring those in work and, among those in work, those with higher incomes.

2.3 Access to Health Care

Because the US relies on voluntary insurance and government aid through selective public programmes, there is not universal access to comprehensive health care. Between 6% and 13% of Americans have no health insurance and others have inadequate insurance (see Chapter 8, section 8.2.1 below). Charitable care is available in both public general hospitals and in private hospitals but access here is controlled by the emergency room, is often subject to extended waiting and involves stigma. The advent of Medicare and Medicaid gave many Americans access to the doctor or hospital of their choice for the first time. This helped to bring the elderly and the poor into the "mainstream" of American medicine. As a consequence, publicly supported hospitals - those that typically served poor neighbourhoods - sometimes found themselves in financial difficulties and had to close (see section 8.2.4 below). Despite this, there is still sometimes a distinction between the private care available to the middle class, or the insured, and the predominantly public care available to the uninsured (Torrens, 1978).

2.4 The Organisation of Medical Care

An important aspect of American (and Canadian) medical practice is that most qualified doctors are based in their own offices outside hospitals - that is, they are self-employed. Hospitals grant office-based doctors "admitting privileges" to allow them to continue to treat their own patients when they require hospitalisation. Partly as a result, 87% of doctors in the US are specialists. Most other health professionals outside hospitals are also self-employed.

2.5 The Ownership of Facilities

The bulk of medical and nursing care in the US is supplied by the private sector. About 70% of beds in short-stay hospitals are privately controlled (but only 6% of beds in long-stay hospitals). 90% of private short-stay beds are under the control of non-profit making bodies. In the nursing home sector, however, about 70% of all beds are under proprietary control.

2.6 Methods of Paying Providers

In general, payment of health care providers in the US is fairly open-ended being backed extensively by health insurance, especially in the hospital sector, and being based predominantly on fee-for service remuneration.

The method of paying hospitals tends to depend on the source of funds. The Blues and Medicare (which employs Blues as its carrier) tend to pay hospitals by retrospective cost reimbursement. This means they pay the actual costs of care provided, calculated on a bulk basis, subject to any deductions or co-insurance for the patient. On the whole, this means that if $1 is added to costs $1 is added to reimbursements. In recent years, some Blue Cross associations have adopted more restrictive payment mechanisms, including prospective budgeting where payment for a block of subscribers is agreed with providers in advance. The commercial insurance companies, and those paying direct, tend to pay the hospital according to their actual charges, worked out on an individual patient basis (the patient's "bill") subject, again, to any cost sharing. Government hospitals are, of course, paid all or in part by block budgets as in Britain and Canada.

Most physicians in the US (apart from those working for government, those still receiving training or those working for pre-paid group practices) are paid by fee-for-service. The Blues and Medicare usually pay physicians a proportion (typically about 80%) of their "usual, customary and reasonable" (UCR) fees. Payments to the insured (indemnity payments), which typically involve greater cost sharing, are on the wane (Dyckman, 1978). Medicaid, however, pays according to a fee schedule in most States. Since the fees are usually set below the prevailing UCR level many doctors refuse to take Medicare patients and those that do are alleged sometimes to make up in volume of low quality care what they lose in fee per item of service (in so-called "Medicaid Mills").

Most other health professionals are paid by fee-for-service but other workers are paid by wages or salaries.

2.7 Financing Capital Expenditure and Medical Education

There are several methods of financing hospital construction in the US. As philanthropy has dwindled, hospital charges have been set to include an element for depreciation and interest. Until recently, the Federal Government made direct grants for non-profit hospital construction under the Hill-Burton Act and non-profit hospitals still have access to funds raised via tax-exempt bonds issued by State and local governments. Finally, proprietary hospitals raise capital by borrowing or by equity finance.

Teaching hospitals also raise training and research funds through charges. In addition, they receive government support, especially through the Veterans' Administration which supports many teaching hospitals. Medical students have until recently received increasing access to government grants and loans to help with the cost of training. There are now signs, however, of an emerging physician surplus in the US (Ginzberg et al, 1981).

2.8 Federal, State and Local Jurisdiction Over Medical Care

Medical care in the US was originally a matter for local government or State jurisdiction. Local government looked after public health matters and care for the sick poor. State governments arranged for the licensing of the health care professions and provided for the mentally ill. The Federal Government, until after World War Two, confined its attention mainly to the care of merchant seamen, the military, veterans and Indians and to control of infectious diseases. Since World War Two, however, the Federal Government has used its tax and granting powers to increase substantially its involvement in medical care with the results we have outlined already in section 2.2.4, above. Federal funds now account for about two-thirds of total public expenditure on health care (ignoring tax concessions).

2.9 Planning and Other Controls on Expenditure

Despite the comparatively important role played by markets in American health care financing arrangements, perceptions of market failure have led to the setting up of various health care planning agencies and planning regulations by State and Federal Governments.

The most important planning bodies are Health Systems Agencies which cover the whole of the US according to areas containing between 0.5 million and 3 million members of the population each. These Federally funded agencies are charged with developing short and long range health plans, reviewing local applications for Federal funds for health programmes and assisting States in the performance of Certification of Need (CON) reviews. Certification of Need reviews are mainly concerned with controlling hospital bed numbers, or, more generally, investment in hospital facilities. Apart from CON, health systems agencies have few teeth and their future is under a cloud.

There are also various major peer group and government programmes for reviewing quality and cost of care. Most important of these are Professional Standards Review Organisations. These are essentially Federally-funded, physician-run bodies which review the quality and cost of hospital care paid for by Medicare and Medicaid. They have final authority to grant or deny payment for such care. Their future is also under a cloud.

Also important are State insurance commissioners who have extensive powers to control the activities and premiums of organisations providing health insurance.

2.10 Pro-Competitive Action by Government

In contrast to the planning and regulatory devices described above governments in the US have recently taken certain steps to increase competition among health care providers. For example, following a ruling of the Supreme Court in 1975, removing exemption of the "learned" professions from the anti-trust laws, the Federal Trade Commission has taken steps to investigate and challenge various restraints to competition in health care markets.

2.11 Conclusions

i. The US has pluralistic arrangements for financing health care which are still evolving.

ii. Private and public insurance funds more than half of personal health care expenditure and over 70% of hospital personal health care expenditure.

iii. Direct payments fund nearly one-third of personal health care expenditure. They are especially important outside hospitals.

iv. Government involvement in health care funding has been increasing and now accounts for nearly 40% of all health care expenditure.

v. There are generous, and inequitable, tax exemptions for private insurance.

vi. Access to care is not comprehensive or universal. Publicly provided insurance is selective. 6% to 13% of Americans have no health insurance and many more inadequate insurance cover.

vii. The ownership of health care facilities is predominantly private. Nearly two-thirds of short-stay hospitals beds are owned by private, non-profit making bodies.

viii. Physicians and hospitals are paid mainly by fee-for-service and methods of reimbursement are predominantly open-ended.

ix. US governments have made determined attempts to plan health care. Recent steps have also been taken to increase competition in health care markets.

CHAPTER 3

THE CANADIAN WAY OF FINANCING HEALTH SERVICES

3.1 Introduction

In terms of health care finance, Canada is a much closer neighbour of Britain than is the US. The whole population has had access to mainly publicly funded hospital care since 1961 and to mainly publicly funded physicians' services since 1972. Public funds cover dental and pharmaceutical services for certain selected groups of the population in a number of Provinces. In addition, nursing home (and, sometimes, home care) services are covered to some extent in all Provinces. For the most part, services are provided free at the time of use, although a few Provinces levy nominal charges, including charges for the use of hospitals, and there are significant charges for nursing home care. As in Britain, services are paid for mainly out of general taxation, although three Provinces and the Yukon levy premiums which cover part of the costs of services. Somewhat confusingly, and for mainly historical reasons, Canadians refer to their system of financing health care as 'national health insurance' (or 'Medicare') although its connection with the insurance principle is rather tenuous. Benefits are still carefully defined but premiums are a condition for entitlement to benefits in only two Provinces. The insurance principle lingers in that Canadians resident in one Province are able to claim from their Provincial health plans for medical expenses incurred in other Provinces or abroad. 'Medicare' is not available to tourists or visitors.

There is an important difference between Canada and Britain in terms of the provision of services, however. Whereas Britain has nationalised most of its hospitals, Canada still relies on independent, voluntary hospitals for the bulk of general hospital care. Whereas Britain pays doctors mainly by capitation or salary payments, Canada pays doctors mainly by fee-for-service. Nursing homes are usually privately owned. In short, Canada closely resembles the US on the supply side. It has nationalised its health insurers but not its health providers.

In terms of organisation of medical practice, Canada again resembles the US. Although the ratio of specialists to GPs is similar to that in Britain, almost all GPs in Canada enjoy hospital admitting privileges.

TABLE 3.1

Sources of Funds for Health Services in Canada

	$ Can	%
Private		
Direct and Other	na	na
Insurance	na	na
Total	4,100	24
Public		
Federal	6,210	37
Provincial and Local	6,450	38
Total	12,660	76
Total	16,760	100

Source: Medical Economics Section, Health Information Division, Health and Welfare Canada, July, 1981.

Moreover, patients can approach specialists directly, although the Provinces try to discourage this by setting the fee for such an initial consultation at the GP rate. In general, patients can choose their physician, hospital or nursing home.

Finally, in Canada it is not central government but rather Provincial Governments that have primary jurisdiction over health care. This means that Canada actually has 10 distinct and somewhat varied systems of finance of medical care (not counting arrangements in the Yukon and the North West Territories). However, both the Federal and Provincial levels of government in Canada have independent powers of levying direct and indirect taxes. By offering to share in the cost of financing health services, the Federal Government has been able to exert a strong influence on the development of 'national health insurance'. Five conditions were laid down by the Federal Government for its participation in hospital and physician 'insurance': universal coverage of all Canadian residents on uniform terms and conditions; comprehensive coverage of all services covered by the plans; public administration of plans on a non-profit making basis; portability of benefits for individuals moving between Provinces; and reasonable accessibility on uniform terms and conditions. All Provinces have accepted Federal assistance in funding medical care, and these conditions ensure considerable similarity in the way that services are financed across Canada.

3.2 Sources of Funds for Health Services

Table 3.1 shows sources of funds for health services in Canada in 1978. 76% of expenditure was publicly funded (about half of this was Federal and half Provincial in origin). The remaining 24% was private.

3.3 Relationship Between Public and Private Health Sectors in Canada

Canada's 24% of health care expenditure which is private compares with about 12% in Britain (1978 data). Over half of this difference is accounted for by the fact that Canada leaves most financing of dental and pharmaceutical care to the private sector. Much of the rest of the difference is accounted for by the fact that it is usual for the cost of constructing and equipping hospitals to be shared between the public and private sectors, via donations and bond issues.

So far as the core of medical services is concerned, the relationship between public and private medicine in Canada is rather different from that in Britain. In one major respect, Canada can claim to have got closer than Britain to discouraging private purchase of medical care. Private insurance companies are not allowed to offer insurance which competes with the cover offered by Provincial plans. This means that any basic private medical care has to be paid for out-of-pocket. Private insurers <u>are</u> allowed to cover services such as dentistry, when it is excluded from public 'insurance', and optional extras in hospitals, such as private rooms. There is personal tax relief on the premiums paid for such insurance, but not on the public premiums mentioned in the previous section.

On the other hand, doctors in all Provinces are permitted to opt out and to bill their patients directly for their services. In Quebec doctors must either opt in or opt out on all their work, and patients may not claim reimbursement for bills levied by opted-out doctors. In all other Provinces the doctor is allowed to 'extra bill'. That is to say, he may charge the patient extra for a service on which he receives reimbursement from the plan according to the Provincial fee schedule. Only the difference between Provincial fee schedules and the doctor's bill has to be paid for by the patient. 'Extra billing' is most common on Ontario, but even here, extra charges represent only about 3.5% of total plan payments for insured physicians' services. Presumably the prohibition on private insurance for services covered by public 'insurance' helps to inhibit the extent of 'extra billing' in Canada.

Proprietary general hospitals are regarded with disfavour in Canada and only a tiny handful survive from pre-Medicare days. They are allowed reimbursement from Provincial plans at an agreed per diem rate but are not allowed to levy extra charges above this. It seems unlikely, at present, that any new proprietary general hospitals will be allowed to open in Canada.

Most nursing homes are privately run (some charitable, some proprietary). In some Provinces, government funding of nursing home care is available only where individuals pass a financial means test but most Provinces now have public programmes for supporting those elderly who pass a medical needs test.

3.4 Relationship Between Federal and Provincial Funding of Health Services

Before 1977, the Federal Government paid nationally for approximately 50% of the cost of hospital and physician 'insurance'. If the Provinces spent more on health, the Federal Government automatically spent more, also. The Federal Government gave poorer Provinces relatively larger subsidies and richer Provinces relatively smaller subsidies in an attempt to reduce geographical disparities in per capita health spending. This system was criticised because it undermined Provincial incentives to economise, and discouraged flexibility in spending on alternative services (such as home care) not covered by the Federal sharing arrangement. Also, the Federal Government had no control over its budget. From 1977, alternative arrangements were brought in. The so-called 'Established Programme Financing' gave block tax transfers to the Provinces for health, education and some minor programmes and also provided a grant for alternatives to hospital care. The size of the transfers was linked to population and to a moving three-year average of per capita GNP. Such block funding introduced an incentive for Provinces to economise in using Federal expenditure and to seek efficient methods of delivering care, particularly by increasing expenditure on home and nursing home care, which had been excluded previously from Federal Sharing arrangements. Also, they made the Federal contribution predictable. On the whole, the objectives of 'Established Programme Financing' seem to have been achieved, in particular by transferring resources from hospitals to home and nursing home care, but there are some misgivings at a Federal level because Federal influence on how the money is spent has been considerably diminished. Central government in Canada has never had much power to determine detailed priorities for spending the health care budget and under 'Established Programme Financing' it has been left with little but the empty sanction of withdrawing Federal funds altogether.

3.5 Control of Public Expenditure

Although Canada has not nationalised its hospitals or nursing homes and although it pays its doctors by fee-for-service, Provincial Governments have considerable discretion over the rate of growth of spending.

Hospitals used to be paid mainly on a per diem basis but are now generally funded by prospective block budgets arrived at on a mainly incremental basis by Provincial Governments. This is true, also, of nursing homes. Overspending by hospitals and nursing homes can and does occur but, if it does, their managers are usually forced to make expensive private borrowing or to carry deficits.

Most doctors in Canada are paid by fee-for-service. The exceptions involve doctors working for the Federal or Provincial Governments, in Universities or for clinical support services. Fee schedules for physicians are set by negotiations between Provincial Governments and Provincial medical associations. Provinces have shown an ability to drive a hard bargain, here. The fee-for service method of paying physicians permits close scrutiny of the medical practice of individual doctors and it is widely believed that this inhibits not only fraud but, to some extent, the delivery of unnecessary care.

In addition to these financial and other restraints there are controls on new construction, particularly of hospital beds, and on immigration of doctors. Provincial Governments also have some influence on the intake of students to Canadian Medical Schools and on the number of programmes for training specialists in hospitals.

Although Canada has nothing resembling Britain's Pharmaceutical Price Regulation Scheme, Provincial Governments often negotiate with pharmaceutical companies over the price of individual drugs. Also, limited formularies are quite common and about half of the Provinces permit or require the substitution by the pharmacist of cheaper drugs than those prescribed by the doctor, when a prescription is filled.

3.6 The Cost of Insurance Administration

Government control of funding for hospital and medical services has led to large savings in the cost of administering insurance. Whereas the US spent about 12½% of premium income on the operating expenses of insurance companies in 1977, Canada apparently spent only 2½% of the cost of Medicare on administration (Hall, 1980). It is not clear that this comparison is entirely fair but it almost certainly reflects genuine differences between the cost of health insurance administration in Canada and the US.

3.7 Planning

Before the arrival of 'national health insurance' Canadian health services developed under mainly private initiatives. As in the US, competition among hospitals often led to duplication of facilities. There were numerous deficiencies in facilities in rural areas. The introduction of 'Medicare' encouraged the Provincial Governments to adopt a more positive planning role. Several Provinces have now set up networks of district planning councils to assist the local rationalisation of health services under budgetary constraints.

3.8 Conclusions

i. In terms of health service financing, Canada is a close neighbour of Britain with comprehensive 'national health insurance' financed mainly from general taxation. On the supply side, however, hospitals are independent and doctors are paid mainly by fee-for-service.

ii. Canada relies on private expenditure (24% of total health expenditure) to a greater extent than Britain (12% of total health expenditure). Much of the difference is accounted for by Canada's greater reliance on private financing of dentistry and pharmaceuticals. In one major respect, Canada is less tolerant of two-tier medicine than Britain. Private insurers are not allowed to cover services covered by public insurance.

iii. The main responsibility for regulating and supervising health services rests with Provincial Governments but public expenditure on health services is shared between Federal and Provincial Governments and the Federal Government lays down conditions for its participation which ensure a considerable degree of uniformity throughout the system.

iv. A high degree of cost restraint is possible in the Canadian system because of government budgeting of expenditure.

CHAPTER 4

THE BRITISH WAY OF FINANCING HEALTH SERVICES

4.1 Introduction

Britain has a National Health Service financed mainly out of general taxation, providing comprehensive health care to all citizens. Services are provided mainly free of charge at the time of delivery. Budgets for most parts of the NHS are tightly controlled and non-price rationing mechanisms prevail. Doctors are paid mainly by salary or by capitation allowances. There is a small independent private sector financed partly by direct payments and partly by health insurance. Local Authorities provide residential homes for the elderly and chronically ill.

4.2 Sources of Funds

Table 4.1 shows sources of funds for 'health services' in Britain in 1978.

TABLE 4.1

Sources of Funds for 'Health Services' in the UK, 1978

		£m	Percentage
Central Government			
General revenues		7018	75.5
NHS contribution		764	8.2
	Total	7782	83.7
Local Government[1]			
Rates and Rate Support Grant		440	4.7
Households			
Direct payments		1003	10.8
Health insurance		68	0.7
	Total	1071	11.5
Total		9293	100.0

Note: 1. Local government expenditure on residential homes for the elderly, physically handicapped, mentally handicapped and mentally ill. For a justification for including these in "health services" see Appendix.

Source: Economic Advisers' Office, DHSS.

'Health services', here, have been defined approximately in accordance with the US and Canadian definitions of the health sector. That is to say, they cover not only Hospital and Community Health Services and Family Practitioner Services provided by the NHS and hospital, medical and nursing home services provided by the private sector, but also residential homes for the elderly and chronically ill financed by Local Authorities (since these correspond to part of the nursing homes sector in the US and Canada). The justification for this is given in the Appendix. Britain's "health services" are financed predominantly by the public sector. About 88% of health expenditure is paid for out of government revenues (76% from general central government revenues, about 8% from that part of National Insurance contributions earmarked for the NHS and about 5% from local authority rates and the Rate Support Grant (RSG)). Central government revenue is, of course, derived from many sources especially taxes on expenditure, personal income and company profits and public borrowing. National Insurance contributions are shared between employed persons and their employers. Local Authority rates are a tax on property and the RSG is a transfer to Local Authorities from central government. The remaining 12% of 'health' expenditure is funded by households. Our knowledge of the scale and deployment of this expenditure is somewhat incomplete. Over two-fifths is accounted for by over-the-counter drugs, spectacles and medical appliances. One quarter is accounted for by charges for services provided under the NHS (see next section) and for services provided by expenditure on the independent medical care sector (including services provided in "Harley Street"). Only about 6% of total 'health' spending by households (or 0.7% of total 'health' expenditure) was covered by private health insurance in 1978. There is a small charitable component in private expenditure but it is difficult to quantify.

4.3 Access to the NHS

The NHS provides comprehensive services covering acute and chronic hospitals, family doctors, pharmaceuticals, dental services, ophthalmic services, home nurses, health visitors and ambulances. In addition, Local Authorities provide residential homes for the elderly, physically handicapped, mentally handicapped and mentally ill.

Access to hospital services is free to all citizens. There are no charges for consultations with family doctors. The main NHS charges are for dental services, drugs prescriptions, and for ophthalmic services. There are exemptions from these charges for significant groups in the population, especially children. For example, about three-quarters of all drug prescriptions and about half of all courses of dental treatment are given free. Long stay patients in hospitals lose their entitlement to certain social security benefits and Local Authorities make charges for residential accommodation which cover about 30% of the cost of such accommodation, on average.

Although there is little rationing by price of NHS services, and hence very little consciousness of costs in monetary terms, various forms of non-price rationing exist. On the whole it is assumed that services are rationed in accord with medical need. One of the most important rationing mechanisms is the referral system. To see a hospital specialist, patients must be referred to him or her by a general practitioner. This is true of the private sector as well as of the NHS. This long established practice is a matter of medical ethics. Otherwise patients have considerable choice. They can choose their family doctor (although once they have chosen him or her the process of changing a doctor is rather cumbersome). They can approach the accident and emergency department of any hospital in an emergency. They can approach any dentist or optician. They can express preferences when being referred to a hospital specialist and ask for a second opinion. Admittedly, the NHS does not actively encourage the seeking of second opinions. There is also some rationing by waiting for non-urgent conditions. This is confined mainly to waiting for consultations with hospital specialists and to waiting for in-patient admissions involving elective surgery. In 1977 over half of all admissions were immediate. Of those patients referred to waiting lists, about 37% were admitted within one month, 67% were admitted within three months, and 94% within one year (Source: HIPE, 1977).

4.4 Organisation of the NHS and PSS

Although the whole of the UK has an NHS, financed mainly by central government, administration of health services has been devolved, and England, Wales, Scotland and Northern Ireland have their own spending Departments responsible for health services. These four countries have slightly different methods of organising health services below departmental level.

In England, for example, health services are grouped in three main blocks: Hospital and Community Health Services (HCH), Family Practitioner Services (FPS), and some centrally financed services. The HCH are responsible for hospital services, home nursing, health visitors, ambulance services etc. They are administered by 192 District Health Authorities grouped into 14 Regional Health Authorities (RHAs) accountable ultimately to Parliament through the Department of Health and Social Security (DHSS). Health Authorities are managed by Regional and District management teams and are supervised by members appointed by DHSS, RHAs, and Local Authorities. Between April 1974 and April 1982 there was also an Area tier of Health Authorities. This was abolished because it was felt to be too cumbersome. Since 1974 there have also been local advisory Community Health Councils which represent consumer interests and correspond to Health Districts. The FPS comprise general practitioner services, dental services, pharmaceutical services. These are provided by independent contractors who make their own arrangements for employing staff and premises. They are administered by 90 appointed Family Practitioner Committees accountable to Parliament through DHSS.

There are separate Personal Social Services (PSS) responsible, among other things, for residential homes for the elderly and chronically ill. These are run by elected Local Authorities. Central government exerts considerable influence on Local Authorities through legislative powers and grants and DHSS plays, in addition, a planning and co-ordinating role in relation to the PSS. A fuller description of the pre-1982 organisation of the NHS can be found in the Report of the Royal Commission on the NHS (RCNHS, 1979, Appendix D).

4.5 Methods of Setting Budgets

The amount spent each year on the NHS is mainly a political decision taken by the Cabinet in the annual Public Expenditure Survey. There is an important distinction in the Survey between the HCH (accounting for nearly four-fifths of total NHS expenditure) for which the Government now sets tightly controlled cash limits each year and the FPS where controls on expenditure fall short of a cash limit and spending is allowed to respond to demand in some respects. In the 1960s and early 1970s, in keeping with most other types of public expenditure, a decision was taken each year on real spending on the HCH over the subsequent five years and automatic adjustments were made for inflation during the first year as expenditure was incurred. In 1976/77 the Government moved to a system of annual cash limits under which budgets included a forward allowance for expected inflation for one year ahead. The HCH had to live within such budgets during the year but any shortfall in the light of actual inflation was made up at the end of the year. Since 1982/83 the Government has moved to a system of cash planning under which there is no presumption that the difference between expected and actual inflation will be made up at the end of each year.

Separate capital and recurrent budgets are set for the HCH. There is provision for a small amount of virement between the two but Health Authorities have no power to borrow and only limited powers to carry over expenditure from one year to another. Capital spending often bears the brunt of government expenditure cuts.

For the FPS, forecasts are made both of the level of demand for services and future inflation and announcements made of expected spending accordingly. In this case, however, actual spending can exceed expected spending if demand forecasts prove to be wrong. Expenditure on these services is, essentially, 'demand determined' although the Government influences the level of spending upon them by, for example, its policy on charges and remuneration.

For the Personal Social Services (PSS) budgets are set by individual Local Authorities but the central government makes a contribution through the annual Rate Support Grant. This contribution is cash limited in aggregate for each Local Authority but not earmarked for particular blocks of services such as the PSS.

4.6 Geographical Allocation of Expenditure

The allocation of health expenditure between England, Scotland, Wales and Northern Ireland is decided as part of the Public Expenditure Survey. So far as England is concerned, DHSS allocates an annual budget to each RHA with the help of a formula. This "Resource Allocation Working Party" (RAWP) formula establishes spending targets mainly on the basis of population in each Region, weighted according to various need factors and adjusted for cross boundary flows, teaching hospital responsibilities, and regional price differences. Gradual adjustments are being made to allocations to bring actual spending into line with targets. Analogous arrangements exist in Scotland, Wales and Northern Ireland.

The FPS are not subject to the RAWP formula but arrangements exist to achieve a better distribution of general practitioners by a combination of barriers to practice in over-doctored areas and incentives to practice in under-doctored areas.

Personal Social Services spending depends mainly on Local Authority decisions. However, the Rate Support Grant, which accounts for about 50% of expenditure, is shared out with the help of a complex formula which makes allowances both for differences in need and the rate raising capacity of authorities.

4.7 Financial and Other Controls

Parliament, Treasury and the central Exchequer and Audit Department all take a close interest in the control and efficiency of the NHS and PSS. There are tight budgetary controls for the HCH. There has always been strong financial discipline for these services but following a threatened overspend by one Health Authority in 1978 the law was amended to allow Ministers to dismiss an authority which overspent. Although budgets are adhered to tightly for the HCH, there is considerable decentralisation of management and a high degree of clinical freedom in the NHS. It is an advantage of top-down budgetary arrangements that they can be designed to allow local flexibility over the pattern of spending although they tend to be inflexible between budget holders and between accounting periods.

There are various other important controls on the supply side:

a. The Government controls the intake of medical and dental schools.

b. DHSS approval has to be given for the establishment of certain new senior medical posts by RHAs.

c. DHSS approval must be obtained for all large capital projects undertaken by RHAs. Approval is contingent on investment appraisal having been undertaken.

d. A central, as well as local, financial audit of Health Authority accounts is undertaken regularly.

e. Co-ordination of the purchasing of supplies for the NHS has recently been made the responsibility of a Supply Council.

f. The profits of drug companies and, hence, the price of drugs is regulated through the Pharmaceutical Price Regulation Scheme.

g. There is monitoring of prescribing by general practitioners and there are sanctions against over prescribing.

h. A Management Advisory Service has been set up by Health Authorities to provide advice to management by their peer group.

i. There has always been monitoring of Health Authorities by DHSS but in 1982 such monitoring was made more formal with the establishment of an annual review of each Region's performance and planning, to be presided over by a Minister.

There are also various checks on the quality of services, mainly through peer group mechanisms. On the whole, informal arrangements predominate but some formal arrangements have been set up also.

a. The Health Advisory Service arranges for teams of professionals to inspect the quality of care of health services, especially in long stay institutions. There is also a National Development Team for the mentally handicapped.

b. The medical profession has organised a long-standing Confidential Enquiry into Maternal Deaths.

c. There are institutionalised complaints mechanisms for patients.

d. There is scrutiny of health service activities at a District level by Community Health Councils.

e. There is scrutiny of administrative actions by a health ombudsman.

f. In the last resort, there is the usual process of law in cases of medical and professional negligence. Medical malpractice suits are comparatively rare in Britain, however.

The strong presence of supply-side controls in the NHS is evident. On the whole, the presence of quality monitoring is less clear. Nor are formal mechanisms for soliciting consumers' preferences, in place of markets, very apparent.

4.8 Methods of Paying Practitioners, Setting Rates of Remuneration and Incentives

Most persons working for the NHS are employees who receive wages or salaries. Hospital doctors and dentists employed in the NHS are salaried but hospital consultants, if they wish, can work on a part-time basis and undertake private practice for which they are usually paid by fee-for-service. Family practitioners, however, are independent contractors who employ their own staff and usually provide their own premises. General medical practitioners are paid by a complex method which includes a large capitation element, certain practice allowances, certain fee-for-service payments and expenses. General dental practitioners, opticians and pharmacists are paid for services provided under the NHS mainly by fee-for-service, together with

the reimbursement of expenses. However, the fees are set within target income arrangements for the average practitioner which limits the total fees paid and ensures that if items of service increase in aggregate, real fees per item are reduced accordingly. Also, in most cases, the fee-for-service covers certain expenses indirectly. This gives the individual practitioner a strong incentive to keep such expenses to the minimum compatible with maintaining professional standards of care.

Wages and salaries for most NHS employees are settled by bargaining between the management side (in effect the Government) and representatives of employees within bargaining bodies called Whitley Councils. The pay of doctors and dentists is subject to recommendation by an independent Review Body on Doctors' and Dentists' Remuneration. The Government sometimes over-rides the recommendations of this Body. Conditions of service for doctors and dentists are the subject of direct negotiations between DHSS and the representatives of these professions. Remuneration of opticians and pharmacists is set by direct negotiations between DHSS and representatives of the professions concerned. The NHS is the main employer of certain occupations - especially doctors and nurses and this places the Government in a strong bargaining position.

It is sometimes argued that salary and capitation methods of payment encourage the pursuit of leisure. For example, it is alleged that GPs sometimes refer patients unnecessarily to hospitals to reduce their workloads. Another claim (Lindsay, 1980) is that systems such as the NHS succeeed in scrutinising the quantity of services provided but not the quality. This leads managers and professionals to substitute quantity for quality. However, this argument does not seem to allow enough for clinical freedom, peer group pressure and the doctor's loyalty to each individual patient.

4.9 Planning and Joint Finance

For the HCH, public financing, public ownership and the absence of the marketing of output means that decisions on the allocation of resources rest with providers, Health Authorities and Ministers. There was planning of NHS services from the time that the NHS was established. In the early 1960s a Hospital Plan was laid down for hospital building.

This emphasised construction, however, and proved to be too ambitious given the resources that become available in the following two decades. In the early 1970s DHSS developed a Programme Budget (PB) which assisted in the planning of both Health and Personal Social Services for client groups (such as the elderly, children, the mentally handicapped, and the mentally ill.) Ministers made use of the PB in attaching priority to growth of the "Cinderella" services for the mentally ill, mentally handicapped and elderly. In the mid-1970s more formal planning was introduced throughout the NHS in England. The intention was to set up an interactive planning dialogue between DHSS and NHS. The system proved somewhat cumbersome in operation and was simplified in 1982 but it is likely to remain an important element in the Regional Reviews, mentioned in Section 4.7, above. Parallel developments for the PSS were somewhat looser because of the autonomy of local government.

Since 1976 Health Authorities have been able to transfer funds to Local Authorities on a limited basis to assist in the financing of schemes (such as the provision of homes for the mentally handicapped) which take pressure off health services. This 'joint finance' is intended to break down some of the barriers to planning imposed by rigid budget distinctions between Health and Local Authorities.

For the FPS, little was attempted by way of planning apart from the geographical controls on GP services mentioned above. However, health authorities have attempted in many places to influence access to the FPS by building health centres.

4.10 The Private Sector and Private Insurance

It is difficult to assess the precise scale of the independent, private health sector in Britain. Less than 5% of total 'health' spending seems to go on independent, private medical, hospital and nursing home care in 1978 (putting aside self-medication). Just over 2% of all hospital beds are private (including 2,400 private beds in NHS hospitals) but over 40% of all nursing/residential home beds are voluntary or private (in England and Wales). Many of the latter are occupied by residents sponsored by Local Authorities. Private hospital provision is disproportionately great in the London area. 15% of hospital beds are private in the

NW Thames RHA (largely because of "Harley Street") whereas under 1% of beds are private in the Northern Region. Most private hospitals and nursing homes are non-profit making and many, especially hospices for the dying, receive strong charitable support.

There is no provision for UK citizens to contract out of the NHS. To the extent that private care is a substitute for NHS care, individuals who purchase private care have to pay twice. To the extent that the private sector provides extras (such as higher standards of hotel care, choice of doctor and access to elective surgery on demand) there is no double payment. The private sector can be seen partly as a sort of safety valve for those with the means and inclination to purchase certain luxuries not usually provided by the NHS. The standard of clinical care, itself, is probably no higher on average in the private sector than in the public sector. Indeed, private hospitals are small and do not have access to the resources usually available in public hospitals, such as 24 hour medical cover on the premises. The implication is that 'two-tier' medicine in Britain is confined to luxuries seen as having low priority in the public sector. It is generally held that holders of private insurance in the UK will often be referred to an NHS bed in a serious emergency.

Private insurance in Britain is supplied almost entirely by Provident Associations. The numbers of subscribers to private insurance (which is mostly for hospital care) has grown rapidly in recent years, partly in response to government pay policies, and now covers about 6% of the population (about half of whom are the dependants of subscribers). As in the US, over 80% of subscribers are covered by company or group schemes. The premiums paid by companies are treated as taxable income for the beneficiaries, except for those paid under £8,500. Insurance contracts are mostly of the indemnity kind, either with annual limits on overall claims or with limits on daily rates. At least one contract offers benefits only if the patient has been put on an NHS waiting list for more than 6 weeks. In general, experience rating prevails and normally no new subscribers over the age of 60 or 65 are taken on by schemes. The bulk of claims relate to elective surgery. In total about 50% of all payments to private acute hospitals are covered by insurance. The largest Provident Assocation (BUPA), has played a leading role in financing private hospital development but proprietary investment has become increasingly important in recent years. Health insurance is not

costless, of course. The ratio of operating expenses to premiums for the Provident Associations was about 11% in 1977 and about 15% in 1980. Several features of the British health care system encourage limitation of demand and cost constraint in the private sector: comparative lack of tax exemptions for private insurance, indemnity-style reimbursement, the GP 'gateway', the high degree of direct payment to private hospitals, stiff competition from the 'free' NHS and price setting by NHS private pay beds at 'cost'.

4.11 Conclusions

i. Britain's health services are funded mainly by general taxation. There are few financial barriers to access. Obvious inequities are confined mainly to access to 'luxuries' in the small private sector.

ii. There is general reliance on non-price rationing in the public sector.

iii. Britain's method of financing health services gives the Government considerable discretion over their rate of growth. Costs are contained tightly in the public sector either by budgetary means (HCH) or non-budgetary means (FPS).

iv. A high degree of clinical freedom and local management discretion co-exists with tight financial control.

v. Most payment is by salary or capitation arrangements. Because the NHS is the main employer of several occupations the government is in a strong bargaining position over the remuneration of these groups.

vi. There has been a gradual introduction of more formal planning and monitoring of services but there is still a comparative absence of either clinical audit or consumer influences on the NHS. It is difficult to judge whether the combination of open access to services by patients and predominantly salary/budgetary arrangements for paying providers produces the right set of incentives to maximise the benefits of health spending.

vii. The small private sector is a sort of safety valve which allows for the purchase of 'extras' not available under the NHS. There is considerable cost containment here because of the high proportion of direct payment and the relatively close-ended insurance arrangements which prevail.

CHAPTER 5

COMPARING THE PERFORMANCE OF HEALTH SECTORS AND THE LEVEL AND GROWTH OF HEALTH EXPENDITURE IN THE US, CANADA AND THE UK

5.1 Comparing the Performance of Health Sectors

5.1.1 Introduction

One way to approach the question of alternative ways of financing health services in Britain is to compare the performance of the British health sector with the performance of health sectors in other countries with a view to deriving lessons about the strengths and weaknesses of British arrangements.

This chapter and the following two chapters, contain a comparison of the performance of the US, Canadian and British health sectors, at an aggregate level, according to two main criteria - efficiency and equity. By 'aggregate' is meant according to large blocks of health services, major groups of the population and major geographical sub-divisions of the countries concerned. By 'efficiency' is meant production of health services at an appropriate level in an economical fashion. By 'equity' is meant fairness in the distribution of health services in relation to morbidity and fairness in the distribution of payment for health services in relation to income. Concepts of fairness will differ, obviously, between countries and individuals.

Of course, the performance of health sectors will not depend only on methods of financing health services, so, in what follows, some effort is made to isolate the influence of financing from other major contributory factors.

Apart from any light shed on performance, these aggregate comparisons help to set the scene for the reports on the more detailed studies of health service payment and delivery mechanisms which follow.

There is already a sizeable literature comparing health expenditure in the US, Canada and the UK, as well as in other countries. These studies include Abel Smith (1967), Anderson (1972), OECD (1977), Newhouse (1977), Simanis and Coleman (1980), and Maxwell (1981). These studies (with the exclusion of that by Anderson) are mainly concerned with descriptive comparison rather than with measures of performance. In addition, two US studies have recently appeared which criticise the British National Health Service from the US standpoint without making quantified comparisons of US and British health sector performance (Lindsay (1980) and Goodman (1980)).

The work which follows attempts to take this literature forward, for the three countries concerned, by combining both descriptive comparisons and measures of performance.

5.1.2 Data Difficulties

It is well known that international comparisons of health expenditure and performance are beset by data difficulties. In the chapters which follow, care has been taken to try to reconcile the health accounts for the three countries and to try to ensure that statistical comparisons are carried out on a comparable basis. Despite this, the comparisons should be considered throughout as having been painted with a broad brush. The following general points about data should be highlighted at the outset.

i. Geographical. For the US, most of what follows is based on data for the 50 States and the District of Columbia. For Canada, the analysis is usually based on data for the 10 Provinces and the two Federal territories of Yukon and the North West Territory. The UK contains, in effect, four separate health services for its four constituent parts, England, Wales, Scotland and Northern Ireland and it is often difficult to assemble comprehensive data for all four. In what follows, the overall expenditure comparisons are based on the UK, the efficiency comparisons are based on England and the equity comparisons are based variously on the United Kingdom, Great Britain and England.

ii. Accounting for the Boundaries of the Health Sector. It is notoriously difficult to line up similar boundaries for the health accounts between different countries. Fortunately, American and Canadian expenditure data are already reasonably consistent. Certain adjustments have been made to the British data to bring them into line with these two countries.

iii. Population. The US is over four times as large as the UK and over nine times as large as Canada. Moreover, as Table 5.1 shows, their three populations have somewhat different age structures.

These difficulties have been dealt with by expressing most data in per capita terms and account has been taken of the age structure of the population on several occasions. Table 5.1 contains information for England on the pattern of NHS spending across age groups. The elderly, as in the other two countries concerned, are, of course, the heaviest users of services. This information can be used to calculate expected expenditure per capita in the North American countries. If expenditure per capita in Great Britain is set at 100, expected expenditure per capita on the basis of age structure alone would be 94 in the US and 91 in Canada.

TABLE 5.1

Distribution of Population and health expenditure, per capita, by age group, US, Canada and Great Britain, 1977

(Figures in brackets are percentages)

Age Groups	Population (millions)			Expenditure Weights
	US 1977 %	Canada 1977 %	Great Britain 1977 %	England 1977/78 £ per capita
0-4	15.2 (7)	1.7 (7)	3.4 (6)	242[1]
5-14	40.6 (17)	4.1 (17)	8.7 (16)	60
15-64	137.0 (65)	15.4 (66)	34.3 (63)	80
65-74	14.6 (7)	1.3 (6)	5.0 (9)	220
75+	8.9 (4)	0.8 (3)	2.9 (5)	505
Total	216.4	23.3	54.3	140

Note: 1. Including cost of births.

Sources: US: CPR (April 1978)
Canada: VS (1977)
Great Britain: HPSSS, 1978, HPSSS(NI) 1977-78, and GEP (1980-81 to 1983-84).

TABLE 5.4

HEALTH EXPENDITURE IN CANADA, 1978

$ CANADA million
(figures in brackets are percentages of total)

	Total	Private	Public
Total	16,760	4,077	12,683
	(100)	(24.3)	(75.7)
Hospitals[1]	8,273	614	7,659
	(49.4)	(3.7)	(45.7)
Physicians'[1] Services	1,521	69	1,453
	(9.1)	(0.4)	(8.7)
Dentists' Services	954	856	98
	(5.7)	(5.1)	(0.6)
Other Professional Services[2]	124	54	71
	(0.7)	(0.3)	(0.4)
Drugs and Appliances	1,626	1,300	325
	(9.7)	(7.8)	(1.9)
Eyeglasses	197	194	4
	(1.2)	(1.2)	(0.0)
Special Care Facilities[3]	1,991	451	1,540
	(11.9)	(2.7)	(9.2)
Other Health Services	256	120	136
	(1.5)	(0.7)	(0.8)
Expenditure on Prepayment and Administration	234	71	172
	(1.4)	(0.4)	(1.0)
Government Public Health	562	-	562
	(3.4)		(3.4)
Research	186	37	149
	(1.1)	(0.2)	(0.9)
Construction	827	311	514
	(4.9)	(1.9)	(3.1)

Notes: 1. Forty per cent of spending on physicians has been transferred to hospitals on the basis of data from the Province of Quebec (Statistiques Annuelles, 1978, Regie de l'assurance - maladie du Quebec, Tableau J).
2. Excluding Chiropractors and Osteopaths.
3. 2.2% of spending on special care facilities has been removed to adjust for delinquent children, unmarried mothers and others (this item corresponds to nursing/residential homes).

Source: Medical Economics Section, Health Information Division, Health and Welfare Canada, July, 1981.

TABLE 5.5

HEALTH EXPENDITURE IN THE UK, 1978

UK £ million
(figures in brackets are percentages of total)

	Total	Private	Public
Total	9,293 (100)	1,071 (11.5)	8,222 (88.5)
Hospitals	4,551 (49.0)	80 (0.9)	4,471 (48.0)
Physicians' Services	535 (5.8)	82 (0.9)	453 (4.9)
Dentists' Services	358 (3.9)	99 (1.1)	259 (2.8)
Other Professional Services	381 (4.1)	-	381 (4.1)
Drugs etc	1,278 (13.8)	454 (4.9)	824 (8.9)
Eyeglasses etc	230 (2.5)	115 (1.2)	115 (1.2)
Nursing/Residential Homes[1]	640 (6.9)	200 (2.2)	440 (4.7)
Other Health Services	214 (2.3)	na	214 (2.3)
Central Administration	368 (4.0)	na	368 (4.0)
Government Public Health	201 (2.2)	-	201 (2.2)
Research	79 (0.9)	na	79 (0.9)
Construction	458 (4.9)	41 (0.4)	417 (4.5)

Notes: 1. Private nursing homes and places in residential homes provided by or sponsored by Local Authorities.

Source: Economic Advisers' Office, DHSS.

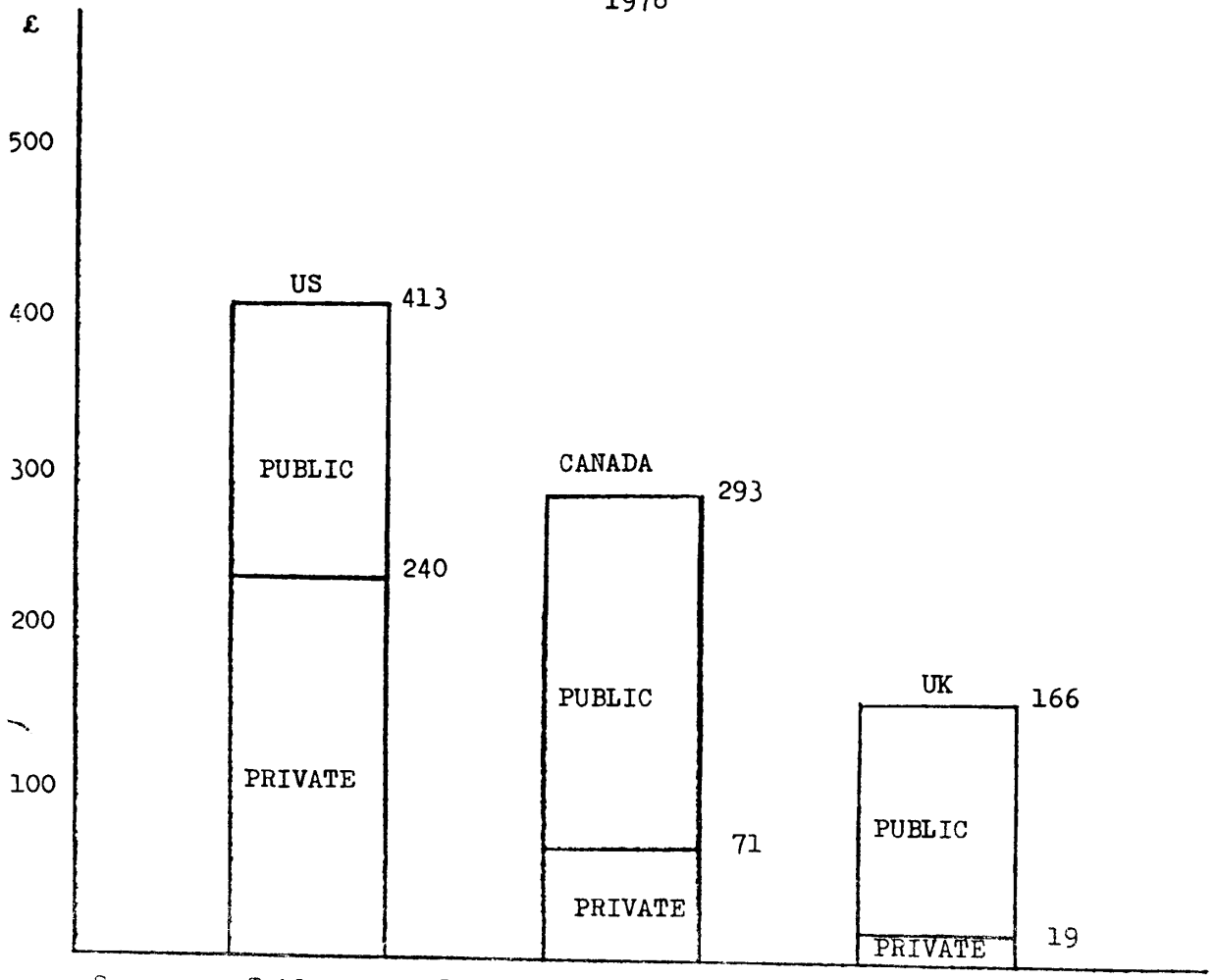
by sub-head is remarkably similar for all three. Exceptions are: Britain's comparatively low spending on physicians (she has fewer doctors per capita and they are relatively less well paid than doctors in North America); Britain's comparatively high spending on drugs (perhaps because this is the most demand-led programme under the NHS); Canada's comparatively high spending on special care facilities (despite her comparatively young age structure) and the US's comparatively low spending on construction (spending on equipment seems to be under-estimated in the US accounts). Great caution should be shown in comparing expenditure on administration for the three countries. The British figure covers spending on the four tiers of NHS/DHSS administration above hospital level, whereas the American figure covers the difference between premium income and benefits for insurance organisations and administrative expenditure for certain Federal health programmes, only. American spending on health service administration at State and Local Government level, and in private organisations, such as the headquarters and regional offices of hospital chains seems to be excluded. Moreover, some administrative expenditure, which in Britain would be counted separately may be included with spending on services. Conversely, the costs of administration of British private insurance organisations and the cost of collecting taxes are excluded from the British figures. The former is very small and the latter is arguably negligible since the tax system would exist without the NHS and no one tax is specific to the NHS. The costs of prepayment and administration in the UK, according to the American definition, would be less than 1% of total health expenditure.

To allow a direct comparison of levels of health care spending between the three countries, expenditure figures have been converted into Sterling by PPP exchange rates and expressed on a per capita basis. The results are shown in Chart 5.2. This suggests that if per capita spending in the UK were set at 100 the US would stand at about 250 and Canada at about 180. This indicates that differences in health spending between the countries are considerably greater than differences in the standard of living shown in Table 5.2 and bear no relationship to expected expenditure on the basis of population age structure.

CHART 5.2

PER CAPITA EXPENDITURE ON HEALTH SERVICES, CONVERTED TO £ AT PURCHASING POWER PARITY EXCHANGE RATES, US, CANADA AND UK

1978



Sources: Tables 5.2, 5.3, 5.4, 5.5.

5.2 The Level and Growth of Health Expenditure in the US, Canada and UK

5.2.1 Expenditure on Health in 1978

The corner-stone of an international comparison of health spending is a reasonable health account for the countries concerned. The US and Canada compile health accounts regularly, according to virtually identical conventions. The UK does not have such a health account. All spending on health is covered in the National Accounts but apart from spending on the NHS, health is not separately identified. For the purposes of this study, an attempt has been made to compile a health account for the UK for 1978 along similar lines to the health accounts for the USA and Canada. This involves mainly the addition of private spending on health services and Local Authority spending on residential homes to public spending on the NHS. The addition of some Local Authority spending seems justified because American nursing homes and Canadian 'special care facilities' seem to cater for much the same population of low-dependency individuals that is found in British residential homes (as well as catering for a more dependent group of individuals). The effect of these two major changes is to increase British health spending by about one-fifth. This is similar to the adjustment to NHS spending found in Abel Smith (1967), although the basis for his adjustment was somewhat different from ours.

The only major adjustment to the American and Canadian health accounts is the splitting of physicians' expenditure between that attributable to hospitals and that attributable to office practice, so that the former can be added to hospital expenditure. Most US and Canadian doctors working in hospitals, are not salaried and do not appear in the hospital accounts. Various other minor adjustments have been made to the health accounts for the three countries and these are described in the Appendix.

Tables 5.3, 5.4 and 5.5 shows the results of this exercise. Health spending is shown in national currencies, broken down by main sources of funds (public and private) and the main purposes of spending. The figures in brackets are percentages of the grand total of expenditure for each country. These tables suggest that although the sources of funds differ sharply between the three countries, the pattern of spending

TABLE 5.3

HEALTH EXPENDITURE IN THE US, 1978

US $ billion
(figures in brackets are percentages of total)

	Total	Private	Public
Total	189.3 (100)	110.0 (58.1)	79.4 (41.9)
Hospitals[1]	96.1 (50.8)	49.8 (26.3)	46.3 (24.5)
Physicians'[1] Services	15.4 (8.1)	11.4 (6.0)	4.0 (2.1)
Dentists' Services	11.8 (6.2)	11.3 (6.0)	0.5 (0.3)
Other Professional Services	4.1 (2.2)	3.1 (1.6)	1.0 (0.5)
Drugs etc	15.4 (8.1)	14.1 (7.4)	1.3 (0.7)
Eyeglasses etc	4.1 (2.2)	3.8 (2.0)	0.4 (0.2)
Nursing/Residential Homes	15.2 (8.0)	6.8 (3.6)	8.4 (4.4)
Other Health Services	4.5 (2.4)	1.2 (0.6)	3.3 (1.7)
Expenses for Prepayment and Administration	7.5 (4.0)	4.9 (2.6)	2.6 (1.4)
Government Public Health	5.3 (2.8)	-	5.3 (2.8)
Research	4.4 (2.3)	0.3 (0.2)	4.2 (2.2)
Construction	5.3 (2.8)	3.3 (1.7)	2.1 (1.1)

Notes: 1. 57% of expenditure on physicians' services has been transferred to hospitals using DHEW analysis of 1973 physician activity (Susan Galli and Chuck Sarkisian, April 3, 1978).

Source: R M Gibson and D R Waldo, (1981).

5.2.2 Growth of Expenditure on Health Services 1949-1978

It is instructive to compare the growth in spending on health services for the three countries over time.

i. Changes in the Percentage of Gross Domestic Product Devoted to Health Services

Chart 5.3 compares the percentage of Gross Domestic Product (GDP) at factor cost devoted to health services for the three countries between 1949 (the first full year of the NHS) and 1978. GDP at factor cost is taken because health services are produced almost entirely domestically and are not always exempted from indirect taxes. Their share of GDP at factor cost, therefore, gives a fair idea of the proportion of domestic resources devoted to health services. The British spending series reflects spending on the NHS only, except for 1978 where a figure based on the reconciliation of health accounts for the three countries, discussed in the previous section, is plotted.

Several features of this comparison seem worthy of comment

- The 1978 figure for Britain, based on the reconciliation of health accounts, is 6.4%. This is higher than the share of GDP represented by the NHS (5.4%) and higher than the figure usually quoted which reflects adjustment for the private sector but not for residential homes etc (5.9%). This suggests that Britain's perception that she spends relatively less than other countries on health care is based partly on the narrower definition of the health sector in Britain. However, the adjustment is not enough to close the gap between the UK and the North American countries.

- It is well established in international comparisons of health spending (see, for example, Newhouse (1977)) that the proportion of GDP devoted to health tends to

increase with GDP per capita. That is to say, the income elasticity of demand for health is greater than one. Broadly speaking, the information in Chart 6.2 fits this relationship. The percentage of GDP spent on health increases with GDP per capita both across the three countries at the present time and for each of the three countries over time. However, over the whole period the percentage of GDP spent on health has grown much faster in the US than in the UK despite the fact that the growth of real GDP per capita has been similar in both countries.

GDP per capita grew by 1.81 and 1.88 in the US and the UK respectively and by 2.18 in Canada between 1950 and 1978. Over the same period the share of GDP devoted to health doubled in the US, rose by 30% in Britain and by 65% in Canada. We cannot, on the basis of this evidence, reject the hypothesis that American methods of financing health services were distinctly more permissive than those in the UK and Canada over the whole period.

- In the US, there are clear signs of acceleration in growth after 1966 when the fairly open-ended Medicare and Medicaid programmes were introduced.

- In Canada, health expenditure as a percentage of GDP actually grew faster than that in the US until shortly after hospital insurance was introduced in the early 1960s. It then grew more slowly than that in the US. In the early 1970s, after the introduction of physicians' insurance, it actually fell and then levelled off at about 8% of GDP from the mid-1970s. The divergence between US and Canadian experience is particularly striking in the last decade. The history of health spending in the two countries reflects closely the gradual increase of open-ended methods of payment in the US and the gradual reduction of open-ended methods of payment in Canada.

Table 6.3 and Chart 6.1 represent an attempt to provide comparable information on earnings of health sector staff in the US, Canada and England. Earnings in the private sector of English physicians have been excluded but rough calculations of these earnings, using, for example, the accounts of the British United Provident Association, suggest that the consequent understatement is likely to be less than 2% of earnings over all doctors.

TABLE 6.1

Available or Staffed Beds per 1,000 Population 1950 and 1977

	1950	1977	Ratio 1977:1950
United States			
Short-stay hospitals[1]	3.87	4.97	1.28
Long-stay hospitals	5.71	1.93	0.27
Nursing/residential homes[2]	3.31	7.63	2.31
Total	12.89	14.53	1.13
Canada			
Short-stay hospitals[1]	4.73	5.62	1.19
Long-stay hospitals	5.68	2.10	0.37
Special care facilities[2]	na	7.41	na
Total	na	15.13	na
England			
Short-stay hospitals[1]	3.23	4.33	1.34
Long-stay hospitals	7.01	3.83	0.55
Nursing/residential homes[2]	1.88	5.05	2.69
Total	12.12	13.21	1.09

Notes: 1. Hospitals with stay 30 days or under.

2. Homes or facilities for the aged, physically handicapped and mentally handicapped only.

Sources: US: AHA 1980; CP 1950; NUHR 1979.

Canada: ARHCF 1977/78: ARSCF 1977/78; HS (1950): and M C Urquhart, K A H Buckley, (1965).

England: HPSSS 1979; HSCR 1954/55 and data from SR Division, DHSS.

TABLE 6.2

Numbers of Staff Employed in the Health Sector Expressed as Rates per 1,000 Population, 1977

	US	Canada	England
Total Staff[1]	29[2]	28[3]	24[4]
Physicians[1]	1.76	1.78	1.26
Dentists	0.49	0.43	0.32
Registered, licensed or enrolled nurses[5]	6.63	7.78	6.44

Notes: 1. Excluding osteopaths.

2. Persons employed in the 'health service industry' excluding persons in health related occupations who are working in non-health industries (eg pharmacists employed in drug stores, school nurses, etc).

3. The estimates of persons employed in hospitals and special care facilities (excluding most fully qualified physicians) are based on returns from such institutions. The estimates of other health sector staff are based on counts of health professionals and a guesstimate of their ancillary support.

4. The figures for staff employed directly by the NHS and by Local Authorities (in residential homes) are fairly firm. The figures for staff ancillary to family practitioners and for staff employed in private or voluntary hospitals and homes are mainly guesstimates. AHA and RHA staff are included.

5. Excluding midwives, nursing students and orderlies, but including licensed practical nurses in the US, licensed nursing assistants in Canada, and health visitors in England.

Sources: US: HUS 1979.
Canada: ARHCF 1977/78; ARSCF 1977/78; CHMI 1979: NC 1978.
England: HPSSS, 1978, and Economic Advisers' Office, DHSS.

iv. Exchange rates and standards of living. Exchange rates are determined mainly by international trade and capital movements. Since the floating of currencies, there have been sharp fluctuations in exchange rates from year to year. Health services are not significantly traded across international boundaries and there is no reason to believe that their relative value in different countries fluctuate sharply over time. Accordingly, purchasing power parity (PPP) exchange rates have been used for comparing expenditure and costs in this study. Such exchange rates are simply the ratios of the prices of a standard basket of goods and services in the national currency of each country. PPP rates relating to the whole of GDP have been used because PPP rates specific to the health sector were not available. In comparing health expenditure between countries it is necessary to take account of international variations in the standard of living since these affect both the wages of health service employees and the disposable income of consumers. PPP exchange rates can be used to derive comparisons of the standard of living or real GNP per capita between countries. Table 5.2 shows both PPP rates and standards of living for the three countries concerned in 1977.

TABLE 5.2

Purchasing Power Parity Exchange Rates and Standards of Living for US, Canada and UK, 1977

	PPP Exchange rates per £1	Standards of living UK = 100
US	US $ 2.10	164
Canada	$ CAN 2.43	149
UK	£1	100

Sources: R Summers, I B Kravis and A Heston (1980) and IFS (Nov 1980).

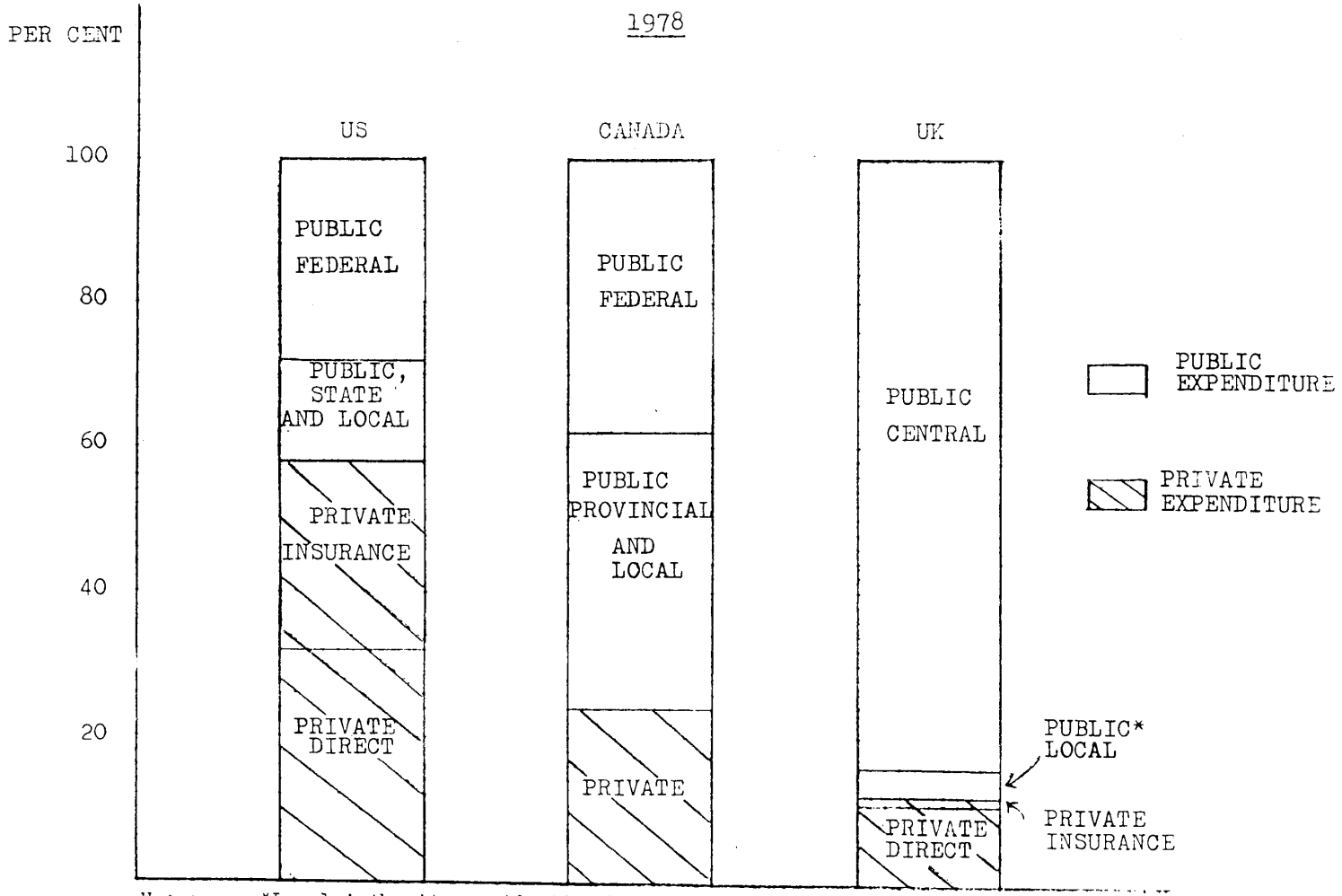
5.1.3 Summary of Methods of Financing Health Services in the US, Canada and UK

Before proceeding, it may be worth summarising the main conclusions about sources of funds from the previous three chapters. Chart 5.1 provides such a summary in the form of a bar chart.

CHART 5.1

SOURCE OF FUNDS FOR HEALTH CARE, US, CANADA AND UK

1978



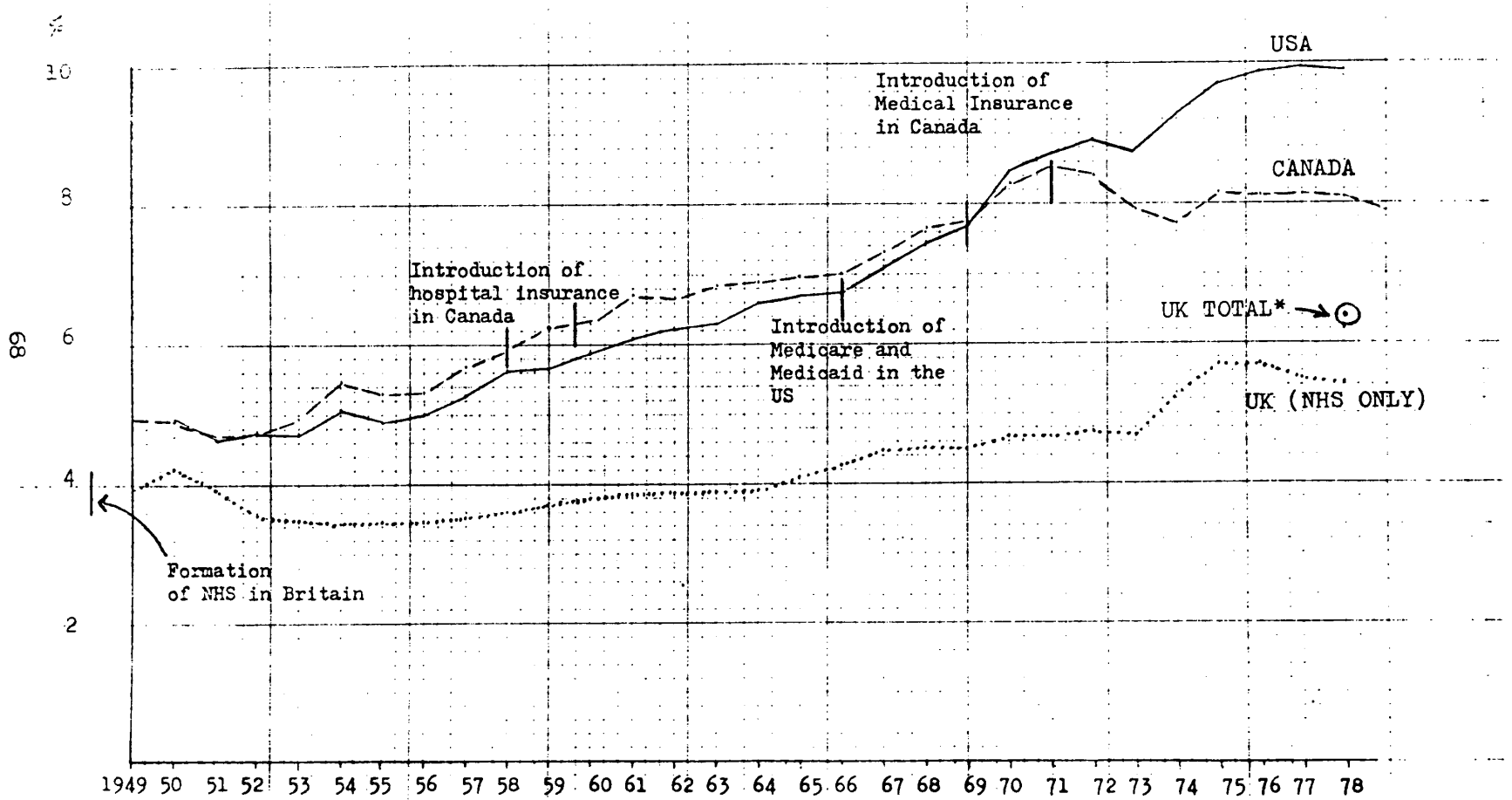
Notes: *Local Authority residential homes.

Sources: US R M Gibson & D R Waldo (1981).
Canada Data from Medical Economics Section, Health Information Division, Health and Welfare Canada, July, 1981.
UK DHSS, Economic Advisers' Office

CHART 5.3

HEALTH EXPENDITURE AS A PERCENTAGE OF GDP AT FACTOR COST

FOR THE US, CANADA AND UK, 1949-1978



Note * including private medicine and Local Authority residential homes.

Sources USA: CNHED(1976); Gibson and Waldo (1981); NIPAUS (1977); and SCB (1980).
Canada: Hanson (1962); Medical Economics Section, Health and Welfare Canada, July 1981; NIEA (1976);
UK: RCNHS (1979); NIE (Various editions). NIEA (1980).

- In the UK, there was an initial surge of expenditure after the NHS was started in 1948, but in 1950 the Labour Government reacted to this by introducing charges for some services and by placing a ceiling on expenditure. The share of GDP devoted to health actually fell during the first half of the 1950s. Since then successive governments have allowed a modest increase in the share of GDP devoted to health.

- All three countries show an upsurge in the proportion of GDP devoted to health care in the early 1970s, apparently associated with the slow-down in economic growth associated with the oil crisis. This was followed by relative stabilisation of the share in the mid-1970s.

ii. Growth in Real Expenditure on Health

The percentage of GDP devoted to health may change either because the volume of inputs to health services grows more or less quickly than real GDP or because the relative price of acquiring health service inputs changes.

It is possible to separate volume from relative price changes over time by deflating health service expenditure both by a specific index of health service input prices (wages of nurses, prices of drugs, etc) and by a general price index (such as the GDP deflator). Deflation by the first method yields an index of the volume of health service inputs and deflation by the second method yields an index of the 'cost' (volume plus relative price changes) of health service inputs. Relative price changes for the health sector (measured in this way) tend to be positive because the GDP deflator, as an output index, is depressed by productivity changes over time whereas a specific index of health service input prices (dominated by earnings) tends to be boosted by productivity changes.

Charts 5.4 and 5.6 show indices of volume and cost of health services and volume of real GDP per capita for the US and the UK, respectively. Chart 5.5 shows a cost index for health services and GDP per capita for Canada. An index of health service input prices and hence an index of health service volume does not seem to be available for Canada.

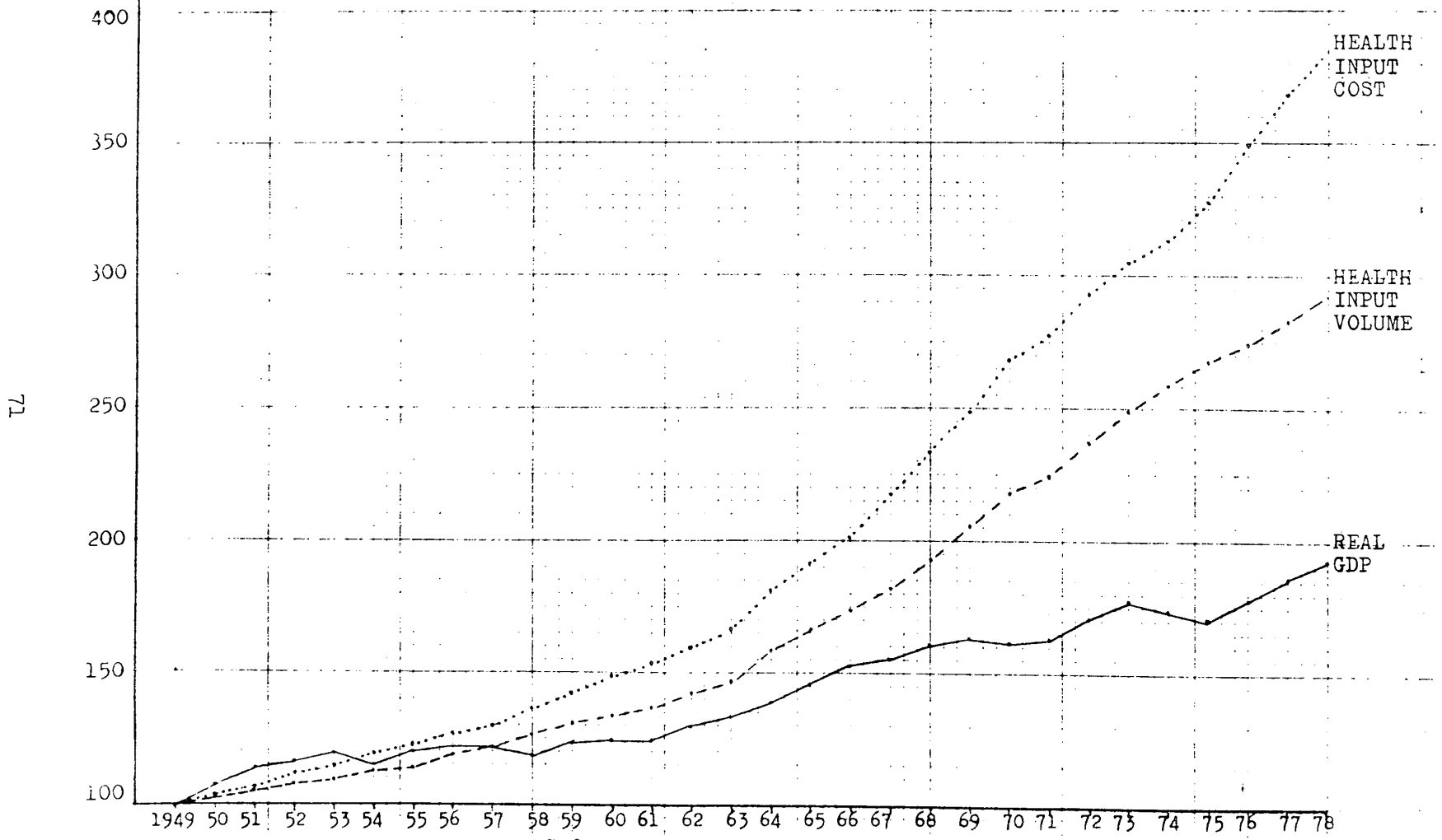
At least two conclusions may be drawn from this information.

- Most of the divergence between shares of GDP devoted to health in the US and Britain seems to be explained by differences in the rate of growth of the volume of health service inputs per capita in the two countries. The 'relative price effect' (the proportionate difference between the cost index and the volume index for health services) is similar for the two countries over the whole period (29% and 25% respectively). The relative price effect for the UK has been comparatively unstable, however, in the 1970s because of successive government prices and incomes policies which have periodically held back pay in the public sector before allowing it to catch up with that in the private sector.

- Canada has experienced a similar rise in the 'cost' of health care (volume plus relative price effect) to the US. This was compatible with slower growth in the percentage of GDP devoted to health over the whole period because Canadian GDP grew 20% faster than American GDP over the post-war period. Since Canada continually runs the risk of losing health service staff to the US, it was perhaps fortunate that her economic growth rate allowed stabilisation of the share of GDP spent on health to co-exist with high spending on health services in absolute terms.

CHART 5.4

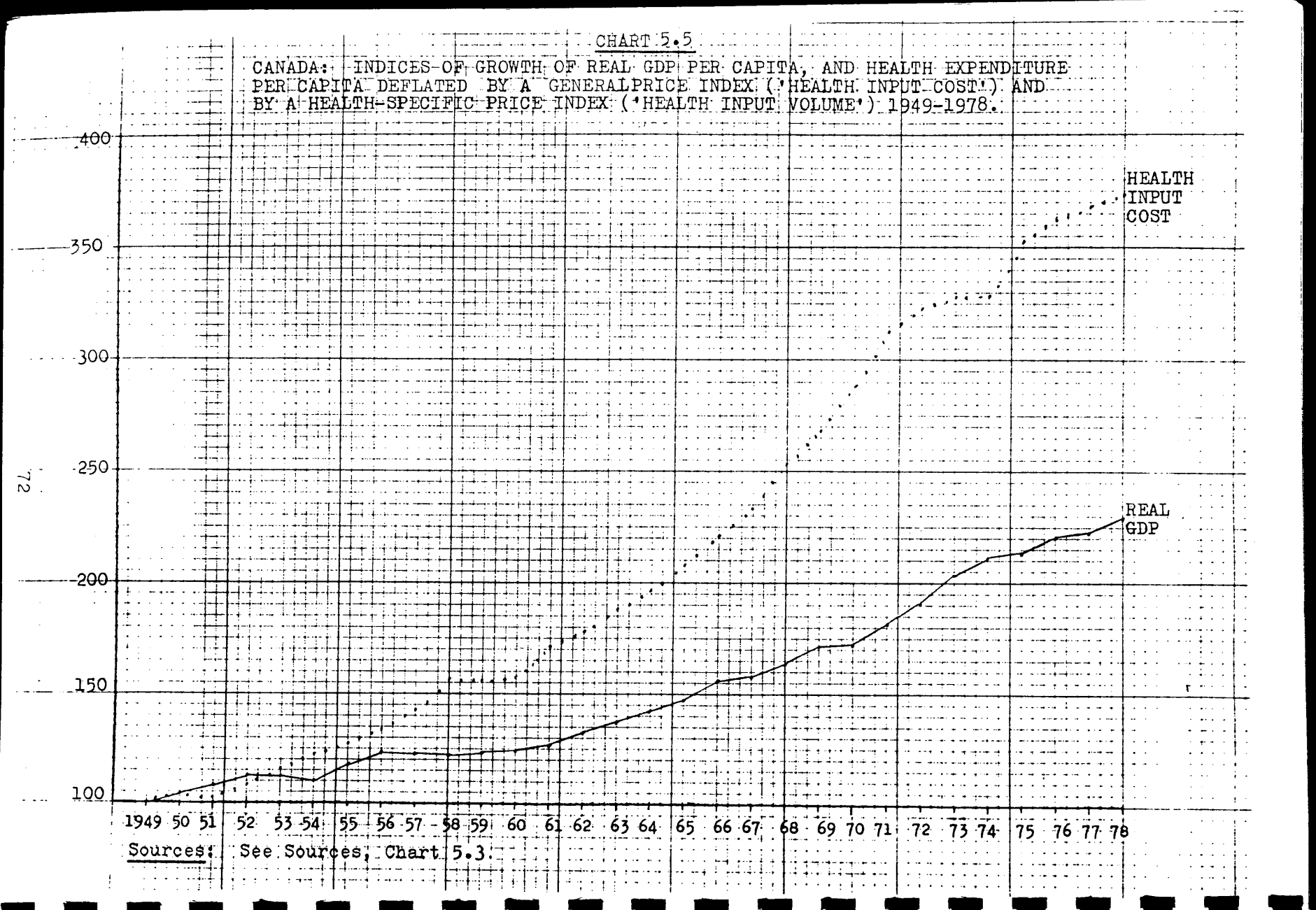
US: INDICES OF GROWTH OF REAL GDP PER CAPITA, AND HEALTH EXPENDITURE PER CAPITA DEFLATED BY A GENERAL PRICE INDEX ('HEALTH INPUT COST') AND BY A HEALTH-SPECIFIC PRICE INDEX ('HEALTH INPUT VOLUME') 1949-1978.



Sources: See Sources, Chart 5.3; SAUS (1980); data from Office of Financial and Actuarial Analysis (Health Care Financing Administration, DHSS) on health-specific price indices.

CHART 5.5

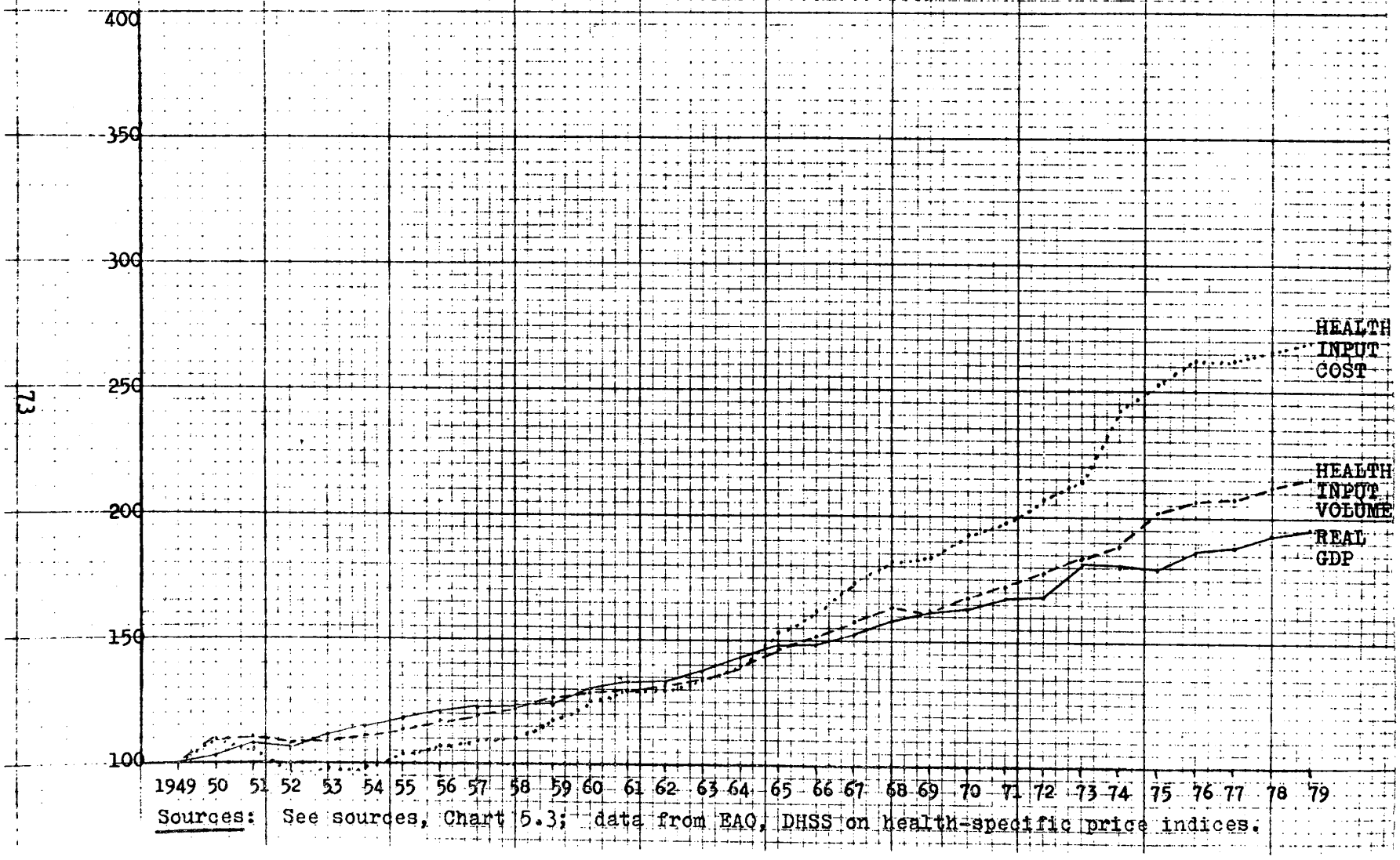
CANADA: INDICES OF GROWTH OF REAL GDP PER CAPITA, AND HEALTH EXPENDITURE PER CAPITA DEFLATED BY A GENERAL PRICE INDEX ('HEALTH INPUT COST') AND BY A HEALTH-SPECIFIC PRICE INDEX ('HEALTH INPUT VOLUME') 1949-1978.



Sources: See Sources, Chart 5.3.

CHART 5.6

UK: INDICES OF GROWTH OF REAL GDP PER CAPITA, AND HEALTH EXPENDITURE PER CAPITA DEFLATED BY A GENERAL PRICE INDEX ('HEALTH INPUT COST') AND BY A HEALTH-SPECIFIC PRICE INDEX ('HEALTH INPUT VOLUME') 1949-1978.



Sources: See sources, Chart 5.3; data from EAQ, DHSS on health-specific price indices.

CHAPTER 6

COMPARING EFFICIENCY IN THE US, CANADIAN AND UK HEALTH SECTORS

6.1 Introduction

This chapter is concerned mainly with the relationship between health service inputs and outputs for the US, Canada and UK in 1977. In economics it is usual to distinguish between technical efficiency (minimising the use of any one input given the level of output and of other inputs). cost efficiency (minimising the cost of producing any one output) and overall efficiency (producing outputs at levels where the ratio of their marginal social costs is equal to the ratio of their marginal social benefits). This chapter is concerned with all these concepts, in spirit, but measurement of them is hampered by the shortage of measures of final output, or outcome, of medical care at an aggregate level in the countries concerned.

The chapter proceeds by looking first at the volumes of major inputs to the health services in the three countries (with a sideways glance at an equity issue: staff remuneration); then at the volume and cost of certain intermediate outputs; then at labour productivity; then at the intensity of certain intermediate outputs; and finally (with difficulty) at measures of the quality of care, outcome and consumer satisfaction.

6.2 Beds

Table 6.1 provides information on beds per 1,000 population in short-stay hospitals, long-stay hospitals and nursing homes/special care facilities/ residential homes for the three countries in 1950 and 1977. 'Short-stay' hospitals are those with stay 30 days and under. For England, an attempt has been made to include facilities in the private sector.

Similar trends in the pattern of provision emerge in all three countries and the overall level of provision in 1977 is quite similar. Two more detailed points emerge. First, Britain has distinctly fewer acute beds than either the US or Canada (13% and 23% less, respectively). Secondly, although all three countries house within long-stay institutions a similar proportion of

their population, within this total England relies relatively more heavily on hospitals than on nursing/residential homes. It is somewhat ironic that the poorest of the three countries relies more heavily on the most expensive form of long-stay provision, although to some extent this may be a concomitant of the less favourable age structure of its population. It is shown, below, that long-stay hospital care per day costs at least twice as much as nursing/residential home care per day. If nursing/residential home provision is expressed per 1,000 elderly population (aged 65 plus) Canadian provision is 84, US provision 69 and English provision is only 35. It would be desirable to examine chronic provision separately for geriatric and psychiatric patients but this has not been possible in the time available.

6.3 Staff Numbers

Accurate comparisons of the volume of staff employed in the health sectors of the three countries are difficult because the definition of the 'health industry', job descriptions and qualifications vary between countries and figures on whole-time equivalents (wte) are not generally available. Comparisons of total staff are much less reliable than those of qualified workers only. For the former, an attempt has been made to follow the US concept of staff employed in 'the health service industry' (public and private). This excludes, for example, school nurses. In general, staff involved in health insurance or in administration of health services in central or local government, have been excluded but all AHA and RHA staff in England have been included. Bearing in mind these limitations and definitions, Table 6.2 suggests that the US employed about 20% more health staff per capita than England, and Canada employed about 17% more. Both countries employed about 40% more physicians per capita than England. The numbers of nurses per capita were fairly similar in the US and England but 20% higher in Canada.

6.4 Staff Remuneration

Comparisons of remuneration of health sector staff across the three countries are also hazardous because, in addition to the difficulties mentioned above, there are additional problems in making comparisons including possible differences in overtime pay, fringe benefits and pensions contributions and, in the case of independent professionals, differences in allowances for practice expenses, etc.

TABLE 6.3

Remuneration of Selected Health Sector Employees and all (Whole Economy) Employees, Converted to £ at Purchasing Power Parity Exchange Rates for US, Canada and England, 1977

	US	Canada	England
Physicians	29,140	22,760	9,240
Nurses	5,570	5,950	3,540
Average Hospital wte	5,700	5,710	3,600
All Employees, whole economy (numbers)	6,080	5,050	3,800

Notes and Sources:

US Physicians: average net income per office-based physician; source, PMP 1979 T.75.

Nurses: weighted average of mid-point of salary ranges for staff nurses and licensed practical nurses, only, excluding the value of fringe benefit, employers' contributions to social security etc; source, National Survey of Hospital Medical School Salaries, University of Texas, Medical Branch at Galveston, 1978.

Average hospital wte: average cost per wte (which excludes most physicians); source, AHA, 1980 T.1.

Average employee, whole economy: all compensation of employees divided by employed civilian labour force; source, SCB July 1979 T.1.13 and SAUS 1979, T.647.

CANADA Physicians: average earnings per self-employed, professional physician; source, Earnings of Physicians in Canada, Policy Planning and Information Branch, Health and Welfare Canada, April 1980.

Nurses: salary rates for general duty registered nurses excluding overtime, value of fringe benefits, etc, but including pension and social security contributions etc; source, Salaries and Wages in Canadian Hospitals, 1970-1977, Policy, Planning and Information Branch, Health and Welfare Canada, T.1a.

Average hospital wte: average cost, including employee benefits per wte employee (which excludes most physicians) assuming part-time staff working half-time; source, ARHCF 1977/78 and MHS Part III, 1977.

Average employee, whole economy: wages, salaries and supplementary labour income per employee; source, NIEA, 1965, 1979 Ts 38 and 13, Section G.

ENGLAND

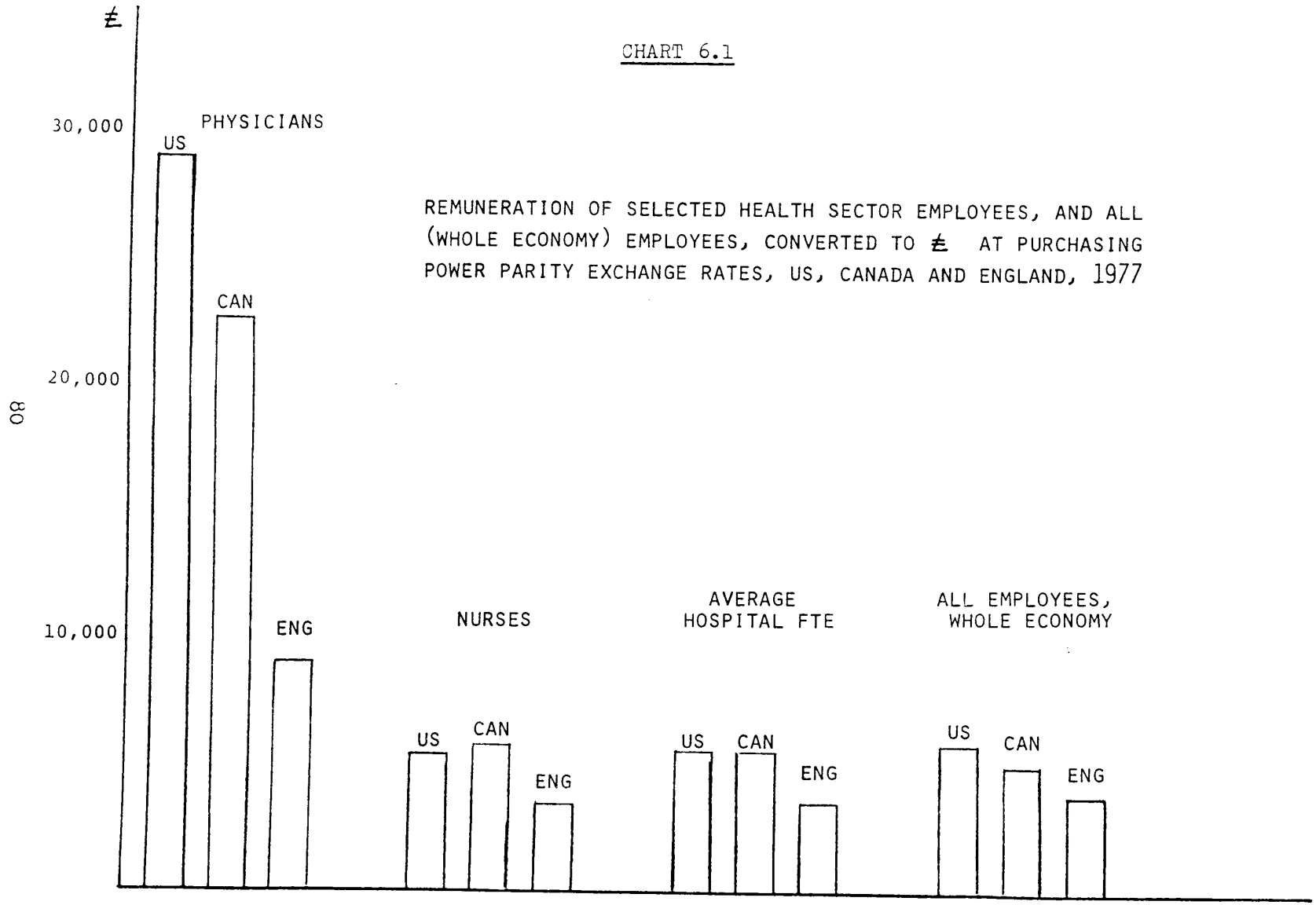
Physicians: weighted average of cost of wte doctor employed in Hospital and Community Health Services (including junior doctors) and earnings of general medical practitioners, excluding doctors working wholly in the private sector and the private earnings of doctors working for the NHS; source, DHSS, Economic Advisers' Office (EAO) and Review Body on Doctors' and Dentists' Remuneration, Eighth Report, 1978, Appendix B.

Nurses: average cost per wte registered and enrolled nurses employed in Hospital and Community Health Services; source, DHSS, EAO.

Average hospital wte: average cost per wte employee employed in Hospital and Community Health Services, excluding doctors and ambulancemen; source, DHSS, EAO.

Average employee, whole economy: employee remuneration of all kinds per member of civilian labour force; source, DHSS, EAO.

CHART 6.1



REMUNERATION OF SELECTED HEALTH SECTOR EMPLOYEES, AND ALL (WHOLE ECONOMY) EMPLOYEES, CONVERTED TO £ AT PURCHASING POWER PARITY EXCHANGE RATES, US, CANADA AND ENGLAND, 1977

The US figures for nursing pay are probably understated because of the unavailability of information, in the source consulted, on the value of various supplements to basic wage rates.

The picture which emerges seems fairly clear. The relative earnings of physicians in the North American countries greatly exceed the relative earnings of physicians in England. Doctors in the US earn over three times as much as their British equivalents, whereas the difference in the standard of living between the two countries is only about 60%. Differences in disposable income (after tax) may be even greater. Doctors are the highest paid profession in America and reports of earnings of professions in the US Census suggest that the differential between doctors' earnings and average earnings in the economy widened between 1950 and 1970. In Britain, by contrast, the earnings of doctors seem to have fallen in relation to average earnings in the economy since the formation of the NHS, although their earnings have kept up with those of other professional workers. These observations are entirely consistent with the hypothesis that fee-for-service remuneration tends to be more lucrative for physicians than remuneration by salary or capitation allowance. The pay of nurses and of hospital workers, excluding most physicians, seems in all three countries to be in the vicinity of average earnings in the economy as a whole. This means that the gap between the pay of English and North American health workers is explained mainly by differences in the general standards of living on the two sides of the Atlantic.

6.5 Intermediate Outputs

Comparisons of health sector efficiency between the three countries require measurement of outputs as well as inputs. In this section, data are presented on levels of various intermediate outputs provided in the three countries. Table 6.4 includes information on rates of use of six types of health services: short-stay admissions; long-stay bed days; nursing/residential home bed days; out-patient and day-patient visits; physician office visits; and drug prescriptions. Between them, these services account for about 75% of health service expenditure in all three countries. Chart 6.2 displays the same information in pictorial form.

TABLE 6.4

Rates of Use of Selected Health Services and Unit Costs of Services Converted to £ at Purchasing Power Parity Exchange Rates, US, Canada and England, 1977

	US		CANADA		ENGLAND	
	Rates per 1,000 Population	Unit Cost £	Rates per 1,000 Population	Unit Cost £	Rates per 1,000 Population	Unit Cost £
Short-stay admissions[1]	168	747	185	452	120	330
Long-stay bed-days[1]	459	35.19	727	25.10	1,240	13.55
Nur/Resid home bed days	2,577	10.94	2,548	10.63	1,665[2]	6.16
OP and DP visits	1,219	24.70	967	16.64	1,073	9.67
Physician Office Visits	3,522	8.27	2,943	7.56	3,694	1.99
Drug Prescriptions	6,583	2.50	5,721	2.45	6,379	1.87

Notes:

1. Unit costs in the US and Canada have been adjusted to include physician services supplied in hospitals and to exclude depreciation and interest. This puts them on the same basis as the figures for England.

2. Mainly Local Authority residential homes.

Sources:

US: SAUS, 1979; AHA, 1980; HUS, 1979; Prescription Drug Industry Factbook, 1980. Pharmaceutical Mfg Assoc, Washington DC.

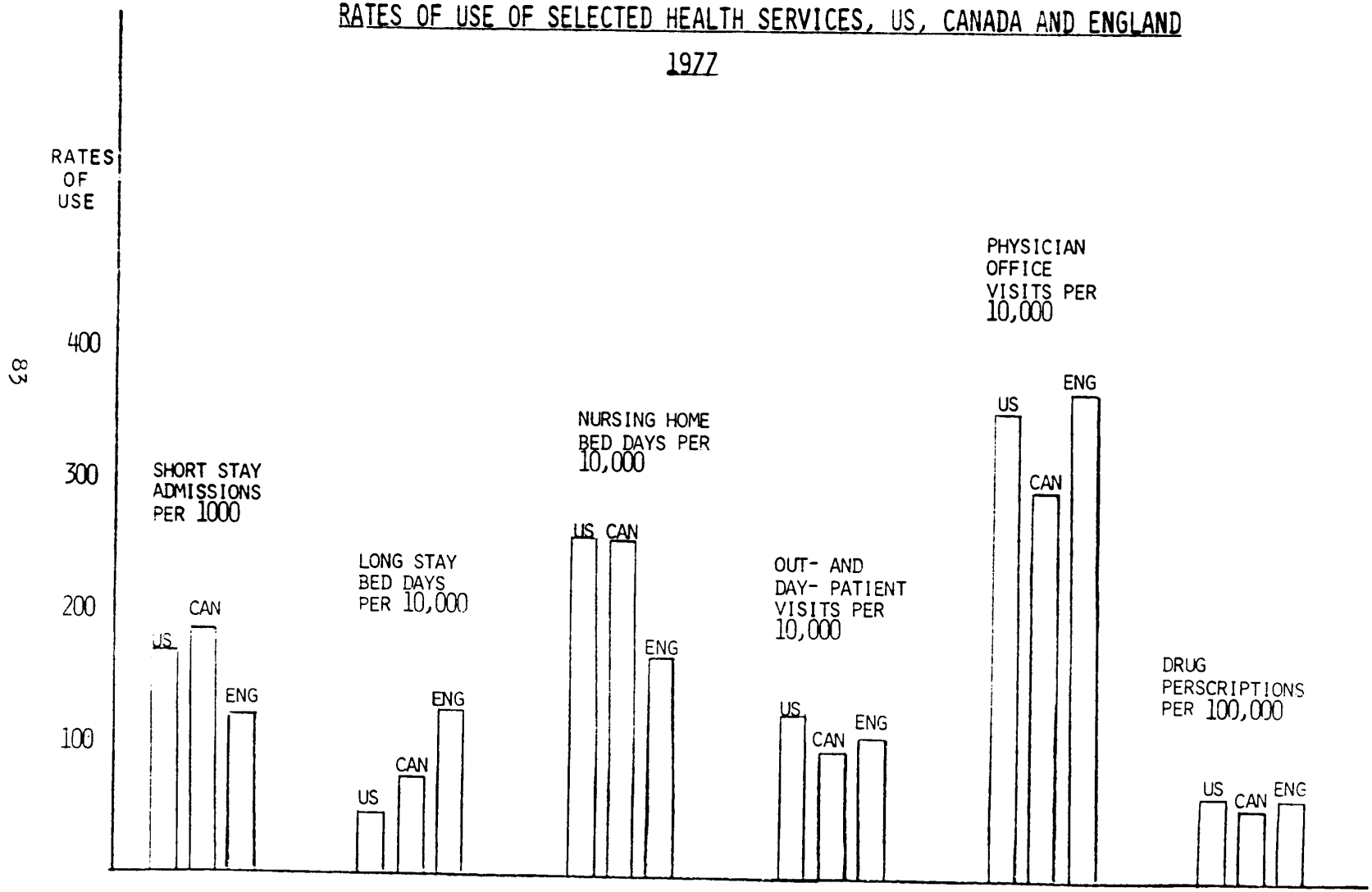
Canada: NIEA, 1965-79; ARHCF, 1977/78: MHS, 1977; ARSCF, 1977; unpublished tabulation from the Canada Health Survey 1978/79; Canadian Pharmaceutical Association data.

England: HPSSS, 1978; DHSS data on long-stay and short-stay hospitals; Nuffield Nursing Homes Trust Report and Accounts, 1979, GHS, 1977.

CHART 6.2

RATES OF USE OF SELECTED HEALTH SERVICES, US, CANADA AND ENGLAND

1977



Various steps have been taken to make the data as comparable as possible across the three countries. In particular, for England and Canada, day case admissions (mainly for surgery) have been added to in-patient admissions, since in the US such cases are counted with in-patients. Also, an attempt has been made to allow for the private sector in England. The data on physician office visits covers visits to all office-based physicians in North America (which includes visits to specialists) whereas in Britain it covers visits only to general practitioners. In all three countries, information on visits to physicians is based on self-reported data from household surveys and it includes telephone consultations.

On the whole, after allowance is made for the different balances of care in the long-stay sector in the three countries, the figures reveal a high degree of similarity in per capita levels of service provision across the three countries with the exception of short-stay hospital admissions, where the US provides 40% more admissions and Canada 54% more admissions per capita than England. Given its less favourable age structure, Britain is arguably deprived here, and, indeed, in the long-stay sector, but the latter deficiency may be offset by extra home-care provision for the elderly in Britain. For example, home nurses nursed 177 per 1,000 of the population aged 65+ in England in 1977. In the same year home nurses under Medicare nursed only 26 per 1,000 of the population aged 65+ in the US. Even if allowance is made for presumably greater numbers of privately financed nurses in the US, it seems possible that Britain is ahead of the US in use of home nurses. (Sources: MUHHS, 1977 and HPSSS, 1978.) The chances of seeing a primary care physician, of receiving a drug prescription and of being referred to an out-patient department seem fairly similar across the three countries.

It is possible to make pair-wise comparisons of overall output per capita between the three countries, by weighting each country's service utilization figures by the unit costs shown in Table 6.4. For each comparison, two index numbers can be calculated, depending on whether, in each case, the home or the foreign country's cost weights are used. Table 6.5 shows such comparisons, setting England at 100.

TABLE 6.5

INDICES OF VOLUME OF SELECTED HEALTH SERVICES

	England's cost weights	Other country's cost weights
US	113	109
CANADA	117	110
ENGLAND	100	100

This suggests that, overall, per capita output (in service utilization terms) may be between 9-13% higher in the US and between 10-17% higher in Canada than in England. Given Britain's unfavourable age structure (see Chapter 5, section 2, above), the real service gap between the countries is probably larger.

6.6 Unit Cost

Table 6.4 and Chart 6.3 contain information on the unit costs of services for the three countries. Sharp differences in unit costs can be observed. This is not surprising since we saw in Chapter 6 that there are large differences in expenditure per capita between countries (US = 250, Canada = 180, UK = 100) whereas we have just noted that services per capita vary relatively little between them. Table 6.6 provides overall indices of unit costs for the three countries.

TABLE 6.6

INDICES OF UNIT COST OF SELECTED HEALTH SERVICES

	England's volume weights	Other countries' volume weights
US	235	227
CANADA	171	161
ENGLAND	100	100

6.7 Labour Productivity

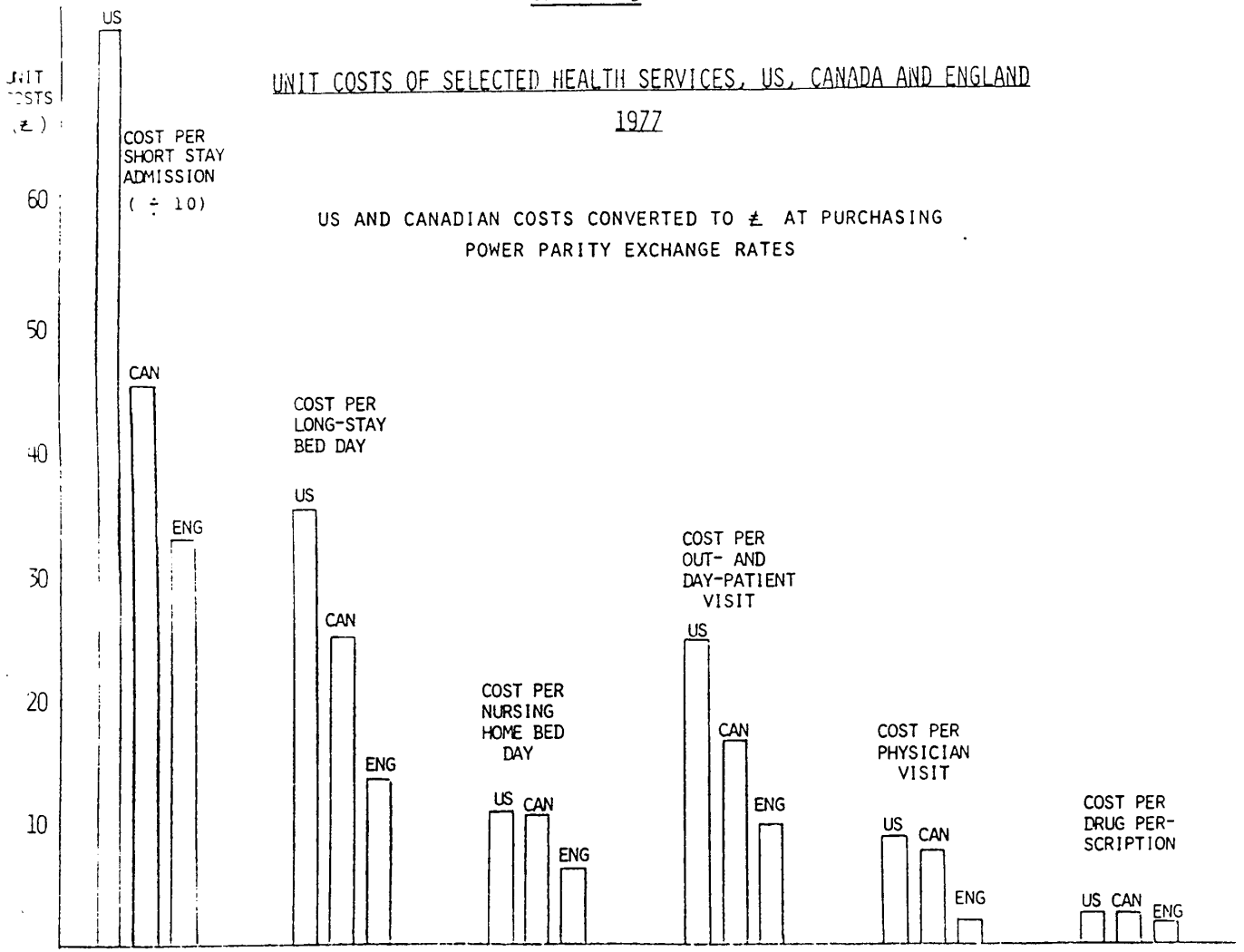
One readily available, but partial, explanation for the outstanding differences in unit costs of services between the three countries is differences in labour productivity between them. The data on total

CHART 6.3

UNIT COSTS OF SELECTED HEALTH SERVICES, US, CANADA AND ENGLAND

1977

US AND CANADIAN COSTS CONVERTED TO £ AT PURCHASING POWER PARITY EXCHANGE RATES



staff numbers per capita, in Table 6.2 above, and the data on service utilisation per capita (taking averages of the two estimates of volume) in Table 6.5 above, can be combined to produce rough indices of output per man or woman employed in each country's health sector. Such calculations yield indices of 90 for the US and 96 for Canada if England is set at 100. However, such calculations ignore the intensity dimension of output which is considered in Section 6.9 below. The suggestion that Britain may be more productive in supplying health services than either the US or Canada is surprising in view of the persistent finding that Britain lags behind 7 industrialised countries (including the US) in both general labour productivity and labour productivity in the service sector (Roy, 1982).

6.8 Hospital Length of Stay

A popular indicator of hospital efficiency is average length of in-patient stay. Average length of stay was 8.0 days in US short-stay hospitals in 1977, 8.6 days in Canada and nearly 10 days in England, after including day cases with in-patients in the English and Canadian totals of admissions. Calculations of expected length of stay for England, based on the age structure of the English population and American age specific hospital lengths of stay, suggest that these differences cannot be explained away on the basis of age structure. The most likely explanation for the differences would seem to be the much higher rate of acute admissions in the North American countries. This suggests that the marginal patient is suffering from illness of greater severity in Britain. Another factor might be that North American doctors may feel more confident in discharging patients because they can continue to attend them in the community. Length of stay in Britain is short in comparison with that in most continental European countries.

6.9 Service Intensity

The direct comparison of service utilisation, above, ignores any differences in intensity of service that may exist between the three countries. The use of the word 'intensity' is preferred to the use of the word 'quality', here, since the latter tends to pre-judge the crucial issue of whether extra intensity of services makes a difference to outcome. Outcome is dealt with in the final section of this chapter.

TABLE 6.7

1977, unless otherwise stated

	Diagnostic			Therapeutic		Primary Care	
	Pathology requests/ Specimens per capita	CAT head and Body scanners per million	Surgical Operations per, 000[3]	New renal dialysis patients per million	Therapeutic Radiology Attendances per, 000	Length of Physician office visit (minutes)	Percentage of office visits resulting in pathology requests
US	6.3[1]	5.7[2]	60[4]	60+[2]	na	15½[5]	21
Canada	na	1.7[2]	57	25+	25	16[5]	na
England	1.3	1.0[2]	39	18	25	5½[6]	6

Notes:
1. 1976
2. 1979
3. Estimates of first-listed operations excluding all obstetrical procedures, biopsy and non-surgical procedures
4. 1978
5. Quebec, sample survey, 1972
6. Sample survey, 1966

Sources:

US: Pathology requests: NUHR (1979); CAT scanners: Office of Technology Assessment; Cost Effectiveness Analysis of Medical Technology, Background Paper No 4, Washington DC, October 1980; operations: Detailed Diagnosis and Surgical Procedures for Patients Discharged from Short-Stay Hospitals: US, 1978, US DHHS, PHS, September 1980, and Surgical operations in short-stay hospitals. US, 1975, US DHEW, PHS April 1978; renal dialysis: Office of Health Economics, Briefing No 11, London, April 1980; primary care: NAMCS (1977).

Canada: CAT scanners: see US reference; operations: Surgical Procedures and Treatments 1977, Statistics Canada, 1981; renal dialysis: see US reference for CAT scanners; therapeutic radiology: ARHCF, 1978; primary care: Enterline et al (May 1973).

England: Pathology requests: HPSSS 1978 T.4.6; CAT scanners: see US reference; operations: HIPE, 1977; renal dialysis: Office of Health Economics, Briefing No 11, London, April 1980; therapeutic radiology: HPSSS 1978 T.4.6; primary care: Eimerl and Pearson (1966), HPSSS (1978, Table 4.6), GHS (1977) and Crombie (1963).

Table 6.7 contains some limited evidence on differences in intensity of care between the three countries.

On the diagnostic front, the rate of pathology tests per capita in the USA seems to be about 5 times the rate in England. America had about 6 times as many CAT scanners per million population in Britain in 1979.

On the therapeutic front, rates of surgical operations per capita in North American countries (confining attention to first listed operations only) seem to exceed those in Britain by about 50%. These differences are rather less than those reported by Bunker (1970) and Vayda (1973). There are considerable methodological problems in comparing surgical utilization rates between countries (Sauter et al, 1983). Rates of renal dialysis per head of population seem to be significantly higher in the US than in either Canada or Britain. Rates of radiotherapy attendances, however, seem to be identical in Canada and England.

On the primary care front, there seem to be marked differences between the North American countries on the one hand, and England on the other hand, in the length of office consultations with physicians. American and Canadian patients seem to spend about three times as long on average in consultation with their doctors than do English patients. Over three times as many American consultations lead to the ordering of pathology tests in comparison with English consultations. This may be associated with the fact that more American physicians are specialists. The American source for this information, the National Ambulatory Medical Care Survey, reveals, also, that nearly 10% of office consultations with American physicians lead to the ordering of X-rays and 38% of consultations involved measurement of blood pressure for the patient.

On the whole, these scraps of information are consistent with the hypothesis that American standards of care are more lavish and that in some respects more diagnostic and therapeutic work is done per unit of intermediate output in North America than in Britain. This must go some way towards explaining the differences in unit costs recorded above. It is not easy to discern the extent to which the higher intensity of care in the US is due to higher standards of living, to more permissive financing mechanisms or to the higher rate of litigation over medical care in the US than in Canada or Britain.

A further indicator of health service provision per capita, which could not be described as measuring intensity of care but which does add to the evidence on quantum of service described above, is rates of immunisation of children against infectious diseases. Roughly comparable figures are available for the US and England and are shown in Table 6.8. This Table suggests that, for three of the most important infectious diseases, English rates of immunisation of children were higher at the end of the second year after birth than they are for American children five years after birth (1977 data). For two diseases, English rates of vaccination, measured in this way, are lower and for two diseases English statistics are not available. The low English rate of immunisation for Whooping Cough reflects the lack of take-up of proffered vaccine in the wake of reports of possible adverse effects in the mid-1970s. In the case of Rubella, the US has a policy of immunising all children whereas Britain has a policy of immunising only schoolgirls.

6.10 Waiting for Access to Health Care

It is often said that in Britain rationing of health care by price has been replaced by rationing of health care by waiting. But do the British wait longer, in fact, than North Americans for access to health services?

So far as primary health care is concerned, Aday, Andersen and Fleming (1980) report waiting times for appointments with (mainly) office-based physicians and time spent in physicians' waiting room by individuals with and without appointments. Their data are based on a large random, sample-survey of US households. Similar data, relating to general practitioner consultations, are available for the UK from a large household survey by the Office of Population Censuses and Surveys (OPCS) covering access to primary health care (Ritchie et al, 1981). A comparison of these sources yields the surprising result that patients in the US wait longer than patients in the UK, both for an appointment to see a physician (or GP) and to see the physician (or GP) when they reach the waiting room. 64% of American patients waited less than two days for an appointment against about 80% of British patients. 8% of American patients waited more than two weeks for an appointment, whereas only 4% of British patients waited more than five days. The average time spent in the waiting room for patients with an appointment was 37 minutes in the US and about 11 minutes

in the UK. The average time spent in the waiting room for patients with no appointment was 58 minutes in the US and about 22 minutes in the UK (the British figures here are approximate because Ritchie et al quote only the distribution of waiting time, not the mean waiting time).

It is possible that Americans wait longer because a high proportion of their primary consultations are with office-based specialists. Also, in the US a significant proportion of consultations are for general physical check-ups, which are rare in Britain. Consultations last about 15 minutes, on average, in the US against five minutes in Britain. There may be some significance in the fact that the ratio of office/surgery waiting time to consultation time is similar in the two countries.

We could not identify data on waiting to see specialists, after referral, in the US. An OPCS survey in Britain (Gregory, 1978) found that 28% of all patients, referred to a specialist in a hospital out-patient department, were seen within seven days, 60% within three weeks, 83% within six weeks, and 94% within three months.

So far as waiting for admission to hospital is concerned, the position in the US is rather obscure but statistics are compiled regularly in Britain on hospital waiting lists and waiting times. We have already seen (in Chapter 4 above) that in England and Wales in 1977, over half of all the admissions to hospitals were immediate. Among patients referred to waiting lists, 37% were admitted within one month, 67% within three months and 94% within one year (Source: HIPE, 1977). Only 2½% of <u>all</u> patients waited over one year. Similar statistics do not seem to be available in the US. However, one small study suggests that American patients do sometimes wait for admission. Simpson et al (1968) made a careful comparison of similar general hospitals in Waterville, Maine and Arbroath, Scotland, in the mid-1960s. Nine per cent of patients in Waterville were admitted immediately, 43% within seven days and 94% within a month. At Arbroath, comparative figures were 61%, 65% and 80%. In other words, a higher proportion of patients were admitted immediately but a higher proportion had a long wait in Arbroath than in Waterville. In both Waterville and Arbroath, patients tended to wait longest for elective surgery. This study is a slender basis on which to make generalisations. Nevertheless, it would not be surprising if Britain generally had a higher

proportion of emergency admissions and longer waiting times for elective surgery than the US, in view of her comparative deficit of acute admissions overall (Table 6.4, above).

The extent of waiting for in-patient admissions in Canada is as obscure as it is in the US. However, the Canadian Medical Association claimed in 1981 that, "Many patients are kept on elective surgery waiting lists for weeks, awaiting appropriate operating room facilities or a hospital bed". (Canadian Medical Association, 1981.)

6.11 Quality of Care, Outcome and Consumer Satisfaction

The preceding disussion left open the question of quality and outcome of health care in the US, Canada and England. At least one commentator (Lindsay, 1980) has argued that government financed and bureaucratic health care systems of the British type have a propensity to encourage, within the allocated budget, observable quantity of health care and to discourage the unobservable quality of care. This is in contrast to 'demand led' American arrangements which are assumed to provide consumers with an appropriate balance between quantity and quality of care. This thesis does not seem to allow enough for the fact that the bulk of medical resource allocation decisions are taken by doctors in both America and Britain. In some ways, British doctors have more clinical freedom than their American counterparts and they do not face positive incentives to provide unnecessarily high quality care as do their American counterparts.

Quality of Care

What is the evidence about quality of care in the three countries? Following Donabedian (1966) it is possible to distinguish between structural (input), process (intermediate output) and outcome (final output) measures for quality. It was argued above that measures of service intensity do not provide an unambiguous measure of quality. There are too many expressions of concern about both underprovision and overprovision in all three countries to use with confidence any measure of provision as a proxy for quality. It is desirable to turn to measures of outcome (such as improvements in health and expressions of consumer satisfaction) to measure the final effect of differences in quantity and quality of health care between countries.

TABLE 6.8

% CHILDREN IMMUNISED AGAINST INFECTIOUS DISEASES, 1977

	US	England
	% children aged 1-4	% children at end of 2nd year after birth
Diphtheria	70	78
Whooping Cough	70	41
Tetanus	70	78
Poliomyelitis	60	78
Measles	63	50
Rubella	59	na
Mumps	48	na

Sources: US: SAUS, 1980, Table 199

England: HPSSS, 1978 T.10.3

Health Outcome

Unfortunately, cross-national measures of outcome at an aggregate level are almost unobtainable. As we shall see shortly, various measures of health status are available in each country but, on the whole, we are not in a position to distinguish the effect of health services on health status from the effect of other factors such as standards of living, life style, housing, climate. It is true that there are a number of international studies of infant and adult mortality which use regression analysis to try to explain variations in mortality across countries by explanatory factors such as GNP per capita, numbers of doctors per capita and literacy but these studies are subject to difficulties in interpretation, because of the high correlation between indices of medical utilisation and indices of general prosperity. Cochrane et al (1978) found a strong positive association between the prevalence of doctors and mortality in younger age groups but hesitate to draw the conclusion that this is causal. McKeown (1979) has argued strongly that the contribution of health services to declining mortality over time has been small. Various studies within the US have shown little connection between health services and mortality, although recent (and careful) work by Hadley (1981) suggests that a 10% variation in expenditure on acute health services across the States of the US is associated with a 1.5% variation in mortality across States after controlling for other factors. The precise connections between health services and health remain unclear.

All three countries collect statistics about morbidity and mortality and, for what it is worth, it is possible to make some comparisons. All three countries have collected information on self-reported morbidity from household surveys but the results are likely to be affected by differences in the propensity to report sickness, and the surveys in the three countries have not asked directly comparable questions. The Health Interview Survey in the US records that in 1977 13% of the population reported that their health was fair or poor and they suffered from limitation of activity. The General Household Survey in the UK recorded that in 1976 17% of the population reported suffering from limiting long-standing illness. A minor indicator is the number of individuals found to be edentulous in the population. US rates of loss of teeth seem to be only about one-third of those in the UK (11% in the US in 1971 (EP, 1971) versus 29% in the UK in 1978 (ADH, 1980)). However, Britain's position has been improving rapidly in the generations

TABLE 6.9

INFANT MORTALITY RATES AND EXPECTATION OF LIFE AT BIRTH
US, CANADA AND ENGLAND AND WALES, 1950-1977

	1950	1977	Ratio 1977 : 1950
US			
Perinatal Mortality	32.5	15.4	0.47
Infant Mortality	29.2	14.1	0.48
Expectation of Life			
Males	65.6	69.3	1.06
Females	71.1	77.1	1.08
Canada			
Perinatal Mortality	37.9	13.8	0.36
Infant Mortality	41.5	12.4	0.30
Expectation of Life			
Males	66.3[1]	70.2[2]	1.06
Females	70.8[1]	77.5[2]	1.09
England and Wales			
Perinatal Mortality	37.4	17.0	0.45
Infant Mortality	30.0	13.7	0.46
Expectation of Life			
Males	66.3[3]	70.0	1.06
Females	71.2[3]	76.2	1.07

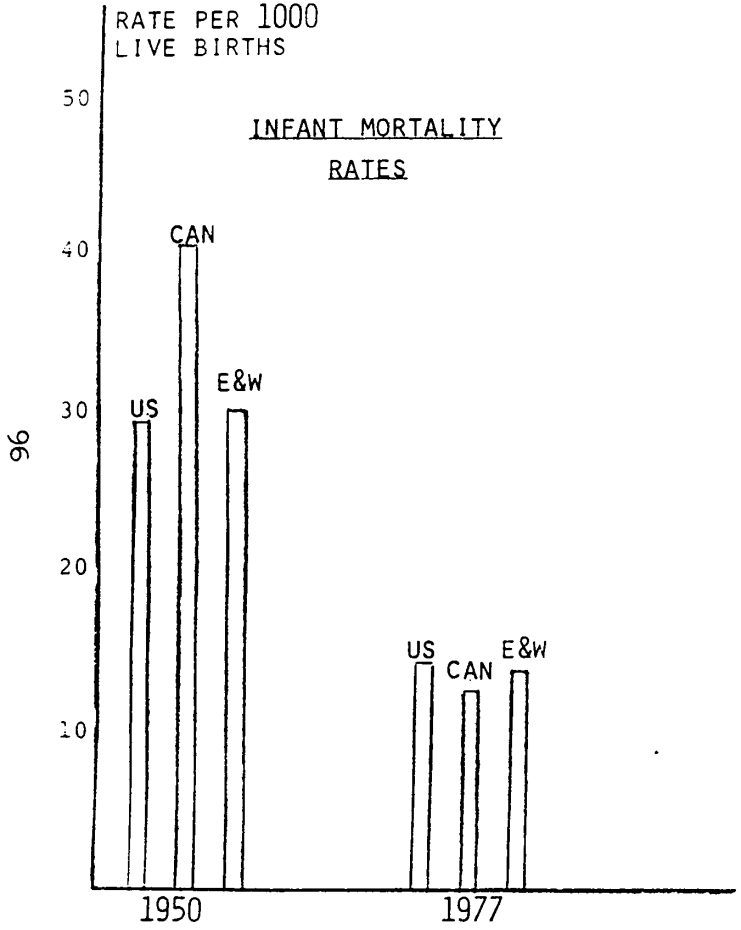
Sources:

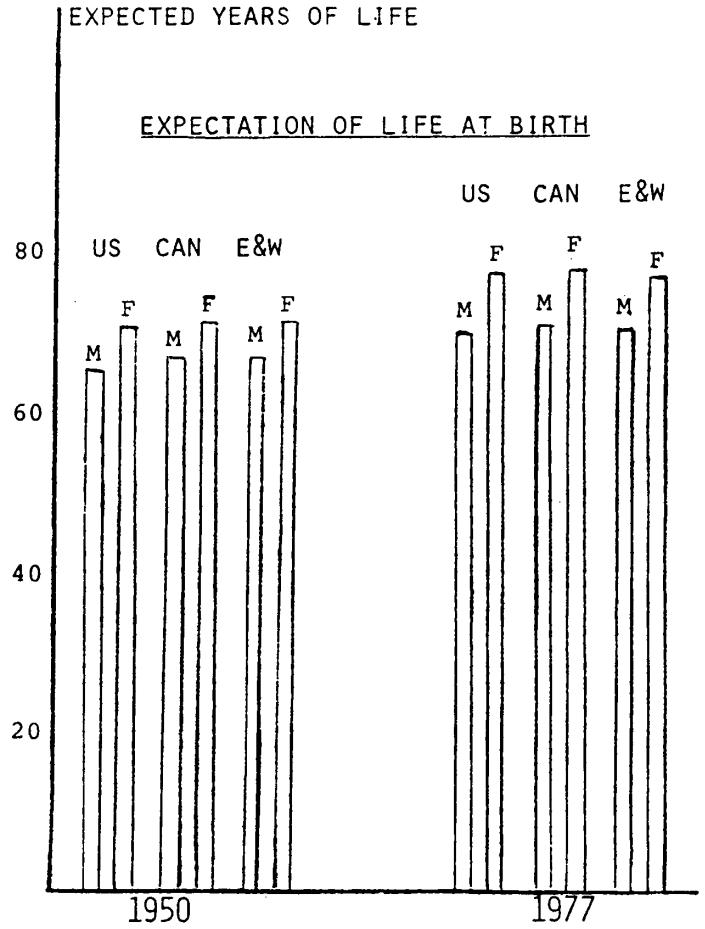
US: SAUS and VSUS, various editions.
Canada: VS, 1977.
England and Wales: MS, 1974, 1976, 1978; AA, 1954, 1959.

Notes:

1. 1951
2. 1976
3. Average of Expectation in 1948-50 and 1950-1952.

CHART 6.4





Source: Table 6.9

born since the NHS was introduced. Turning to morality, Table 6.9 and Chart 6.4 show levels of mortality in 1950 and 1977 for the US, Canada and Britain. Infant mortality has improved sharply in all three countries over this period and the expectation of life has improved modestly. Generally speaking, mortality rates were similar across the three countries in both 1950 and 1977. There is no reason, here, to reject the hypothesis that the three countries' health services have been equally effective in improving health in the post-war period.

Consumer Satisfaction

It is possible that the impact of health services is mainly upon consumer satisfaction via the process of care, the hotel aspects of provision and the information and reassurance provided by doctors. What do direct surveys of consumer satisfaction about health care reveal in the three countries?

Aday, Anderson and Fleming (1980) found that 80% of respondents in a major household survey of the US population expressed either agreement or strong agreement with the statement, "I am very satisfied with the medical care I receive". However, only 28% agreed strongly with the statement that, "The amount charged for medical care services is reasonable". This conclusion, that Americans are generally happy with the medical care they receive, but are inclined to grumble about its cost, is entirely consistent with a view that American methods of financing health services encourage a quantity and intensity of provision such that total benefits are high but marginal benefits fall below marginal costs. There is direct evidence that Americans are not very happy with the way their health services are financed. In 1979 an opinion poll found that 58% of the American public favoured the introduction of National Health Insurance (GASJ, 1980).

The Canadian 'National Health Insurance' system seems to be strikingly popular. Justice Hall, the architect of the system in the late 1960s, was able to write about his 1980 country-wide review of the system, "I found no-one, not any government or individual, not the medical profession, or any organisation not in favour of Medicare. There were differences of opinion, it is true, on how it should be organised and provided, but no-one wanted it terminated". (Hall, 1980.)

A Gallup Poll in May 1981 found that 49% of Canadians surveyed were ready to expand services for the sick and disabled even if it meant paying more taxes. Another 35% were prepared to leave things as they were.

In England, various surveys of consumer opinion have included questions about methods of paying for health services. Interpretation of these is not straightforward. On the one hand, the Institute of Economic Affairs (which has been a leading advocate of market arrangements in the economy for over two decades) has conducted four surveys of consumer opinion between 1963 and 1978 which questioned individuals about how they would like their taxes to be spent and whether they would prefer health services, among other services, to be funded by taxes or by a mix of taxes and private expenditure, such as a voucher system. The results of these surveys may have been influenced by the fact that the most important group of beneficiaries of health services, all those over 65 years of age, were excluded from those sampled. The results will also have been influenced, as will those of all surveys, by the phrasing of questions asked. Nevertheless, these factors may not have affected the trends that have appeared in the replies to the IEA questionnaires. Thus, those replying "yes" to the suggestion that the, "State should take more in taxes, rates and contributions and so on to pay for better or increased health servics which everyone would have", decreased from 41% of total respondents in 1963 to 20% in 1978. Those replying "yes" to the suggestion that, "the State should continue the present service but allow people to contract out, pay less contributions and so on and use the money to pay for their own services", increased from 33% of total respondents in 1963 to 54% in 1978. These findings, taken in isolation, suggest some diminution of support for the NHS. (Harris and Seldon, 1979.)

On the other hand, recent surveys of Patients' Attitudes to the Hospital Service (Gregory, 1978) and of Access to Primary Health Care (Ritchie et al, 1981), suggest that most patients are satisfied with most aspects of hospital care, under the NHS, and only a small minority experience difficulty in gaining access to any of the primary care services.

Moreover, a recent Marplan Survey by the Guardian Newspaper, on 21 December 1981, suggested that the NHS retains much of its popular support. In answer to the question, "Would you say that the treatment you got from your health

service GP (hospital) was on the whole very good, fairly good, not very good or not at all good?", 91% of the sample questioned thought that the treatment they got from their NHS GP was either very good or fairly good and 92% thought that the treatment they got from their NHS hospital was either very good or fairly good. In answer to the question, "Would you say the NHS represents value for money to the taxpayer?", over 70% of the sample said "yes", but in answer to the question, "Overall would you say that the services offered under the NHS are: not in need of change? or in need of change?", 64% of the sample thought the NHS needed some change. In answer to the question, "Do you think options which would enable some members of the public to pay more for health care and get better treatment or opt out of the NHS for a private scheme would be desirable or undesirable?", 40% of the sample said "desirable". Finally, in answer to the question, "The government is considering whether to end the practice or financing the health service by taxation and switch to a health insurance system. In principle, do you think this is a good idea or a bad idea?", 33% of the sample thought it was a good idea and 50% thought it was a bad idea. All this suggests that although the NHS as a general method of financing and providing health services continues to command the support of a majority of the population, a majority thinks it could benefit from some (unspecified) change. Also a significant minority thinks that private care or opting out should be encouraged.

CHAPTER 7

EQUITY IN THE DELIVERY OF AND PAYMENT FOR HEALTH SERVICES IN THE US, CANADA AND THE UK

7.1 Introduction

We have already seen how the US, Canada and the UK differ in the comprehensiveness of their third party cover for health care and in their methods of obtaining contributions towards the cost of health services. Methods of financing health services have a profound effect on equity, or the fair distribution of health services in relation to need and the fair distribution of payment for health services in relation to ability to pay.

The aim here is not to make value judgements about these things but to report on the evidence about variations in health, use of health services and payment for health services in the US, Canada and the UK. Obviously, concepts of fairness in relationship to the distribution of and payment for health services may differ both between individuals and between the countries concerned.

There are many dimensions to equity. So far as the use of health services is concerned, we are mainly interested in a question of vertical equity (discrimination among unequals): that is the use of health services in relation to need. It is arguable that the individual's need for health services depends on many factors, some difficult to measure, including his current health, his prognosis, with and without treatment, his contribution to society and his tastes. Here, we are able to look only at the relationship between the use of health services and current health status (morbidity and mortality). We use as a reference point the concept of equity promulgated by Aday, Andersen and Fleming (1980) - "An 'Equitable Distribution' of health care services is one in which illness (as defined by the patient and his family or by health care professionals) is the major determinant of the allocation of resources". There is a snag with this definition. It is not clear that medical care is productive in some fashion linearly related to morbidity. Also, if doctors can induce demand and if some health care is 'unnecessary' then apparent 'inequities' in health care may not be harmful. These possibilities should be borne in

mind throughout the analysis which follows. We can also investigate horizontal equity (equal treatment of equals) by asking whether, for a given level of health, services are provided equitably regardless of sex, age, race, family size, income, geography etc. Only two of these dimensions - income and geography - are given attention in what follows.

So far as payment for health services is concerned, we are again interested in a question of vertical equity: the relative financial contributions to health services made by individuals with different incomes. An attempt is made below to ascertain whether payment for health services is progressive, regressive or proportional to income in each country. No judgement is intended as to which style of payment is preferable.

Section (a) of this chapter concentrates on the relationship between the distribution of income, health, use of health services and payment for health services. Section (b) explores geographical variations in health, use of health services and income.

7.2 Health, Use of Health Services and Contributions to Health Expenditure in Relation to Income

In this section we explore variations in health, use of health services and contributions to health expenditure, in relation to family income. Income was chosen as the major yardstick because, in North American countries, data on health, use of health services and payment is available mainly in relation to income. In Britain, it is more usual to explore variations in these variable in relation to social class or socio-economic group but data classified by income is available from the General Household Survey. Also, in all three countries contributions to health expenditure are more easily related to income.

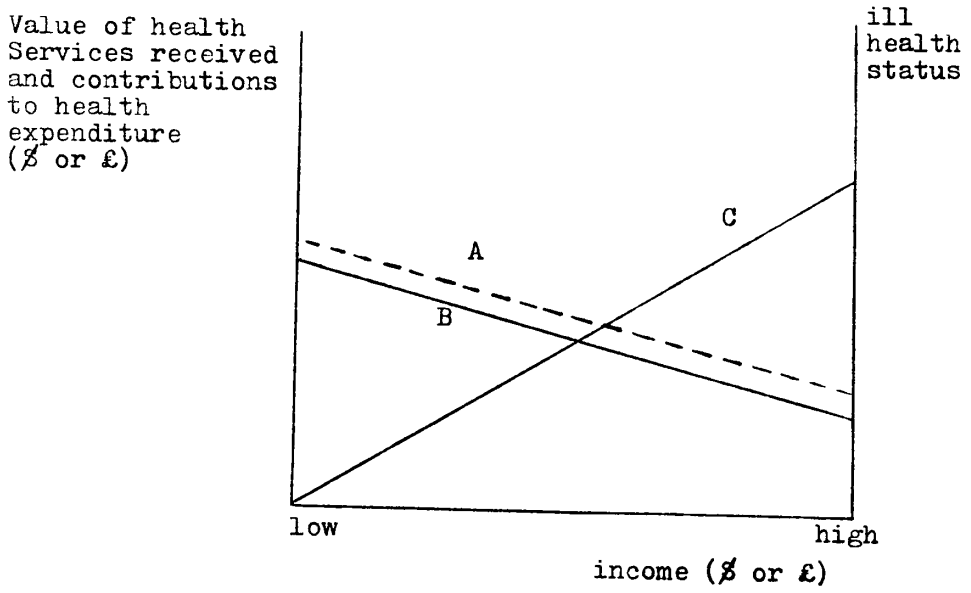
It follows that we are interested in three relationships for each country:

- variations in ill-health status with income (Schedule A);
- variations in the value of health services used with income (Schedule B);

- variations in contributions to health expenditure, with income (Schedule C);

Possible configurations for these schedules are illustrated in Chart 7.1.

CHART 7.1



Income is displayed on the horizontal axis, the value of health services received and contributions to health expenditure are displayed on the left-hand vertical axis, and health status is displayed on the right-hand vertical axis. Schedule A relates to the right-hand vertical axis and Schedules B and C relate to the left-hand vertical axis. Note, especially, that ill-health (measured say by the numbers of individuals reporting long standing illness) increases as we move up the right-hand vertical axis. In this illustration, it is assumed that ill-health increases as income falls (Schedule A), the value of health services received varies proportionately with health (Schedule B) and payment for health services is proportional to income (Schedule C).

Needless to say, there are difficulties in assembling the real data needed to complete such a chart for each of the countries in which we are interested. In each case, we have to rely heavily on information derived from household surveys. This means excluding the institutionalised population who account for one-fifth of health expenditure or more in each country. Fortunately, as we have seen already, the proportion of the population institutionalised is similar in each country. It would be desirable to adjust the household data for age differences, but such information is readily available only for the US. When it comes to measuring health, household surveys, naturally enough, cover only self-reported morbidity and not mortality. When it comes to payment for services, household surveys tend to cover only direct expenditure on health services and it is necessary to turn to other sources for measures of the distribution of indirect expenditure (employers' contributions, taxation, etc). Use of these sources is discussed further below.

7.2.1 USA

i. Variation in Health Status with Income

Routine statistics on variations in mortality by income are not collected in the USA although the available data suggests that there are major differences in mortality by race. Information on variations in self-reported morbidity with income is available from various surveys including the Health Interview Survey. Table 7.1 shows variations in four measures of self-reported morbidity with family income. These data are age-adjusted. For the summary chart below we have chosen the second measure, the percentage of the population assessing their health as fair or poor and reporting limitation of activity. This measure corresponds most closely to that available for Britain.

TABLE 7.1

Family Income	Self assessment of health as fair or poor	Limitation of activity	Restricted activity days	Bed disability days
	1977, per cent of population, age adjusted			
Under $5,000	24.2	22.2	29.6	11.9
$5,000 - $9,999	16.1	15.8	20.3	7.9
$10,000 - $14,999	10.9	12.0	15.8	6.1
$15,000 - $24,999	7.5	10.0	14.0	5.3
Over $25,000	5.2	8.8	12.6	4.9
Ratio under - $5,000: over - $25,000	4.7	2.5	2.3	2.4

Source: HUS 1979 Table 23 and 24.

This data suggests that poor families experience between 2½ and 4½ times as much self-reported sickness as rich families.

ii. Variation in Use of Health Services with Income

There is probably a widespread assumption outside the US that the distribution of health services in the US between poor and non-poor is not closely correlated with ill-health. There is evidence that this view may, at best, be out of date. Several studies, including those by Davis and Schoen (1978) and Aday, Andersen and Fleming (1980), suggest that access to health services by the poor has greatly improved in the wake of Medicare and Medicaid. Age-adjusted data for 1977 is available from the Health Interview Survey (Table 7.2).

TABLE 7.2

Family Income	Physician contacts office or telephone	Physician visits, hospital OP departments	Days of care in short term hospitals	Dental visits
	1977, visits per 1,000 population, age adjusted			
Under $5,000	4640.7	1148.8	1541.0	1175.1
$5,000 - $9,999	4080.8	786.9	1164.3	1203.3
$10,000 - $14,999	4087.7	653.4	1051.8	1436.3
$15,000 - $24,999	4208.4	504.0	912.1	1845.9
$25,000 and over	4295.7	462.1	678.8	2376.5
Ratio under $5,000 Over $25,000	1.1	2.5	2.3	0.5

Source: HUS 1979 Tables 32, 37 and 42.

This Table suggests that if limitation of activity, or restricted activity or bed disability days is taken as the bench-mark, the distributions of physician visits to hospital out-patient departments and days of care in short-term hospitals are 'equitable', but the distribution of contacts with physicians in their offices is not. Also, there are certainly 'inequities' in dental visits, after allowance is made for the better dental health of the rich (EP, 1971).

This picture is borne out by more careful analysis of data from a University of Chicago Health Interview Survey (Aday, Andersen and Fleming (1980)) and more careful analysis of data, from the national Health Interview Survey, by Kleinman, Gold and Makuc (1981). The former observe that, "the extent to which inequities in use exist by type of service varies according to the extent of third party cover available for particular kinds of service. Third party cover is most available for hospital expenses and least available for dental care". Davis and Schoen have documented one reason for fewer physician visits among the poor, after adjustment for health status. As might be expected, those not eligible for Medicaid receive fewer physician visits than those who are eligible. Kleinman, Gold and Makuc show that not only quantity but also quality of physician care is deficient for the poor. The poor are more likely to use hospital out-patient departments than the private offices of physicians. There are important differences in the use of preventive services across income groups in the USA: "Several studies have shown that, compared to those with higher income the poor are less likely to receive breast examinations, pap tests, pre-natal care or immunisation against childhood diseases (particularly in the pre-school years)", Kleinman, Gold and Makuc (1981)).

For the purposes of summary Chart 7.2 below, we have taken only physician office contacts, visits to out-patient departments, and days of care in short term hospitals and valued these at unit costs based on Table 6.4, above, to produce a schedule of value of health services received. This set of services was chosen because it approximates most closely to the set available for other countries. It accounts for the bulk of health services consumed by households, leaving out persons who reside in institutions.

iii. Variation in Contributions to Health Expenditure with Income

We have seen that the source of funding for health services in the US is mixed, with about 30% of finance being out-of-pocket, about 30% being covered by private insurance and nearly 40% being covered by public insurance and tax funds.

At the time this report was written, no comprehensive set of data was available on how payment for health services in the US varied with income. Accordingly, very rough estimates have been assembled from a number of different sources for this paper. The results should be regarded as illustrative only. More realiable estimates may be available eventually from the 1977 National Health Care Expenditures Study, a household survey which covered both utilisation of and sources of payment for health services. Preliminary data from this study, however, suggests that households had difficulty in describing the source of payment for some services (Kapser et al, (1980)).

So far as out-of-pocket payments for health services were concerned, data was readily available from the Health Interview Survey for 1975. Figures on age-adjusted out-of-pocket payments per capita for hospital care, physicians' services and health insurance by income for families and unrelated individuals were extracted and updated to 1977 price levels. Table 7.3 contains the results. It suggests that out-of-pocket health payments per capita increase steadily with income.

Employer contributions to private health insurance are another major source of spending on health care, which can be imputed to households. Some information on these is available in a study by Mitchell and Phelps (1976). This study suggests that, across tax units, average health insurance premiums paid by employers per tax unit roughly doubled across the income range from less than $5,000 and $25,000 and over. Also important are: tax deductions for employer contributions to health insurance; personal contributions to health insurance; and direct medical expenses, where these exceed 3% of taxable income. These deductions have been analysed across tax units by the Congressional Budget Office (CBO 1980).

TABLE 7.3

ESTIMATED PAYMENTS FOR SELECTED HEALTH SERVICES PER CAPITA BY FAMILY INCOME, US 1977

Income	Selected Out-of-Pocket expenses	Employer Contributions less all tax deductions	Tax burden of public health expenditure	Total
$	$	$	$	$
Less than 5,000	160	122	39	321
5,000 - 9,999	181	94	84	359
10,000 - 14,999	203	156	130	489
15,000 - 24,999	185	105	179	469
25,000 +	223	56	375	654

Sources: Personal Out-of-Pocket Health Expenses 1975 Vital and Health Statistics Series 10 No 122, US DHEW.
Mitchell and Phelps (1976).
CBO (1980); SAUS, 1980; Okner (1980).

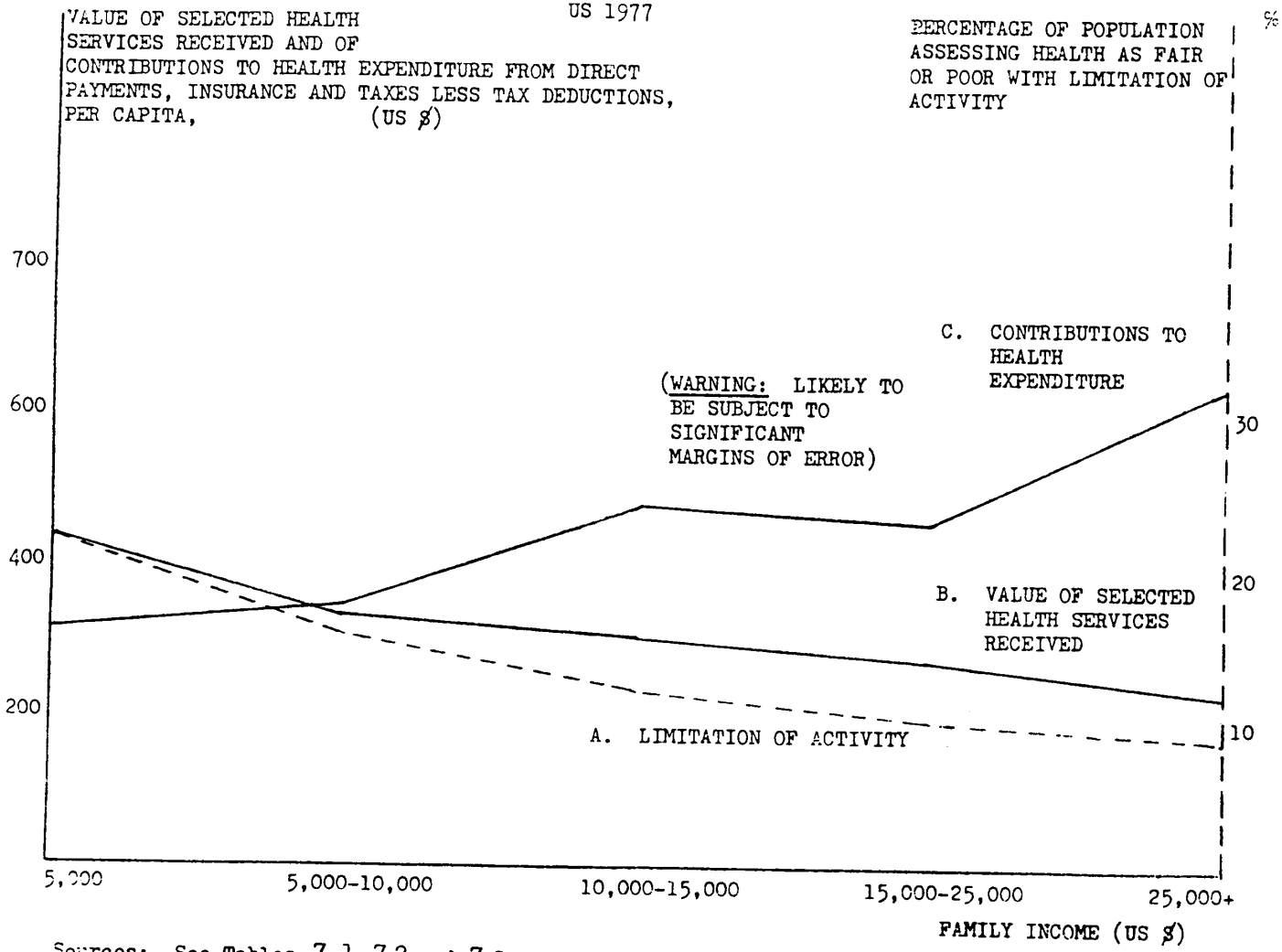
This CBO study suggests that tax deductions per tax unit rise 6-fold over the range of income from under $5,000 to $25,000 and over. No analysis of the numbers of persons per tax unit by income range could be identified. Instead, the distribution of persons per household by income group was scaled down by the ratio of households to tax units in 1977 to derive per capita employer contributions less tax deductions (see Table 7.3).

Finally, an estimate is required of the per capita distribution of public health expenditure, and hence of the tax burden associated with government support of health services across incomes groups. We assume that the burden of paying for public health services is pro rata to the burden of total taxation across income groups. A rough estimate of public expenditure on hospital and physicians' expenditure, excluding long-stay hospitals, was made and this sum was distributed across income groups using statistics on the distribution of income by household in 1977 and estimates of average combined Federal State and Local tax rates by income group for 1970 from Okner (1980). The results are tabulated in Table 7.3.

The three sets of estimates of payments for medical care were combined to provide a crude estimate of the overall variation of payment for health services in relation to income.

CHART 7.2

US 1977



Sources: See Tables 7.1, 7.2 and 7.3.

iv. Discussion

The summary Chart 7.2 depicts the information contained in Tables 7.1, 7.2 and 7.3. It suggests that, after age-adjustment of morbidity and use of health services, morbidity increases rather more steeply than use of health services as income declines. The use of restricted activity days as the measure of morbidity would provide a rather more favourable picture of use in relation to morbidity and the use of self-assessment of health as 'fair' or 'poor' would provide a considerable less favourable picture. It should be borne in mind that the 'equitable' use of hospital services tends to dominate the 'inequitable' use of physicians' services in this summary diagram. The payment schedule suggests that the poor pay heavily for their medical care in the US. Although the rich pay more, in absolute terms, for their medical care they pay considerably less than the poor, in proportional terms. In other words, payment for medical care in the US is distinctly regressive. This puts payment for medical care on a similar basis to payment for most other goods and services in the US economy.

7.2.2 CANADA

i. Variation in Health with Income

Canada does not have a regular health interview survey but a one-off survey was made in 1978 and a report was published in 1981 (THOC, 1981).

Individuals were questioned about curtailment of their activity in the two weeks preceding interview and about the main health problems causing such curtailment. Their answers to these questions have been used to compile Table 7.4 which shows prevalence (by family income) of the 10 most important conditions leading to health inactivity over the two week period. This Table suggests that individuals in poor families experienced about 50% more health problems (which prevented them from attending work, school or other occupations) than individuals in rich families. This profile has been used in the summary chart for Canada, below.

ii. Variation in Use of Health Services and Contributions to Health Expenditure with Income

The latest evidence on the distributional effects of National Health Insurance in Canada is to be found in Boulet and Henderson (1979). Earlier evidence is reviewed in Chapter 10, Section 3, below. Boulet and Henderson re-analysed the Statistics Canada data referred to in Chapter 10 and added an analysis of costs of medical and hospital services met from public funds across income groups. They found that, in per capita terms, individuals in the lowest quintile of family units, ranked by income, used nearly three times as many services

(by value) as individuals in the highest quintile. These figures are not age adjusted. As in the US, the gradient of use in favour of the poor was much steeper for hospital services than for physician services (Table 7.5). Per capita contributions to the cost of these services, via income tax and premium contributions (only) were heavily biased towards the rich (Table 7.6). Overall, Boulet and Henderson arrived at the conclusion that payment for services was distinctly progressive (Boulet and Henderson, Table 4.3). This analysis, however, excluded certain sources of funds, such as indirect and company taxes, which are likely to be regressive and, also, excluded the effect on the distribution of income of the benefits of government expenditure apart from health services. Their study also seems to exclude, both from the costs and benefits side of the analysis, nominal charges for some health services in certain Provinces, private expenditure on physicians' services and private expenditure on health insurance for greater hospital amenities. The effect of these payments is likely to be small but regressive.

TABLE 7.4

PREVALENCE[1] OF MAJOR[2] HEALTH PROBLEMS FOR INDIVIDUALS RANKED BY ECONOMIC FAMILY INCOME, CANADA 1978-79

Family Income	Number of Health Problems Reported, in Thousands
First quintile	3601
Second quintile	2373
Third quintile	2212
Fourth quintile	2159
Fifth quintile	2445

Notes:

1. Prevalence refers to existing conditions reported at the time of the interview and therefore includes both chronic and acute conditions.

2. 'Major' is defined as the first 10 conditions, ranked by the numbers of individuals reporting inactivity for health reasons, by condition, for the two weeks preceding interview (see Table 58, THOC, (1981).

Source: THOC (1981) Tables 58 and 59.

TABLE 7.5

DISTRIBUTION ON A PER CAPITA BASIS OF HEALTH CARE BENEFITS RECEIVED UNDER THE MEDICAL CARE AND HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC FAMILIES ORDERED BY TOTAL INCOME AND DIVIDED INTO QUINTILES

CANADA, 1974

Per capita benefits received under:	Family Unit Quintiles					
	First	Second	Third	Fourth	Fifth	Total
	(dollars)					
Medical care program						
- Out-patient	45.79	33.30	30.90	29.82	27.53	32.44
- Total	101.39	71.74	58.98	50.53	44.77	61.01
Hospital insurance program	242.77	169.67	122.83	90.30	75.66	125.21
Both programs	344.16	241.41	181.81	140.83	120.43	186.22

Source: Boulet and Henderson, 1979.

TABLE 7.6

DISTRIBUTION ON A PER CAPITA BASIS OF THE CONTRIBUTION TO THE MEDICAL CARE AND HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC FAMILIES ORDERED BY TOTAL INCOME AND DIVIDED INTO QUINTILES

CANADA, 1974[1]

Per capita contribution to:	Family Unit Quntiles					
	First	Second	Third	Fourth	Fifth	Total
	(dollars)					
Medical care program[2]	8.28	33.88	54.07	63.11	86.24	56.73
Hospital insurance program[3]	1.13	13.12	28.24	40.37	85.60	41.41
Both programs	9.41	47.00	82.41	103.48	171.84	98.14

1. Contributions were estimated from income tax and premium information and are based on family unit income and other characteristics from the Survey of Consumer Finances. For a description of the estimation, see the Appendix.

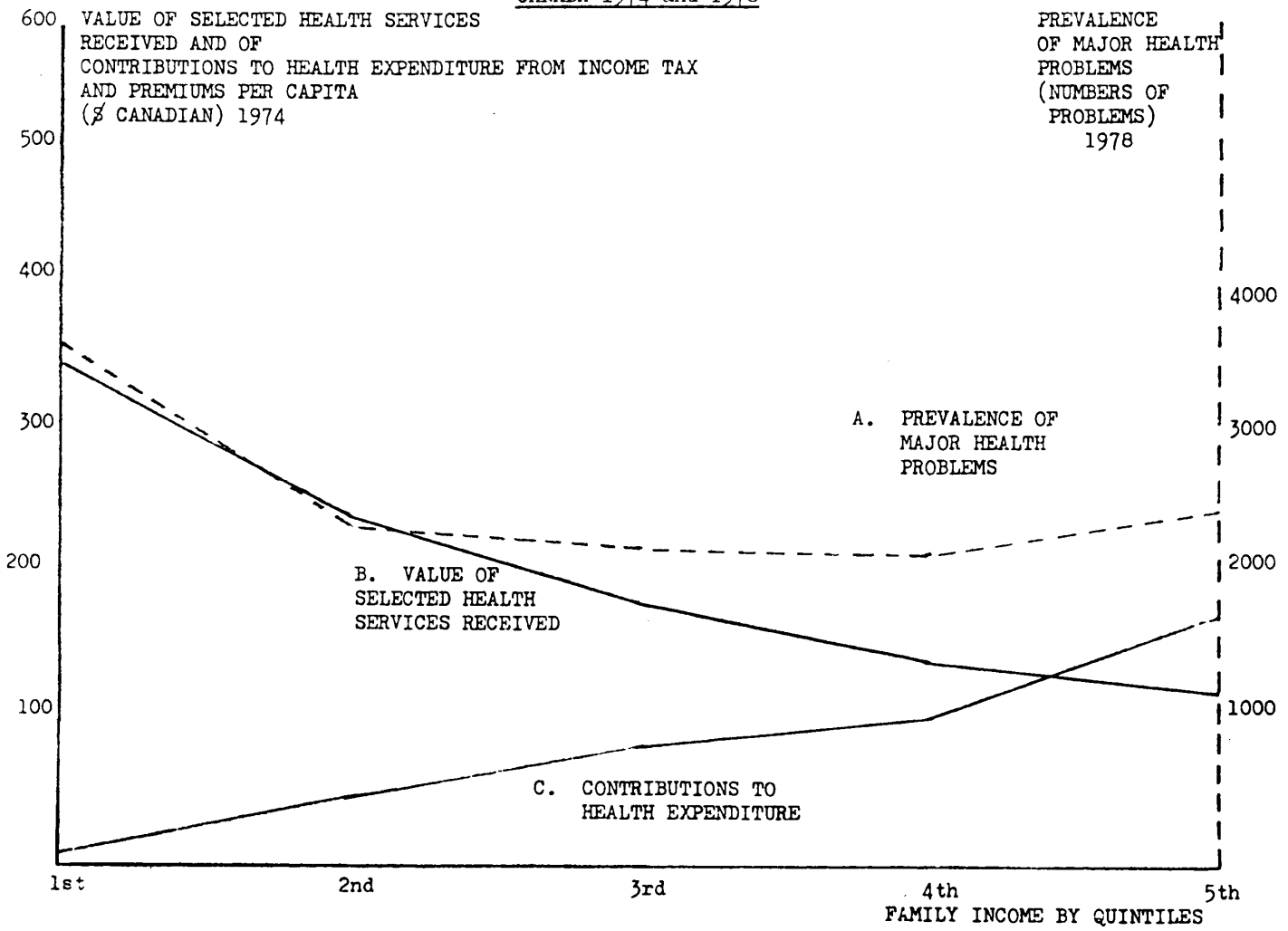
2. Through premiums or the Federal and Provincial income taxes on individuals, depending on the Province.

3. Through the Federal and Provincial income taxes on individuals.

Source: Boulet and Henderson, 1979.

CHART 7.3

CANADA 1974 and 1978



Sources: See tables 7.4, 7.5 and 7.6.

iii. Discussion

The evidence described above is brought together in Chart 7.3. This suggests that the gradient in the value of health services by lower income groups in Canada is steeper than the gradient in morbidity. This may be a result of the use of a particular measure of morbidity. Unfortunately, this is the only measure available at the time of writing. The burden of paying for services out of income tax and premium contributions falls more heavily on the rich. The combination of these two forms of payments is progressive. However, it should be pointed out that not all sources of finance for health services in Canada have been counted in the analysis. Despite these qualifications it seems certain that the Canadian method of paying for health services is considerably more progressive than the American method.

7.2.3 UK

There has been much debate in Britain about the distribution of health and the distribution of health services, culminating in the production of a Report by Sir Douglas Black (Black 1980). Most of the available data, and hence most of the debate, has been conducted around variations in health and use of health services by Social Class or Socio-Economic Group. For the sake of comparisons with North American countries, we have examined variations in health and use of health services with income rather than with social class. Data linking health, use of health services and income is available from the General Household Survey. Unfortunately, the quality of the measurement of income in the GHS is somewhat suspect. Accordingly, the results below should be interpreted with caution.

i. Variations in Health with Income

Black (1980) reviewed differentials in mortality and morbidity across Social Classes in Britain. He reported, for example, that age-standardised mortality in Social Class V (those with an unskilled occupation) in 1970/72 was about 70% higher than

TABLE 7.8

GREAT BRITAIN, 1976

Deciles of gross household income	Average No of GP consultations per adult in a 2 week period prior to interview	Average No of nights in hospital per adult in a 3 month period prior to interview	Average No of out-patient visits per adult in a 3 month prior to interview period
1st	.206	.717	.211
2nd	.193	.638	.202
3rd	.180	.581	.234
4th	.165	.360	.179
5th	.159	.285	.114
6th	.165	.230	.116
7th	.142	.206	.096
8th	.173	.199	.115
9th	.157	.257	.148
10th	.141	.222	.171

Source: Economic Advisers' Office, DHSS analysis of 1976 General Household Survey data.

iii. Variation in Contributions to Health Expenditure with income

Most of the cost of hospital and GP services in Britain is met from general taxation. The part of the National Insurance contribution specific to the NHS, accounts for less than 10% of the cost of the NHS, whereas National Insurance contributions as a whole represent about 15% of government revenue. There are no important charges for hospital or GP services in Britain. If we deem the burden of paying for NHS services to be pro rata to the total burden of taxation it follows that an analysis of the incidence of the main direct and indirect taxes across income groups gives a basis for imputing the cost of hospital and GP services to different income groups. Table 7.9 provides an estimate for 1976 of per capita contributions to the services

from direct and indirect taxes analysed across households grouped by income deciles. This is based on data prepared for the annual article in Economic Trends on the Distribution of Household Income (eg ET (January, 1982)).

TABLE 7.9

UK 1976

Deciles of Gross household income	Imputed contribution per capita to hospital and GP services from direct and indirect taxation UK, 1976
	£
1st	19.4
2nd	21.2
3rd	29.1
4th	38.2
5th	43.5
6th	51.4
7th	57.2
8th	66.8
9th	81.4
10th	105.8

Source: CSO analysis of 1976 data for ET (January, 1982).

Calculated in this way, payment for these health services is progressive. Household income rises about 4½ times between the second and ninth deciles whereas household tax contributions rose about seven-fold over this range. The analysis does not take account of various other sources of government finance (such as company taxation and the public sector borrowing requirement).

The Economic Trends article shows that the effect of all government taxes and subsidies on income distribution is roughly proportional to income. Depending on what assumptions we make, therefore, about the benefits and burdens of government expenditure in Britain, the effect of paying for health services on the distribution of income seems to be proportional to income or progressive.

age-standardised mortality in Social Class I (those with a professional occupation). Comparable adverse gradients were observed for self-reported chronic morbidity across social classes.

Table 7.7 shows the distribution of limiting long-standing illness across income deciles derived from a special analysis of the GHS for 1976.

TABLE 7.7

GREAT BRITAIN, 1976

Deciles of Gross Household Income	Rates per 1,000 reporting limiting long-standing illness
1st	231
2nd	337
3rd	315
4th	224
5th	166
6th	132
7th	123
8th	121
9th	119
10th	105

Source: Economic Advisers' Office, DHSS analysis of 1976 General Household Survey data.

Limiting long-standing illness (LSI) is over twice as high for the first decile and over three times as high for the second decile as for the tenth decile. It is possible that results for the lowest decile are affected by those who reported no income in the GHS. These persons have been excluded from Table 7.7 and the following analysis.

ii. Variation in Use of Health Services with Income

Stewart and Enterline (1961) showed that the introduction of the NHS in England increased the rates of consultation of the poor with GPs and reduced the rate of consultation of the rich. However, a number of subsequent studies suggested that the middle classes receive more than their fair share of any NHS services in relation to their health. Black (1980)

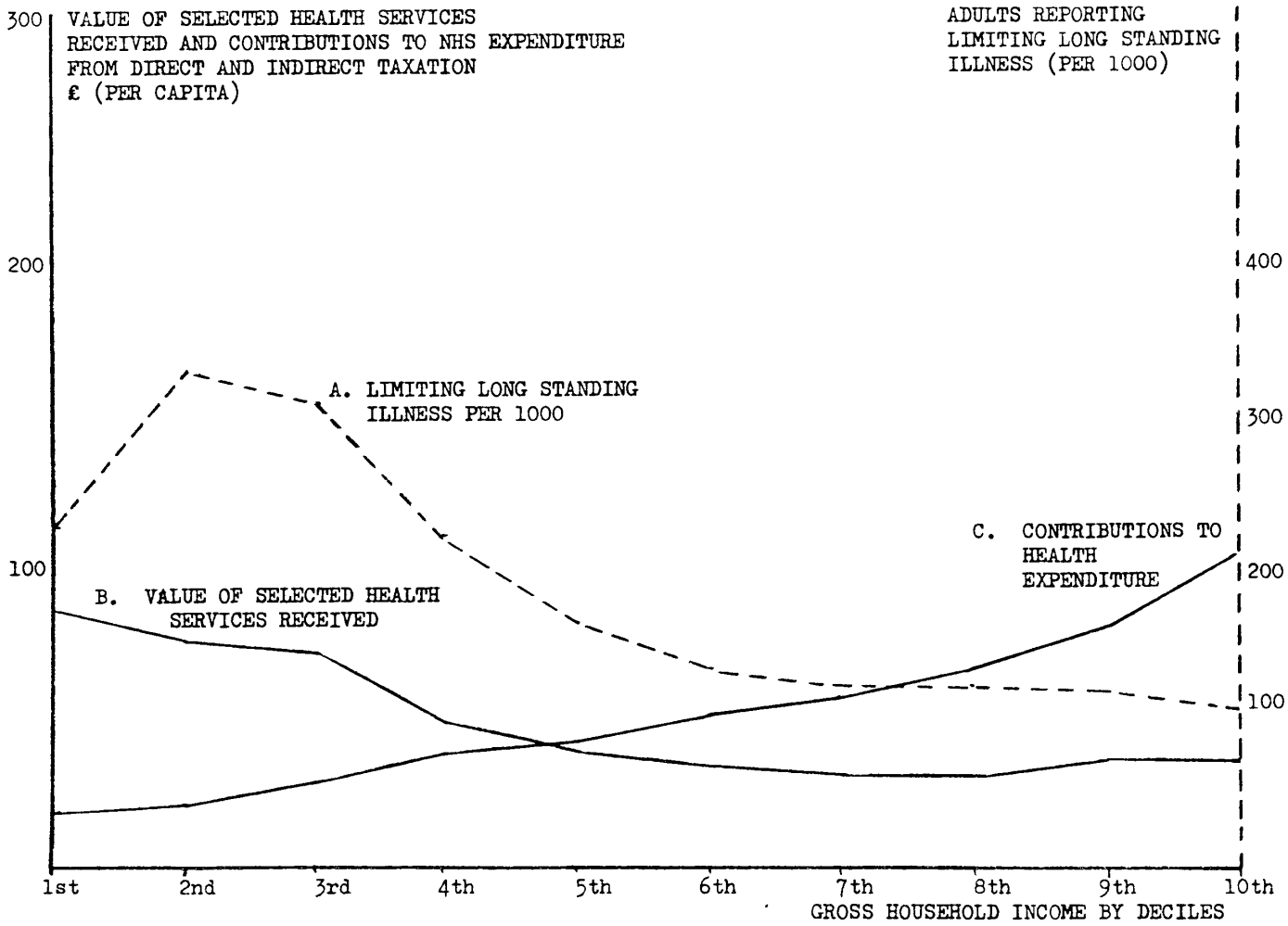
contains evidence of gradients in use of in-patient services, out-patient services and GP services by social class, all in favour of the lower social classes, but Le Grand (1981), relying mainly on 1972 GHS data, argued that favourable gradients in use of services by lower social classes are not sufficient to compensate for extra (self-reported) chronic and acute morbidity. However, more recent and, in some respects, more sophisticated analysis by Collins and Klein (1980) and the compilers of the GHS (GHS, 1977 Table 6.26) suggests that, "Britain's primary health care system does not speak with an upper-class accent" (Collins and Klein, op cit). This debate cannot be considered closed.

So far as dental services are concerned, Black (1980) reports that visits to dentists were twice as high for children with parents in Social Class I as for children with parents in Social Class V. On preventive services, he reports steep gradients, in favour of women in Social Class I over Social Class V, for take-up of cervical cytology and ante-natal care. These findings resemble those from the US, Dental and preventive services are subsidised and free of charge, respectively, in Britain and it seems likely that, in both countries, attitudes and education may have something to do with differential use by income groups and social class.

So far as variations in use of health services with income are concerned, only 1976 GHS data was available for this study. Table 7.8 shows, by decile of gross household income: average number of GP consultations per adult; average number of nights in hospital per adult; and average number of out-patient visits per adult. These data suggest that, as in the US and Canada, there are steeper gradients in favour of the poor in the use of hospital services than in the use of GP and out-patient services. These figures have been valued by unit costs derived from the data in Table 6.4 and aggregated for use in the summary chart below.

CHART 7.4

UK 1976



Sources: see tables 7.7, 7.8 and 7.9

iv. Discussion

Chart 7.4 summarises the data in Tables 7.6, 7.7 and 7.8. The fluctuations in Long-Standing Illness for the first three income deciles make it difficult to decide whether the gradient for use of health services is more or less steep than the gradient in LSI. Averaging both morbidity and use over the first three deciles, suggests that the extra use of health services by the poor falls somewhat short of their extra morbidity. However, more sophisticated analysis of the GHS may give a different answer, judging by the story it tells about equity measured across social class (see Section (ii), above). On the assumptions adopted above, variation in payment for the NHS across income groups is progressive. The UK seems to resemble Canada, rather than the US, in the distribution of payments for health services.

7.2.4 Comparison Between the US, Canada and the UK

It seems possible to draw together certain conclusions although, in addition to the various doubts that have been outlined above about the reliability of the data, comparisons between the three countries are hampered by the fact that, for the US, some data were available only on an age-adjusted basis and income was measured in absolute amounts rather than in quintiles or deciles.

- All three countries display major inequities in health across income groups, judging by self-reported chronic illness.

- In all three countries, use of hospital and physician services is higher for the poor than for the rich and, in all three,the gradients in favour of the poor are steeper for hospital services than for physicians' services. In all three countries, extra hospital use is as great as, or greater than, extra morbidity for the poor. In the US, the extra use of physician services by the poor seems to be insufficient to

compensate for their extra morbidity. However, it is not clear whether the poor are denied 'necessary' or 'unnecessary' care. Superficially, use of physician services in the UK also seems to be inequitable when analysed by household income but this conclusion may require revision, judging by more sophisticated analysis, done on data by social class.

- In the US and the UK, dental and preventive services are distributed inequitably (UK data, here, is available only by social class).

- On the basis of an admittedly shaky analysis of payment for health services, the burden of contributions appears to be distinctly regressive in the US and seems to be either progressive or proportional to income in Canada and the UK. It may be concluded, tentatively, that health services are not an agent of income redistribution to such a degree in the US as in the UK and Canada.

All these conclusions are subject to revision in the wake of further work using better data.

7.3 Geographical Equity

7.3.1 The Determinants of the Geographical Distribution of Health Spending and the Definition of Geographical Equity

All three countries in the study have shown concern about geographical equity in the distribution of health services and all three countries have policies for improving the availability of health services, especially those supplied by physicians in rural and deprived areas. The aim in the remainder of this chapter, is to look at the distribution of health expenditure per capita by major sub-divisions of each country: by States in the US, by Provinces in Canada and by Regional Health Authorities (RHAs) in England. These sub-divisions have populations of reasonably comparable size. In 1977 the population

of the average State was about 4.3 million, that of the average Province was about 2.3 million and that of the average RHA was 3.3 million.

In a country with only private out-of-pocket spending on health services, or only local government finance for health services, we would expect the regional distribution of health expenditure per capita to depend mainly on regional income per capita (or fiscal capacity), regional prices and regional tastes or need. We would expect the last variable to be highly correlated with morbidity which would itself depend largely on the age structure of the population.

In a country which relied solely on central financing of health services and which provided comprehensive care "free" of charge to citizens on demand (from, say, a central insurance fund) we would expect the regional distribution of health expenditure per capita to depend mainly on regional need, and hence on regional morbidity, and on tastes.

None of the three countries concerned fits either of these extremes. In the US, Table 2.1 shows that over 70% of health expenditure is financed either privately or by State and local government. This suggests a basis for considerable geographical inequities in health service provision. However, much of the remaining 30% of health expenditure is through Medicare and Medicaid and the bulk of this should be responsive to geographical differences in need, despite the fact that Ruther and Dobson (1981) provide evidence of racial and geographical inequities in Medicare.

In Canada, about 62% of health spending is financed either privately or by Provincial governments. The remainder is provided by the Federal Government but it is transferred to Provincial governments approximately in proportion to crude Provincial population. From 1981/82 it will be transferred to Provincial governments exactly in proportion to crude Provincial population. No allowance is made for per capita variations in need or morbidity.

In the UK, the bulk of spending on health services is channelled through Central Government revenues and is distributed first to the four constituent parts of the UK (which have their own spending ministries for health services) and thereafter to various Regional or District Health Authorities. Health Authorities receive block budgets, not funds in response to individual insurance claims. So far as England was concerned, during the first two decades of the NHS, allocations to Regional Health Authorities within England broadly followed the inequitable pattern inherited in 1948, prior to which local funding had predominated. Rather faltering steps were taken to move towards a more equitable distribution of funds from the early days of the NHS, but it was not until the Resource Allocation Working Party (RAWP) was set up in 1975 that a formula for basing allocation squarely on need was devised.

"Need" for current expenditure in the RAWP formula is measured mainly by the size and age structure of a Region's population weighted by a series of national age/sex specific utilisation rates for blocks of services such as non-psychiatric in-patient bed use, community health service expenditure, etc. (RAWP, 1976.) In addition, for four blocks of services, "need" is adjusted in proportion to age-standardised mortality in the Region, as a proxy for age-specific morbidity. The combination of age/sex weighting and weighting by age-standardised mortality means that for a large part of expenditure, "need" is judged to be roughly proportional to Regional crude mortality. This conclusion is modified to some degree by allowing for further factors such as cross-boundary flows of patients, Regional price differences and teaching hospital costs. There is a separate formula for capital expenditure which assesses "need" mainly on the basis of the weighted population, described above, but also allows, during a transition period, for differences in initial Regional capital stock. Both the revenue formula and the capital formula define target shares towards which Regions should move. Actual allocations and target allocations differed sharply for many Regions when the RAWP formula was first calculated, and it was decided that only gradual progress could be made in moving Regions towards their targets. For this reason, an analysis of Regional variations in health spending in England, at the time of

writing, still reflects the influence of factors other than need on health spending. Scotland, Wales and Northern Ireland adopted RAWP-style formulae about the same time as England.

The main conclusion that emerges from this description of the RAWP formula is that it contains the judgement that much of "need" for health services is correlated with crude mortality. The analysis which follows adopts, broadly speaking, a RAWP approach to measuring geographical equity. This is done by investigating the correlation between health expenditure per capita and crude mortality rates across US States, Canadian Provinces and English Regional Health Authorities (RHAs). The approach taken to equity in this part of Chapter 7 resembles the approach adopted in the last part, except that mortality is used as a proxy for morbidity.

In looking at the association between health spending and mortality it is interesting to look, at the same time, at the association between health spending and per capita income, since the latter seems to dominate both between and within countries. This can be done by regressing per capita health spending on crude mortality and per capita income. There is almost certainly simultaneous causation between these three variables. Not only may per capita health spending depend positively on mortality and per capita income but mortality may depend, positively or negatively, on per capita income (the evidence varies between rich and poor countries) and negatively on per capita health spending (for the last association see Hadley, 1981). These inter-dependencies have not been explored in what follows. The intention is only to examine crude associations, treating per capita health spending as a dependent variable.

7.3.2 Empirical Results

Information on crude death rates and income per capita was readily available for all three countries but information on health spending per capita could not be obtained in comparable form at the time the analysis was performed. For the US, only hospital current spending per capita was available. This excludes most physicians' costs.

For Canada, only total health spending per capita was available. For England, total current spending on hospital and community health services per capita (this excludes the family practitioner services) was used in the analysis, since this is the spending entity to which the current part of the RAWP formula is applied. Finally, at the end of this section, some information on total health spending for the constituent parts of the UK is presented.

Table 7.10 shows the extent to which health spending per capita, crude death rates and income per capita varied in each country. The measure of variation is the co-efficient of variation (the standard deviation as a proportion of the mean). The Table suggests that the US experiences more variability in these variables than either Canada or Britain, with the exception of income per capita, where Canada is in the lead. This is not surprising, in view of the size of the US, and its heterogeneity (particularly the heterogeneity in the population of States). England and Canada had similar variability in health spending per capita at the end of the 1970s but if RAWP targets had been attained in 1979/80 England would have had considerably smaller variability than Canada.

TABLE 7.10

CO-EFFICIENTS OF VARIATION IN HEALTH SPENDING, DEATH RATES AND INCOME PER CAPITA ACROSS US, STATES, CANADIAN PROVINCES AND ENGLISH RHAs

	US 1979	Canada 1977	England 1979/80
Actual Health Spending Per Capita	0.18[1]	0.12[2]	0.12[3]
Target Health Spending Per Capita	-	-	0.07[3]
Crude Death Rate	0.15	0.13	0.09
Income Per Capita	0.13	0.18	0.10

Notes: 1. Current hospital expenditure per capita.
2. Total health expenditure per capita.
3. Current expenditure on hospital and community health services per capita.

Sources: US: SAUS (1980); AHA (1980).
Canada: Medical Economics Section, Health Information Division, Health and Welfare Canada, July 1981 (health expenditure data); VS, 1977; NIEA, 1965-1979.
England: Data from Branch FB2B, DHSS; MS 1979: and ET (November, 1981).

Table 7.11 shows simple correlation rates between per capita health spending and crude mortality. The US and England display low but positive correlations between these variables. Canada displays a virtual absence of any correlation between them. This suggests that, although per capita health spending varies less between Canadian Provinces than American States, the variation which occurs in the US tends to be associated with "need" to a greater extent than in Canada. The low correlation between actual health spending per capita and crude mortality in England is consistent with the fact that relatively modest progress had been made towards RAWP targets by 1979/80; if RAWP targets had been achieved in 1979/80, there would have been a sharp rise in this correlation although it would not have reached 1.0 because of other factors in the RAWP formula. Chart 7.5 shows, in scatter diagram form, actual health spending, target health spending and crude mortality for the 14 RHAs in England in 1979/80. Target levels of health expenditure for the Mersey, Northern and North Western Regions are high because standardised mortality is high for these Regions.

TABLE 7.11

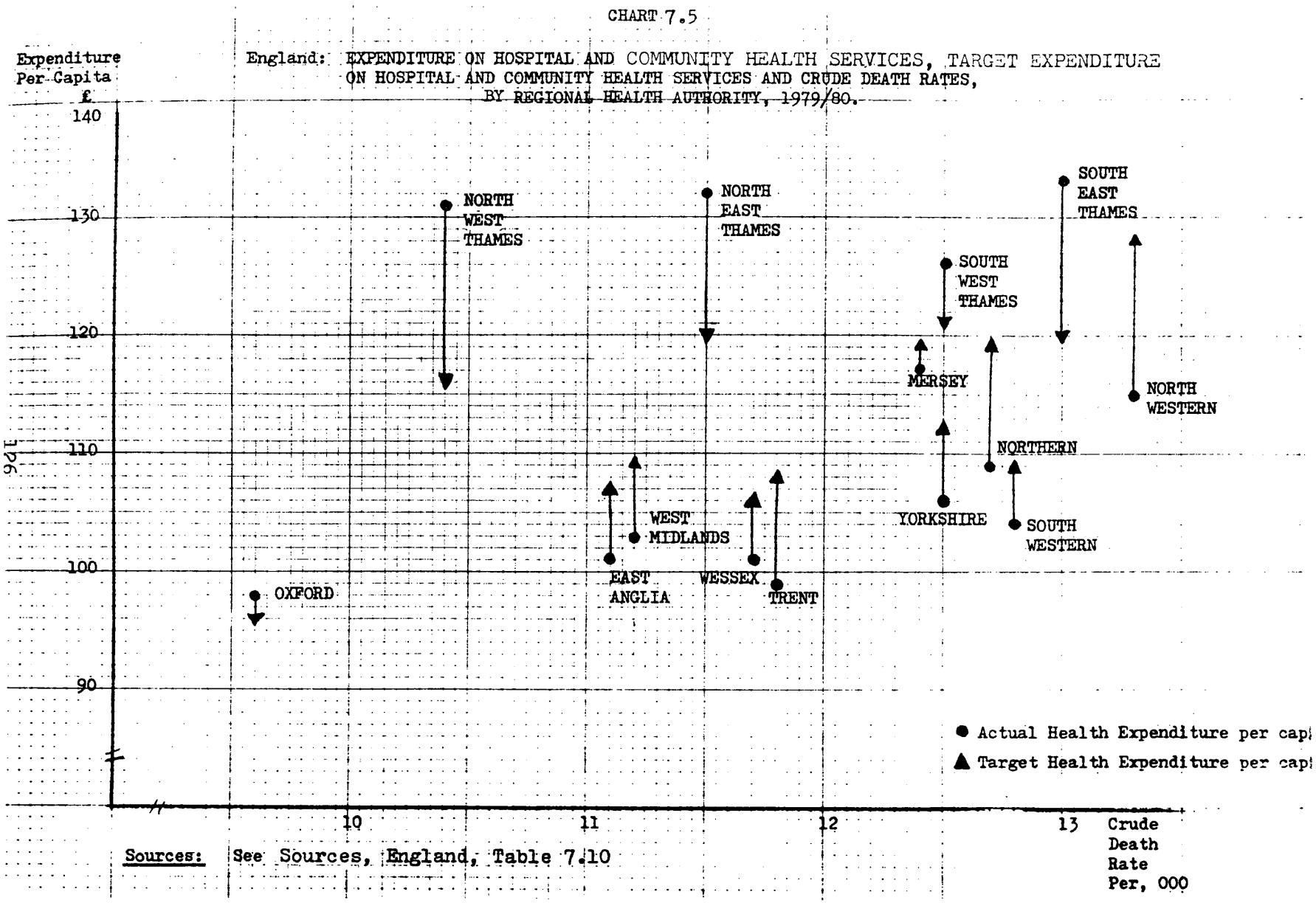
CORRELATION RATES BETWEEN PER CAPITA HEALTH EXPENDITURE[1] ABD CRUDE MORTALITY RATES BY US STATES, CANADIAN PROVINCES AND ENGLISH RHAs

US	0.23
Canada	-0.06
England (actual health spending)	0.22
England (target health spending)	0.68

Note: 1. See notes to Table 7.10.
Sources: See Table 7.10.

Table 7.12 shows the results of regressing per capita health spending on crude mortality and income per capita. A logarithmic form of the regression equation was chosen, which means that the co-efficients can be interpreted as elasticities. The figures in brackets are t statistics. A 1% change in mortality is associated with an 0.5% change in per capita health spending in the US and an 0.7% change in England.

CHART 7.5



Sources: See Sources, England, Table 7.10

In keeping with the correlation results, there is no significant association between health spending and mortality in Canada. Per capita income has a strong and significant impact in actual health spending in all three countries with elasticities ranging from 0.6 in Canada to 1.2 in England. It should be mentioned, here, that examination of the scatter diagram for England suggests that this is almost entirely a London effect: the four Thames Regions have substantially higher per capita health spending and per capita income than the rest of the country. The regression equations (according to the r^2 statistic) explain 38% of the variation in per capita health spending in the US, 90% of the variation in Canada and 84% of the variation in England. In the case of target health spending for England, the association with mortality is similar to that in the equation for actual health spending but the association with income drops sharply, although it remains statistically significant. This is presumably the result of extra teaching hospitals and higher prices in London.

TABLE 7.12

REGRESSION OF HEALTH EXPENDITURE[1] PER CAPITA ON CRUDE DEATH RATES AND INCOME PER CAPITA, BY US STATES, CANADIAN PROVINCES AND ENGLISH REGIONAL HEALTH AUTHORITIES

	US	Canada	England (actual health expenditure)	England (target health expenditure)
	1979	1977	1979/80	1979/80
Constant	-3.32	0.77	-6.42	-0.40
	(1.93)	(1.16)	(4.43)	(0.31)
Log Death Rate	0.46	0.07	0.71	0.70
	(3.50)	(0.80)	(4.46)	(5.01)
Log Income	0.90	0.63	1.17	0.42
	(5.09)	(8.92)	(7.43)	(3.04)
R^2	0.38	0.90	0.84	0.71

Notes: 1. See notes to Table 7.10.
2. Figures in brackets are t statistics.

Sources: See Table 7.10.

So far, for the UK, we have considered only geographical variations in health spending within England. Do the conclusions for England hold good for the constituent parts of the UK? Table 7.13 contains information on total health spending per capita, crude death rates and income per capita for the four constituent parts of the UK. There seems to be no clear association between health spending per capita and death rates but there are signs of an inverse association between health spending per capita and per capita income. This probably reflects a tendency for central government to direct public spending towards relatively deprived parts of the UK. There has been some consideration recently of whether these variations in spending on health correspond with "need". The authors of the Needs Assessment Study (NASR, 1979) used a formula resembling the English RAWP formula to consider this question. If standardised mortality is given a weighting of one in the NASR formula (as in RAWP) the formula suggests that England is below target, Wales is approximately on target and Scotland and Northern Ireland are above target. However, if the weighting for mortality is increased to three, then Wales, Scotland and Northern Ireland are all somewhat below target.

TABLE 7.13

	Health Expenditure Per Capita 1978/79 £	Crude Death Rate 1978	Personal Income Per Capita 1978 £
England	131[1]	11.8	2613
Wales	140[1]	13.0	2367
Scotland	159[1]	12.6	2444
N Ireland	163[2]	10.5	2042

Notes:

1. Hospital and community health services and family practitioner services.

2. Headquarters and district administration, hospital and practitioner services, health centres, health clinics, health visitors, home nurses, miscellaneous health care services, laboratories, mass radiography, and capital expenditure (the first and last items on this list include expenditure on the personal social services).

Sources: RT, 1981; HPSS NI, 1979; ET, November 1981.

7.3.3 Conclusion to Section b

- Variations in per capita health spending were greater between US States at the end of the 1970s than between Canadian Provinces or English RHAs.

- Taking crude mortality rates as a rough indicator of "need", data for the US and England display a weak association between per capita health spending and "need" and Canada showed no association.

- The main explanation of per capita variations in health spending between 'regions' in the US, Canada and England was per capita income. However, for the constituent parts of the UK (as opposed to RHAs within England) an inverse association between health spending per capita and income was observed.

- If RAWP targets had been attained in England at the end of the 1970s, there would have been a much higher correlation between health spending per capita and crude mortality and a weaker association between per capita health spending and per capita income than in the US. England is, of course, making gradual progress towards these targets at the time of writing.

CHAPTER 8

RESEARCH ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN THE US

This chapter is devoted to a selective survey of the literature on the different health care financing mechanisms which exist side-by-side in the US. The chapter is organised into two main sections which deal, respectively, with the effects of financing mechanisms on efficiency and equity.

Although the US literature on this complex topic is the most extensive in the world, it still leaves questions unanswered because of the multivariate nature of the problem, the difficulty of conducting controlled trials and the absence of simple and reliable measures of health care outcome. Despite this, some important findings have been made which provide lessons for other countries.

8.1 The Effect of Financing Mechanisms on Efficiency

Does a Cost Containment Problem Exist in the US?

8.1.1 There is widespread agreement among American health care analysts and policy makers, both to the Right and Left of the political spectrum, that cost containment is the main problem facing the American health care system at the beginning of the 1980s. In 1979 the Brookings Institution reported that, "A feeling verging on panic is spreading that the health budget, public and private, is out of control" (Aaron, 1979). Little has changed since then. But what is the evidence that the rate of growth of spending is excessive and that, by implication, there is unnecessary medical care?

We have already seen, in Chapter 5, that the US share of GDP expended on medical care increased from 5% to nearly 10% in 1978. Also, the volume of health services per capita rose more than three-fold. This was a considerably faster rate of growth of real medical care expenditure than in the UK, despite similar overall economic growth in the two countries. Such figures do not demonstrate conclusively that the growth of medical expenditure in the US was too high. There might have been a high income-elasticity of demand for health services in both countries which was thwarted by government financing of health

services in the UK. Alternatively, the US might have had different priorities from the UK, perhaps because income per capita was about 60% higher in the US than in the UK throughout the period.

In an analysis of the rise in hospital costs, Feldstein and Taylor (1981) have shown that average cost per patient day in American hospitals rose 6.1% faster than general inflation, measured by the Consumer Price Index, between 1955 and 1975. About 75% of the relative rise in medical care prices was due to increasing volume of inputs per patient day and about 25% was due to hospital input prices increasing faster than general inflation. Feldstein and Taylor concluded that the nature of the hospital product changed markedly over this 20-year period, in response to demands from patients and doctors. These demands were fuelled by a reduction from nearly 50% in direct consumer spending per patient day in 1950 to only 12% in 1975. Although the cost of producing hospital care rose dramatically over this period, the real cost, net of third party payments, to the patient hardly changed at all. Feldstein and Taylor conclude by asking, "... if this rise (in hospital costs) reflects a change in product rather than an increase in efficiency or a lower rate of technical progress or unjustified increase in profit margins or wages, why is it really a problem? The answer in brief ... is that the current type of costly medical care does not really correspond to what consumers or their physicians would regard as being appropriate if their choices were not distorted by insurance". In other words, they appeal to an indirect argument to establish that consumption of medical care is excessive.

Is there more direct evidence on unnecessary care? We have already seen that the US seems to consume more pathology tests, more CAT scans and more surgery per capita than the UK. In general, the intensity of care is much higher in the US than in the UK. One of these topics can be selected for closer examination. Perhaps the best investigated of these topics is 'unnecessary' surgery.

Bunker (1970) observed that there were twice as many surgeons in proportion to population in the US as in England and Wales and they performed twice as many operations. He argued that, '... it seems likely that some unnecessary surgery is being performed (in the US)". Gittelsohn and Wennberg (1977) demonstrated two-fold variations in surgery rates between small areas of Vermont, seemingly unrelated to variations in morbidity. A number of authors have pointed to the not insignificant death rate which is associated with the elective part of this extra surgery: about 0.5% of cases on average (Roemer, 1981). There is firm evidence that surgeons can induce demand for their services (Mitchell and Cromwell, 1981). Bunker and Brown (1974), however, have conducted research which indicates that operation rates are as high, or higher, for physicians and their spouses in California as for comparable professional groups. Clearly, the American medical profession believes in the efficacy of the services provided by surgeons.

There is an extensive literature on second opinions for surgery. For example, two recent studies have shown that in 16% and 14.5% of cases, respectively, patients recommended for surgery received non-confirmation of surgery when a second opinion was sought. In both cases, large samples of patients were studied (Ruchlin, et al, 1982 and Martin et al, 1982). This does not establish, however, that the rate of unnecessary surgery is around 15% in the US. In one of these studies a third opinion was sought on patients not recommended for surgery. 65% of these patients were re-recommended for surgery on a third opinion. Both the second and third opinions may have included, unnecessary recommendations. As early as 1934, a study of 1,000 children referred to school physicians for tonsillectomy in New York revealed that 600 had already had tonsillectomy. Of the remainder, physicians recommended that 45% receive operations. The remaining children were examined by another group of physicians who recommended 46% for surgery. A third examination by still another group of physicians led to 44% of the remaining children being recommended for tonsillectomy. By this time there were only 65 children out of the original 1,000 who had not either received surgery or been recommended for surgery (Bakwin, 1945). One explanation of these phenomena stresses professional uncertainty about the value of therapy

(Wennberg, Barnes and Zubkoff, 1982). Another explanation (mainly by health economists) stresses the effect of financial incentives on surgeons (Mitchell and Cromwell, 1981).

Unfortunately, there seem to have been few, if any, randomised controlled trials on the objective impact of surgery on health in the US. It is hard to escape the conclusion that the evidence about unnecessary medicine is mainly, if not entirely, circumstantial. It is more a widespread expression of belief, than an established fact, that the US is consuming excessive medical care.

Causes Adduced for the 'Excessive' Growth of Expenditure on Medical Care

8.1.2 Although it has proved difficult to produce conclusive evidence that America is consuming excessive health care, this has not prevented analysts from arriving at some agreement on the list of causal influences likely to be implicated in America's health care cost explosion. Current analysis of rising health care costs (eg Helms, 1978 and Enthoven, 1980) implicates the following likely causal factors.

i. Rising real income, new products and adverse demographic trends provide a 'legitimate'basis for rising real health expenditure.

ii. Over and above this, the widespread use of private and public health insurance erodes the incentives for either doctors or patients to economise. Under the prevailing fee-for-service system of physician remuneration, doctors have every incentive to supply additional care knowing that the patient will not have to meet the financial consequences. Depending on the extent of co-payment and deductibles (the effects of which are discussed in Section 8.1.4 below) the patient has little incentive to restrain demand or to shop around for efficient sources of care. The following table is suggestive about the link between the extent of insurance coverage for particular health services and the rate of rise of prices of these services.

US, 1949-75

	Average annual % increase in price	Average % of bill covered by third parties
Hospital	8.66	82.3
Physicians	4.09	38.7
Dental	3.52	3.3
Drugs	0.94	4.4
Overall price index	2.83	

Source: J P Newhouse, 1978.

There was, moreover, a marked rise in the rate of increase of health care costs after the introduction of Medicare and Medicaid in the mid-1960s.

iii. Open-ended tax subsidies are blamed for causing over-insurance. All employer contributions to health insurance are deductible at marginal rates of tax from taxable income. So is half the cost of individual contributions to health insurance up to a ceiling of $150. These arrangements, it is alleged, lead not only to over insurance, particularly to the acquisition of shallow 'first dollar' coverage but also discourage consumers from shopping around for more efficient methods of financing medical care.

iv. Tax deductions have also helped to bring about domination of the market for private insurance by employer schemes. These are said to stifle individual choice and cost consciousness. Insurance premiums become 'just another deduction from the pay packet'.

v. Although employers pay for much health insurance, they seem unwilling to exert pressure against premium increases. Some firms are voicing increasing concern about the cost of health insurance and a number are joining 'buyers coalitions' but, for most, the cost of health insurance seems to be too small to attract much management attention. Also,

a recent survey indicated that firms were reluctant to antagonise workers by reducing the quality of health insurance benefits (Sapolsky et al, 1981).

vi. Conventional (arms-length) insurance organisations have had little success in restraining the rate of increase of health care costs. Blue Cross (and Medicare) usually pay hospitals retrospectively for the costs they have incurred. This means that if $1 is added to costs Blue Cross tends to pay $1 extra. Commercial insurers pay pay charges and seem to have had little success in keeping these down. They tend to rely on significant co-payments, deductibles and exclusions to keep down outgoings. Costs that are refused by one set of third party payers may be passed on to another set. Moreover, hospitals have shown themselves to be adept at finding ways round cost containment devices aimed at only part of their operations. For example, under pressure to keep down their daily rates they 'unbundle' charges: that is they start charging extra for items such as minor prescriptions which were formerly covered by the basic room charge.

Goldberg and Greenberg (1977) have shown how various attempts by American health insurance organisations (including early versions of HMOs) to restrain the quantity or cost of physicians' services were defeated by physician boycotts, or the threat of boycotts. Where fee-for-service prevails, cost restraint by individual insurers tends to involve querying the clinical activities of physicians. This is resisted relatively easily as an interference in clinical freedom, especially where insurers are in competition. Insurance organisations have had more success in challenging dentists in the US, perhaps because in dentistry there is less ambiguity about the indications for treatment and its outcome (Greenberg, 1982).

vii. Although there is extensive competition among insurers and providers, such competition tends to focus on quality rather than price. That is to say, it tends to increase costs rather than to reduce them. For example, to maintain occupancy

rates, hospitals may have to compete to attract physicians by acquiring more lavish equipment and facilities. Insurers seem to compete as much on coverage or efficiency of administration as on overall premium rates. Even HMOs, it could be said, compete on the extent of their coverage and other aspects of quality. They tend to charge premiums similar to fairly comprehensive Blue Cross packages. It is true that there are exceptions. For example, hospitals have been increasingly threatened by free-standing day surgery centres and free-standing emergency care centres in many cities. So far, however, such developments seem to have had little impact on the overall rate of increase of health expenditure.

viii. There is now firm econometric evidence to support the widespread assumption that physicians can induce demand. A cross-section study, using a five-equation simultaneous model (Mitchell and Cromwell, 1981), has shown that the number of surgeons in the US is associated both with an increased volume of surgery and with increased levels of fees for surgery. This is entirely consistent with the hypothesis that surgeons can shift the demand curve for surgery outwards. A mere correlation between the number of surgeons and surgery rates is quite consistent with a move along a given demand curve and is not evidence of inducement per se. This evidence raises questions about America's rapidly rising supply of physicians (Ginzberg et al, 1981).

ix. The growth of medical technology is frequently identified as a likely cause of the increase in America's health care costs. It is plain that the US health sector has invested heavily in new technology but it is difficult to decide whether this has induced demand or has been, rather, the result of permissive financing mechanisms.

x. Rising litigation over medical care has driven doctors to practice defensive medicine increasingly.

xi. Finally, there are well-known monpoly elements and barriers to entry on the supply side. Many of the regulations governing medical and other health care professional practice act as restraints on trade. Licensure of the health care professions and ethical codes restricting price competition and advertising all help to raise barriers to entry. Legal restrictions on the paramedical professions help to maintain the medical monopoly. The links between Blue Cross and hospitals and between Blue Shield and physician associations can be regarded as possessing collusive aspects. Some American economists consider that regulations are the main source of excessive expenditure on medical care (Goodman, 1980). Whether these factors would account for excessive growth in health expenditure is debateable, however.

Although the above factors have all been singled out on numerous occasions for blame in connection with the rapid growth of health expenditure in the US, there is little or no agreement on the relative importance of these factors or whether they act separately or in conjunction. It would seem likely that the permissiveness of financing on the demand side acts in harmony with the ability of physicians to expand demand, especially when physician numbers are increasing, and changing medical technology is providing the basis for expansion. Many analysts, however, would put the main blame on America's heavy reliance on relatively open-ended, third party insurance programmes in financing health care.

The Effectiveness of Government Regulations in Containing Costs

8.1.3 In Chapter 2 we described various Federal and State devices aimed at restraining the rate of increase of medical costs, such as Professional Standards Review Organisations (PSROs), Health Planning and Certificates of Need (CON) and prospective budgeting. We also referred to Federal Trade Commission (FTC) attempts to stimulate competition in the health sector. In this section, we review research on the effectiveness of such government attempts to restrain the growth and/or level of medical care costs.

PSROs attempt both to restrain costs and to increase the quality of care by reviewing records of patient treatment under Medicare and

Medicaid. Health Planning, or more specifically CON regulations, are aimed at reducing duplication of hospital facilities. They require that State-designated agencies approve the construction of new hospitals and other large hospital capital developments. Prospective reimbursement entails the setting by some external authority of hospital reimbursement rates or total expenditure in advance. This leaves the hospital at risk for any differences between revenue and costs.

A good many studies have now been done on the costs and effectiveness of these three mechanisms. Examination of PSROs by both the Health Care Financing Administration and the Congressional Budget Office suggests that PSROs do, in most parts of the US, cut hospital lengths of stay. There is disagreement, however, on whether the programme has been cost-effective. On average, the dollar costs of PSROs may have outweighed the dollar benefits, although this does not allow for the value of any improvements in quality brought about by PSROs. CON seems to have been equally ineffective. Salkever and Bice (1976) have shown that in the later 1960s and early 1970s CON programmes did not reduce total investment in hospitals. The growth of bed numbers was restrained but capital expenditure was shifted to other purposes. It seems that there are many ways that CON regulations can be circumvented and it has been suggested that such regulations may have perverse effects, for example by discouraging the withdrawal of spare capacity so that licenses will not be lost, and by blocking competitive changes (for example the acquisition of beds by HMOs) which might be cost-reducing if allowed to go ahead.

It is only prospective reimbursement that seems to have had the desired effect. Sloan (1981) provides econometric evidence that mature, prospective reimbursement schemes in 8 States have succeeded in restraining costs by 3-4% per annum compared with no restraint at all, whereas CON regulations have failed. Schwartz (1981) reports that during 1979 a group of hospitals in Rochester NY, was held to a growth of expenditure of 9%. This was less than the New York State average and far below the national average. That such experiments have been effective will be of no surprise to health service administrators used to working within budgetary

regimes for hospitals in either Canada or the UK. Although prospective reimbursement is a cheap form of regulation, it may have a high political cost in the US if it forces some hospitals into bankruptcy.

Turning to Government attempts to strengthen rather than replace markets, there has been cross section research on, for example, the effects of varying State regulations, especially prohibitions on advertising, on optometry (eye testing) and the price of eye glasses. Benham (1972) showed, by making inter-State comparisons, that professional regulations, such as advertising restrictions, raised the price of spectacles significantly. Begun and Feldman (1981) showed that regulations did raise quality somewhat, but consumers did not value this extra quality as much as its cost. They estimate that high prices led to a transfer of wealth from consumers to providers of $140 million annually and reduced consumption of optical goods, especially for the poor. Following the Supreme Court ruling in 1975, laying to rest exemption of the learned professions from anti-trust laws, the Federal Trade Commission (in 1978) promulgated rules pre-empting State or professional restrictions on advertising. Since then, there has been increased advertising by optometrists accompanied by lower prices and increases in sales of eye glasses.

The Potential Effectiveness of Cost Sharing by Consumers in Containing Costs (and the RAND health insurance experiment)

8.1.4 We shall see in Chapter 9, below, that a number of the proposals for restraining the rate of growth of health expenditure in the US health care sector involve operating through the demand for health care by increasing cost sharing by consumers. For example, the Government could set up a National Health Insurance scheme with certain rules requiring participation by consumers in the cost of medical care.

There are two distinct methods of introducing cost sharing, here. First, is to increase sharing when health insurance is purchased (for example by reducing Government tax exemptions on insurance). The other is by increasing sharing when medical bills are paid

by those who are insured (for example by Government action on Medicare or Medicaid or by the laying down of rules for private insurance). Obviously, the first method operates indirectly on the market for health care whereas the second method operates directly on this market. Cost sharing devices in the second of these situations include: deductibles (which require patients to pay all costs up to a specified maximum); co-insurance (where the patient pays a certain percentage of each medical bill); and co-payments (where the patient pays fixed charges for certain services). All these devices, it is assumed, will encourage consumers to shop around, thereby putting competitive pressure on insurers or suppliers to adopt more economical methods of supply.

So far as the market for insurance is concerned, it is important to know the elasticity of demand for health insurance with respect to price. This is a difficult matter to study because insurance is a complex good varying in several dimensions including its coverage of services, the extent of co-payments, the conditions for renewal, etc. A recent study (Phelps, 1976) suggests that the demand for hospital insurance is quite sensitive to price. An increase in the loading charge (the difference between premiums and benefits) for hospital insurance by 10% would decrease the proportion of medical bills paid by insurers by 6-8%. This suggests that complete withdrawal of tax subsidies in the US would be highly effective in decreasing the extent of cover, presumably by increasing the demand for policies with substantial deductibles and co-insurance (Ginsberg, 1981).

Turning to the market for health care itself, it is equally important in forming policies for cost containment to know the elasticity of demand for medical care with respect to price, where price variations might occur, for example, through changes in deductibles and co-insurance. This, also, is a complex matter because the elasticity of demand will vary with the service concerned, with the level of co-insurance or deductibles, and with family income. A major worry is that cost sharing has a disproportionate effect on the poor. To the extent that increased cost sharing depresses demand it is important

to look at who bears the cuts and whether these effect health status. In other words, does cost sharing cut into necessary or unnecessary care?

Another important consideration is the cross-elasticity of demand. Increasing cost sharing for one service (for example physician office visits) may cause a transfer of demand to another service (for example, hospital in-patient care). It may cause consumers, if allowed to do so, to take out supplementary insurance to cover the risk arising from increased cost sharing. Furthermore, there are likely to be extra administrative costs from cost sharing, especially if the rate of cost sharing is tailored inversely to income as some proposals envisage. Finally, if increased cost sharing does cut expenditure, physicians may be able to react by inducing fresh demand to protect their incomes.

There have been many studies in the US on the effect of patient cost sharing on medical care demand, by both econometric and experimental methods. Helms (1978) reports that Phelps and Newhouse estimated the following elasticities for various medical care services. In each case, the figure shows the increase in the quantity demanded for a decrease in the co-insurance rate from 25% to zero.

Physician house calls	108%
Dental services	38%
Physician office visits	33%
Hospital expenses	17%
Ambulatory ancillary services	15%
Prescription drugs	15%
Hospital admissions	8%

This suggests that consumers would cut back much more sharply on physician services and dental care than on hospital services.

There is some evidence that the elasticity of demand for hospital and physician services is much higher when cost sharing is increased from an initially high base, than when cost sharing is introduced from a zero base. Thus, Rosett and Huang found price elasticities

of demand for hospital and physician services of -0.34 when the co-insurance rate was 20% and of -1.5 when the co-insurance rate was 80% (quoted in Helms (1978)).

It is widely assumed that the price elasticity of demand for services will be higher for families with low income than for families with high income. As we shall see in the next chapter, there is considerable evidence from Canada to support this. In the US, Davis (1975) has shown that the $60 (per annum) deductible and 20% co-insurance provision of the physician portion of Medicare constitute significant deterrents to the use of medical services by the elderly poor. For such people not covered by Medicaid, use of medical services lags substantially behind that of higher income people with similar health conditions.

There is evidence that reduced insurance coverage leads to lower medical care prices. We have already seen in Section 8.1.2.ii, above, that there is an inverse association between the extent of insurance coverage and the rate of rise of prices across sub-sectors of the American health care sector. It seems that reduced insurance coverage causes patients to search for lower cost providers and also to consume less intensive units of service. Ginsberg (1981) quotes evidence to suggest that a 10% decrease in persons covered by insurance would decrease hospital costs per day by 15-30%.

There is some evidence that if co-payments are increased only for physician services, expenditure on physician services is cut only at the cost of higher hospital utilisation. Helms (1978) quotes work by Helms, Newhouse and Phelps which suggests that a $1 co-payment on physician office visits among welfare patients in California reduced office visits by 8% but increased hospital care among patients eligible for hospital coverage by 17%.

The most determined and thorough attempt to measure the effects on demand for medical care of varying co-insurance rates is the RAND Health Insurance Study. This is a series of six experiements at different sites in the USA, involving over 2,700 families, in which families are given insurance packages with differing

co-insurance rates. The experiments ran for between three and five years and were designed to explore: the price elasticity of demand for medical care; the effect on this price elasticity of demographic factors, such as the age and family income of the insured; and the effect of variations in utilisation on health itself. The effects of an HMO option were explored at one of the sites. Although these experiments were started in 1974, at the time of writing much of the analysis of the data which has been collected still remains to be done. However, preliminary results (Newhouse, et al, 1981) suggest that the demand for care is of the order of 50% higher when care is free than when it is provided under an income-related catastrophic health plan with 95% co-insurance up to a ceiling which varied with family income and had a maximum of $1000. This result is broadly consistent with the earlier econometric results quoted above. The price elasticity of demand for care seems to be about -0.2 at the sample mean. The results indicate the potential power of co-insurance in restraining demand. Subsidiary, but important, findings of The RAND study are that cost sharing does not lead to significant extra use of hospital services and that the tailoring of cost sharing to income leads to roughly equal deterrence for rich and poor. Unfortunately, at the time of writing, evidence is not yet available on whether the extra care delivered under free plans affects health status or not. In other words, the crucial question of whether cost sharing would threaten "necessary" care is not yet resolved.

The RAND health insurance experiment is designed to explore carefully the impact of changes in utilisation on health as well as the elasticity of demand for medical care. However, it has been criticised for the lack of attention it pays to the supply side of medical markets, in particular to the possibility that physicians may induce demand (Hester and Leveson, 1974). Newhouse (1981), however, argues that physician-induced demand is not likely to be large enough to affect the conclusions of the experiment.

On the question of the purchase of supplementary insurance, if more cost sharing were introduced, experience with Medicare suggests strongly that consumers would take out extra insurance to cover deductibles and co-payments if allowed to do so. For example, by

1976 nearly two-thirds of elderly patients covered by Medicare had taken out supplementary hospital insurance. Most of the extra cover seemed to be for Medicare deductibles and co-insurance, and not for extra services (such as dentistry) not covered by Medicare (Conrad and Marmor, 1980). Elderly Americans show a strong preference for supplementary insurance of this kind despite the fact that on actuarial grounds it often represents poor value for money.

Health Maintenance Organisations

8.1.5 What effect do Health Maintenance Organisations have on containing costs and other aspects of efficiency? As we have seen in Chapter 2, HMOs differ markedly from third party, arms-length insurance arrangements with fee-for-service remuneration of doctors. Although HMOs come in many varieties they typically arrange for the delivery of comprehensive medical care for a fixed monthly subscription price, paid in advance, and set by community rating. They have arrangements with providers to control the delivery of services within the cash limit thereby created. The classic HMO is the pre-paid group practice with salaried physicians who provide "free" care to enrollees at the time of demand. There are also Independent Practice Associations (IPAs) which rely on pre-payment but pay physicians by fee-for-service and usually have looser arrangements for controlling expenditure. The bulk of HMO enrolment, under either scheme, is via group contracts with employers.

HMOs seem, in many ways, to operate under nearly ideal incentives. On the one hand, they must operate within the budget set by the pre-payment of their enrollees. This means that they have incentives to economise and, as many argue, to maintain the health of their enrollees. On the other hand, they are private organisations operating in competitive markets and this means that they must please their enrollees to survive. This puts them in a somewhat different position from tax funded health delivery organisations such as the Veterans Administration or the British NHS. Their main disadvantage, perhaps, is that, because they operate on a closed-panel model, they are geographically specific (although they may pay for care outside the HMO in some circumstances). Also,

they are difficult to manage and must operate on a certain scale to survive. This tends to tie them to urban areas.

Despite their apparent merits, and despite Federal attempts, since 1973, to foster them, HMO enrolment has grown only slowly in the US. What is the evidence about their performance and why have they not grown faster?

HMOs have been the subject of extensive investigation and research. The literature upon them has recently been reviewed by Luft (1981). Luft points out that there are many varieties of HMO and that research-based generalisations upon them are mostly tentative. A particular problem that bedevils research on HMOs is that their performance vis-a-vis fee-for-service medicine could be influenced by self-selection: that is to say, HMOs could be chosen by a sub-group of the population who may, particularly in health characteristics, be atypical. It is difficult to control for this factor. Nevertheless, the following interim findings, among others, are reported in Luft's book:

i. Numerous studies suggest that HMOs of the pre-paid group practice variety cut costs of reasonably comprehensive care by between 10% and 40% over fee-for-service alternatives. They typically give more extensive cover for a premium similar to fairly comprehensive Blue Cross packages but the out-of-pocket costs of HMO enrollees are less than those of Blue Cross enrollees.

ii. Their savings are mainly due to lower rates of hospitalisation. HMO groups typically consume 35% fewer bed days per capita than comparable populations enrolled with fee-for-service alternatives. The use of ambulatory care however is often higher in HMOs.

iii. HMOs seem to make better use of specialists and specialised facilities than fee-for-service medicine by making sure that such doctors and facilities are fully loaded.

iv. They do not seem to achieve their savings through extra preventive measures although they do offer better preventive services.

v. The rate of growth of costs in HMOs is not significantly slower than that for fee-for-service medicine. This is not surprising, perhaps, when HMOs have captured less than 5% of the market for health insurance.

vi. The quality of care provided by HMOs does not seem to be lower than that provided by fee-for-service medicine.

vii. It is often harder for patients to get an appointment to see a physician in an HMO but once they get an appointment they do not wait so long.

viii. HMO enrollees are inclined to grumble more than fee-for-service enrollees but it could well be that lower costs more than compensate for this. HMo enrolment is increasing.

ix. HMOs seem to exert a downward effect on hospitalisation rates in the fee-for-service sector in some areas where they are strong, but the overall costs of fee-for-service medicine in such areas are not, apparently, lower.

x. 5% to 10% of pre-paid group practice members regularly use services outside pre-paid group practices. It has been argued that some of the "savings" of HMOs arise from such recourse to the fee-for-service sector.

xi. Some pre-paid group practice doctors tend to complain that they are faced by "demanding patients" but others prefer delivering care without having to worry about the patients' ability to pay.

xii. Physician turnover is moderate in established HMOs.

Why have HMOs not grown faster, especially since they have been given government encouragement under Federal legislation since 1973? The main explanation provided by commentators such as Enthoven (1980) is that open-ended Federal tax exemptions do not encourage consumers to choose economical forms of insurance cover. Also, employers have often been reluctant to offer HMOs as an option to their employees. Another possibility is that HMOs may appeal only to a minority of Americans. Their particular style of service, characterised by various forms of non-price rationing, may even be seen by some Americans as a second-class service. Finally, it is argued that the very regulations which were designed to encourage HMOs have, in fact, burdened them with restrictions which have hampered their develoment.

Some commentators feel that enthusiasm for HMOs has been overdone and the case for them is far from proven. Brown (1981) argues that the conditions which have given rise to HMOs may be local and idiosyncratic and that much more understanding of the conditions under which HMOs can flourish would be required before health financing policies should be designed which employ HMOs as the foundation.

The Veterans' Administration

8.1.6 The Veterans' Administration (VA) is at first sight rather a startling component in the American health care sector. It bears many similarities to the British NHS in the sense that it provides services in kind, makes no charges to receipients at the time of use and is funded by the Federal Government out of general tax revenue. However, it serves only American Veterans (ex-servicemen) and accounts for less than 10% of days of care in general hospitals (excluding children) and less than 12% of days in psychiatric hospitals. The primary objective of the VA is to give health care to veterans with service-related disabilities. The secondary objective of the VA is to care for veterans with non-service related

disabilities if they are medically indigent or they are in receipt of VA pensions or are over 65 and spare capacity in VA hospitals is available.

The VA has come in for a fair amount of criticism over its long history. Some economists have attacked it on a priori grounds. Thus Lindsay (1975) argues that government-run and -financed hospitals have inadequate incentives to be efficient in comparison with competing private proprietary hospitals which have to satisfy their customers to survive. The VA has to satisfy Congress about its performance but neither VA managers nor Congress have adequate means of measuring consumer satisfaction or quality of care. This, argues Lindsay, means that VA management will tend to sacrifice unobservable quality of care for observable quantity of care or otherwise fail to be efficient. Managers will, as a consequence, tend to minimise unit costs within the available budget. There is a small amount of evidence to support this. Lindsay shows that VA hospitals have lower costs per bed day and longer average length of stay than comparable proprietary hospitals. However, Lindsay was not able to adjust for likely case mix differences between VA and proprietary hospitals and he was not able to demonstrate lower quality of care in the former. All VA hospitals, for example, have received accreditation from the Joint Committee on Accreditation of Hospitals. In the case of nursing homes, VA-run homes seem to cost significantly more per day than privately run homes, with which the VA has contracts.

An alternative approach to examining the efficiency of the VA, is to look at the characteristics of veterans who use VA facilities. Only a minority of veterans make regular use of VA facilities. The majority make private arrangements. About 70% of the veterans who use VA facilities do not have service-related disabilities. This suggests that the VA may have excess capacity, since such patients are supposed to be treated only when space is available after the treatment of veterans with service-related disabilities. There is a strong tendency for those veterans who use VA facilities to have low income or to be without health insurance (Page, 1982). Among veterans with service-connected disabilities, those with high

income have half the chance of going to VA hospitals compared with those with low income. This suggests that VA is seen as offering care which is less preferable to that in ordinary community hospitals. However, the popularity of VA with low income veterans suggest that free care in VA facilities is either preferable to, or more accessible than, free care in non-VA hospitals. In the case of the high use of VA facilities by veterans lacking health insurance, it is difficult to decide in which direction causation runs.

Perhaps the most revealing critique of the VA is in a report of the National Academy of Sciences (1977). This Report criticises the VA for relying excessively on hospital care, for poor matching of resources to demand on a geographical basis, for excessive provision of acute beds, for serious excess capacity in certain specialised facilities, for lapses in matching staffing to demand and for inadequate integration of VA health care planning with non-VA health care planning. However, the authors of the Report found standards of care to be generally adequate with the exception of some aspects of psychiatric care. The picture of the VA that emerges from this Report is of an organisation which has provided, "devoted and conscientious service" but has done so in a somewhat inflexible manner with considerable over-reliance on hospital in-patient care and over-provision in other respects.

Profit-making versus Non-profit Making Hospitals and Nursing Homes

8.1.7 The relative performance of profit and non-profit making health care institutions has been hotly debated in the US. Some economists argue that only when hospitals and nursing homes are managed under the profit motive and are subjected to competition will they have proper incentives to be efficient. The managers of non-profit hospitals, they argue, lack such incentives and may purchase excessive inputs either to make their (the managers') life more pleasant or produce a product of higher quality for prestige reasons. Other economists point out that charity is an important source of finance for medical care and only non-profit status can co-exist confortably with charity. They accuse for-profit hospitals of deliberately lowering the quality of care or of 'cream skimming'

by selecting mainly patients on whom a profit can be made. Only about 11% of US hospitals are proprietary and their numbers have shrunk since the beginning of the 20th Century. In recent years, proprietaries have been increasingly taken over by large chains. By contrast, about 75% of American nursing homes are private. It is easier to compare the performance of nursing homes than that of hospitals because their output and structure are more homogenous.

There has been relatively little empirical testing of rival hypotheses in this field. In the case of hospitals, Bays (1979) has compared the costs of 18 for-profit and 28 non-profit hospitals by regression analysis. His results suggest that for-profit hospitals, as a whole, are no less costly than non-profit hospitals. However, taken on their own, for-profit hospitals organised in chains are significantly cheaper than non-profit hospitals. Although these results lend some support to the view that proprietary hospitals are more efficient than non-profit hospitals, it must be pointed out that Bays' sample was small, non-random and contained only 11 observations on for-profit hospitals organised in chains.

Turning to nursing homes, Frech and Ginsberg (1980) report on a survey of the literature by Bishop. Of the nine studies reviewed, all found non-profit nursing homes to have higher costs than for-profit homes. Some of these studies adjusted for patient characteristics and some for quality of care. Frech and Ginsberg's own econometric study suggests that, after allowing for patient debility and differences in quality of care (measured by factors such as services received and therapies available), for-profit homes are cheaper than non-profit homes and among non-profit homes private homes are cheaper than government homes. Non-profit homes seem to pay slightly higher wages than for-profit homes but the difference is not enough to explain the differences in costs. The study was not able to control completely for the quality of care but the authors point out that their method of control was better than that of previous studies.

There is a strong suggestion, therefore, that differences in costs between for-profit and non-profit nursing homes are due to differences in efficiency. Frech and Ginsberg compare, also, three different methods of reimbursement by States, via Medicaid, of nursing home costs: retrospective cost reimbursement; prospective cost reimbursement; and flat-rate reimbursement. Their results suggest that, other things being equal, costs of nursing home care are lowest where flat-rate reimbursement is employed and highest where retrospective cost reimbursement is employed. The conclusions of this literature on the effects of ownership on nursing home costs have been borne out most recently by Birnbaum et al (1981). His econometric study suggests that non-profit and government facilities consistently have higher costs than for-profit facilities after controlling for patient mix and service differences and, in one case, after controlling for a measure of quality of care.

8.2 The Effect of Financing Mechanisms on Equity

Health Insurance Coverage with Voluntary Insurance and Selective Government Support

8.2.1 America's health care financing arrangements rely heavily on voluntary private insurance (often employer-related) and the two main government schemes, Medicare and Medicaid, which are selective.

These arrangements leave gaps. First, a significant minority of Americans still do not carry any health insurance. Sudovar and Feinstein (1979) put the percentage of the population without insurance at 6% in 1977. The National Health Expenditures Study puts the figure at 12.6% in the same year (Kasper et al, 1981). The latter survey excluded direct provision programmes such as the Veterans' Administration.

Persons without cover are to be found predominantly among the near poor, young adults and the unemployed and self-employed (GASJ, 1980). The near poor tend to fall outside Medicaid; young adults often cease to be covered by their parents' insurance before they obtain cover of their own; and the unemployed, part-time workers and the self-employed all fall outside employment-related private insurance.

Secondly, many Americans who do carry insurance have inadequare cover. The following table (adapted from Sudovar and Feinstein (1979)) shows the percentage of the US population without 'adequate' public and private insurance cover in 1977. 'Aedquacy' here was defined by an interdisciplinary panel of experts. Their criterion of adequacy was that the following be borne by third party programmes; 80% of the costs of medically necessary non-psychiatric care; some of the costs of medically necessary in-patient psychiatric care; and 100% of the costs of medically necessary care in excess of 10%-30% of individual income (with a preference for the former figure).

Percentage of total US population without adequate public and private insurance cover, 1977

Acute	%
Hospital in-patient	14.7
In-patient psychiatric	14.9
In-patient laboratory and X-ray	10.5
Maternity	37.1
In-patient physicians	50.4
Office physicians	59.8
Nursing Home Care	55.7
Catastrophic	
$250,000 or more catastrophic protection	42.4
Maximum out-of-pocket limit	70.6

It is particularly notable that over 70% of Americans do not have a maximum out-of-pocket limit on their financial exposure to medical bills. Apparently, it would cost relatively little to add catastrophic ceilings to all health insurance arrangements.

The Impact of Competition in the Insurance Industry on Community Rating

8.2.2 We have just seen that some Americans still lack health insurance cover while others have inadequate health insurance cover. In Chapter 7 we saw that the distribution of health care in the US seems to be slightly less equitable than it is in Canada or the UK. We have also seen that, for the most part, American insurance organisations adopt experience rating, where premiums are varied according to the claims experience, or expected claims experience, of different individuals and groups. This means that poorer sections of the population often pay more for a given amount of health insurance cover than richer sections of the population.

In this section we explore the breakdown of community rating by Blue Cross and Blue Shield in the 1950s and 1960s. These non-profit insurance organisations, sponsored by hospitals and medical societies respectively, originally adopted community rating, under which the same premiums or the same benefits are charged to all individuals or groups to whom cover is offered, regardless of their medical risk. Clearly, community rating involves an element of charity, or wealth transfers, between individuals and groups as well as risk-spreading on an actuarial basis. Individuals, or groups, with good health subsidise individuals or groups with poor health. The former tend to have higher incomes than the latter.

Krizay and Wilson (1974) have documented the breakdown of community rating in US private insurance markets. Community rating by Blue Cross and Blue Shield left the way open for commercial insurance companies to enter the market and offer employers with low risk employees (for example, in predominantly white collar industries) lower rates for group coverage than Blue Cross or Blue Shield were offering. The Blues were gradually forced by this competition to adopt experience rating to avoid adverse selection by high risk groups. In this way, an attempt to mix charity and private insurance broke down. This seems to be an example of the vulnerability of charity arrangements in health care to 'free rider' problems. Although there may be a generalised demand for charity for health

The Impact of Medicare and Medicaid on the Public General Hospital

8.2.4 Many Americans subscribe to the principle of reasonable access to medical care for all individuals irrespective of ability to pay. However, America has tended to opt for self-sufficiency in health care for those able to fend for themselves, supplemented by government and private charity for the really needy. There is considerable resistance, not least among providers, to Federal aid for all or "socialised medicine" (Andersen, 1968).

In some cases, charitable care is given inconspicuously by individual physicians who traditionally vary their fees between rich and poor or by non-profit hospitals, many of which were set up, originally, mainly to deliver charitable care to indigent patients but which, long since, have come to cater predominantly for fee-paying Middle America. In other cases, however, charity or State funded care is set apart, as in public general hospitals and psychiatric and other long term hospitals.

Nowhere, perhaps, are America's two-tier medical care arrangements more conspicuous than in her public general hospitals. The most prominent of these hospitals are the large inner-city hospitals run by local governments in America's major connurbations, such as Chicago's Cook County. These city hospitals were set up specifically to cater for the urban poor and are still financed largely out of local taxes. Almost invariably their standards are below those of community hospitals and many have periodic difficulties in gaining accreditation. Numerous accounts testify to crowded wards, short-staffing, crumbling, dity buildings, interminable waiting by dispirited out-patients in crowded emergency rooms, and demoralised administrators (Berki, 1972).

Public general hospitals have been on the retreat both in size and numbers during the past three decades. Bed numbers in 14 major public general hospitals fell by 50% between 1950 and 1975, although admissions fell less than 25% (Stewart, 1977). Some of this change was due to Medicare and Medicaid which gave the opportunity to many

individuals who previously would not have had a choice of hospital to opt for private or "mainstream" medicine. Also, expansion in the nursing home industry, fostered by the sponsorship of patients by Medicaid in nursing homes, allowed the closing of many 'old crock' wards in public general hospitals.

However, the public general hospitals have refused to disappear. Despite coming under increasing financial pressure, because of falling tax bases and falling revenues in declining inner-cities, they continue to serve an essential purpose both as neighbourhood hospitals for inner-city populations and as last refuges for those groups of the poor not covered by Medicaid. Also, they continue to retain importance as teaching centres and as locations for specialised care such as centres for drug addiction. It seems likely that public general hospitals will continue to remain a conspicuous symbol of gaps in America's private and public health insurance arrangements so long as these remain broadly in their current shape.

These proposals incorporate measures to plug the remaining gaps in insurance coverage for vulnerable groups, although the scheme would remain voluntary. Generous subsidies (about 60% of the cost of average insurance coverage by broad actuarial category) would discourage persons who were good risks from adopting self-insurance, thereby escaping a share of the cost of what would be, in effect, National Health Insurance. Subsidies would take the form of refundable tax credits and vouchers for the poor. These would be fixed in relation to the cost of care leaving a considerable element of sharing in the cost of insurance for the majority of consumers. This would encourage the head of the household to shop around for insurance at a time when he or she would normally be in good health and could act as a rational, cost-conscious consumer. Responsibility for health insurance would be taken out of the hands of employers. To be eligible to market plans which would attract subsidies, insurers would have to follow rules designed to force them to accept a fair burden of poor risks, not to discriminate among risks (except by permitted broad actuarial categories) in setting premiums, to refrain from competition in cost sharing and to provide catastrophic insurance. Enthoven believes that these changes would transform the market possibilities for HMOs, which would begin to flourish and exert competitive pressure on fee-for-service medicine. Consumers would, of course, be free to choose fee-for-service styles, if they preferred, but many might be expected to opt for more economical arrangements when the true cost of fee-for-service medicine was brought home to them. Medicare and Medicaid could be phased out.

In a limited way, Enthoven's vision was already in practice when he formulated his proposals. The Federal Employees' Health Benefit Programme gives Federal employees a wide choice of private insurance packages and fixed subsidies. Insurers who participate in the programme have to abide by a common set of rules. There is no doubt that such schemes are practicable, although Enthoven acknowledges that they would require a significant regulatory input to maintain the circumstances in which competition should flourish. Enthoven's proposals should not be confused with Laisser Faire. Meanwhile, one of the advantages of Enthoven's scheme is that it could be brought in piecemeal. For example, Federal

and State governments could encourage prudent purchasing by offering consumer choice within Medicare and Medicaid. Also, the Federal Government could take steps to reform the tax exemptions for private insurance. In other ways, gradual steps could be taken to change the incentive patterns for consumers and providers. Competition would not require a sudden transformation of the American health care system.

Enthoven's proposals attracted much favourable attention in the early days of the Reagan Administration. They also attracted a number of criticisms.

a. Some commentators doubt whether there is a substantial market for economical methods of supplying medical care in the US. It might be pointed out, in support of this, that HMOs have captured only 10% of the market under the Federal Employees' Health Benefit Programme (they have captured about 3% of the market outside). It might be said, however, that if fee-for-service medicine continued to flourish under an Enthoven-style regime this would provide a better test than is now available of whether consumers genuinely wish to meet the costs of fee-for-service medicine.

However, with Federal subsidies at 60% or more of the average cost of plans, this could not be regarded as a pure test of consumer demand. Also, questions would remain about the power of the medical profession to induce demand, even under a regime of HMOs.

b. Some critics detect cost-increasing features in Enthoven's plan. The economies of scale and risk spreading, inherent in group insurance schemes, would be threatened by a system of individual choice. Also, consumers acting individually might be less of a countervailing force than employer/union combinations as purchasers.

c. Many suspect that insurance organisations would continue to try to cream off the good risks, despite the rules designed to prevent this. Straightforward under-servicing might be practised on, say, the chronically ill. Among HMOs, those locating in good neighbourhoods could avoid some adverse selection. The geographical specificity of HMOs is one of their weakest features. In rural areas it is unlikely that HMOs could compete, since they require populations of at least 200,000 to flourish.

care each potential charitable contributor has incentives to leave the sacrifice to others, with a consequent tendency for the supply of charity to be inadequate unless collective (social insurance) provision is made. There is still some cross-subsidisation within group insurance schemes in the US. Also, HMOs, at least those in receipt of Federal support, still adopt community rating.

The impact of Medicare and Medicaid on Equity

8.2.3 Partly as a result of the breakdown of community rating, Medicare and Medicaid were introduced in 1965, for the elderly and for certain groups of the poor eligible for welfare, respectively. They seem to have brought about a significant improvement in access to medical care for both these groups in the subsequent decade and are likely to have contributed to the narrowing in infant mortality rates between white and non-white groups of the population and between poor and non-poor States which occurred at the same time. Davis and Schoen (1978) show that visits to physicians increased for poor persons in general during this decade. Low income families, covered by Medicaid or other government health programmes, now use physician services at about the same rate as middle income families, after adjusting for health condition, whereas previously rates of use by middle income families were higher. Access to dental care by the poor improved greatly over this decade although rates for middle income groups remained higher at the end of it. Two major failures to achieve equity remain. First, Medicare and Medicaid leave many of the poor uncovered by health insurance. Medicaid covers only the poor eligible for welfare (such as the disabled, the blind, and single parent families). Remaining groups such as the working poor, the unemployed and rural residents are not covered and continue to have lower rates of access to health services. Secondly, there are inequities within Medicare and Medicaid. For example, there are major geographical differences in Medicaid payments per eligible person, mainly because Medicaid benefits vary between States. This is carried through into major differences between, say, Medicaid benefits per black and white recipient respectively. There are similar inequities within Medicare despite the fact that this is

a uniform Federal programme. Elderly persons with income over $11,000 enjoyed Medicare benefits on average 70% higher than persons with income under $6,000 in 1970 (Davis and Schoen, Table 4.4). This is likely to have been the result mainly of the deductibles and co-insurance required under Medicare. These may be met by Medicaid for some, and others (nearly two-thirds of the elderly) have taken out supplementary private insurance. The remaining elderly may be seriously deterred by these payments. Because of general inflation of medical care costs, the elderly actually paid, on average, slightly more in real terms for medical care (directly or through private insurance premiums) in 1975 than in 1966. In other words, some of the thrust towards equity of Medicare and Medicaid was dissipated by the rise in medical care costs that they helped to bring about.

Broadly speaking, these conclusions about improvement in access to health services by the poor and about the remaining gaps and inequities in access have been confirmed by Aday, Andersen and Fleming (1980). They report the results of 5 successive national household surveys of health care utilisation and expenditure conducted by the Chicago Center for Health Administration Studies between 1963 and 1976. They conclude that access to hospitals was fairly equitable before the introduction of Medicare and Medicaid. Access to physicians was rather inequitable in 1963 but by 1976 considerable improvements had occurred, especially for the elderly, low income families, non-whites and the rural farm population. However, although the rate of visiting physicians by the poor improved in relation to that of the rich, the poor continued to make relatively greater use of physicians in hospital emergency rooms. The use of hospital emergency rooms for primary care is generally agreed to be less satisfactory than care by office-based physicians. It seems that middle-income Americans still have disproportionate access, after correcting for ill-health, to their own personal physicians in neighbourhood offices.

CHAPTER 9

DEBATES ABOUT ALTERNATIVE FINANCING MECHANISMS IN THE US

We have seen in Chapters 2, 7 and 8 that many Americans perceive continuing defects in their health care financing arrangements: including lack of cost containment and remaining gaps in insurance coverage.

9.1 National Health Insurance

It has been said that, "rarely has a public issue generated so much debate, produced so little legislative action, as has the idea of National Health Insurance" (GASJ, 1980).

Americans have been discussing comprehensive reform of health care financing arrangements since before World War One. Until the late 1970s the lack of comprehensive insurance coverage was usually seen as the main problem and the solution proposed was usually some form of National Health Insurance (NHI) entailing greater involvement by the Federal Government in financing medical care. NHI proposals came in many varieties. Forty-five different plans were put to the 95th Congress in the early 1970s. They ranged from those which envisaged minimal solutions, such as requiring all insurance provided by employers to contain catastrophic cover, intermediate solutions such as those mandating employer coverage of all persons with jobs and public insurance coverage for everyone else, to comprehensive solutions such as those that envisaged universal public insurance along Canadian lines. Cost containment was to be achieved either by cost sharing by consumers or by overall budget limits (Davis, 1975). The great majority of proposals involved retaining private provision of medical care. There has been little support in the US for a full NHS-style solution to the financing of medical care.

The institution of Medicare and Medicaid in the mid-1960s provided, in effect, NHI on a selective basis for the elderly and welfare recipients respectively. These programmes, however, left a significant segment of the population uninsured and left others with inadequate cover. Less conspiciously, their selectivity was counterbalanced by generous tax subsidies to higher income Americans for health insurance and medical expenses. The debate about NHI continued.

There was considerable public support for NHI. In 1979 a poll found that 58% of the American public favoured NHI (GASJ, 1980). Despite this support and the introduction of various NHI Bills by successive administrations, the goal of comprehensive legislation proved elusive. This was partly because of fears of the cost of NHI, partly because of disagreement among liberals about whether a targeted or a comprehensive scheme would be preferable, and partly because of opposition from various interest groups, which, in the American political system, have considerable power to block legislation.

9.2 Cost Containment by Government Regulation

By the late 1970s, cost containment had gained ascendency as the main problem in the minds of policy makers and analysts. President Carter's administration attempted to pass a Hospital Cost Containment Act, which would have tackled this problem directly by regulation. The Act would have limited the annual increase in each hospital's in-patient revenue to a uniform percentage calculated by a formula based on overall inflation in the economy and the rate of increase in total hospital spending in the past two years. The aim was to slow down the growth of hospital spending to the rate of inflation in the economy. Varieties of this Bill were twice voted down in Congress. This was because they ran into powerful anti-regulatory sentiment in Congress, they stirred little interest among the public, cushioned by third party payments, and they were opposed vigorously by the hospital industry and the AMA (Califano, 1981). The hospital industry reacted by adopting a "Voluntary Effort" in an attempt to restrain costs but this appears to have been rather ineffective and seems to have fizzled out recently.

9.3 Pro-competitive Solutions

By the time that President Reagan was elected in November 1980, a strong mood of disillusionment with government regulation in the health care field, as in other sectors of the economy, was well established. Proposals for reform of health care financing arrangements in Washington were now mainly pro-competitive, that is to say, the role of government should be to correct competitive failures in medical care markets, rather than to attempt to supplant markets. The main objective was now to tame the money guzzling propensities of the health care sector by restoring consumer and producer cost

consciousness. The aim of achieving comprehensive cover remained, but took something of a back seat. The incoming Secretary of the Department of Health and Human Services (Richard Schweiker) said, at his confirmation hearing, in answer to a question about how he would regard, "... the terrible increase in the cost of health care ...", "I think my guiding light would be to come up with some model demonstration projects ... maybe with 2 or 3 options that incorporate variations of the competitive approach and implement them in the field for trials and reactions". (COF, 1981.)

Suggestions for strengthening competition in medical care markets had already been put forward by a number of analysts and policy makers. Broadly, two sorts of proposals had emerged. Both would operate mainly from the demand side relying, initially, on consumer cost sharing to put competitive pressure on health care providers to offer more efficient, less costly care. One set of proposals would encourage consumer cost sharing in medical care markets themselves at the time patients were consuming services. The other set would operate indirectly by emphasising consumer sharing and choice in the market for health insurance at the time consumers were taking, say, their annual decision about cover for health risks. An example of the former is 'Major Risk Insurance' by M Feldstein and an example of the latter is the 'Consumer Choice Health Plan' of A Enthoven.

9.4 Major Risk Insurance

Major Risk Insurance (MRI) was put forward by Martin Feldstein in 1973 (Feldstein, (1981)). He proposed that every family should be provided with an insurance policy which would limit the percentage of family income spent on health care in any one year but would require cost sharing up to this limit, either by a large deductible or by a deductible with co-insurance. The maximum percentage of income spent on health care might be 10% (a 5% deductible with 50% co-insurance for another 10% of income). This, Feldstein argued, would give families a strong incentive to shop around for least cost care, but would give them, at the same time, protection against catastrophic illness in an equitable way. The assumption was, that MRI would ensure that most medical care would be paid for by consumers out-of-pocket and that this would lead them to favour more efficient insurance and provider arrangements. There would be no need for public interference with the supply side.

MRI has attracted a number of criticisms, however. There are doubts about whether consumers would be effective shoppers at the time that they and their families actually need medical attention. It seems likely, judging by the proliferation of 'Medigap' policies to cover the deductibles and co-payments built into Medicare that consumers would take out supplementary insurance to escape the element of cost sharing in MRI. Even if they did not, the bulk of hospital expenditure would still be covered by insurance and therefore be open to moral hazard. Lastly, there would be serious administrative difficulties in linking income and insurance records to make the scheme work.

9.5 Consumer Choice Health Plan

A more recent proposal comes from Alain Enthoven (Enthoven, 1980). Like MRI, his Consumer Choice Health Plan (CCHP) is intended to bring medical care expenditure under control by re-introducing consumer cost consciousness. Enthoven's Plan, however, aims to encourage consumers to exercise competitive pressure on health care providers through the market for health insurance rather than through the market for medical care itself. His plan has 4 main elements:

i. Provision by the Government of generous but partial subsidies for health insurance invariable with respect to the cost of insurance but increasing to 100% of the cost of insurance for the poor.

ii. The transfer of the choice of health insurance from employers and government to individuals.

iii. A requirement that insurance plans, eligible for subsidy, follow uniform rules including, open enrolment, community rating, a minimum standard of cover, limits on cost-sharing and catastrophic protection: all designed to promote fair and socially desirable competition.

iv. Organisation of physicians in competing economic units, such as HMOs.

d. As indicated above, a major regulatory burden would be placed on government and the insurance industry to sustain the 'socially desirable' thrust of a competitive scheme.

These intellectual doubts about the likely success of CCHP may be the least of its difficulties. A much greater obstacle may be the fact that effective competition is a threat to providers. If providers believe that consumer choice will succeed they will have every incentive to oppose it. In 'Table Manners at the Health Care Feast' Uwe Rhinehardt has written amusingly about the struggle likely to break out among providers for incomes if competition takes hold. The American political system affords many opportunities for provider groups to block or divert threatened legislation. Although many policy makers may feel that Enthoven's proposals would be an improvement on present institutions they are not presented with a tabula rasa.

9.6 Prospect for Change, 1982

At the time of writing, the Reagan Administration has taken various steps to restrain the growth of health care costs and to cut government regulations in the health care field. In 1981 costs were rising at 12% pa, still well above the general rate of inflation. The Administration has: cut eligibility for, and grants to, Medicaid; tightened up on methods of reimbursement under Medicaid; and introduced proposals for phasing out Professional Standards Review Organisations and Health Planning. It is reported to be considering introducing prospective payment for hospitals under Medicare (a pre-set payment for cases, classified by Diagnosis Related Groups). In California, legislation has been passed with the aim of replacing fee-for-service remuneration under Medicaid by block contracts for services. More surprisingly, legislation has also been passed in California releasing private insurers from their obligation to offer choice of provider to policy holders, thereby enhancing the scope for enrolling policy holders in panel and HMO schemes.

Despite these changes, mostly of a pro-competitive nature, there is as yet no news of Federal legislation to introduce comprehensive reform of health care financing arrangements. It is not apparent to what extent intellectual doubts or pressure group resistance have accounted for the silence, but it is reported that not only the AMA and AHA but also representatives of unions and employers have expressed opposition to change. The former tend to oppose the threatened loss of tax deductibility by their members and the latter to oppose the threatened introduction of new regulations requiring them to offer a choice of health insurance to their employees. Such delays will not have surprised members of the pro-competitive school who tend to think in terms of 15-29 years for the timetable required for the restoration of markets (New York Times, page 50, March 28, 1982).

What is clear, at the time of writing, is that America's health care financing arrangements remain under intense scrutiny and are likely to go on changing under internal and external pressures as they have done for many decades.

CHAPTER 10

RESEARCH AND COMMENTS ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN CANADA AND THE CONTINUING DEBATE OVER NATIONAL HEALTH INSURANCE

10.1 Introduction

This chapter contains a highly selective description of Canadian research and comments on aspects of financing medical care and a brief ccommentary on recent developments in the Canadian health care financing debate.

Research and comment on the effects of health care financing mechanisms in Canada present interesting comparisons and constrasts with research and comment in the US. We have seen that, although Canadian financing mechanisms evolved in parallel with those of the US until the late 1950s, they began to diverge thereafter, except on the supply side where Canada kept her independent hospitals and fee-for-service method of remunerating physicians. There is a different emphasis in the Canadian commentary. For example, there is much more stress on equity as a goal of health care financing arrangements. This is as likely to have preceeded as to have followed the adoption of National Health Insurance.

As we have seen, Canadian National Health Insurance (or 'Medicare') is popular with the Canadian public, if not with all Canadian doctors. Canadians, consequently, tend to be sceptical about arrangements for financing medical care in the US and puzzled at the belief among many Americans that NHI would be very costly, when their own scheme has turned out to be relatively cheap in terms of the percentage of GDP devoted to it.

Evans (1980) has written amusingly as follows, "Canadians are in general very satisfied with the present form of their health care delivery system; ... there remains some concern about certain types of access; but in general those Canadians who consider the matter regard themselves as fortunate, particularly relative to Americans. There is a minor branch of the private insurance industry which markets cover for travellers to the US, whose principle sales theme is the financial hazard of "getting sick in America" and newspaper stories about Americans unable to pay who

are turned away from hospitals or subjected to inadequate or demeaning forms of care help to feed a certain smugness, an ill-defined sense of Canadian superiority at least in social affairs, which helps us to get through the long winters. I think the popular judgement is probably correct. Certainly a Canadian visiting the US and waking in the night with ill-defined aches and ills may think of heading for the airport rather than the hospital".

10.2 Research and Comments on Efficiency Aspects of Health Care Planning Mechanisms

10.2.1 The Control of Health Expenditure under National Health Insurance

We have already seen in Chapter 5, above, that Canada has virtually stabilised the share of GDP spent on health during the 1970s under NHI, whereas the US share has continued to grow. Evans (1981(b)) has ascribed this to. "... sole source funds - the channelling of all health expenditures through public budgets, and through a single budget for each province". Glaser (1980) shows, in detail, how budgeting for Canadian hospitals has moved in most provinces from essentially bottom-up arrangements, where hospitals put in requests for funds line by line, to global, top-down prospective budgeting where, "... somebody holds all the money in one bag". In commenting upon this system, the American consultants Lewin and Associates (1976) have drawn the following conclusion for the US: "In regulating hospital budgets regulators should not attempt to manage individual institutions ... less detailed review frequently allows regulators to apply stricter standards than does line-item review. It also allows the institution necessary managerial flexibility".

Considerable control over the costs of physicians' services has been attained since the introduction of medical insurance, despite the continuation of fee-for-service methods of remuneration. Vayda et al (1979) report that the relative incomes of Canadian physicians, having risen swiftly in the 1960s, fell in the 1970s after the introduction of medical insurance. The decline in physicians' relative

income was achieved by hard bargaining over fee levels by Provincial governments. So far, the Canadian experience suggests that government near-monopoly purchasing of physicians' services can restrain the rate of growth of costs even when there is fee-for-service remuneration. However, there seem to be consequent adjustments in the volume of services, discussed in the next section.

10.2.2 The Possibility of Supplier-Induced Demand

Among many Canadian health economists, much of the approval for NHI, and much of the scepticism about American health care financing arrangements, seems to stem from the belief that medical markets are characterised by a considerable imbalance between the information available to consumers and the information available to physicians, which allows the latter, especially under open-ended health insurance and fee-for-service remuneration, to induce a demand for their services. It might almost be said, that there is a Canadian school of health economists which follow Bernard Shaw's observation, "That any sane nation having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity" (Shaw, 1958).

Evans, and others, in a series of articles (Evans and Walker, 1970; Evans et al, 1973; Evans, 1974; Evans, 1976; Evans and Wolfson, 1978; Vayda et al, 1979) have produced evidence, based mainly on Canadian experience, that physicians are able to generate demand for their services. A plausible model of behaviour for physicians is that they aim for a target income. If so, under a fee-for-service system, if fees are held down and demand can be induced, items of service will tend to increase. There is evidence from Canadian experience which is consistent with this hypothesis. From 1971-72 to 1976-77, a period when fee increases were moderated in Canada, the average billings per physician increased by 1.5% pa faster than the fee schedules. Utilisation per physician increased most rapidly in Provinces with low fee increases. For example, in Quebec where no fee increases were allowed over this period, billings per physician

increased by 4% per annum despite a 6% increase in physicians per capita. This was achieved partly by an increase of 137% in "complete examinations" (for which the fee was $11.00), an increase of 186% in "major complete examination" (for which the fee was $20.00) and a 2.2% drop in "ordinary examinations" (for which the fee was $5.00). (Evans et al 1978 and MPS, 1971.) We have already noted that a decisive test of physician-induced demand has now been carried out in the US (Mitchell and Cromwell, 1981).

Evans and Walker (1970) write, "So long as physicians are independent entrepreneurs paid on a fee-for-service basis, the incentives to expand the demand for medical services, expand the supply of (free) complementary factors of production, and to restrain the entry of substitute health care suppliers will persist". This is borne out by the findings of research reported in the British Journal "Pulse" for 15 May, 1982. A comparison of the practices of British General Practitioners and Canadian Family Physicians indicated, among other things, that British GPs, compared with their Canadian counterparts, encouraged self-care, discouraged check-ups (for which there is no evidence of medical efficacy), had less access to hospitals, and employed more support staff, such as nurses and health visitors. Canadian family doctors seemed inclined to discourage self-care or to employ substitute staff because of the loss of fees that would be involved. British GPs took longer holidays, however.

The view of the 'Canadian School' of health economists about doctor-induced demand has implications for the viability of some of the 'pro-competitive' systems of health care financing proposed recently in the US. Certainly, those which rely on cost sharing at the time of medical care consumption are not as likely to achieve expenditure restraint if doctors are able to induce demand for their services. However, it is not clear how far findings about induced demand under Canadian NHI or under widespread 'first dollar' coverage arrangements in the US, translate to a situation where consumers would be required to make substantial out-of-pocket payments for care. Also, schemes of the Enthoven type, which rely on HMOs for part of their cost containment effect, would be less vulnerable to induced demand.

10.2.3 The Effect of Charges on the Demand for Medical Care

The role of charges under Canadian NHI has been a contentious issue. Both the Ontario Economic Council and the Ontario Council of Health produced studies of charging in 1979. The Economic Council study (Barer et al, 1979) after a meticulous analysis of the effect of a wide variety of charges on efficiency and equity, concluded in essentially adverse terms. Most forms of charging would increase the financial risk to the consumer in comparison with unadulterated NHI, and would have adverse or uncertain wealth transfer effects (the equity effects of charging are discussed further in Section 10.3, below). There was little evidence that charges would have a favourable effect on efficiency. Schemes of the Enthoven type, however, had more attractive features. The study prepared for the Council of Health (Badgley and Smith, 1979) which reviewed foreign as well as Canadian experience, concluded that there was evidence to indicate that charges tended to: decrease utilisation; to have a selective impact on the poor and elderly; and, in some programmes, to create rebound effects, involving the partial displacement of care from less to more expensive categories of service. The authors' concluded that, "Once the principles of universal, comprehensive national health insurance have been established in most countries, the introduction later of higher co-payment charges is usually found to be socially and politically unacceptable ... Under most programmes of national health insurance the levels of co-payment contribute minimally to cost saving but represent ideological marker flags intended to demonstrate the principle of value for service provided". Both of these studies adopted the standpoint that the behaviour of health care markets could not be explained satisfactorily by conventional demand and supply analysis.

10.2.4 Effects of Private Markets Alongside National Health Insurance

Another controversial issue is that of 'extra billing'. In all Canadian Provinces except Quebec, physicians are allowed to opt out of the Provincial health insurance scheme while still receiving payment from this scheme for their services according to its schedule of benefits. The physicians are allowed to charge private patients

more than the Provincial insurance rate for the service, leaving the extra to be paid by the patient. Opting out and 'extra billing' are most common on Ontario. Wolfson and Tuohy (1980) have studied the effects of opting out in Ontario by examining insurance data and surveying physicians. They found that before 1978 a fairly stable proportion (about 10%) of physicians opted out, some for ideological reasons, some to maintain discretion over the prices they could charge. In 1978, however, opting out increased to about one in five of doctors, essentially because of restraint of fee increases by the Provincial Insurance Plan. From the point of view of the Ontario medical profession, opting out is seen as an important safety valve. From the point of view of the consumer, however, opting out is seen as erecting financial barriers to access. There was some evidence that this caused patients of opted out doctors to delay seeking treatment. However, the opted out doctors tended to cluster in wealthier areas and discriminate in the amount of "extra" they charged patients.

Stoddart and Woodward (see Hall, 1980, page 24) surveyed patients for further evidence of the effects of 'extra billing' in Ontario. They found, among other things, that in four counties with a high proportion of opted out doctors, more than 25% of the poor indicated that they found it hard to find a doctor they could afford to see in their home community. The poor who had been 'extra billed' were significantly more likely to have reported reduced utilisation and/or delayed in seeking treatment than the non-poor. Also, 'extra billing' seemed to reduce satisfaction with care delivered.

10.2.5 The Relative Performance of Dental Care Programmes for Children

Canada provides an interesting test bed for alternative ways of financing and providing dental care for children. Newfoundland, Nova Scotia and Quebec have universal Provincial children's denticare programmes which rely on private dentists reimbursed by fee-for-service. Saskatchewan has a Provincial school dental service staffed mainly by dental auxiliaries paid by salary. Several studies suggest that the Saskatchewan scheme is more efficient. Lewis (1981) shows that Saskatchewan achieved

enrolment rates of over 80%; 20% higher than in Newfoundland, Nova Scotia or Quebec. Parent satisfaction with Saskatchewan's programme is high. After examining quantity and costs of care, Lewis concludes that the Saskatchewan scheme operated with better or at least equal effectiveness at lower, or at least equal cost. Moreover, a study in 1976 (SHDP, 1979-80) showed that Saskatchewan's dental nurses carried out higher quality work than private dentists. For example, when 2,107 fillings in 410 children were examined by three dentists from outside the Province, 21.1% of those later shown to have been done by private dentists were rated as 'unacceptable' whereas only 3.7% of those done by the dental nurses were so rated. Brown (1980) after a comparison of the Newfoundland and Saskatchewan schemes, concludes that the latter is the better plan. He suggests, however, that labour productivity in the Saskatchewan scheme is not as high as it should be. This is outweighed by the salary savings achieved by employing auxiliaries rather than dentists.

10.3 Research and Comments on Equity Aspect of Health Care Financing Mechanisms

There is a significant Canadian literature on the distributional effects of NHI in Canada. Enterline et al (1973) showed that the introduction of medical insurance into the Province of Quebec between 1969 and 1972 led within a year, to the consumption of considerably more physician services by the poor and less by the rich. This finding resembles experience in Britain when the NHS was set up. McDonald et al (1974) showed that increases in ante-natal and post-natal care in Montreal, after the introduction of Medicare, were greatest for low income families. Siemiatycki et al (1980) confirmed that the findings of Enterline et al and McDonald et al for Quebec still held 4 years after the introduction of Medicare. Beck (1973) showed that the introduction of medical care insurance into Saskatchewan reduced the disparities in the use of physicians between rich and poor between 1963 and 1968 although significant differences in favour of the rich remained at the end. Again, Beck (1974) showed that the temporary introduction of charges for physicians' services within the medical care insurance programme in Saskatchewan resulted in a greater reduction in use of physician services by lower income families than by the population as a whole. Manga (1978) found that after allowing

for family size, age and other demographic factors there was little sign of any relationship between physician use and income across sample family units in Ontario after the introduction of medical insurance.

Statistics Canada's 1975 Survey of Consumer Finances (DEHEB, 1977), however, found slightly higher use of medical services and considerably higher use of hospital services nationally by the poor than by the rich. The Study suggests that the redistributive effects of health services are more progressive than those for education services. These results were confirmed and extended by Boulet and Henderson (1979) whose findings have already been reported in Chapter 7, Section 2.2.ii, above.

10.4 The Continuing Debate Over National Health Insurance in Canada

Although National Health Insurance in Canada is popular, debate remains about several aspects of the system. There are at least 6 areas of controversy.

i. There are still arguments about the respective shares of the Federal and Provincial governments in financing NHI.

ii. The Federal Government remains concerned about whether some Provincial governments are fulfilling adequately the five conditions originally laid down for receipt of Federal funds in support of hospital and medical insurance.

iii. There is tension between Federal and Provincial governments on the one hand, and the Canadian Medical Association (CMA) on the other, not only about the level of remuneration of doctors and extra billing but also about what the medical profession sees as inadequate funding of services generally. Like the BMA in Britain, the CMA has complained about excessive demand and inadequate supply, has drawn attention to waiting lists for hospital care, and has said that it would like to see the share of GNP spent on health services increased quickly, whereas the Federal Government has indicated that it is satisfied with the present level of funding.

iv. There is tension between Provincial governments and the independent voluntary hospitals, not only about the level of hospital budgets but also about the question of management control. Hospitals consider that their management independence has been steadily eroded by the Provincial governments in their efforts to control quality and costs and to rationalise delivery patterns.

v. There is controversy about the remaining adherence of certain Provinces to premiums and user fees as a method of part-funding medical care.

vi. There is argument about whether NHI should be extended further to cover, for example, pharmaceuticals and adult dentistry.

In 1979 the Federal and Provincial governments commissioned a fundamental review of NHI from Justice Hall who had presided over the Royal Commission which, in the 1960s, had paved the way for the introduction of medical insurance. He visited all the Provinces and collected 450 submissions. His terms of reference included considering, "... the nature and extent of necessary revisions to the Hospital Insurance and Diagnostic Services Act and the Medical Care Act and related legislation". Justice Hall, "... found no one, not any Government or individuals, not the Medical Profession nor any organisation, not in favour of Medicare". He wrote, "The nationwide demand for Medicare is an accepted fact", and his report constituted a resounding declaration of support for the continuation of NHI (Hall, 1980).

On the contentious subject of 'extra billing', and continuing wrangles over fee schedules for physicians, he concluded that, "The real point is the right of physicians to be adequately compensated for their service: no more, no less". He went on, "I reject totally the idea that physicians must accept what any given Province may decide unilaterally to pay. I reject too, as I did in the report of the Royal Commission, the concept of extra billing". He recommended that disputes about physician payment should be sent to arbitration. On the share of Federal and Provincial funding of health services, Justice Hall rejected the charge that Federal dollars were being diverted to non-health spending under the new Extended Financing arrangements. On the subject of public administration of the

insurance scheme, he argued that it would add approximately 10% to the cost of Medicare to go over to private administration of insurance. In the US insurance administration costs about 12½% of premium income compared with about 2½% of the total cost of insured services in Canada. On premiums, he recommended that the three Provinces which still had premiums should give serious consideration to phasing them out.

Justice Hall refrained from judgements on extending the comprehensiveness of NHI to cover, for example, dental services for children, and prescription drugs in the Provinces which did not have programmes. Evans and Williamson (1978) have argued that the costs of financing dental care or pharmaceuticals via extensions of universal public insurance would probably exceed the benefits. In both cases expenditure is fairly small and predictable for most of the population. This means that there is not a strong case on risk-spreading grounds for providing insurance. Also, insurance would blunt the incentives to efficiency in both markets and encourage escalation of costs. In the case of dental care, the middle classes are the heaviest users of services in Canada, as in other countries, and this means that public dental care would involve subsidising the affluent. The authors favour selective programmes - Pharmacare for the elderly and Denticare for children, with emphasis, for the latter, on the Saskatchewan school dental service.

More recently, a Parliamentary Task Force on Federal-Provincial Fiscal Arrangements took extensive evidence on the funding of Canada's Health Care System. In its Report (FFC, 1981) the Task Force endorsed the support given by Justice Hall to NHI: "Thus, for all the present concerns expressed with respect to the system, it seems clear that Canadians generally would endorse the view that the publicly-funded health care system we now enjoy is one of the great achievements of Canadian society and a tribute to those who fought for it".

Three areas of concern were identified by the Task Force:

> "i. the delivery system - health care programs and possible imbalances between methods of delivery within the system;

ii. program conditions - possible erosion of health insurance principles and failure to satisfy program conditions; and

iii. the national commitment to health care - including, particularly, possible underfunding of the sector".

These concerns bear a strong resemblance to current discussions about the NHS in Britain. On the second of these concerns, the Task Force (or a majority of the Task Force) came down in favour of concrete action to bolster NHI. For example, they pronounced in favour of a central health insurance clearing mechanism to ensure portability of benefits and came down against extra billing. On the latter, they suggested that the patients of opted out doctors should pay the whole bill, as in Quebec or in Britain for private patients. Another recommendation was designed to meet criticisms of lack of cost consciousness: hospital and medical information systems should provide periodic statements to the recipients of services to indicate the value of services rendered and the amounts billed to Provincial insurance plans by the suppliers of services. Such a step would be easier to implement in Canada than in Britain because fee-for-service remuneration of doctors provides automatic information about the cost of treating individual patients.

On the question of possible funding of health care, the Task Force rejected the pleas of the CMA for increasing the share of GNP spent on health. It concluded that, although evidence on the point was not conclusive, funding (at 7.1% of GNP in 1979) was generally adequate. Reference was made to the greater efficacy of cost control mechanisms in Canada than in the US and to the Lalonde Report (Lalonde, 1974) which had emphasised eloquently and clearly the comparative importance of prevention, including the lifestyle of the population, in promoting health. On the question of adequate remuneration of doctors, the Task Force pointed out that emigration of doctors from Canada in 1978 was no higher proportionally than in 1960, before NHI was established.

CHAPTER 11

RESEARCH AND COMMENTS ON THE EFFECTS OF HEALTH CARE FINANCING MECHANISMS IN THE UK AND PROPOSALS FOR ALTERNATIVES TO THE NHS

This chapter contains selective comments upon research on health care financing arrangements in the UK and proposals for alternatives to the NHS.

There seems to have been less research and debate on financing mechanisms in the UK than in North America, presumably because the NHS has been a relatively popular and settled institution for over 30 years. Health economics research, in particular, has been devoted more to the question of real resource allocation within the NHS than to the question of alternative financing institutions. Little research seems to have been done on the private sector in Britain, perhaps because information on activities in the private sector is scarce.

11.1 Research and Comment on Health Care Financing Mechanisms

Following the early crises of overspending in the NHS, Ffrangcon Roberts (1952) discussed the tension between unlimited demand for medical care engendered by a "free" health service and the limited provision the State was capable of making. This "inconsistency" was further explored by Buchanan (1965) who suggested that removal of price barriers from health care put the individual as a consumer of health service at odds with the individual as a taxpayer. An early official enquiry into the cost of the NHS recommended continuation of the arrangements set up in 1948, however (RCECNHS, 1956).

Critics (for example, Lees (1961), Seldon (1968), British Medical Association (1970), Seldon (Ed, 1980), Seldon (1981)), attacked the NHS for usurping consumer sovereignty in health care markets. The State monopoly of finance and provision of health services, it was argued, led to the allocation of health service resources by politicians. This, the critics suggested, guaranteed an inefficient allocation of resources because the State could not spend the taxpayers' income as widely as the taxpayer could spend it himself. The State monopoly also led to serious

under-spending, particularly on hospital buildings, the stifling of innovation, the replacement of rationing by price by rationing by waiting, and the alienation of the medical profession. While the critics conceded the need for State finance for the poor and chronically ill, they condemned State financing on a universal basis, because it led to unnecessary public expenditure and reduced the amount of help that could be given to the needy for a given amount of public expenditure. The survival of a private sector which was patronised not only by the rich, demonstrated the tenacious desire of some consumers for private care, but so long as consumers were forced to pay twice for access to private care (because there was no provision for contracting out) the growth of the private sector was unfairly handicapped.

Defenders of the NHS (for example, Titmuss (1964), Abel Smith (1968), Klein (1977) and Torrens (1980)) stressed its egalitarianism and contribution to social cohesiveness. Medical care should be allocated in accordance with need and not ability to pay. The NHS was comparatively thrifty. Consumer sovereignty did not work well in medical markets because of patients' ignorance about medical technology. It was more efficient to have public provision because services could thereby be planned to avoid, for example, duplication of facilities. The removal of commercial attitudes and values from health care delivery systems was a gain. On universality, they pointed to the way in which selectivity would add to the poverty trap (the disincentives created by high marginal tax rates over the income bands above which selective benefits cease) and argued that universality brought the middle class into the NHS, helping to create a high quality, one-tier service. The private sector was seen mainly in terms of its contribution to social divisiveness and the scarce medical resources it diverted from the NHS.

Lindsay (1969) demonstrated elegantly by formal economic analysis that an NHS which simultaneously subsidised the consumption of the poor and restricted the consumption of the rich, (by providing care on the basis of equal treatment for equal need) was, compared with various alternatives, the least costly way of providing strict equality of access to care <u>if</u> that was society's goal. Levelling down, as well as levelling up, is the least burdensome way for those with charitable impulses to provide for strict equity.

Culyer (1972) argued that the conflicting arguments about the merits of the NHS could not be solved solely by a priori reasoning. More empirical research was needed. Four years' later, however, he came down in favour of the NHS mainly on the grounds of externalities: that is to say, most citizens are concerned when their fellow citizens are sick, and are prepared to pay to see them treated. The NHS is potentially the most effective way of organising a collective response to medical need. Private charity leads to 'free rider' problems (each charitable individual has an incentive to leave the giving to others). Some of this potential had not been realised, however, because the NHS had not yet evaluated adequately the effect of alternative forms of medical care in reducing ill health (Culyer, 1976). Cooper (1975) after exploring various weaknesses of the NHS, in particular the faltering steps made to replace price rationing with satisfactory non-price rationing mechanisms, concluded that, "It is important, however, not to swing from the finding that the NHS has been less than utopian to the advocacy of some other system which might prove to be a good deal worse in practice".

Most of the work cited above was based more on a priori reasoning than on empirical research. Several of the authors cited above made international comparisons of medical care costs in support of their arguments but such comparisons tended to be inconclusive. For example, some cited Britain's low share of GNP spent on health care as evidence of under-spending/thrift, without apparently realising that most of her low share could be explained by her comparatively poor economic performance, compared with other industrialised nations.

A recent exception to the paucity of empirical research, is work by Lindsay (1980). For example, using mainly econometric analysis, which he admitted was crude, Lindsay found some evidence that government's involvement in health care had a favourable impact on health (measured by mortality rates) in Britain compared with the US. There was no such evidence for Canada compared with the US. Again, using econometric analysis (employing admittedly shaky data) he showed that hospital capital spending by regions in England was weakly, but statistically significantly, associated with numbers of marginal Parliamentary constituencies per region for the three general elections between 1964 and 1970. In other words, the distribution of NHS capital spending seemed to be subject to vote-purchasing apparently

unrelated to medical needs. This finding is vulnerable to the objection that correlation is not causation and is of doubtful relevance since the introduction of the method of allocating recurrent and capital budgets to Regions by the formula of the Resource Allocation Working Party (RAWP, 1976).

Finally, another exception to the lack of empirical research on the effects of health service financing mechanisms in Britain, is work on the topic of equity of access to health care. The available evidence has already been reviewed in Chapter 7, above. For the most part, access to services seems to be equitable. There is conflicting evidence, however, on whether the general practitioner services "speak with an upper class accent". Geographical inequities in access between Regions are being tackled by the operation of the RAWP formula. Payment for services seems to be roughly proportional to income.

11.2 Proposals for Alternatives to the NHS

The critics of the NHS have made a number of proposals for changing the way health services are financed in Britain. Of most interest, perhaps, are the ideas associated with the proponents of market solutions to health care (for example, Lees (1961), Seldon (1968), British Medical Association (1970), and Seldon (1981)).

The most carefully spelt out of these proposals is to be found in Chapter 6 of the British Medical Assocation volume on 'Health Services Financing'. This suggested the introduction of charges sufficient to cover costs for most acute care. Compulsory social insurance would be required, with minimum premiums set so as to cover the per capita level of acute care available under the NHS at the time the scheme started. Individuals would be free to contract out of the social insurance scheme, provided

they took out the legal minimum of cover. Means-tested vouchers would be made available through the tax system for low income groups. All individuals would be able to claim health insurance premiums against tax at the standard rate. Private insurance companies would be subjected to rules requiring them to take on all subscribers, irrespective of risk and a modified form of community rating would be required. All chronic care (for example services for psychiatric and geriatric patients) would continue to be financed from tax and it was envisaged that hospitals would remain mainly in public ownership. Also, community health services, hospital capital expenditure and pharmaceutical services would continue to be financed from taxation. Such a system would allow a major cut in public expenditure, at least initially. Total spending on health care might be expected to rise as individuals, mainly with higher incomes, opted for insurance with extended benefits. The compulsory social insurance funds, together with continuing public provision of health services, would ensure access to acute care no less than that provided by the NHS at the time of the inception of the scheme. There was some suggestion that compulsory insurance would act as a cost restraining device thereafter (the compulsory minimum premium would need to be regularly increased to accommodate rising standards of care). It was admitted that the aim of strict equality of health service provision would be the major sacrifice of such a scheme.

These proposals bear some striking resemblance to Professor Enthoven's Consumer Choice Health Plan, discussed in Chapter 10 above, but there are also differences between the two schemes.

a. Professor Enthoven's plan envisages a subsidy of about 60% of the average cost of basic insurance for all except the poorest individuals. This would promote equity in payment and cut down on poverty trap problems compared with the BMA plan. By the same token, it would lessen scope for public expenditure reduction. Because the BMA scheme would be compulsory it would not be necessary to bribe consumers to contract only with insurance schemes that followed government regulations.

b. Professor Enthoven's scheme fixes subsidies, except for the poor, in relation to the average cost of basic insurance. The BMA scheme would give higher subsidies to those choosing more expensive insurance. This would encourage over-insurance with adverse repercussions on cost containment.

c. Professor Enthoven's scheme rests on the assumption that costs would be contained by the growing dominance in health care markets of Health Maintenance Organisations. The BMA scheme seems to rely on the compulsory social insurance scheme and continued public provision as an anchor against loss of cost control. However, unless government were to control the premium in the compulsory sector and enforce cash limits on the basis of the revenue raised, costs in this sector might escalate rapidly.

d. In the BMA scheme, individuals with higher income (better risks) would tend to contract out leaving individuals with lower income (poorer risks) in the compulsory scheme. This would put upward pressure on premiums or lead to deficits in the compulsory scheme. If the government resisted premium rises, and refused to subsidise the compulsory scheme, standards in the compulsory sector would be forced down. Any tendency towards two-tier medicine would be enhanced by the ability of those privately insured to bid resources away from those compulsory insured. The provision in the BMA plan for open enrolment and community rating in private insurance schemes might not be sufficient to counteract such tendencies. The government could subsidise a compulsory scheme but there would then be an additional threat to cost containment and the control of public expenditure.

Compared with the NHS, both the BMA scheme and a Consumer Choice Health Plan would be less equitable in providing access to and obtaining payment for services, although both would provide the poor with minimum access to services on subsidised terms. Both would cut public expenditure but would be less amenable to government control of spending (which might be an advantage in the eyes of their proponents). Both would probably be more expensive to administer than the NHS because of the insurance transactions they would generate and the requirement for government to regulate the private insurance industry.

The BMA proposals of 1970 did not receive official support at the time. Following renewed pressure from the BMA, the government set up a Royal Commission on the NHS in 1976 to consider, "... the best use and management of the financial and manpower resources of the NHS ...". After receiving copious evidence on, among other things, alternative ways of financing health services, the Royal Commission recommended against any fundamental departure from tax funding of health care in Britain on the grounds that alternatives such as insurance systems would be inegalitarian, administratively expensive, or both. The Royal Commission went on to recommend abolition of all charges for NHS services (RCNHS, 1979).

In a discussion document issued in 1982, a Committee of the BMA argued against a wholesale introduction of insurance arrangements in place of the NHS, on the grounds that this would be unpopular, administratively expensive, unlikely to add significantly to NHS finances, and unlikely to be capable of relieving the State of responsibility for the health of the poor, chronically ill and elderly. Limited growth of the private sector, however, would relieve pressure on NHS acute services and could be encouraged by tax relief on insurance premiums and the provision of NHS drugs and appliances for private patients (BMA, 1982).

CHAPTER 12

CONCLUSIONS

The objective of this study, which was financed by a Nuffield/Leverhulme Travelling Fellowship, was to study methods of financing health services in the US and Canada and to derive lessons which might be of use in the British debate on financing health services. The chosen methodology was to assemble evidence (and informed opinion) on the effects of health care financing arrangements on the performance of health care systems - particularly with respect to efficiency and equity.

In Chapter 1, it was argued that all countries face certain dilemmas in financing health services. These dilemmas arise from peculiar characteristics in the demand and supply for medical care and may be summarised as follows:

a. Health is seen as important and there is almost universal support for the idea that the sick should not be denied at least a minimum of care. However, need is frequently related inversely to ability to pay. This stimulates a demand for private charity or government support in various ways, but the taxes necessary to finance the latter may cause distortions elsewhere in the economy.

b. The incidence of disease is often highly uncertain. Even prosperous individuals can be overwhelmed financially by unexpected illness. Health insurance can tackle this problem but we have seen that health insurance brings difficulties in its wake.

c. Consumers' ability to judge what medical care they need and the quality of the medical care they have received is defective partly because sickness itself may impair judgement and partly because modern medical knowledge is far beyond the reach of most individuals. This problem can be tackled by licensing of the health professions and by the development of ethical codes but monopoly and restrictive practices tend to follow.

Although many other products share one or two of these characteristics, few share all three.

In Chapter 1 a distinction was made also between the three aspects of financing health services:

- methods of funding health services;
- methods of paying providers; and
- varieties of ownership of health services.

The conclusions of this study are organised under each of these headings in turn.

12.2 Conclusions about Methods of Funding Health Services

We saw in Chapter 1 that there are four main ways of funding health services: by direct payment; by private charity; by private health insurance; and by government (insurance or tax funding). It is convenient to discuss all insurance methods of funding (private and government) together but otherwise this section deals with each of these alternatives in turn.

12.2.1 Direct Payment

Direct payment, as a method of funding health services has declined in all three countries. It plays the most important role in the US where nearly one-third of all payments for health care but only 10% of payments for hospital care are still direct. In Canada, there is considerable direct payment, especially for dentistry and pharmacy and there are nominal charges for certain other services provided under some Provincial pharmaceutical and ophthalmic services, outside the private sector.

Copious evidence from the US (Chapter 8) and Canada (Chapter 10) suggests that direct charging for services restrains the amount of health services consumed compared with a situation where the patient is fully insured. Also, charging, unless it is income-related, tends to have a disproportionate effect on the poor, and it tends to encourage supplementary insurance. Where the consumption of medical care is cut, it is not yet known whether

this affects necessary as opposed to unnecessary care. The RAND health insurance experiments should shed light on the effects of increasing cost sharing on health. There is a possibility that where increased cost sharing cuts demand, doctors may be induced to drum up business to preserve their incomes.

There is also evidence from the US that direct payments make an important contribution to the relatively regressive method of paying for health care in America.

12.2.2 Private Charity

Philanthropy continues to play an extremely important role in funding health services. However, private charity has dwindled in all three countries, and has been replaced by public finance. Because of 'free-rider' problems it is often argued that government is more efficient than the private sector at harnessing the community's charitable impulses in the health care field.

There is clear evidence from the US (Chapter 8) that attempts to mix private charity and private health insurance (via community rating) tend to break down in a competitive market.

An interesting exception to the decline in charity is that in Canada local giving still accounts for a high proportion of the funds made available for hospital construction. In some Provinces, government funds for hospital construction are made available only if matching private funds are forthcoming. This may relate to Canada's retention of private ownership of most hospitals.

12.2.3 Health Insurance

It is convenient to discuss private and government health insurance together. This is not to say that there are no distinctions between them. For example, government or 'social'insurance schemes, such as Medicare, can be used to impose community rating, or 'solidarity' in European parlance.

Strictly, health insurance implies arrangements where the eligibility for benefits depends on entitlement through contributions. In this section we make a sharp distinction between conventional, third party insurance (for example the Blues and Medicare) on the one hand, and HMOs on the other hand.

US experience suggests that voluntary private insurance with selective, compulsory government insurance tends to leave gaps in coverage for some individuals. 6% to 13% of Americans have no health insurance cover and a larger proportion have inadequate cover.

Moreover, many believe that third party health insurance is the main factor responsible for 'unnecessary' care and the breakdown of cost containment in the US. The research reviewed in Chapter 8 suggests that whereas conventional health insurance provides financial security for consumers, it does so at the expense of eroding the incentives for the doctor, and the patient, to economise, especially when the doctor is paid by fee-for-service. There is evidence that the doctor, rather than the patient, is the key to the demand for health care (especially hospital care) at the margin. It has been shown that American surgeons can induce demand for their own services (Chapter 8). US insurance organisations do not seem very effective at resisting escalating costs and consumers (or more often, in the US, employers acting on their behalf) are not very effective at resisting the consequent rises in premiums, especially when there are heavy tax subsidies available for health insurance. Furthermore, judging by US evidence, government regulation of selected elements of health care expenditure, such as unit costs of hospital care (PSROs) or capital expenditure (CON) is not effective. The only cost restraining device that seems to work when conventional insurance and fee-for-service are combined, is prospective block budgeting (see Section 12.3, below).

HMOs, however, (which, in effect, integrate insurance and provision) provide a sharp contrast to conventional insurance. There is ample evidence (see Chapter 8) that HMOs cut the cost of comprehensive health cover by between 10% and 40% without apparently cutting the quality of care. So far, however, HMOs have captured less than 5% of the US private insurance market.

Ideas for reforming health insurance arrangements in the US now centre around 'pro-competitive' proposals which would involve strengthening the market rather than replacing the market by government institutions. The general idea is to combine government subsidies to consumers (for example by vouchers) with increased consumer cost sharing. This, it is believed, would put competitive pressure on providers to reduce costs. Medicare and Medicaid might be phased out. We have already seen some of the objections to increasing direct payments for health care itself (see 12.3.1, above). An alternative arrangement, recently aired in the US, would be to increase consumer cost sharing at the time that health insurance is purchased, when consumers are more likely to make a rational choice. For example, fixing tax subsidies in relation to the cost of insurance would help to promote cost consciousness. This should encourage HMOs to flourish. Government regulation of insurance organisations and vouchers for the poor would be required to ensure 'socially desirable' competition. Although this possibility is being given serious consideration in Washington, it is not yet clear whether changes in this direction will be forthcoming, not least because of strong opposition by providers. Also there is uncertainty about the extent of government regulation required to ensure 'socially desirable' competition.

12.2.4 Government Tax Funding

We have seen in Chapters 3, 4, 10 and 11 that both Britain and Canada have chosen mainly tax funding of health services.

Such arrangements allow provision of comprehensive care to the whole population on an equitable basis. We saw in Chapter 7 that, on the whole, services are distributed more equitably in relation to health in Canada and the UK than in the US. Britain seems to be in the lead with RAWP-style arrangements. We saw, also, that payment for health services in Canada and Britain is roughly proportional to income or mildly progressive, rather than regressive as in the US.

However, stresses and strains over health care financing arrangements have appeared in both Canada and Britain. There are worries, particularly among the medical profession, about underspending in both countries. This is underlined by the tendency for surgery queues and in-patient waiting lists to form where access to care is "free" but resources remain rationed. It is difficult to reach an objective conclusion as to whether under-provision has occurred in Canada or Britain. In the case of the UK, we have seen in Chapter 5 that Britain's method of accounting for the health sector tends to understate health expenditure in comparison with the North American countries and that, allowing for this and for Britain's comparatively low GDP per capita, her health spending does not look out of place on the international league table. There is friction in both countries (which takes a slightly different form in each) about the frontier between public and private medical care. Lastly, there is concern in both countries about lack of consumer cost consciousness. So far as Canada is concerned, these are seen currently as fairly minor blemishes on the National Health Insurance system. Canada does not seem to be so concerned about restrictions on consumer choice in health care as Britain. Canadians are free to approach any doctor contracted with a Provincial insurance scheme, including specialists. However, restriction on patients' ability to do this in Britain is a matter of medical convention which transcends the NHS.

12.3 Conclusions on Methods of Paying Providers

So far as hospitals are concerned, we have seen that the US relies mainly on retrospective cost reimbursement or payment of hospital charges by insurance organisations, whereas Canada and Britain rely on prospective block budgeting. There is firm evidence on the US that where the latter is tried it is successful in restraining costs and this is borne out strongly by Canadian and British experience. Prospective block budgeting not only allows control of costs, it allows considerable delegation of management authority. For example, in some respects British doctors have more clinical freedom than their American counterparts. We have seen from Chapter 4 that several features of the British health care system encourage

cost restraint in the private sector, at present. It is not obvious, however, that cost restraint would remain if one or more of these features were to change.

So far as payment of doctors is concerned, the US and Canada both rely mainly on fee-for-service. When this is combined with open-ended insurance as in the US, it seems to encourage excessive growth of medical care expenditure. Canadian Provinces have, by and large, managed to hold the rate of growth of expenditure on physician services to the rate of growth of expenditure on health care as a whole, by means of vigorous bargaining over fees. However, there has been a tendency for the volume of services to rise. In Britain the method of paying dentists under the General Dental Service by fee-for-service has also been associated with an increased volume of service.

It is difficult to decide whether the comparatively low pay of Britain's doctors is a result of predominantly salary/capitation methods of remuneration or a result of the more egalitarian pay structure in Britain.

12.4 Conclusions on Ownership of Facilities and Other Aspects of Organisation

The findings of this study on the relative merits of private and public provision of health services must be regarded as mixed. The US and Canada rely predominantly on private provision, Britain almost exclusively on public provision. Canadian experience suggests that public control of the funding of health services does not necessitate public provision of health services.

We have seen in Chapter 6 that a rather crude comparison of labour productivity in the health sector suggests that Britain's health workers are more productive than their counterparts in either the US or Canada, before allowing for the intensity of care. There is scant evidence to reject the hypothesis that Britain's health services have been just as effective in promoting health as those in the US and Canada. On some more minor questions, Britain seems to rely more heavily on domiciliary care for long term care patients. This seems to be the cheapest form of provision: whether it is the best is unclear. Comparisons of dentistry for children

within Canada suggest that Saskatchewan's Public school dental plan, which is staffed by dental auxiliaries, is more efficient than Quebec's private fee-for-service arrangements.

In Chapter 6, however, we saw that in the US and Canada length of stay in short-stay hospitals is shorter than that in comparable hospitals in England. This might be due to the lesser severity of the marginal case rather than to differences in efficiency. In Chapter 8 we saw that, in the US, private nursing homes seem more efficient than public nursing homes in providing care, and among private homes, proprietary homes seem more efficient than non-proprietary homes. Also, in Chapter 8 we saw that questions have been raised about the efficiency of Veterans' Administration hospitals, which are run by a Federal Government agency. Finally, in Chapter 6 we saw that within the institutional sector Britain has proportionately more high cost, long-stay hospital beds and proportionately fewer low cost, residential/nursing home beds than the US or Canada. It is ironic that the poorest country has the most expensive mix of long-stay institutional facilities.

12.5 General Conclusion

To summarize, there is a major distinction between modes of funding health services and modes (public or private) of supplying care.

Of the various modes of financing health services, tax funding (with budgeting) comes out well from this report on grounds both of equity and cost containment. Its main contender - a carefully regulated, private, competitive health insurance market, with vouchers and HMOs - cannot be assessed easily because it is relatively untried in the US.

There is conflicting evidence on whether private or public modes of health service provision are more efficient. Further research is required; particularly on the comparative performance of public and private health care suppliers under tax-funded regimes.

APPENDIX

THE DEFINITION OF 'HEALTH' EXPENDITURE IN THE US, CANADA AND THE UK

This Appendix explains the calculations which have gone into Tables 5.3, 5.4, 5.5 and 6.1 in the main report.

The DHHS in Washington, and Health and Welfare in Ottawa, both compile accounts for health expenditure which share common boundaries (Gibson and Waldo, 1981 and NHEIC, 1979). A health account is not compiled routinely in the UK, although health expenditure is covered fully in the national accounts (NIE, Annual). Here, spending on the National Health Service is recorded as a separate item but other public and private expenditure on health care is covered elsewhere in the accounts and cannot be separately identified in the published tables.

It was decided, for the purposes of the aggregate comparisons in chapters 5, 6 and 7, to adopt the North American definition of the boundaries of the health sector. This meant undertaking a special exercise to isolate expenditure according to such a definition in Britain. Fortunately, work had already been done in the Economic Advisers' Office of DHSS in 1980 which identified health spending according to a definition similar to that adopted in North America.

Table A.1 presents a matched list of the main components of health spending in each country using national nomenclature. The components listed cover, where appropriate, both private and public expenditure. Certain items not specifically listed are covered in all three countries: including school health services and capital consumption. Certain items are excluded in all three countries: ambulance services, welfare foods, environmental health expenditure on water and sanitation, medical education (away from the bed-side) and prison medical services. Expenditure on ambulance services can be identified readily for the UK but it is not included in tables 5.3, 5.4 and 5.5 because it is not available for either the US or Canada. Four, presumably small, items are excluded from the UK figures in table 5.5, despite their inclusion in the North American tables, because expenditure upon them cannot be identified readily.

TABLE A.1

Main components of health spending in the US, Canada and the UK using national nomenclature.

US	Canada	UK[1]
Hospital care	Hospitals	Hospitals
Physician services[2]	Physician services[2]	General medical services
Dentists services	Dentists services	General dental services
Other professional services	Other professional services	Community health services
Drugs and drug sundries	Drugs	General pharmaceutical services and over-the-counter medicine.
Eyeglasses and appliances	Eyeglasses and appliances	General ophthalmic services and therapeutic appliances
Nursing home care	Special care facilities	Nursing and residential homes
Other health services	Other health expenditure	Other health expenditure
Expenses for pre-payment and administration	Prepayment and administration	health service administration
Government public health acitivities	Public Health	Public health services
Research	Research	Research
Medical facility construction	Capital expenditure	Capital expenditure

Notes:

1. Where appropriate both public and private expenditure are covered for the UK entries.

2. An appropriate proportion of physicians' expenditure can be transferred to hospitals to match the UK entry.

Sources: US: Gibson and Waldo (1981)

Canada: NHEIC (1979) and information from the Medical Economics Section, Health Information Division, Health and Welfare, Canada, July, 1981.

UK: Economic Advisers' Office, DHSS.

They are: military health spending, occupational health services, expenditure on private medical research, and expenditure on raising taxes for the NHS. It is believed that in the US, expenditure on health service administration at State and local level, on medical equipment in hospitals, and on capital consumption (missing for Federal, State and local government hospitals) is understated.

The main problem in this comparison is reconciling the boundaries of the institutional sector in the three countries. There is some ambiguity about the respective roles of nursing and residential homes in the three countries. Public residential homes are the responsibility of Local Authorities in Britain, not Health Authorities, and they are invariably excluded from the British health expenditure figures in international comparisons. Despite this, the decision was taken to include public and private residential homes in the British health sector for the purposes of this study. Broadly speaking, it seems likely that the population that is found in residential homes in Britain corresponds to part of that found in nursing homes in the US and special care facilities (the Canadian equivalent of nursing homes) in Canada. This statement requires some justification.

1. Table 6.1, above, shows total long stay hospital, nursing and residential homes provision in the US, Canada and England. It suggests that provision of all long stay institutions, per capita, was broadly similar between the three countries. If residential homes were excluded from the English health sector, total long stay institutional provision in England would be less than one-third that in the US and Canada. Although Britain seems to have more extensive domiciliary support services than are found in either the US or Canada, it seems unlikely that this could make up for such a large difference in the role of long stay institutions between the three countries.

2. The US has three types of long stay facility: long stay hospitals (16% of the total): nursing homes (69% of the total) and residential homes (15% of the total) (WPLTC, 1981). Part of the reason why nursing homes dominate numerically may be that strong incentives exist under Medicare and Medicaid for non-hospital long stay institutions to acquire nursing homes status (for reimbursement reasons). The US Census in

1950, 1960 and 1970 described the bulk of non-hospital long stay institutions as "Homes for the Aged and Dependent". Subsequently, there has been rapid growth of nursing homes, much of which may have been due to a re-labelling of former "Homes for the Aged and Dependent". Nursing homes are divided into: (i) nursing homes; (ii) personal care with nursing homes; (iii) personal care without nursing homes; and (iv) domicilary homes. Type (i) nursing homes, "must employ one or more full-time registered or licensed practical nurses and must provide nursing care to at least half of the residents" (HUS, 1979). The remaining nursing homes need not necessarily employ nurses (although they may do so). 17% of US nursing homes are in these last three categories. Table 6.1 covers: a. nursing homes; and b. residential homes for the mentally retarded and physically handicapped. That is, it excludes residential homes for the emotionally disturbed, drug abusers and alcoholics, which house about 30% of inmates of residential homes. This means that in Table 6.1 about 20% of non-hospital beds are in residential homes and in the three categories of nursing home (types (ii)-(iv)) not necessarily employing nurses. Although the remaining homes must employ nurses, a considerable proportion of residents seem not to be very dependent (see below).

3. So far as expenditure on 'nursing home care' in the US is concerned (Table 5.3) it is not entirely clear where the boundaries of the nursing home sector are drawn. Gibson and Waldo, 1981, refer to, "... spending in all facilities or parts of facilities providing some level of nursing care ... (including) those certified by Medicaid as intermediate care facilities for regular patients as well as solely for the mentally retarded and all other homes providing some level of nursing care even though they are not certified under (Medicare or Medicaid)". It seems that some residential homes are included in this definition, but no precise reconciliation could be undertaken of the numbers of beds in Table 6.1 and expenditure on nursing homes in Table 5.3.

4. In Canada, non-hospital long stay institutions are now called "special care facilities". These are defined as, "...nursing homes, homes for the aged, physically handicapped, the blind, the deaf, the mentally handicapped, emotionally disturbed children, alcoholics and/or drug addicts, delinquents, unmarried mothers, etc., with a

minimum of four beds. The institutions in this group provide nursing, custodial and/or counselling services as opposed to active medical treatment provided in the general and alllied special hospitals". (SCF, 1974). The last three categories of facility have been excluded for the purposes of the analysis in Tables 5.4 and 6.1. Special care facilities are categorised into seven types depending on the dependency and care needs of residents. It seems from ARSCF, 1977-8 that only about 29% of residents in the homes included in this study actually required nursing care.

5. In England, there were no NHS nursing homes in 1977 and only about 30,000 beds in private nursing homes. There were, however, about 200,000 beds in public and private residential homes. Public residential homes are provided by Local Authorities for the old and disabled, mentally ill and mentally handicapped as part of the Personal Social Services. They are not formally part of the health sector. The general philosophy surrounding English residential homes is that they are residences and not nursing establishments. They are not usually staffed by nurses. They do, however, provide personal care for residents, most of whom are frail, confused, mentally disturbed or otherwise disabled. In general terms, their residents seem to correspond to the less dependent residents in North American nursing homes and special care facilities.

6. The decisive test of the comparability of a large part of the population of North American nursing homes and the population of English residential homes must be the characteristics of their respective residents.

a. One indicator of the dependency of residents is their age. In the US, in 1977 86% of nursing home residents were over 65 years of age and 35% were over 85 years of age (NNHS, 1979). In Canada, in 1977/8, 87% of residents of all special care facilities were aged over 65 and 26% were aged over 85 (ARSCF 1977-78). In England, in 1970, 91% of residential home residents were aged over 65 and 34% were aged over85%. (CORA 1975). Thus, the residents of English residential homes were slightly older than the residents of American and Canadian nursing homes, on average.

b. Information on the mobility of residents is available for both the US and England. In the US, in 1969, about 44% of residents of nursing homes were "ambulatory unconfined" (MOCI, 1974). In England in 1970 about 52% of residents were "able to walk unaided" (CORA, 1975). About 11% of residents were "chairfast" in the US. In England about 6% used a "wheel-chair". In the US about 26% were "bedfast". In England about 2% were "bedfast or mainly so" (CORA, 1975). Although a higher proportion of residents were chairfast or bedfast in the US than in England, the US nursing home sector was about 50% larger than the English residential home sector. In terms of rates of residents per thousand general population, the population of ambulatory residents was higher in US nursing homes than in English residential homes.

c. Information on continence is available in both the US and England. In the US, in 1977, about 45% of residents had "difficulty with bowel and/or bladder control" (NNHS, 1979). In England, in 1980, a small survey suggested that 36% of residents had occasional or frequent difficulty with continence (Booth et al, 1982). Again the continent population was larger in the US when expressed as rates per thousand general population.

d. It is difficult to compare the mental state of residents of US nursing homes and British residential homes. The 1977 Nursing Home Survey in the US suggested that about 20% of residents had had a primary diagnosis of mental illness. However, a contemporary survey estimated that an additional 8% had a potentially diagnosable mental condition and 31% suffered from senility without psychosis (Isaacs, 1982). In England, the 1980 survey (Booth et al, 1982) suggested that nearly 10% of residents were "disorientated" and 38% were mildly confused. However, once again, the US seems to have higher rates of residents without mention of mental disorder if the absolute size of this population, rather than its proportionate size, is compared with that in England.

All this evidence is consistent with the hypothesis that US nursing homes contain both persons who in England would be in long stay hospitals and persons who in England would be in residential homes. It seems clear that if the US has few residential homes and lots nursing homes which include a sizeable proportion of residents who are ambulant, continent and sane it would be inappropriate to exclude English residential homes from the health sector.

REFERENCES

I. OFFICIAL REFERENCES (abbreviated titles).

AA — Annual Abstract of Statistics, Central Statistical Office, HMSO, annual.

ADH — Adult Dental Health, England and Wales 1968-1978, Office of Population Censuses and Surveys, HMSO, London, 1980.

AHA — Hospital Statistics 1980 American Hospital Association, Chicago, 1980.

ARHCF — Annual Return of Health Care Facilities: Hospitals Summaries 1977 Statistics Canada, Ottawa.

ARSCF — Selected tables from Annual Return of Special Care Facilities, 1977-78 Health Division, Statistics Canada, Ottawa, August 1980.

CBO — Tax Subsidies for Medical Care: Current Policies and Possible Alternatives Congressional Budget Office, Washington DC, January 1980.

CHMI — Canada Health Manpower Inventory 1979, Health Information Division, Health and Welfare Canada, Ottawa, August 1980.

CNHED — Compendium of National Health Expenditures Data US, DHEW, Social Security Administration, ORDS, Washington DC, January 1976.

COF — Hearing Before the Committee on Finance, US Senate 97th Congress, Nomination of Richard S Schweiker (etc) 6 January, 1981, US Government Printing Office, Washington DC, 1981.

CORA — The Census of Residential Accommodation, 1970, I. Residential Accommodation for the Elderly and Physically Handicapped, DHSS, HMSO, 1975.

CP — Census of Population 1950 Special Report P-E No 2C 'Institutional Population' Washington DC.

CPR — Current Population Reports Series P25 No 721, US Department of Commerce, Bureau of Census, April 1978.

DEHEB — Distributional Effects of Health and Education Benefits, Canada, 1974, Statistics Canada, Catalogue No 13-561, occasional, Ottawa, June 1977.

EP — Edentulous Persons, Vital and Health Statistics, Series 10, No 89, DHEW, Washington DC, 1971.

ET — Economic Trends CSO, HMSO, London (monthly).

FFC — Fiscal Federalism in Canada; Parliamentary Task Force on Federal-Provincial Fiscal Arrangements, House of Commons, Canada, August 1981.

GASJ — Government and the Advancement of Social Justice: Health, Welfare Education and Civil Rights in the Eighties. President's Commission for a National Agenda for the Eighties, US Government Printing Office, Washington DC, 1980.

GEP — The Government's Expenditure Plans 1980-81 to 1983-84. Cmnd 7841, HMSO, March 1980.

GHS — General Household Survey 1977 Social Survey Division, Office of Population Censuses and Surveys, HMSO, 1979.

HIPE — Hospital In-Patient Enquiry 1977 Office of Population Censuses and Surveys, HMSO, 1980.

HPSSS — Health and Personal Social Service Statistics for England (with summary tables for Great Britain) 1978, Department of Health and Social Security, HMSO, 1980.

HPSSSNI Health and Personal Social Service Statistics for Northern Ireland, 1979, Department of Health and Social Services, Belfast.

HS Hospital Statistics, 1950, Dominion Bureau of Statistics, Canada.

HSCR Health Services Costing Returns for the year ended 31 March 1978, Department of Health and Social Security, HMSO, 1980.

HUS Health United States 1979, US Department of Health, Education and Welfare, PHS, Washington DC, 1980.

IFS International Financing Statistics, Vol XXXIII, No 11, November, 1980.

MHS Mental Health Statistics, Vols 1-3 1977, Statistics Canada, Ottawa, 1980.

MOCI Measures of Chronic Illness Among Residents of Nursing and Personal Care Homes, United States, US DHEW, Public Health Service, National Centre for Health Statistics, Vital and Health Statistics, Series 12, Number 24, Rockville, Maryland, March 1974.

MPS Manuel des Proffessionels de la Sante: tarif d'honoraires cahier des pestations; Regie de l'assurance - maladie du Quebec; (Various editions) 1971-1977.

MS Mortality Statistics Area, 1979, England and Wales, Series DH5 No 6, OPCS, HMSO, 1981.

MUHHS Medicare: Use of Home Health Services, 1977, Health Care Financing Program Statistics, HCFA, ORDS, DHHS, January, 1981.

NAMCS National Ambulatory Medical Care Survey, 1977. Summary US, Jan-Dec 1977. Vital and Health Statistics, Series 13 No 44, US DHEW, PHS, Washington DC, April 1980.

NASR — Needs Assessment Study - Report. HM Treasury, HMSO, London, December, 1979.

NC — Nursing in Canada 1978, Statistics Canada, Ottawa, 1980.

NHEIC — National Health Expenditures in Canada 1960-1975, Health and Welfare Canada, January 1979.

NIE — National Income and Expenditure, Central Statistical Office, HMSO, Annual.

NIEA — National Income and Expenditure Accounts 1926-1974 and 1965-1979, Statistics Canada, Ottawa, March 1976 and November 1980.

NIPAUS — The National Income and Product Accounts of the United States 1929-1974, Statistical Tables, US Department of Commerce, Washington DC, 1977.

NNHS — The National Nursing Home Survey 1977, Summary for the United States, US DHEW, Public Health Service, National Centre for Health Statistics, Washington DC, July 1979.

NUHR — The Nation's Use of Health Resources 1979 US, DHEW, PHS, 1980.

OECD — Public Expenditure on Health, Studies in Resource Allocation No 4, Organisation for Economic Co-operation and Development, Paris, 1977.

PMP — Profile of Medical Practice 1979, American Medical Association, Monroe, Wisconsin, 1979.

RAWP — Sharing Resources for Health in England, Report of the Resource Allocation Working Party, Department of Health and Social Security, HMSO, 1976.

RCECNHS — Report of the Committee of Enquiry into the Cost of the National Health Service (Guillebaud Report), Cmnd 9663, HMSO, London, January, 1956.

RCNHS — Report of the Royal Commission on the National Health Service, Cmnd 7615, HMSO, July 1979.

RT — Regional Trends, 1981, CSO, HMSO, London.

SAUS — Statistical Abstract of the United States 1980, US Department of Commerce, Bureau of the Census, Washington DC, 1980.

SCB — Survey of Current Business, US Department of Commerce, Washington DC, January, 1980.

SCF — Special Care Facilities Residential Facilities and Services, 1974, Statistics Canada, Ottawa, September, 1977.

SHDP — Saskatchewan Health Dental Plan, Annual Report, 1979-80; Government of Saskatchewan.

THOC — The Health of Canadians, Report of the Canada Health Survey, Health and Welfare Canada and Statistics Canada, 1981.

VS — Vital Statistics, Volume III 1977, Statistics Canada, Ottawa, 1981.

VSUS — Vital Statistics of the United States, US, DHEW, PHS, NCHS, Washington DC, Annual.

WPLTC — Working Papers on Long Term Care prepared for the 1980 Under Secretary's task force on long-term care. DHHS, Office of the Assistant Secretary for Planning and Evaluation, Washington DC, October 1981.

II. ARTICLES AND BOOKS

Aaron H J — 'The Domestic Budget' in Setting National Priorities; the 1980 Budget J A Pechman (Ed), The Brookings Institution, Washington DC, 1979.

Abel-Smith B — An International Study of Health Expenditure WHO, Public Health Papers, No 32, Geneva 1967.

Abel-Smith B — 'Conclusion: the need for social planning' in Social Services for All? Part Four, Fabian Tract 385, London, July 1968.

Aday L A, Andersen R and Fleming G V — Health Care in the US, Equitable for Whom? Sage, Beverly Hills, 1980.

Anderson O W — Health Care: Can there be equity? The United States, Sweden and England, John Wiley, New York, 1972.

Anderson O W — 'The Uneasy Equilibrium: Private and Public Financing of Health Services in the United States, 1875-1965; College and University Press, New Haven, Conn, 1968.

Andreopoulus (Ed) — National Health Insurance: Can We Learn from Canada?; Proceedings of the Sun Valley Forum on Health Insurance, New York, Wiley, 1975.

Badgley and Smith R D — User Charges for Health Services, Ontario Council of Health, Toronto, 1979.

Bakwin H — 'Pseudodoxia pediatrica' New England Jo of Medicine, 24, 691, 1945.

Barnes B A — 'Discarded operations - surgical innovation by trial and error' in J P Bunker, B A Barnes and F Mosteller, Cost, Risks and Benefits of Surgery, Oxford UP, NY, 1977.

Barer et al — Controlling Health Care Costs by Direct Charges to Patients: Snare or Delusion?, Ontario Economic Council; Occasional Paper No 10, Toronto, 1979.

Bays C W — 'Cost Comparisons of For-Profit and Non-Profit Hospitals'; Social Science and Medicine, Vol 13C, 1979.

Beck R G — 'Economic Class and Access to Physician Services Under Public Medical Care Insurance', Int Jo of Health Services, Vol. 3, No. 3, 1973.

Beck R G — 'The effects of co-payment on the Poor' Jo of Human Resources, Vol IX, No 1, Winter, 1974.

Begun J W and Feldman R D — A Social and Economic Analysis of Professional Regulation in Optometry, National Center for Health Services Research 81-61, DHHS/PUB/PHS-81-3295, April, 1981.

Black Sir D — Inequalities in Health Report of a Research Working Group, DHSS, 1980.

Benham L — 'The Effect of Advertising on the Price of Eyeglasses'; The Journal of Law and Economics, Vol 337, 1972.

Berki S E — Hospital Economics; Lexington Books, Lexington, Mass., 1972.

Birnbaum et al — 'Why Do Nursing Home Costs Vary?' Medical Care, November 1981, Vol XIX, No 11.

Breslow and Enstom J E — 'Persistence of health habits and their relation to mortality'. Preventive Medicine, 9, 469-483, 1980.

Booth T et al — 'Levels of dependency in local authority homes for the elderly' Journal of Epidemiology and Community Health 1982, 36,53-57.

Boulet J A and Henderson D W — Distributional and Redistributional Aspects of Government Health Insurance Programs in Canada, Economic Council of Canada, Discussion Paper No.146, December 1979.

British Medical Association — Health Services Financing; BMA, London, 1970.

British Medical Association — Health Services Financing; Discussion Document prepared by the Executive Committee of the Council, London, April, 1982.

Brook R H et al — 'Assessing the quality of medical care using outcome measures; an overview of the method'. Supplement to Medical Care, Vol 15, No 19, September 1977.

Brook R H et al — Conceptualisation and measurement of health for adults in the health insurance study; Vol VIII, Overview RAND Corporation, Santa Monica, R-1987/8 HEW, October 1979.

Brook R H and Avery A D — Quality assurance mechanisms in the US: from there to where? RAND Corporation, P-5520, October 1975.

Brown L D — 'Competition and Health Cost Containment Caution and Conjectures'; Milbank Memorial Fund Quarterly Health and Society, Vol 59, No 2, 1981.

Brown M C — 'An Economic Evaluation of the Newfoundland and Saskatchewan Children's Dental Care Programs', Discussion Paper Series No 60, December 1980, Department of Economics, University of Calgary.

Buchanan J M — The Inconsistencies of the National Health Service, Institute of Economic Affairs, Occasional Paper 7, November, 1965.

Bunker J P — 'A Comparison of Operations and Surgeons in the United States and England and Wales', New England Journal of Medicine, Vol 282, No 3, January 15, 1970.

Bunker J P and Brown B W — 'The Physician-Patient as an informed consumer of surgical services', New England Journal of Medicine, Vol 290, No 19, May 9, 1974.

Bush J W, Fanshel S and Chen M M — 'Analysis of a tuberculin testing program using a health status index'. Socio-Economic Planning Science, Vol 6, pp 49-68 (1972).

Califano J A — Governing America: An Insider's Report from the White House and the Cabinet, Simon and Schuster, New York, 1981.

Canadian Medical Association — Submission to Parliamentary Task Force on Federal-Provincial Fiscal Arrangements, Ottawa, Ontario, May 12, 1981; CMA, Ottawa, 1981.

Clarke G J — 'In defence of deinstitutionalisation', Mil Mem Fund Q, Vol 57, No 4, 1979.

Collins E and Klein R — Equity and the NHS: self-reported morbidity, access and primary care, BMJ 218, 25 October, 1980.

Cochrane A L, St Leger A S and Moore F — 'Health Service 'input' and mortality 'output' in developed countries'. Jo of Epidemiology and Community Health, 1978, 32, 200-205.

Conrad D and Marmor T R — 'Patient Cost Sharing' in National Health Insurance: Conflicting Goals and Policy Choices, Washington DC, 1980.

Courchene T J — Refinancing the Canadian Federation: A Survey of the 1977 Fiscal Arrangements Act, C D Howe Research Institute, Montreal, 1979.

Crombie D L — 'Diagnostic process', Jo of the Royal College of General Practitioners, 6, 579-589, 1963.

Culyer A J — 'On the relative efficiency of the National Health Service'; Kyklos, Vol 25, 1972.

Culyer A J — Need and the National Health Service, Martin Robertson, London, 1976.

Davis K — National Health Insurance: Benefits, Costs and Consequences, Brookings Institute, Washington DC, 1975.

Davis K and Schoen C — Health and the War on Poverty: A ten year appraisal, Brookings Institute, Washington DC, 1978.

Donabedian A — 'Evaluating the Quality of Medical Care', Milbank Memorial Fund Quarterly 44, 166, 1966.

Dorfman N S — 'The social value of saving a life' Ch 3 in Health: What is it worth? Ed. S J Muskin and D W Dunlop, Pergamon Press, NY, 1979.

Dyckman Z Y — A Study of Physician Fees: Staff Report prepared by the Council on Wage and Price Stability, Washington DC, March 1978.

Eimerl T S and Pearson R J C — 'Working Time in General Practice', BMJ, 2, 1549-1554, 1966.

Enterline P E et al — 'The Distribution of Medical Services Before and After 'Free' Medical Care - The Quebec Experience', New England Jo of Med, Vol 289, No 22, November, 1973.

Enterline P E, McDonald J C, McDonald A D, Davignon L and Saltern V — 'Effects of 'Free' Medical Care on Medical Practice - The Quebec Experience', New England Jo of Med, Vol 288, No 22, May 1973

Enthoven A C — Health Plan: the only practical solution to the soaring cost of medical care. Addison Wesley, Mass, 1980.

Evans R G — 'Supplier-Induced Demand: Some Empirical Evidence and Implications' in M Perlman (Ed) The Economics of Health and Medical Care, Wiley, 1974.

Evans R G — 'Beyond the Medical Market Place: Expenditure, Utilisation and Pricing of Insured Health Care in Canada' in The Role of Health Insurance in the Health Services Sector; R N Rosett, Ed, National Bureau of Economic Research, New York, 1976.

Evans R G — 'Is health care better in Canada than in the US?' Paper presented at the University Consortium for Research on North America Seminar, Cambridge, Mass, December 2, 1980.

Evans R G — 'Incomplete vertical integration: The distinctive structure of the health care industry' in J Van der Gaag and M Perlman, Health, Economics and Health Economiics, North Holland, Amsterdam, 1981(a).

Evans R G — Notes for a presentation to the Parliamentary Task Force on Federal-Provincial Fiscal Arrangements, Victoria, BC, June 2, 1981(b).

Evans R G et al — 'Medical Productivity, scale effects and demand generation', Canadian Journal of Economics, August 1973.

Evans R G et al — 'Moving the target to hit the bullet: generation of utilisation by physicians in Canada'; paper prepared for the NBER Conference on the Economics of Physician and Patient Behaviour, Stanford, California, January, 1978.

Evans R G and Walker H D — Public Policy Problems in the Canadian Health Services Industry. Discussion Paper No 41, Department of Economics University of British Columbia, June, 1970.

Evans R G and Williamson M F — Extending Canadian Health Insurance Options for Pharmacare and Denticare; Ontario Economic Council Research Studies, Toronto, 1978.

Feldstein M — 'A New Approach to National Health Insurance' in M Feldstein, Hospital Costs and Health Insurance, Harvard UP, Cambridge, Mass, 1981.

Feldstein M and Taylor A — 'The Rapid Rise of Hospital Costs' in M Feldstein, Hospital Costs and Health Insurance, Harvard UP, Cambridge, Mass, 1981.

Fisher G W — Willingness to pay for probabilistic improvements in functional health status: a psychological perspective. Chp 7 in Health: What Is It Worth? Ed S J Muskin and D W Dunlop, Permagon Press, NY 1979.

Fraser R D (Ed) — Health Economics Symposium: Proceedings of the First Canadian Conference, Industral Relations Centre, Queen's University at Kingston, 1976.

Frech H E and Ginsberg P B — 'The Cost of nursing home care in the United States: Government Financing, Ownership and Efficiency'; in Health, Economics and Health Economics, J Van der Gaag and M Perlman (Ed), North Holland, Amsterdam, 1981.

Ffrangcon Roberts — The Cost of Health, Turnstile Press, London, 1952.

Fry J — Trends in General Practice, Royal College of General Practitioners, London, 1977.

Fuchs V R — Who Shall Live? Basic Books, New York, 1974.

Fuchs V R — 'The supply of surgeons and the demand for operations', Jo of Human resources 13, Supplement, 1978.

Gibson R M and Waldo D R — National Health Expenditures, 1980, Health Care Financing Review, September 1981.

Ginsberg P B — 'Altering the Tax Treatment of Employment-Based Health Plans', Milbank Memorial Fund Quarterly: Health and Society (?), 1981.

Ginzberg E, Braunn E, Hiestand D and Ostow M — 'The Expanding Physician Supply and Health Policy: The Clouded Outlook', Milbank Memorial Fund Quarterley/Health and Society, Vol 59, No 4, 1981.

Gittelsohn A M and Wennberg J E — 'On the Incidence of Tonsillectomy and Other Surgical Procedures', in Costs, Risks and Benefits of Surgery, Ed J P Bunker et al, New York, Oxford UP, 1977.

Glaser W A — Paying the Hospital in Canada; Center for the Social Sciences at Columbia University, New York, November 1980.

Goldberg L G and — 'The effect of physician-controlled insurance' Journal of Health Politics and Law; Vol 2, No 1, Spring 1977.

Goodman J C — National Health Care in Great Britain: Lessons for the USA, Fisher Institute, 1980.

Goodman J C — The Regulation of Medical Care: is the price too high? Cato Institute, San Francisco, 1980.

Gravelle H S E — 'Financing Health Services - Alternative Models'; in H S E Gravelle and Alan Williams Health Service Financing Resource Management, King's Fund Project Paper No RC6, London, July 1980.

Greenberg W — 'Insurance, competition and cost containment' Social Science and Medicine, Vol 16, No 7, 1982.

Gregory J — Patients' Attitudes to the Hospital Service, Royal Commission on the NHS; Research Paper No 5, HMSO, London, 1978.

Hadley J — Does Medical Care Affect Health? An Economic Analysis of Geographic Variations in Mortality Rates (Final Report), Working Paper 1225-7, The Urban Institute, Washington DC, July 1981.

Hall E M — Canada's National-Provincial Health Program for the 1980s (Health and Welfare Canada, 1980).

Ham C — Policy Making in the National Health Service, Studies in Social Policy, Macmillan Press Ltd, London, 1981.

Hanson E J — The Public Finance Aspects of Health Services in Canada, Royal Commission on the Health Services, Ottawa, 1962.

Harris R and Seldon A — Over-ruled on Welfare, Institute of Economic Affairs, Hobart Paperback No 13, London, 1979.

Hatcher G H — Canadian Approaches to Health Policy Decisions - National Health Insurance, American Journal of Public Health, Vol 68, No 9, 1978.

Hatcher G H — 'Access to Medical Care and the Remuneration of Physicians', The Lancet, May 23, 1981.

Helms R B — 'Contemporary Health Policy: Dealing with the Cost of Care' in W Fellner (Ed) Contemporary Economic Problems, American Enterprise Institute for Public Policy Research, Washington DC, 1978.

Hester J and Leveson I — 'The Health Insurance Study: A Critical Appraisal', Inquiry, Vol XI, No 1, March 1974.

Isaacs M R — The Use of Nursing Homes as Long-Term Care Facilities for the Chronically Mentally Ill: An Issue Paper, Alpha Center for Health Planning, Bethesda, Md., US Dept of Commerce, National Technical Information Service, Feb 1982.

Jonas S — Health Care Delivery in the United States, Springer, New York, 1977.

Kasper J A et al — Expenditure for Personal Health Services: Findings from the National Medical Care Expenditure Survey. US DHEW, Public Health Service National Center for Health Services Research, 1980.

Kasper J A et al — Who are the uninsured? Data Preview National Health Care Expenditures Study, National Center for Health Services Research, US, DHHS, Washington DC, 1981.

Kessner D M et al — Assessment of Medical Care for Children. Contrasts in Health Care Vol 3, Institute of Medicine, Nat Academy of Sciences, Washington DC, 1974.

Kleinman J C Gold M and Makuc D — 'Use of Ambulatory Medical Care by the Poor: Another Look at Equity', Medical Care, October 1981, Vol XIX, No 10.

Klein R — 'Health Care: private choice and public provision'; British Medical Journal, 30 April, 1977.

Krizay J and Wilson A — The Patient as Consumer: Health Care Financing in the United States, Lexington Books, Lexington, Mass, 1974.

Lalonde M — A New Perspective on the Health of Canadians, Department of National Health and Welfare, Ottawa, 1974.

Le Grand J — 'The Distribution of Public Expenditure: The Case of Health Care', Economics, Vol 45, May 1978.

Lees D S — Health Through Choice, Hobart Paper No 14, Institute of Economic Affairs, London, 1961.

Lembke P A — 'Measuring the quality of medical care through vital statistics based on hospital service area: 1 Comparative study of appendectomy rates', Am Jo of Public Health 42 (March, 1952): 276-286.

Lewin and Associates Inc — Government Controls on the Health Care System: The Canadian Experience: Summary of the Study, Washington DC, January 31, 1976.

Lewis D W — Performance of the Saskatchewan Health Dental Plan, 1974-1980, Toronto, February, 1981.

Lindsay C M — 'Medical Care and the Economics of Sharing', Economics, NS No 144, 1969.

Lindsay C M — Veterans' Administration Hospitals. An Economic Analysis of Government Enterprise. American Enterprise Institute for Public Policy Research, Washington DC, 1975.

Lindsay C M — National Health Issues: The British Experience, Roche Laboratories, 1980.

Luft H S — 'How do health maintenance organisations achieve their savings'. New England Jo of Med, 298, (June 15, 1978): 1336-1343.

Luft H S — Assessing the evidence on HMO performance. Milbank Memorial Fund Quarterly, Vol 58, No 4, Fall 1980.

Luft H S — Health Maintenance Organisations: Dimensions of Performance, Wiley & Sons, New York, 1981.

Luft H S, Bunker J P and Enthoven A C — 'Should operations for regionalised?' New England Jo of Med, December 20, 1979, Vol 301, No 25.

Manga P — The Income Distribution Effect of Medical Insurance in Ontario, Ontario Economic Council, Occasional Paper No 6, 1978.

Manning W G et al — The status of health in demand estimation: beyond 'excellent, good, fair and poor', RAND Corporation, Santa Monica, Working Draft - 693 - HEW, July 1980.

Manning W G et al — 'A two-part model of the demand for medical care: preliminary results from the health insurance study' in J Van der Gaag and M Perlman Health, Economics and Health Economics, North Holland, Amsterdam, 1981.

Martin S G et al — 'Impact of Mandatory Second-Opinion Program on Medcaid Surgery Rates', Medical Care. January, 1981, Vol XX, No 1.

Maxwell R J — Health and Wealth: An International Study of Health-Care Spending, Lexington Books, Lexington, Mass, 1981.

McAuliffe W E — 'Studies of Process-Outcome Correlation in Medical Care Evaluations: A Critique', Medical Care, November 1978, Vol 16, No 11.

McCarthy E G and Widmer G — 'Effects of screening by consultants on recommended elective surgery procedures', New England Jo of Med 291, 25 (December 19, 1974), 1331-1335.

McDonald A D et al — 'Effects on Quebec Medicare on Physician Consultation for Selected Symptoms', New England Journal of Medicine, Vol 291, No 13, September 26, 1974.

McKeown T — The Role of Medicine: Dream, Mirage or Nemesis? Princeton UP, 1979.

McKinlay J B and McKinlay S M — 'The questionable contribution of medical measures to the decrease of mortality in the US in the 20th Century', Milbank Memorial Fund Quarterly, 55(3) 1977.

Mendelson M A — Tender Loving Greed, Vintage Books, NY, 1975.

Miller M K and Stokes C S — Health status, health resources and consolidated structural parameters: implications for public health care policy, Jo of H and Soc Behaviour, 1978, Vol 19 (September) 263-279.

Mitchell J B and Cromwell J — Physician Induced Demand for Surgical Operations, Health Care Financing Grants and Contracts Reports, Department of Health and Human Services, ORDS, Washington DC, March 1981.

Mitchell B M and Phelps C E — 'National Health Insurance: Some Costs and Effects of Mandated Employee Coverage', Jo of Pol Econ,1976, Vol 84, No 3.

Moss F E and Halamandaris V J — Too old, too sick, too bad, Aspen, Maryland, 1977.

National Academy of Sciences — Health Care for American Veterans, Report of the Committee on Health-Care Resources in the Veterans' Administration, National Research Council, Washington DC, May 1977.

Newhouse J P — 'Medical care expenditure: a cross national survey', Jo of Human Reources, December 1977.

Newhouse J P — The Economics of Medical Care, Addison Wesley, 1978.

Newhouse J P — 'The Demand for Medical Care Services' in J Van der Gaag and M Perlman Health, Economics and Health Economics, North Holland, Amsterdam, 1981.

Newhouse J P and Friedlander J — The relationship between medical resources and measures of health: some additional evidence, RAND Corporation Public, No R-2066-HEW, May, 1977.

Newhouse J P et al — 'Some interim results from a controlled trial of cost sharing in health insurance', New England Journal of Medicine, Vol 305 No 25, December 17, 1981.

Office of Technology Assessment (Congress of the US) — The implications of cost-effectiveness analysis of medical technology, GPO Washington DC, August, 1980

Office of Technology Assessment (Congress of the US) — The implications of cost-effectiveness analysis of medical technology. Background paper No 1; Methodological Issues and Literature Review, GPO Washington DC, September 1980.

Okner B A — 'Total US taxes and their effect on the Distribution of Family Income in 1966 and 1970', in Aaron H J and Boskin M J, The Economics of Taxation, Brookings Institute, Washington DC, 1980.

Okun A M — Equality and Efficiency: The Big Trade-Off; The Brookings Institution, Washington DC, 1975.

Page W F — 'Why Veterans Choose Veterans' Administration Hospitals', Medical Care, March 1982, Vol XX, No 3.

Pauly M V — Doctors and their workshops. Economic models of physician behaviour, National Bureau of Economic Research, University of Chicago Press, Chicago, 1980.

Phelps G E — 'Demand for Reimbursement Insurance', in R N Rossett (Ed) The Role of Health Insurance in the Health Services Sector, National Bureau of Economic Research, New York, 1976.

Phelps C E and Newhouse J P — Co-insurance and the demand for medical services, (Santa Monica, Calif, RAND Corporation, October 1974).

Reinhardt U E — 'Table Manners at the Health Care Feast', in D Yaggy and W A Anglam (Eds) Financing Health Care: Competition or Regulation? Ballinger, 1982

Ritchie J et al — Access to Private Health Care, Office of Population Censuses and Surveys, Social Survey Division, HMSO, London, 1981.

Roemer M I — 'More Data on Post Surgical Deaths Related to 1976 Los Angeles Doctor Slowdown', Social Sciences and Medicine, Vol 15C, pp 161-163, 1981.

Rose S M — 'Deciphering deinstitutionalisation: complexities in policy and program analysis', Milbank Memorial Fund Quarterly, Vol 57, No 4, 1979.

Roy A D — 'Labour productivity in 1980: an international comparison', National Institure Economic Review, No 101, August 1982.

Ruchlin H S et al — 'The Efficacy of Second Opinion Consultation Programs: A Cost-Beneft Perspective', Medical Care, January, 1982, Vol XX, No 1.

Ruther M and Dobson A — 'Equal treatment and unequal benefits: A Re-examination of the Use of Medicare Services by Race, 1967-1976', Health Care Financing Review, Winter, 1981.

Salkever D S and Bice T W — 'The Impact of Certificate-of-Need Controls on Hospital Investment', Milbank Memorial Fund Quarterly: Health and Society 54, 2 (Spring 1976).

Sapolsky H M, Aitman D, Green R and, Moore J D — 'Corporate Altitudes towards Health Care Costs', Milbank Memorial Fund Quarterly, Health and Society Vol 59, No 4, 1981.

Sauter V L and Hughes E F X — 'Surgical Utilization Statistics; Some Methodologic Considerations', Medical Care Vol XX1, No3, March 1983

Schwartz W B — 'The Regulation Strategy for Controlling Hospital Costs', New England Jo of Medicine, Vol 305, No 21, November 19, 1981.

Seldon A — After the NHS, Occasional Paper 21, Institute of Economic Affairs, London, 1968.

Seldon A (Ed) — The Litmus Papers: A National Health Dis-service, Centre for Policy Studies, London, November 1980.

Seldon A — Wither the Welfare State, Occasional Paper 60, Institute of Economic Affairs, London, 1981.

Shaw B — The Doctors Dilemma, Penguin Books, 1958.

Siemiatycki J et al — 'Equity in medical care under National Health Insurance in Montreal', The New England Journal of Medicine, Vol 303, No 1, July 3, 1980.

Simanis J G and Coleman John R — 'Health Care Expenditure in Nine Industrialised Countries, 1960-1976', Social Security Bulletin, US DHEW, January 1980.

Simpson J, Mair A, Thomas R G, Willard H N and Baskt H J — Custom and Practice in Medical Care, Nuff Pr Hosp Trust, Oxford UP, 1968.

Sloan F A — 'Regulation and the Rising Cost of Hospital Care'; Review of Economics and Statistics, Vol LXIII, No 4, November 1981.

Smith Carroll M and Arnett R H — 'Private Health Insurance Plans in 1977: Coverage Enrolment, and Financial Experience', Health Care Financing Review, Fall 1979.

Soderstrom Lee — The Canadian Health System, Croom Helm, London, 1978.

Somers H R and Somers H M — Health and Health Care. Policies in Perspective. Aspen Systems Corp, Maryland, 1977.

Stewart W H and Enterline P E — 'Effects of the National Health Service on Physician Utilisation and Health and England and Wales', New England Jo of Med, Vol 265, No 24, December 14, 1961.

Stewart W H — To be or not to be in the hospital business: health delivery roles of local government; paper delivered to the Commission on Public-General Hospitals; Conference on the Future of the Public-General Hospital Cleveland, Ohio, October 13-14, 1977.

Sudovar S G and Feinstein P H — National Health Insurance Issues: The Adequacy of Coverage, Roche Laboratories, 1979.

Summers R, Kravis I B and Heston A — 'International Comparisons of Real Product and its composition, 1950-1977'; Income and Wealth, Series 26, No 1, March 1980.

Taylor M G — Health Insurance and Canadian Public Policy: the Seven Decisions that Created the Canadian Health Insurance System, McGill-Queen's UP, Montreal, 1978.

Thompson M et al — 'Willingness-to-pay concepts for societal decisions in health', paper prepared for UCLA/RAND, Symposium on Measurement of Value Preferences, California, December 1980.

Titmuss R M — 'Ethics and Economics of Medical Care', in Monopoly or Choice in Health Services, Occasional Paper 3, Institute of Economic Affairs, London, 1964.

Torrance G W — 'Social preferences for health states: an empirical evaluation of three measurement techniques', Socio-Econ Pl Science, Vol 10, pp 129-136.

Torrens P R — 'The American Health Care System: Issues and Problems, C V Mosby Co, St Louis, 1978.

Torrens P R — 'Health Insurance in the United States: Implications for the United Kingdom'; The Lancet, January 5, 1980.

Urquhart M C and Buckley K A H — Historical Statistics of Canada, Macmillan, London, 1965.

Vayda E — 'A comparison of Surgical rates in Canada and in England and Wales', New England Journal of Medicine, Vol 289 No 23 December 6 1973

Vayda E et al — 'Universal Health Insurance in Canada: History Problems Trends', Journal of Community Health, Vol 4, No 3, Spring 1979.

Vladeck B C — Unloving Care, Basic Books, NY, 1980.

Ware J E et al — Conceptualisation and measurement of health for adults in the health insurance study: Vol V, general health perceptions, RAND Corporation, Santa Monica, R-1981/5-HEW, September, 1978.

Weinstein M and Stason W — Hypertension: A policy perspective, Cambridge, Mass, Harvard UP, 1976.

Wennberg J E, Barnes B A and Zubkoff M — 'Professional Uncertainty and the Problem of Supplier-Induced Demand', Social Science and Medicine, Vol 16, 1982.