

# Hopes and fears for the Future of Health

## Scenario for Health and Care in 2022

### **Introduction**

This paper is taken from a scenario planning exercise prepared for the WHO Regional Office for Europe, Health Futures Meeting held at the Nuffield Trust in December 1999. It has been updated to reflect the conclusions of the Conference “Hopes and fears for the Future of Health” held at the Judge Institute Cambridge from 4<sup>th</sup> to 6 September 2002 which was supported by the Nuffield Trust.

It is essentially a story about the future drawing on a series of futures exercises conducted with the Hospital Management Associations of Denmark, Sweden and Norway, a European Conference in Switzerland and futures meetings in Portugal Germany and the Netherlands conducted by the author. In all more than 250 health managers and professionals from across Europe have participated in these exercises and helped to develop the scenario. It also draws on the research based examination of evidence of trends and the future direction of health and care in the UK, contained in the Nuffield Trust’s recent “Policy Futures for UK Health”, edited by Dr Charlotte Sausman with Professor Sandra Dawson and Pam Garside .

The scenario is intended as a baseline for discussion of possible alternative futures and for this reason it is somewhat conservative in its predictions. All figures are based on calculated trend projections and all the main developments are based on expert predictions. Imagination has been used only in the more obvious flights of fancy for example, the Patient Movement winning compensation from tobacco companies and riots by the uninsured on the streets of America. When originally suggested bio-terrorism was also imagined only as a possibility.

The scenario is set out under the following headings:

1. The World of 2022
2. The European Union of 2022
3. European Health
4. The European Patient
5. Medical Technology
6. Pharmaceuticals of the Future
7. Information and Health
8. Health and Care Economics and Funding
9. Health Reforms in Europe
10. Primary and Community Care Networks
11. The 2022 Hospital
12. Caring for the Whole Person
13. Comparing The Health Systems of 2002 and 2022

# 1 The World of 2022

The World of 2022 is a global knowledge village of 8 billion people. The global economy brings advantages for some; faster economic growth for multi national enterprises, sharing of knowledge and open communications on a global scale, cultural exchange and contact. Health is the world's largest industry (12% of Global GDP), followed by tourism. Communication, from everywhere to everyone, enabled by electronic highways, provides entertainment, personal contact and a market for fast changing world fashions, but also gives access to a vast knowledge capital. Well off citizens carry lightly the key to computing power, which two decades before would require a supercomputer. They have instant access to the world's knowledge capital; what is more, many know how to use it.

The benefits of globalisation are less obvious in the world of the poor, beyond North America, Europe, Japan and some successful Pacific Rim countries. Globalisation has increased their disadvantage. While they share the burden of environmental pollution, global warming and misuse of natural resources, they have benefited only marginally from the knowledge revolution. They provide a cheap source of agricultural produce, minerals and labour to manufacture consumer goods for rich countries. Despite real economic growth of 2% per annum, for the poorest countries income per capita has fallen as a result of continuing population growth of 3½% per annum. Disparity in wealth has increased, the wealth of the richest 20% of the world's population is 125 times that of the poorest 20% (70 times in 2000, unadjusted for purchasing power).

There is a harsh divide between the health of the rich, who expect to live healthy lives until their 80s and the poorest, who have a life expectancy of little more than half this. Failure to take early action on the misuse of antibiotics resulted in pandemics of infectious diseases in the teeming mega-cities of poor countries, for which "affordable" counter measures had become ineffective. It is now realised that health is a key to economic development. Health aid (including water, education and shelter) has replaced arms sales as the major instrument of trade and aid policy. Europe has played a leading role in providing health research and information resources as well as financial and personnel support.

International agreements have finally given more than lip service to health as a basic human right. The World Health Organisation has considerably greater funding and power to intervene to protect health rights. Trade agreements under the auspices of the World Trade Organisation now include measures to counter the disadvantage suffered by poor countries as a result of globalisation. The health impact of trade and agreements on intellectual property rights is subject to specific examination alongside environmental assessment. The release of transgenic pathogens as a result of research into xenotransplantation has also given rise to new vigilance with regard to potential health risks. Companies wishing to release new products now have to demonstrate conclusively that the environment and human health cannot be harmed. A new international body has been established to oversee this.

Policies to address such issues are spurred by social unrest, fuelled by fanaticism fostered by the obvious inequality of our global society and what some see as the "cultural imperialism of global multinationals". Tragically this has resulted in acts of chemical and biological terrorism that have claimed hundreds of thousands of lives in both rich and poor countries. We live in an uncertain world.

## 2 Health in 2022

People in the UK are generally living longer and healthier lives. Since 2000 life expectancy has risen by 4 years. Health improvements result in more people living with chronic diseases e.g. Alzheimer's disease and diabetes.

The poor health of an affluent society includes: obesity, alcoholism, smoking, drug abuse, stress and poor diet, affecting 33% of people. "Convenience" foods with high fat, sugar and salt and low fibre are consumed in great quantities despite the focus of health promotion programmes on diet and exercise. Increases in cardiovascular disease, diabetes and cancer, particularly cancer of the bowel result. Smoking is declining but the legacy of 20 years still increases lung cancer amongst women.

Areas of urban and rural poverty persist, despite national policies to counter them. In such areas, problems of poor health may be compounded by ethnic and language barriers and lack of access to social support structures, often resulting from the breakdown in family structures. Physical and mental abuse and refugee experiences cast shadows over peoples' lives. There is a growth in the numbers of single parent families and elderly living alone, as a result of increased longevity.

For some the information and communication age facilitates work and social relationships making non-traditional family structures (which outnumber traditional structures) easier and enhancing community structures. For those excluded from information networks by lack of skills and resources, isolation is reinforced. Depression is the leading cause of illness in the UK.

Local air quality has generally improved with lower emission of particulates and a decline in acid rain, damage to the ozone layer has been slowed but not reversed. This results in more skin cancers, and due to global warming, Southern England is vulnerable to mosquito borne diseases including malaria and forms of encephalitis. An increase in mean temperatures of 1.5 degrees Celsius is a major contributor to deaths in sub Saharan countries, directly and as a result of drought. Multiple resistant hospital infections are a major problem due to the misuse of antibiotics, in rich countries, where they were used in agriculture and household products, and in poor countries, where health systems came close to collapse. Health problems arise from overseas trips by tourists despite improved precautions and monitoring.

Responsibility for poor health is brought home to tobacco companies and others who cause ill health. Tobacco was the target of the first global treaty for health protection and it was the punitive damages won by legal action by consumer groups that finally broke the back of international cigarette manufacturers. This immense windfall gave the consumer movement the funding it required for positive action to support good health and wellness. The increase in awareness, knowledge and local family and community action, coupled with investment in health related education, housing and environmental improvements and social support are the main reasons why Europeans now live longer, healthier lives.

## 4 The Patient of 2022

By 2022 almost a fifth of UK residents are over the age of 65, this group's demand for health services is 4 times above the median. The patient has changed, not only as a result of ageing, but as better treatments are developed, more chronic patients are maintained in the community. Approximately 70% of prescriptions are repeats, indicating that the patient is receiving continuing treatment for conditions such as Asthma, Alzheimer's disease, Cardiovascular diseases, Depression, Diabetes, Epilepsy, Migraine, Parkinson's disease, Multiple Sclerosis, Prostatic disease and Inflammation of joints. By 2022 these diseases together account for 40% the total cost of health services in Europe.

Patients are no longer passive recipients of care, they are informed and demanding consumers. They demand better information about their condition, the treatment options and the performance of clinical teams. They are also well organised. The Netherlands led the way with one in five citizens participating in patient consumer groups by 2000 and a well-developed structure to support patient rights at local and national levels. Over the following 20 years Patient/Consumer Associations have increased in all European countries, this has been one manifestation of the move towards active citizenship that has reversed the apathy experienced by local democratic institutions. The European Patient /Consumer Council now wields considerable political influence, reflecting the strength of both consumer and "Grey" power groups.

Local Patient /Consumer Organisations provide a range of information and advice services, and they campaign for patient rights. This entails being involved in the debate about the provision of services and the specific treatment options available. They also monitor the performance of health services from the patient's perspective. In 1999 the College of Health was the only UK patient organisation able to track total patient waiting times. In 2022 health providers are required by European Law to supply details of performance and patient experience at every stage. Such is the strength of the Patient /Consumer movement that Governments are obliged to fund them to enable patients to use this information. They act as patient guides and advocates and use international contacts and the Internet to seek better treatments for their members. As noted in a previous section they support legal class actions.

Patient/Consumer Associations provide advice and information about positive health and a support network for patients. German Patient self-help groups led the way in this development and strong self -help groups are now evident across Europe. They also provide services through digital interactive TV (DiTV) channels such as the UK's Open Health, which provides information about health and care services and enables health professionals to maintain patient contact.

Patient/Consumer Associations are also engaged in debate at local and national level concerning health and care priorities as they have been for many years in Sweden, Norway, Holland and Spain. Since it is evident that social health systems cannot afford to provide every possible form of treatment Patient/ Consumer Associations debate with funding agencies the cost effectiveness and demand for treatments. For this reason health supply companies are careful to consult with them during the development of new treatments and drugs.

## 5 Medical Technology

The pace of advance of medical devices has accelerated over the past 20 years. The take up of medical advances in Europe is dependent on two factors: the pace at which medical practitioners can learn and apply new skills, and the rate at which health systems can afford these developments. The first way in which health systems of 2022 reduce costs is by shifting more diagnosis, treatment and care to the primary care sector and home care.

The most significant developments are therefore those that make it possible to care for patients at home. Patients make use of the DiTV and telephone advice and triage services such as NHS Direct, established in the UK in 2000. These services ensure that they have the information to manage their own health and can make optimal use of health and care services. Other developments include:

- Portable patient diagnostic devices and tests
- Patient monitoring devices and services including bio-inplants
- Patient knowledge based systems “Home health advisors”
- Telemedicine services using video links and sensors
- Patient education and support for empowerment based behaviour change
- Physical and mental wellness programmes.

In primary care, near-patient testing devices and scanners often support diagnosis. A specialist opinion can be obtained by a knowledge based system or video link with a specialist, supported by sensors and imaging systems. Medical practice is supported by knowledge-based systems using the Internet to give access to the latest best practice solutions and outcomes. Knowledge based systems also support self care and nursing care. For poor countries specialised knowledge based systems provide support that is sensitive to local needs, culture and resources, this is an important knowledge benefit for poor countries.

Miniaturisation and less invasive surgery techniques, including the use of surgical lasers and glue in place of sutures, are enabling both day surgery and major surgery to reduce dramatically the damage to the patient, the length of stay required in hospital and blood loss. Remotely operated devices, controlled through virtual reality systems, have replaced the hand held scalpel for many complex surgery procedures. For example, it is now usual to perform heart bypass operations by portal surgery without stopping the heart. The requirement for specialised equipment and skills has led to further centralisation of complex procedures. Simple day surgery procedures are provided locally.

Developments in genetics and bioengineering have greatly increased the potential for transplantation by using organs grown in genetically engineered animals and miniature bio-technical devices to replace human organs.

Beyond miniaturisation, nano-technology offers radical developments in areas of medicine that have previously been untreatable. They involve the use of minute bio-mechanical implant devices which can monitor patient conditions and deliver drugs. Even smaller devices are capable of mechanically attacking cell clusters and transporting drugs in minute quantities to precise locations. In 2020 this technology is still developing, it is very expensive and limited to specialist centres.

## 6 Pharmaceuticals of the Future

The global pharmaceutical industry of 2022 is dominated by 10 multi national enterprises funding, researching and marketing global health solutions. They work with smaller organisations in virtual networks, developing and improving health solutions. These include a range of drugs and therapies and knowledge systems for screening, prevention, diagnosis, and treatment. Their source of economic advantage, and increasingly their product, is knowledge. Alongside these knowledge-based companies, a further group of multinational and regional companies supply generic drugs (essential elements of most health solutions).

For poor countries, regional health supply companies are the main providers of health solutions. These companies work with local communities, health services and international Non Government Organisations to improve health and local provision of drugs and health information. As in Europe the main factors contributing to health improvement are intellectual capital, in the form of knowledge of appropriate local health solutions and social capital, comprising community organisation and support for health improvement. International funding, to guarantee poor country markets at low prices, linked to controls on parallel importing have supported investment in poor country health solutions.

The pace of discovery of new chemical entities, which slowed from about 70 per year in 1980 to 40 per year by 2000, accelerated to 200 per year by 2022. The development of new drugs was influenced by three main factors. First, developments in combinatorial chemistry and equipment made it possible to screen products one million times faster than in 1995. Second, the Human Genome Project, which was substantially completed by 2002, increased the potential target applications for drugs, from about 500 to 2,500. Third, the market demands proof of the cost effectiveness of health solutions. The European Medicines Evaluation Agency now requires a demonstration of cost effectiveness that may be used by national health systems in considering whether to fund.

This has tended to favour the development of health solutions that support a switch to screening and prevention of diseases. This is the second way in which health costs have been restrained in Europe. The Human Genome Project was the starting point for the development of genetic screening, by 2010 screening for some 30 conditions was possible, but this practice was confined to specialist centres. The full potential was only realised once low cost genetic screening was introduced and primary care doctors developed skills in interpreting and providing guidance on the basis of genetic indicators, matching treatment to patient genetic profiles. It was also essential to reach a European agreement on the ethical uses and ownership of genetic information.

Developments in pharmaceuticals have included major breakthroughs in diseases that had been untreatable and a steady improvement in combination therapies and staged drug regimes for many common diseases. Vaccines for AIDS have been developed, but require guaranteed low prices for poor countries.

Other drug developments include the so-called lifestyle drugs. These include growth hormones with anti ageing properties, mood enhancing drugs and many other treatments, for which there is high demand. However, European social healthcare funding only pays for such treatments in exceptional cases.

## 7 Information and Health

Healthcare has always been knowledge-based. In the year 2002 clinical staff spent 25% of their time dealing with patient records and information. In 2022 this process is much easier, medical staff record patient history, diagnostic and treatment decisions as they talk with the patient, using an intelligent system that picks out relevant information, confirms and collates it. This and other diagnostic applications are possible because of the development of neural networks using solid state computing. Use of information and communication technology is the third way of improving the effectiveness, quality and efficiency of health services.

Communications and information systems to support European health include;

Patient based health and genetic records that can be accessed and searched from any location, protected by access and encoding devices held by patients.

Commissioning and contracting systems drawing on patient records without access to person based medical information, as the basis for planning and purchasing services.

Evidence based medical knowledge systems providing access to best practice treatment and outcome information, linked to disease management systems providing integrated treatment and care programmes tailored to the genetic characteristics, needs and choices of individual patients. These systems provide information for education and self care by patients, as well as guiding clinical and care team members

Health and care market information, providing information on conventional and alternative health and care solutions, their quality, cost and waiting times (where relevant). Used by patients and their advisors to chose options for treatment and care, these draw on outcome information and surveys of patient experience. They guide referral and book appointments and treatment.

Integrated health management systems, which schedule patient treatment and resource use in both primary and secondary care. These systems help to optimise the use of resources by prompting recommended care paths, control the scheduling of resources within hospitals and primary care and provide clinical audit, cost and resource use information for management.

Since 2002, European health systems have progressed through a number of stages. It was first necessary for health providers to realise the potential of information technology and to increase spend from 1.5% of the health budget to the US level of 6%. It was then necessary to move from local systems to integrated solutions and from backward looking recording systems to forward looking health planning, medical advice and scheduling systems. A major step forward was achieved when health systems introduced web-based three tier solutions. This architecture provides access from local users' systems through web and browser technology to health information and data analysis support tools. While this was technically possible before 2010, issues concerning the confidentiality of patient and clinician records and delays in retraining medical staff, meant that the full potential of communications and information technology was only realised by 2015.

## 8 Health and Care Economics and Funding

Health expenditure in the Europe of 2002 increased by 2022 from 8.1% of GDP to 12.5%. This increase has been due to a number of factors. Changing consumer expectations resulting in demand for higher quality care produces a growth of about 1.75% per annum (in line with economic growth). Ageing and population increase accounts for about 1.75% increase per year. Medical technology and pharmaceuticals developments, with the potential to treat more diseases adds another 2.0% increase (equivalent to 8% per annum real growth in these sectors). Since staff costs are 65% of the total, wage inflation adds a further 0.5% increase per year. The increase of 6.00% p.a. offset by efficiency improvement at a rate of 2% results in an overall health cost increase of 4%. As a proportion of GDP health costs at 12.5% are still lower than the USA level in 2002 of 13.0%. The increase in health costs of only 4% per annum in real terms has been achieved by restraint by European governments and health systems. It compares with average growth of 3% per annum from 1980-2000. But the European Union of 2022 includes many additional countries with lower levels of health spend thus the overall average health spend is only 11.5% of GDP

The main reason for the restraint of health costs has been the stress placed on social welfare systems by increases in the costs of pensions and long term social care. These costs have increased in many European countries dramatically from 2000 to 2020, while dependency ratios (population under 15 and over 65 as a percentage of the total) have increased from about 40% to 55%. Moreover, in the following 10 years from 2020 to 2030 these costs will increase again and the dependency ratio will rise further.

The switch to HMO based healthcare by US employers constrained the cost of health expenditure. Despite this, costs rose as forecast, to 16% of GDP by 2010. This was considered affordable, until an economic downturn caused a sudden increase in the number of uninsured (17% of the population in 2000) and a need to reduce social health expenditure to avoid health costs rising to 20% of GDP. The consequent social disruption was resolved by the introduction of a broader social healthcare safety net with clearly defined core benefits available to all. This increased US government spending from 40% to 50% of total health costs but reduced total health costs to 15% of GDP within 5 years as health insurers and HMOs offered lower cost health plans.

In Europe, where government or social insurance costs accounted for 90% of healthcare in 2000, a reverse trend occurred. Social health systems limited funding to health solutions of proven effectiveness, co-payments were increased, and some aspects such as adult dentistry and ophthalmology were only provided to low-income groups. In addition some aspects of transplantation and very high cost procedures and drugs were excluded from basic health cover. Some countries introduced age limits on certain procedures, others limited services to smokers.

The direct impact on health costs of exclusions was limited (only affecting 1% of costs), but this enabled governments and health care payers to influence the development of health technology. It also had the effect of encouraging private medical insurance to cover co-payments, as in France and additional services including those excluded from social health schemes, cosmetic treatments, spa treatments, lifestyle drugs and alternative medicines valued by patients but of no proven efficacy. Private medical and long-term social care insurance increased from an average of around 7% of costs, to over 15% of European health costs.

## 9 Health Reforms in Europe

The European Union has supported the convergence of health and social care since the Maastricht Treaty. It has not attempted to replace national and regional management of health systems but has promoted a much faster exchange of ideas and information. Competition between the regions of Europe limits excessive social cost, which would discourage industry; or very poor social services, which would discourage labour; the UK (specifically in England) has accelerated spending, while Germany has constrained costs to come closer to the norm.

Thus health services have borrowed elements of reform from one another but have maintained their basic forms; with tax funded systems in UK, Scandinavia, Spain, Italy, Portugal and Greece and social insurance funded systems in France, Germany, Switzerland, Austria and Benelux countries. The countries of Central and South Central Europe developed hybrid solutions based on a combination of employment based insurance, tax funding and private insurance.

All European health systems operate within financial limits and control the services of health providers through cost and quality defined contracts or service agreements. In both tax and social insurance funded systems there is a division between agencies commissioning and funding health and care and the providers of services. Social insurance agencies have been subject to reform and competition as in the Netherlands and Germany. This has resulted in far fewer social insurance agencies, competing on the basis of the quality and cost effectiveness of the services offered (risk equalisation ensures fair competition). Local health commissioning agencies in tax-funded systems do not compete but offer services matched to local needs. This often involves partnerships with other agencies to tackle the poverty and social exclusion of local groups.

While governments delegate health commissioning and provision to local agencies they require health providers to demonstrate that the services they offer are effective and are supported by evidence based medicine. Most countries have followed the Netherlands and Norway in setting priorities for health service provision with highest priority given to services that can be shown to be effective and cost efficient. Where patients can reasonably be expected to bear personal responsibility for services this is reflected in co-payments e.g. for tattoo removal and in some cases, smoking related diseases.

Both local health commissioning agencies and social insurers work closely with primary care networks. These serve as gatekeepers to secondary care and are involved in commissioning. Some countries direct capitation based funding through primary care networks, as in the UK system of Primary Care Groups and the Swiss Health Maintenance Organizations; others provide financial incentives as in the German Vernetzte Praxen. In France, Italy and Spain local doctors form Quality Networks with similar functions. Sweden and Denmark have Patient /Consumer groups responsible for commissioning health and care services.

Most European health systems have attempted to set user charges at a level that will encourage the most cost effective use of services. For example they followed the lead of Sweden, which by 2000 required users to pay a charge of 10 Euros for Primary Care consultations. This encourages users to make use of telephone triage and advisory services for self-care. Low-level co-payment charges for hospital beds also encourage patients to seek early discharge.

## 10 Primary Care and Community Care Networks

While the developments of DiTV and telephone helpline services reduce the need for doctor contact, patients still visit their primary care team frequently (about 6 times a year). The skills needed by these teams include the ability to listen and provide guidance and training to the patient, as well as wide ranging knowledge of medicine, health risks, particularly those relating to genetic factors and treatment options. Since patients come with a range of physical and mental health and social problems they must have a wide understanding of family health and social relationships. These fundamentals have not changed in 20 years. But doctors and nurses have gained new skills in using information and knowledge.

The primary care network has changed in many European countries because they now deploy a far wider range of skills. Doctors still provide diagnostic and family medicine services, but some specialise in planning and managing the primary care team and the services they commission from secondary care. There are more specialists in primary care, including paediatric, and geriatric specialists, rheumatologist and psychiatric specialists. In addition, specialist hold clinics in local primary care centres and portable equipment is brought to the centre for specialist treatments. Primary care networks operate telephone, Internet and videophone helpline services, emergency first call services, casualty rooms, community hospitals and psychiatric services.

There are many more specialist nurses operating in primary care teams in 2020. They provide advice and triage services, and give support and education for patients. Some can prescribe medicines and treat straightforward cases under the supervision of a doctor. Many nurses provide home-based care for patients. This frees time so that doctors can deal with more complex needs, spend more time reviewing medical conditions with patients and providing genetic and other health prevention advice. The primary care team includes psychiatric nurses and social care advisers, where health and social care are integrated. The team may also include a pharmacist providing advice on drug regimes, over the counter medicines and treatments. A patient advocate is located in each centre, providing advice and guidance to patients and contact with local self help groups.

While some described the advent of European forms of health maintenance organisations (HMOs) in the UK and Switzerland, as a revolution in which primary care practitioners would overturn the dominance of hospital medicine and lead health services, in practice it is more like a partnership. Hospital doctors, primary care teams and social carers get together to conduct patient care audit and plan patient care pathways and optimise treatment. Patient/Consumer Group members attend meetings to ensure that the patient's perspective is kept in the forefront of discussions. In some countries patient/consumer groups now lead HMOs commissioning services from public and private health providers for their members.

Primary care networks are supported by information systems, which enable them to share patient data and the evidence based protocols and patient care pathways they have adopted. In some cases the primary care team may be located together in a primary care centre as found in Spain and Scandinavia. In other countries, like France and Germany they operate from different offices as independent practitioners linked by communications and information technology.

## 11 The 2022 Hospital

Most of the European hospitals of 2022 were built before 2000, since there has been an overall reduction in the number of beds required. This was due, first, to reductions in lengths of stay to match US level (a reduction of about 30%). Secondly, the development of hospital at home and primary care centres has reduced the demand for hospitalisation. Thirdly, less invasive surgery has resulted in many more day cases. Finally, even in 2000 many European countries had a surplus of hospital beds.

Though the appearance of hospitals has not changed much in 20 years, their role and operation is quite different. Hospitals operate within an integrated service, they provide knowledge, diagnosis and advice by video and remote sensing and imaging links to primary care practitioners and they run outreach clinics in primary care centres. One hospital is unlikely to provide all the knowledge and support for primary care, since hospital units specialise in therapeutic areas, thus knowledge support may be drawn from several different hospitals. Some medical schools also apply this principle to the education of clinical staff, with students learning on-line and by visiting different areas of medical practice including, most importantly, primary care. As the knowledge base of medicine expands at an ever increasing rate medical staff must first learn to use and update their knowledge.

Within a typical hospital of 2022 much has changed. Most divide their functions between emergency medicine and specialist treatment units. The emergency medicine unit may be on a different site, it stabilises patients and provides diagnosis and treatment planning. This often requires teleconferencing with relevant specialist. At this stage the patient's treatment is scheduled and if necessary the patient will be moved through to the treatment centre, or, if the patient can be stabilised they will be scheduled for a later date and discharged to home care or a patient hostel providing low intensity nursing. Patients do not stay longer than 24 hours in these units.

Specialist treatment units bring together the skills and resources for patients with similar requirements. They are large enough to achieve economies of scale for staff and equipment, usually about 100 beds, with a throughput of some 10,000 inpatients per year and 50,000 outpatients. A hospital complex may contain 3-7 such units..

The development of specialist units is partly a result of the increased cost and economies of scale required to utilise medical equipment, and partly due to the need to use specialist knowledge and skills. They also form natural patient centred knowledge management units. But this development is also driven by the increase in hospital infections due to the misuse of antibiotics in the 1990s, units are therefore separated to avoid cross infections.

There are also a range of local treatment units within primary care units and community hospitals providing a range of day treatment and intermediate care, but also able to handle more complex cases with the support of telemedicine facilities.

Due to the reduction in bed requirements hospital sites also often provide the location for primary care centres, in some cases they also contain positive health facilities such as fitness centres. Some hospitals even provide the site for a wide range of alternative medical practitioners forming a sort of health supermarket.

## 12 Caring for the Whole Person

Care is needed by whole persons, for whom a combination of family history, luck and personality play an important role that cannot be explained by genetic or medical factors. Health and care remains a personal service, of which, empathy, trust and family/community support are essential ingredients.

Health and care services are better integrated in most European countries by 2022. Some health systems have followed the Australian model of 2000, in distinguishing between people requiring single services, and those requiring an integrated caring response to a range of physical and mental health, social and emotional needs. In other systems the role of the General Practitioner and or Community Nurse has been enhanced to ensure that patient total needs are reviewed and contact is maintained.

However, there is a danger of expecting too much from these busy front-line staff. It is also clear that health and social care professionals do not have a monopoly on empathy or knowledge. Community resources channelled by Patient /Consumer Associations are central to the quality of care provided in 2022. It is a crucial task of health agencies to develop and support such services. In countries, such as the UK and the Netherlands, patient advocates have been provided by patient/consumer groups since 2000, they are now found in all European systems.

It is also accepted that caring for the whole person may require spiritual support. Religious and humanist organisations play a role in counselling patients and together with Patient /Consumer groups and patient advocates, provide support for patients and families in making difficult ethical decisions about treatment and care options. One of the most difficult areas of decision making concerns the right to die with dignity. Most countries now accept living wills in this regard.

While health services have increasingly focused on medical interventions of proven value, consumers have continued to purchase alternative medicines and treatments. Where alternative therapies have demonstrated their value they have been accepted for social health funding and equally conventional treatments of doubtful benefit (but no harm) have become new alternative therapies. Thus, for example, it is now accepted that pet dogs or cats are of considerable therapeutic value to many elderly people, and provision is made for pets wherever possible. As a result of effectiveness studies, dilatation and curettage is now provided as an alternative therapy, only funded by state systems in exceptional circumstances.

The boundaries of health concern have expanded to include food and diet as part of health, by 2022 a vast range of “health foods” vitamins and supplements are available and in high demand. Fitness centres have also expanded across Europe and traditional spa centres have revived to meet the needs of their new clientele. Many people have been helped to adopt healthier lifestyles by the development of the science of empowerment based behaviour change. This emphasises the responsibility of the individual but clarifies choices and outcomes while helping the individual to overcome their obstacles to change.

The role of the arts in medicine has also been appreciated and music, painting and literature all play a role in humanising the experience of health services

## 13 Comparing the Health Systems of 2002 and 2022

There are many similarities between the health systems of 2002 and 2022, but there are also some important differences:

- Patients take greater responsibility for their own health and care, they are involved in many more decisions including options of various forms of additional treatment and care insurance. They use knowledge resources themselves and with patient advisors to help with these decisions.
- Patient/Consumer associations play a much stronger role in monitoring quality and advising patients. They also help to channel local voluntary care.
- Poverty is still a major cause of poor health, problems of social exclusion are exacerbated by information exclusion.
- A higher proportion of health and care services are provided in the home or primary care setting, accounting for 35% of health costs (c. f. 27% in 2000).
- Medical technology and pharmaceutical advances have accelerated but developments are better targeted to provide cost effective solutions.
- A higher proportion of costs are devoted to health promotion and disease prevention, including genetic screening, counselling, empowerment based behaviour change and positive mental health programmes.
- Evidence based medicine guides the development of health solutions and their application by clinical teams in primary and secondary care.
- Primary and secondary care are better integrated, working together following agreed evidence based guidelines. This results in greater uniformity of practice compared with 2000 when primary care doctors with similar patient communities would differ by 250% in their referral rates.
- Professional boundaries have reduced between: patients and clinical staff, doctors and specialist nurses and between professional carers and volunteers.
- Services are limited to those that can be shown to be effective. This is the main way in which services are rationed, though there are also some limits on very high cost procedures and some age related limits.
- The quality of treatment and care is much better, long waiting lists are not considered acceptable, neither is it accepted that specialists should offer private consultations because their public waiting list is too long. Junior Medical staff are not expected to work excessive hours or to practice without close oversight by senior staff, either in person or by video link. The quality experience of every patient is monitored by Patient /Consumer groups.
- European health systems are quite similar in the way they work, with commissioning agencies working with primary care networks, even though there are still differences in the funding and structure of systems.
- Primary care forms the gatekeeper role for health services and guides patients through the health and care services.
- Hospitals provide the knowledge centres for the healthcare system and are usually organised around emergency services and specialist units that bring together specialties with similar resource and skill requirements.
- Communication and information systems provide a seamless knowledge base for health and care. They are an everyday part of everyone's life.

Dr Graham Lister The Nuffield Trust Dec 1999/ Updated Jan 2002  
 Medical advice by Dr Jess Lister