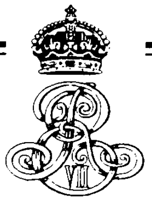
London Health
2010

King's Fund
LONDON
ACUTE SERVICES
INITIATIVE



London Health
2010

15th-16th October 1991

LONDON HEALTH 2010

DINNER AND SEMINAR 15TH - 16TH OCTOBER 1991

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LONDON HEALTH 2010

King's Fund College
15th-16th October 1991

Programme

Tuesday 15th October

6.30 p.m	**Drinks and buffet dinner**	22 Palace Court
7.45 - 8.00	**Introduction to Health Futures**	Basement Lecture Theatre, 21 Palace Court
	• Dr Robert Maxwell Chief Executive King's Fund	
	• Ms Virginia Beardshaw Director King's Fund London Initiative	
	• Dr Sholom Glouberman Fellow King's Fund College	
	• Dr Clem Bezold Director Institute for Alternative Futures, USA : Talk on Futures (Slides)	
8.30	**Presentation of Scenarios**	
	• Mr Martin Fischer Fellow King's Fund	
9.00	**Close**	

Wednesday 16th October

9.00 a.m	Arrival and coffee	21 Palace Court: Lounge Area
9.30	**Session 1:** Introduction to the day ● Dr Sholom Glouberman Visualising the future for your scenario ● Dr Clem Bezold	Basement Lecture Theatre
10.30	**Session 2:** Small group work for each scenario: *How will acute services in London be different in 2010?*	
12.00	Report back	Basement Lecture Theatre
12.30 p.m	Buffet lunch	Lounge Area
2.00	**Session 3:** Group work across scenarios *What are some robust actions that we can take to prepare for the futures of acute services in London in 2010?*	
3.00	Brief report back	
3.30	Tea	Lounge Area
4.00	**Session 4**: Whole group discussion: Review next steps	Basement Lecture Theatre
4.30	**Session 5**: Conclusions: Dr Clem Bezold Dr Sholom Glouberman	
5.00	**Close** Drinks will be served	Lounge Area

2010

Scenarios

FOUR SCENARIOS FOR HEALTH CARE IN THE UK IN 2010

Introduction

We have defined four alternative scenarios with differing effects on health care in the UK in the year 2010:

- **Scenario 1: Free Market in 2010**

  This future maximizes the effects of market forces on health care. In it health care becomes increasingly privately financed and consumer driven. Innovations change practices in health care by, for example, increasing the number and quality of health-related appliances in the home.

- **Scenario 2: Equal Opportunities in 2010**

  This future maximizes government-led social and health care measures to improve health outcomes. In it public policy on health yields dramatic results information technology including, fibre optic networks change the delivery of primary care. This allows access to patient records and remote diagnostic services.

- **Scenario 3: Global Concern/Individual Growth in 2010**

  This future emphasises the effect of changes in life style on the population's health. In it, people who are over the age of sixty-five remain healthier longer and use substantially less health care resource before they eventually die.

- **Scenario 4: Hard Times in 2010**

  In this depressed future, health care must look to technologically innovative, effective and cost reduced ways of delivering no-frills health care. The effect is to accentuate new diagnostic techniques and reduced treatment times and costs.

We have constructed these scenarios to display different possible futures based on present conditions, trends and projections. The broad alignment comes from *Britain in 2010,* a futures document prepared by the Policy Studies Institute. Much of the detail about technological advance and changes in health care comes from the Institute for Alternative Futures. The health care scenarios have been developed at the King's Fund.

Many influences contribute to the scenarios: for example, the market-oriented future does not depend on continuing Tory rule. Instead it considers that free market approaches predominate so that all political parties develop policies in the direction of those indicated.

Some factors appear in all futures, but vary in detail because of differences in the environment. A good example of this is the increase in women's contribution to socio-political, cultural and economic aspects of life: this increases in all four versions of the future, but the flavour of these changes is different in each of the scenarios.

Health care is certain to change more rapidly in the next twenty years than it has in the last twenty but it is hard to forecast the detail. An example is the possibility of breakthroughs to fully decisive technologies for such diseases as cancer, Alzheimer's disease and AIDS. It is difficult to know where and when they might occur.

In all scenarios there are important advances in medical knowledge: a molecular-level understanding of most major diseases; widespread grasp of genetic factors and influences on disease and genetic information about drug use; good descriptions of the natural history of aging and a better understanding of dying. But these occur at differing times and with differing impacts on diagnosis and treatment in the different scenarios.

In the year 2010 information technology exerts an accelerating influence on work in general and especially on health care. Global fibre optic networks allow artificial intelligence and user friendly computers to give patients instant access to information about health status and treatment. There is a proliferation of relatively cheap non-invasive diagnostic procedures which become household appliances in some of the scenarios.

There are new and more effective diagnostic tools such as super scanners and genetic investigations. More specific and effective chemotherapies, and other drug therapies change treatment patterns for many diseases.

More of the UK Gross Domestic Product is devoted to health care in all scenarios, but the increases vary. New demands on the system, more expensive therapies and increased labour costs mean that resources remain constrained, but the nature of the constraints differ between scenarios. There are invariably fewer acute hospital beds in London in all futures but the amount of reduction varies.

Other factors are significantly alike in all scenarios. A good example is the population age structure in 2010 (see table).

Table 1: The UK Population Age Structure 2010

Age Group	Change Numbers
20-24	- 600,000
30-34	- 1,100,000
35-59	- 700,000
60-64	+ 600,000
65-79	+ 100,000
80+	+ 600,000

This indicates an inevitable trend towards a significantly older population in the UK with a possible impact on demand.

We have constructed the scenarios to accentuate the differences between them. We would like to explore their logic and the consequences in them to medical education, research and patient care in London at the meetings on 15/16th October. As you use the scenarios, ask yourself "how plausible do you think this is?" Even more importantly, ask yourself, "If this scenario were to occur, what would the implications for acute services in London be?"

Scenario 1: Free Market in 2010

In this future the international scene is marked by reduced trade barriers. The superpowers dramatically improve trade relations. There is full economic union in an expanded European Community. Because there is lessening control over the arms trade there are still a significant number of international conflicts between well-armed smaller nations.

The promise of dramatic new energy sources has not yet been fulfilled. Safer nuclear reactors produce the cheapest energy but expensive fossil fuels remain a major energy source.

In the UK privatisation and deregulation have continued, accompanied by lower taxes and reduced role for government. The free market increases competition and results in higher productivity for most industries. This also results in higher unemployment than in other futures.

London's population is highest in this scenario, and extremes of affluence and poverty are most marked. London is one of the world's top three financial and entertainment centres and a mecca for travel and tourism, yet because it increases disparity between rich and poor parts of the city like Tower Hamlets and Hackney have decayed

further, and housing conditions and employment opportunities have also deteriorated. Private 'enterprise zones' and tax free areas are part of piecemeal efforts to regenerate the inner city, but their success has been sporadic at best. Private sector intervention to arrest the decay of transport links, sewerage and water supplies have been similarly patchy.

More consumer spending includes larger expenditures on private education and health care. Class differences continue, fuelled by low taxation and customary social attitudes. Managers and technologists have high socio-economic status.

New educational techniques still occur in two streams - training for industry and traditional education. Training capacity grows and uses new technology. It is a continuous process throughout working life. Science and technology respond to the needs of large industries. Ecological concerns increase but are subsumed to market demands.

More health products and health related services are sold and more than half the population uses private health care. New appliances allow individuals to monitor health and have access to self-diagnosis using these and networked technology.

Less government intervention and more advertising results in few dietary improvements. For the over-65 population there is about the same level of coronary disease and cancer because poor diet is balanced by improved prophylactic drugs. There is if anything less effort put in to health promotion and health improvement by government but private industry and individuals do more. Education and research are increasingly privatised. The impact of pharmaceutical and medical equipment company funding on health care research is highest in this scenario. Health care education relies on extra funding from the health care industry. The NHS provides safety net services.

Most GPs are in fund-holding group practices and have developed primary care centres. They have become the largest purchasers of health care in the UK. GPs encourage patients to use the new self-diagnostic aids and can "see" many patients without need for office visits.

Many hospital consultants do not practice in the NHS - the bulk of practice and income comes from private work. Some hospitals have been bought out by doctors and are now privatised. Almost all radiological services are in the hands of radiology group practices who sell contracts for their services.

Patients rely on insurance to supplement NHS coverage. They have increased choice of medical services but the amount and level of insurance coverage restricts the kind of care they can receive in the event of a medical disaster. Many are unable to afford the most expensive new treatments not covered by insurance. Some patients have learned to use sophisticated information technology for increased self-diagnosis and to help them choose hospitals and doctors.

Scenario 2: Equal Opportunities in 2010

This scenario values equal opportunity and social justice. It has more government intervention at all levels. The UN has become a significant force in international politics and increased collaboration between superpowers has resulted in a reduction of international conflict. International regulation has become critical in arms reduction and environmental monitoring. Trade between nations is regulated with continuing improvements.

Although nuclear energy is still in use, no new reactors are being built. Recent agreements will reduce global energy consumption over the next ten years.

Economic and political union has resulted in the United European Community (UEC). The UEC still has disagreements with the US which remains a major player in European affairs. Strong ties between countries and increasing multi-lingualism encourages population movement throughout Europe.

The UK Government grows and services are expanded to assure equal opportunity. A strong infrastructure for health and social services is one of the unifying forces in the UEC. Government funding for education is increased. Private education is sharply reduced through cuts in direct and indirect subsidy. Government creates strong incentives for more money to be spent on research and development. Taxes go up and unemployment is less than in the market scenario.

Brussels gains in importance as the centre of the UEC. Frankfurt, Paris and Madrid rapidly gain as London gets a smaller share of the international cultural and tourist market. However, GLUG - Greater London Urban Government - has worked effectively to renew transport and other infrastructure and to stimulate work opportunities throughout the capital. A system of housing subsidies has created decent housing options for the lower paid. The ambitious 'artlink' exchange programme with Berlin, Rome, Paris and Madrid ensures a rich cultural diet for all Londoners. The City has lost its financial and banking primacy and now shares this role with Frankfurt and Brussels.

Consumer spending goes down but the basket of goods and services are the same as the market scenario except that substantially less is spent on health and education by individuals.

Higher employment, increased opportunity and improved government funded services result in improved health status. Family life improves and class distinctions are less relevant.

Healthy life styles are encouraged through government incentives. Higher taxes on alcohol, sugar products and cigarettes have reduced consumption significantly. The lower speed limit throughout Europe reduces road accidents. Regulations improve air and water quality and reduce occupational health hazards. Pre-school inoculations are compulsory in Europe.

These policies are supplemented by widespread distribution of networked medical information systems which allow rapid access to complete medical records and remote diagnosis and monitoring of those at risk.

The result is a dramatic reduction in morbidity in the over-65s because of life-style changes, promotion and prevention efforts and prophylactic drugs for those at risk of heart disease. Cardiovascular disease is reduced in this future as is cancer. Central nervous system diseases also go down.

The UEC and the UK spend more on medical education and research, but the number of doctors allowed to practice in the UK (and Europe) is regulated. The UK Health System is virtually entirely publicly funded. The conflict between private practice and practice in the NHS has been eliminated by requiring doctors to practice in one system only. Since remuneration in the NHS is set at four times the national average wage most doctors remain in the system.

Epidemiologists play a significant role in identifying needs and allocating resources and treatment patterns for many conditions. Information technology helps to do this work.

General practitioners are salaried and work in primary care centres which offer a broad range of health and social services. They are gatekeepers to specialist care, but also patients in improved self care.

Consultants practice only in the NHS and use audit-based guidelines. High-tech services are rationed according to well defined criteria.

Scenario 3: Global Concern/Individual Growth in 2010

Massive and rapid attitudinal changes sweep the world after a series of environmental disasters in the mid 90s. World conflict has virtually ceased and local disagreements have been resolved after this planetary crisis. Self-determination at local levels has been the rule with central government support for larger efforts. The peace dividend has freed military money and manpower to help with environmental repair.

World demand for energy decreases as conservation measures are adopted. Renewable energy sources are developed - the Sahara desert is the largest source of solar and aeolian power.

In Europe the EC becomes the EEEC (the European Economic and Environmental Community) and monitors and enforces strict environmental protection measures. Japanese and Americans become increasingly spiritual and inward looking.

In the UK the government intervenes at the macro level to sustain a deep individualism at the micro level. For example - organic farming is encouraged by labelling requirements but without legal prohibitions. Market prices reflect the increased cost of production.

London is a world spiritual and cultural centre. It has retained its place as a music capital: Neural/Mantra Rock plugs right into the new mind. David Icke's followers swarm to the city on annual pilgrimages, and thousands of others arrive in search of medical and alternative therapies. The demise of automobile traffic has resulted in the revival of a modern version of the Sinclair electric runabout.

New educational techniques stress personal growth and living in harmony with nature and other people. Antenatal classes have a three week paid residential component for both parents. Research in agriculture, social awareness, ecology and natural history are emphasized. Inflation is negligible. High carbon taxes and tight monitoring of pollution keep the environment clean. Unemployment is low because of a reduced work week.

Changing organisational structures, work patterns and management styles have the greatest impact in this scenario: organisations have become significantly flatter and less hierarchical; workers are far more knowledgable and flexible in their work patterns; and management styles must change to respond to these new conditions.

The UK population rise is highest in this scenario. Work at home using global multi-media networks helps more people to live in extended families with stronger community values. Male-female role distinctions blur. Reduced unemployment and increased self sufficiency together with better environmental conditions, more awareness of nutrition and exercise lower the incidence of most environmentally related disease.

Health promotion occurs at work - a daily Alexander break in work places is part of a major back project. There is strong social pressure to assume a healthy life style. Flabby people are socially isolated much as smokers were in the mid-nineties. All forms of self development are encouraged.

Morbidity among the over 65s is dramatically compressed. People live longer and are less sick before they die. Attitudes to old age and death change and they are now accepted as part of a more natural order.

Medical education is more holistic and uses advanced diagnostic and information tools. Nurses, doctors and other health professionals take a philosophy course in human ecology and are adept at using computer networks. Lifestyle related treatment is widespread. Information technology assures universal access to medical records.

The NHS pays for alternative therapies of proven effectiveness such as aromatherapy and acupuncture, but the loosening of restrictions on health care practice still means that 20% of health care expenditure is private. I Ching Therapy is not covered.

Primary care is used to develop healthy lifestyles: general practitioners work with nutritionists, exercise coaches, psychotherapists, massage therapists and others in publicly funded clinics. Their practice is supplemented by new technology for patient

information and education. Primary care clinics also support carers for old people and people who are disabled. Carers are helped financially, emotionally and are given special social status. Sophisticated information and communication technology is used to ease their efforts.

Fewer hospital and institutional beds reflect improved lifestyles, closer community ties and the support of carers. Fewer hip replacements, heroic interventions and cardiac surgical interventions occur. On the other hand there are more local hospital beds for diagnosis and respite care.

Health care manpower grows is because of the increased status of health care workers. Individuals use advanced technology to increase control over their own health care by using decentralised diagnostic facilities, maintaining control and access to their medical records and identifying useful therapies.

Scenario 4: Hard Times in 2010

In difficult times the main urge is to survive and try to wait for a better day. Things have gone wrong. Not only has Pax Americana failed, but so have businesses and even crops. Energy costs are very high and supply is becoming more difficult.

There is more world tension - between the superpowers and between the developed countries and the third world. Terrorism is widespread and uses very sophisticated techniques. The "peace" dividend has been consumed by the increased needs of world security. Norman Schwarzkopf's presidency in the mid-nineties did not help. Economic growth is a poor 1.5% per year and world unemployment is high.

The EC has deteriorated into a squabbling bureaucracy which barely masks partisan political and nationalist interests. The US is more concerned with its own problems and has retreated from the world stage. People still move to cities like London in the hope of work and the problems of dislocation have not been solved.

In the UK attempts to deal with the constant flow of crises are made more difficult by a deterioration of infrastructure, and a lack of political will. The social fabric of the country has become less stable. There is community deterioration mirrored in more crime and family breakdown. The education system of the nineties has not prepared the population for the difficulties of 2010 in which the pace of change has become dizzying. Although virtually all women now must try to work, their level of unemployment and underemployment is higher than that of men.

Urban blight has spread into the centre of London. There is less tourism and more crime. It is impossible to keep everything in good repair. Derelict buildings, flaking paint, broken street lamps, potholes and rubbish are everywhere. A fruit and electronics market has taken over Leicester Square. Cigarette sellers and purveyors of other illegal goods abound. Outdated Underground transport has

become almost unworkable, overcrowded and badly maintained. But it remains a key to the survival of the city.

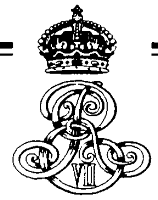
Worsening social conditions have led to slight increases in the morbidity rate of the over-65s. Cardiovascular disease remains a problem despite lower caloric intake. Cancer and mental illness increase.

Medical education and research are poorly funded and the number of trained doctors is reduced. Basic research slows down considerably and breakthroughs are fewer and later than in other scenarios

Medical practice has changed because of the widespread use of new diagnostic procedures which result from improvements of user friendly computer technology. The adoption of new treatment is dependent on cost. More expensive therapies are not as widely distributed in this future as new and cheaper drugs and procedures.

The vast majority of health care is provided through a publicly funded NHS. Hospitals close to rationalize the system because there is not enough money. This also rules out or slows down the introduction of some new and expensive procedures. Although the NHS is free, the opportunity costs for health care rise dramatically. Primary care is delivered through individual GPs assisted by electronic technology and in partnership with professionalised nurses.

Sholom Glouberman
October 1991



2010

Futures Matrix

	1	2	3	4
	FREE MARKET	**EQUAL OPPORTUNITIES**	**GLOBAL/ INDIVIDUAL**	**HARD TIMES**
World Environment				
Peace Dividend	Defence expenditure falls slightly in West. Major local conflicts.	Falls. Minor local conflicts.	Falls dramatically. Very minor local conflicts.	Static. Major international conflicts.
Growth Economy Trade	Growth averages 3.5%. Significant globalisation of trade. Trade barriers fall.	Growth averages 2.5%. Whilst GATT in place, there are still many barriers to free trade.	Growth averages 2.8%. Trade barriers reduced, particularly to Third World commodities.	Growth averages 1.5%. Significant protectionist measures. Eastern Europe and Third World don't break into market economy.
Energy	Prices reflect full cost. Nuclear and conventional sources. Short term conservation.	'Technical fix' Energy at 1990 prices.	Full cost prices. Variety of energy sources. Emphasis on conservation.	Prices very high - uncertainty over supplies.
EUROPE				
Links	Full economic union of slightly enlarged EC. Single market agreements with most European countries.	United States of Europe. Strong economic and social links with Central Europe.	EC functions primarily as Euro-cops (sophisticiated monitoring of wide ranging legislation).	Weight of excessive beaurocracy and conflicts over self-interest prevent positive effects of economic union.
USA & Japanese influence	High.	Weak - Europe creates barriers.	Weak - focus internally.	Weak - struggle to maintain influence.
Population flows	High - for economic reasons.	Low - barriers to entry.	Low - lifestyle issues discourage.	Political and economic refugees.
U.K.				
Increase in GDP	58%.	61%.	55%.	40%
Consumer expenditure	54%.	43%	45%	35%
Government expenditure	24%.	72%	44%.	40%.

UK - Social Environment

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Population	59.3 million. (3.3% rise).	60.8 million. (6% rise).	62.1 million. (8.2% rise).	57.4 million. (No rise).
Unemployment	1.4 million.	0.9 million.	0.9 million.	2.1 million.
Focus on lifelong education	Skills and traditional.	Managerial.	Education for capability.	No consistent pattern.
Research driven by	Industry.	Major projects which attempt to pick 'winners'.	Enhancing capabilities of people and reducing dependence.	Product developm
Nature of work	Retire at 50. Organisations hive off non core operations. Many small businesses.	Voluntary service before and after period of employment. Fewer small businesses.	Fee earning rather than salaried. Majority work for small and medium sized organisations. Work from home increases.	Salaried employment. Slimmed down corporations.
Women receive equal pay for equal work	By 2000.	By 2000.	Late 1990s.	By 2010.
Women have equal opportunities	By 2005.	By 2000.	Late 1990s.	Not yet.
Support for working parents	Tax credits for childcare.	State encourages/ provides childcare.	Community provides childcare.	Employer help with childcare for key employees.
Lifestyle Diet	Engineered foods have mixed consequences.	Better diets decrease heart disease and cancer. Regulation re addititives, alcohol and tobacco.	Healthier eating habits decrease heart disease, cancer, diabetes and other disorders.	Hard times lead to fewer calories and better diet for many; malnutrition for some.
Exercise	Slight increase in exercise with small positive effect on morbidity.	Moderate rise, medium effect.	Significant rise in personal exercise.	Slight increase with little morbidity effect.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
		SOCIAL CHANGE		
Class Movement	Economic success highly valued. Status of entreprenuers and small business people rises.	Some movement between classes due to equal opportunities.	New values raise the status of previously undervalued groups.	Some groups (eg out of work professionals) fall in status; difficult for anyone to 'rise'.
Class Disparity	Increase as increasingly measured by affluence.	Decreases.	Importance of class decreases generally.	Class divisions exacerbated; everyone protectionist.
Distribution of Wealth	There are more rich who get relatively richer.	Minimum wages and bureaucratic structures reduce the inequalities.	Societal values compress the extremes.	Whilst everyone gets squeezed , the poor suffer most.
Growth in Crime	White collar crime by individuals.	System fiddles involving significant number of employees.	Low across the board.	Property related, looting, car theft.
		ORGANISATIONAL CHANGE		
Speed with which organisations flatten	Market drives process rapidly; respond to quest for efficiency and responsiveness.	Inertia of hierarchy resists drive for efficiency.	Fastest. Driven by values.	Survival key issues. Organisations batten down. Change regarded as too risky.
Customer/Patient Centred	High: driven by commencial incentives.	Low: needs of organisation come first.	Highest: core value.	Moderate: some effort made in attempt to survive.
Increase in workers knowledge	Highest: regarded as essential for adding value.	Low: expertise compartmentalised. Procedures important.	High: driven by personal satisfaction gained.	Moderate: forced by economic necessity.
Professional rivalries	Increase as market segments.	Little change from present.	Decrease. Commitment to collaboration.	Slight increase as struggle to survive.
Role of managers	Managers in charge.	Managers serve professionals.	Managers and professionals collaborate.	Managers and professionals at loggerheads.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Health Promotion				
Government policy	Slight movement. Enhanced public health approach where cost effective. Small positive effect on morbidity.	Much effort; health and environmental programmes. Significant positive effect on morbidity.	Extensive efforts. Very positive effect on morbidity.	Health promotion seen as a substitute for services. No overall effect on morbidity.
Employer actions	Strong efforts to enhance productivity. Use of technology. Reduction in accidents, increase in stress.	Significant efforts both in behaviour change and in providing technologies that promote health. Reduction in accidents and stress.	Significant efforts to reinforce healthy behaviors, through 'soft technology' programmes and sophisticiated bioelectronic technology. Significant reduction in accidents and stress.	Slight efforts to enhance employee productivity. No significant effect.
Individual	Some effort; better diets, slight increase in exercise, some technology user where reinforced by health care providers.	Much effort; better lifestyles due to a variety of home technologies and reinforced by most health care providers.	Significantly healthier lifestyles as values and society evolve, including diet, exercise, personal/ spiritual growth, and community concern.	Some effort; lower calorie intake in hard times, though more stressful. Costly health promotion technologies and services only for the well-to-do.
Morbidity				
Elderly				
Degree of compression of anticipated morbidity among those 65 +	Slight reduction in morbidity due to better lifestyles and new drugs.	Dramatic reduction due to lifestyle change but mostly resulting from breakthroughs such as antiplaque drugs and cancer preventers.	Dramatic reduction primarily due to lifestyle change; aided by breakthroughs such as antiplaque drugs, cancer preventers; and social and emotional interactions.	Negligible. Lifestyle increase in morbidity as some over 65 live slightly longer and are sicker; worsening social and environmental conditions.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Cardiovascular				
Degree of morbidity reduction	Slight.	Significant.	Significant.	Slight.
Caused by: lifestyle	Some importance.	Some importance.	Major importance.	Important due to lower food intake.
Pharma products	Significant impact.	Slight impact.	Slight role.	Little impact beyond blood thinning
Cancer				
Prevention	Modest impact through lifestyle change and immune enhancers.	Significant impact through preventive drugs, lifestyle change and environmental and controls.	Significant impact through lifestyle changes and preventive drugs.	Modest impact through lifestyle change; and for affluent through immune enhancers.
Central Nervous System				
Prevention	Slight.	Significant pharmacological and behavioral prevention.	Significant behavioral and attitudinal prevention.	Little; hard times increase CNS problems.
Diagnostics				
Diagnosis	Earlier and more accurate diagnosis by 2005.	Accurate diagnostics widely available.	Accurate diagnostics widely available.	Some advances
Biotech driven assays and probes	Effective and widely used by 2005.	Very specific, effective and inexpensive.	Very specific, effective and inexpensive; great aid to home self care expert systems.	Some advances where more expensive diagnostics displaced.
"Super Scanners"	By 2000.	Widely available and inexpensive by 2005; lead to periodic whole body checkup by 2010.	Widely available after 2000.	Limited availability after 2005.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES

Treatment Breakthrough

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Cardiovascular				
Deplaquing agents	Effective by 2000.	Both mechanical and hormonal (genetic) approaches used.	Both mechanical and systematic approaches used.	Effective after 2000; not widely distributed.
Understanding of metabolic/genetic origins (e.g. genetic factors, hormonal regulation).	Some understanding; few therapies.	Important advances.	Important advances.	Few advances.
Behavioural/ Attitudinal therapies.	Some advances.	Some advances.	Well developed lifestyle. Attitudinal approaches, important in therapy.	Slight advances.
Cancer				
Targeted delivery, very effective, widely used.	By 1995 for 1980s drugs; by 2000 for next generation drugs.	By 2000.	By 1995 for 1980s drugs; by 2005 for next generation drugs.	By 2005 where it reduces costs.
Definitive treatments through molecular expression in cancerous cells (e.g. antioncogenes).	By 2000.	By 2005.	By 2005.	Still being developed.
Central Nervous System				
General approach	Identify and mimic brain chemicals involved in disorder.	Identify and mimic brain chemicals involved in disorder.	Use mind to generate appropriate chemical involved in disorder.	Treat symptoms.
Alzheimers	Genetic and viral components identified and treated effectively by 2000.	Genetic, viral and psychogenic components identified and treated effectively by 2000.	Genetic, viral and psychogenic components identified and treated effectively by 2000.	Some improvement in diagnostics.
Schizophrenia	Genetic and viral compontents identified and treated effectively by 2000.	Genetic, viral and psychogenic components identified and treated effectively by 2000.	Genetic, viral and psychogenic components identified and treated effectively by 2000.	Side effect profile improved somewhat.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Outcome and Cost effectiveness measures				
Therapeutic, economic and social results are compared to judge therapies, doctors and hospitals.	By 2005	By 2005.	By 2000.	Cost effectiveness only consideration by 2000.
Cost-effectivenes measures in use.	By mid 1990s.	Late 1990s.	Late 1990s.	By mid-1990s for evaluating new drugs.
Measures include quality of life factors	Yes.	Yes.	Yes.	No QOL, only cost effectiveness.
Impact of Information Technology				
Diagnosis and Treatment	Major developments. Products widely available for hi-tech diagnosis and treatment. Technology driven.	Major developments. Products slower to reach the market. Reseach driven.	Major developments. Products widely available. Great importanceplaced on user-friendly interfaces.	Few new developments. Existing products updated.
Patient records	Patients comprehensive medical history stored electronically (including test and imaging results). Portable for use by patients' physician.	Comprehensive medical history stored centrally for access by physician and audit by authorities.	Comprehensive portable electronic medical history available for analysis at home.	Basic medical record stored electronically.
Global network	International fibre-optic links allow widespread on-line access to expertise and expensive diagnostics.	International fibre-optic links allow centres of excellence to communicate.	Fibre optic links used predominately locally.	Network not accessible to medical practitioners.
Legal Rights				
Legal rights to control access to/use of medical records.	Weak rights by 2005.	By 2000.	Late 1990s.	Never.

Information Environment for Biomedical/Therapeutic Advances

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
Molecular level understanding of most major diseases.	By 2000.	By 2005.	By 2000.	For some diseases.
Genetic factors, influences for most major diseases.	By 2000.	By 2000.	By 2005.	By 2010.
Pooled clinical and epidemiological data provide very specific knowledge of risk and co-morbid factors.	By 2000.	By 2000.	By late 1990s.	By 2010.
Natural history of organ and body system decline (and enhancement possibilities) well understood.	By late 1990s.	By 2000.	By 2000.	By 2010.
''Science of dying'' developed from above knowledge advances and is widely used in rationing care, particularly for the elderly.	By late 1990s.	By 2000.	Care moves in this direction by mid 1990s; becomes common practice shortly after 2000.	Occurs by default due to cost constraints; this emphasis yields guidelines by late 1990s.
Impact of biochemical uniqueness of individuals on therapy.	More complex targeting and delivery of drugs; therapies adjusted to genetic types.	More complex targeting and delivery of drugs; therapies adjusted to genetic types.	Therapies adjusted to genetic, behavioral and mental types.	Little.
Pharmacogenetics (genetically related differences in drug metabolism) and co-morbid factors known and used in drug development and prescribing.	By 2000.	By 2000.	By 2000.	Not significant by 2010.

	1	2	3	4
	FREE MARKET	EQUAL OPPORTUNITIES	GLOBAL/ INDIVIDUAL	HARD TIMES
		Health System		
Healthcare as % of GNP.	9%	7.2%	8%	6.0%
Govt spending on Health as % of GNP.	5.5%	7.1%	6.5%	5.8%
% of population with private health insurance.	60%	2%	25%	10%
Funding allocation.	Weighted capitation.	Weighed capitation plus allowances for various specialities.	Very sophisticated capitation allowance that takes case-mix and primary interface into account.	Weighted capitation.
Clinical Education.	Total finance falls. Sponsorship from industry. Number of undergraduates constant.	Central funding increases, but limits placed on numbers. More time in day care and outpatients.	Funding increases but spread over a wider spectrum of health practice. More time in day care, outpatients and community.	Funds falls. Number of undergraduates fall.
Postgraduate Training.	Compulsory. Increased use of computer simulations.	Compulsory. Some use of computer simulations.	Compulsory. Increased use of computer simulations. Holistic approach.	Compulsory. Minor use of computer simulations.
Health Research Funding	Predominately funded by equipment and pharma companies.	Government funded.	Funded by the government, industry and non-profit organisations.	Diminished funding from all sources.
		Provider Models		
Approach to Medical Practice	Medical model. Focus on treatment. Physician-orientated.	Public Health policy. Chiefly concerned with the health care system.	Holistic Healthy Public Policy. Chiefly concerned with creating a healthy society. Focus on prevention.	Medical model. Chiefly concerned with keeping costs down.

Medical Practice

	1	2	3	4
	FREE MARKET	**EQUAL OPPORTUNITIES**	**GLOBAL/ INDIVIDUAL**	**HARD TIMES**
PrimaryCare.	Some increase in community services to prevent expensive admission/facilitate early discharge. Community Health providers sell social care to local authorities.	Some increase in community care plus much greater emphasis on health promotion - including via legislation and tax incentives.	Significant increase in holistic community services and health promotion.	Reduction of treatment and services in the community.
Mental Health.	Small acute and challenging behaviour units commissioned. Use of private and not-for-profit long stay. Just enough community support to prevent increase in admissions.	Most residential provision by the state - tendency to smaller institutions. Some increase in community teams.	Significant increase in community support. Smaller institutions and residential care run by not-for-profit organisations (mainly local) - commissioned by state.	Decrease in community support. Less long stay/residential provision. Patients/families encouraged to make own arrangements. Need for more hospital beds to compensate for lack of community care.
Hospital Care.	Increased quality for more focussed range of services. Very cost-effective treatments. Greater use of private sector for cold surgery. Extensive use of high-tech/non-evasive treatments. Contractual interface with primary care.	Slower improvement in cost effectiveness and quality. Little private surgery. Hi-tech available at regional centres of excellence. Interface with primary care driven by joint protocols.	Increase in quality and (to a lesser degree) cost effectiveness. Hi-tech available. Seamless interface with primary care.	Slow improvement in cost effectiveness and quality. Very little cold surgery available. Hi-tech available at national centres of excellence. Weak interface with primary care.
Home/Selfcare.	Wide variety of self-diagnostic kits available. Powerful IT systems analyse and monitor some treatments in the home. Some increase in nursing in the home. Increase in high-tech treatments in the home-managed by hospital outreach teams.	Less self-diagnosis. Significant increase in nursing in the home. Some increase in advanced technology treatments in the home -managed by specialists in the community.	Extensive use of self-diagnostic kits and home IT systems for managing one's health. Major increase in nursing and advanced technology treatments in the homemanaged by the primary care team.	Few self-diagnositc kits available. Little nursing and advanced technology treatments in the home.

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES

Healthcare Providers

GPs:	Independent fundholding practices	Salaried in primary care teams	Independents in practices that include alternative medicine.	Independent. Increase in single handed practices.
Role:	GP holds power as purchaser.	Constrained to more proven therapies. Have powerful diagnostic aids in surgery.	Pattern of service determined by GP, user, state. Nurses and other non-GP providers active.	Tightly constrained to cost-effective therapies and drugs. -
Number:	+ 15%.	+ 0%.	- 10%.	-10%.
Consultants	Management buy-out of some hospitals. Consultants on performance related contracts. Unlimited hi-tech.	Salaried. Follow strict protocols. Rationed hi-tech. No private work.	Act as consultants to GPs. Few restrictions on practise. Whilst access to hi-tech is unlimited, it is used very discriminately. Many consultants not hospital based.	On 5yr. contracts. Activity curtailed by cost and very limited access to hi-tech.
Number:	+ 10%.	- 10%.	- 5%.	- 10%.
Nurses	Fewer, well paid qualified nurses leading health care assistants/auxilliaries. Multi-skilling.	Some retention of expensive skill mix. Fewer nurses in acute. Nurses seen as best deliverers of primary care for many.	Better paid nurses. Trained nurses having a more skilled and clinical role.	Fewer, better paid nurses. Increase in auxilliaries.
Hospitals	Multiple purchasers - GP fundholders, insurance companies and govt. Strong professional management; compete on price and quality.	Single purchaser. Managed by clinicians. Weak competition on waiting lists).	Multiple purchasers. Majority of patients day cases. Strong management, compete on quality.	Single purchaser. Major rise in day cases. Management function is to contain costs. Little competition.
Number of acute beds:	- 20%.	- 40%.	- 60%.	- 30%.
Patient attitudes:	Consumer savvy.	Bureaucratic responsive.	Hi-tech; Hi-touch.	Get what you can.

London

	1 FREE MARKET	2 EQUAL OPPORTUNITIES	3 GLOBAL/ INDIVIDUAL	4 HARD TIMES
International health centre.	Private patients from Europe and Middle East attend specialist centres.	London designated Euro-centre for fewer specialities -patients funded by national govts.	Small international market for private conventional and non-conventional treatments.	Small international market for some specialities.
National health centre.	Decrease in referrals from outside Thames regions (not cost effective).	Increase in referrals for a limited number of key specialities; decrease overall.	Few referrals from outside Thames Regions, (people prefer local treatment). Increase in alternative referrals.	Increase in referrals from outside Thames region.
Number of teaching hospitals.	Fall by 20%.	Fall by 10%.	Fall by 50%.	Fall by 30%.
Total number of beds	Fall by 30%.	Fall by 40%.	Fall by 60%, - but beds no longer regarded as critical.	Fall by 30%.
Average length of stay.	3 days.	3.5 days.	2.5 days.	4.00 days.
% of medical students trained in London.	30%.	25%.	20%.	30%.

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