



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 19.07.1995
COM(95) 357 final

REPORT FROM THE COMMISSION

TO THE COUNCIL, THE EUROPEAN PARLIAMENT,
THE ECONOMIC AND SOCIAL COMMITTEE
AND THE COMMITTEE OF THE REGIONS

**on the state of health
in the European Community**

CONTENTS

Preamble	i
Executive summary	ii-iii
I. Chapter 1 - Introduction	1
1.1 Why a health report for the Community?	1
1.2 Describing health and its determinants	2
1.3 Structure of this report	3
II. Chapter 2 - The population's health	5
2.1 Population trends	5
2.2 Life expectancy	7
2.3 Differences persist	8
III. Chapter 3 - Patterns of health, disease and disability	10
3.1 Children	10
3.2 Young people	12
3.3 Adults	13
3.4 Older people	19
IV. Chapter 4 - The determinants of health	21
4.1 Health-related behaviour	21
4.2 The environment and health	25
4.3 Social concerns	27
4.4 Health services	28
V. Chapter 5 - Towards a healthier Europe	33
Annexes	
Annex 1. Notes and glossary	35
Annex 2. List of figures	37
Annex 3. Tables of causes of death, EC, 1991	65
Annex 4. Bibliography	73

PREAMBLE

The Treaty of European Union created new responsibilities in public health for the European Community. Article 129 of the Treaty lays down a general objective for the Community to contribute towards ensuring a high level of human health protection and makes provisions for the kinds of Community action that should be undertaken to meet this objective.

The Commission Communication on the framework for action in the field of public health (COM (93) 559 final of 24 November 1993) sets out how the Commission intends to implement this new Community competence. Among other proposals made, it envisaged that a health status report should be prepared for the European Community (EC) on a regular basis.

This is the first such report. It provides an overview of health status in the EC in 1994, including a description of the main demographic trends and patterns of mortality and morbidity, and a discussion of the major determinants of health. It also gives information about certain key Community actions and programmes with implications for health.

This report is based upon work carried out by the Regional Office for Europe of the World Health Organization using information in their Health For All database and other readily available data. The Commission provided them with support for this task. Since the requisite work was carried out prior to the accession of the three new Member States it has not been possible to include information on them in the report.

Future reports will in principle be produced annually. Their subject-matter will reflect important developments in health status within the Community and also take account of the concerns of the Community population. It is intended that individual reports should focus on specific issues, but general overviews of the evolving state of health will be provided at appropriate intervals.

Executive summary

This report presents a picture of health in the European Community in 1994.

On the basis of the data available in 1994, this report describes the health of the people in the 12 Member States of the European Community (EC), the determinants of their health, and opportunities for action in the field of public health in the Community. It provides an account of health trends and can serve as a baseline for evaluating future activities and as a support for future decisions on policy development in public health in the Community. The current action programmes of the Community are described, where relevant.

The population's health

** Fewer children, more older people*

The population of the Community is just under 350 million people. The proportion of children in the population has fallen, because of a lower fertility rate since the 1970s, while the proportion and number of older people is increasing. Net migration into EC countries was about 1 million people in 1992.

** People live longer*

Health in the Community is improving ; in all countries, children are healthier and adults are living longer. The average length of life, 76.5 years in 1991, is higher than in the United States (75.5 years in 1990), although lower than in Japan (79.6 years in 1992). On average, men have a life expectancy that is nearly 7 years shorter than women's, and one fifth of all deaths are premature (i.e. before the age of 65).

** Differences persist*

Variations in health exist in and between countries. Death rates are higher in people of lower socio-economic position. There are also regional and local geographical variations.

Patterns of health, disease and disability

** Children are healthier*

Infant death rates have been falling throughout the century. In infants, congenital anomalies remain an important cause of death and disability. Accidents and cancers are the main causes of death for children aged between 1 and 14 years. Dental health is improving, and childhood infectious diseases are diminishing through immunization control.

** Young people are developing adult forms of behaviour*

Accidents, especially on the roads, are the dominant cause of death between the ages of 15 and 34. Health-related behaviour in young people shows patterns reflecting the behaviour of older adults. One in two teenagers starting to smoke now will die from tobacco if he or she continues to smoke steadily.

** Premature death is frequent in middle age*

The main causes of premature death in adults are heart disease, stroke, cancer and accidents. Death rates for heart disease and stroke are falling, but they are rising for lung cancer in most countries. A wide range of factors contribute to causing these diseases and disabilities - often several factors together. Smoking has important effects, especially causing heart disease, lung cancer and other respiratory diseases.

** Chronic diseases and disablement are predominant in older people*

With increasing life expectancy of older people, disabilities and chronic disease at this age need special attention. They include physical disabilities such as joint diseases, sensory disabilities, including poor hearing, and mental disabilities such as dementia.

The determinants of health

** Behaviour influences health*

Five forms of health-related behaviour - smoking, alcohol misuse, drug abuse, diet and exercise - have an important effect on health and disease. It has been estimated that cigarette smoking causes half a million deaths a year in the Community. Smoking by women has increased, although there is a decline in the trend for men. Alcohol misuse is particularly related to social problems, violence and suicide. The main trend has been the changing pattern of consumptions in wine and beer countries. Drug abuse is growing, and deaths from drug overdoses are rising in some countries. Considerable north-south differences in diet contribute to disease variations, with high levels of obesity in some EC countries. Physical exercise contributes to good health, but information on exercise levels is lacking.

** Environment influences health*

There are deficiencies in housing and sanitation in all EC countries, and nearly two and a half million people are estimated to be without shelter or living in temporary accommodation. Transport has major implications for health. Poor air quality affects whole populations, particularly vulnerable groups such as those with asthma and respiratory problems.

** Social status influences health*

Unemployment and social inequalities are two further determinants of health. Unemployment has been rising in the 1990s, and youth unemployment is particularly high in southern EC countries. Social inequalities still exist in all EC countries, but they appear to be less in some northern countries.

** Health services alone are not the solution*

Health services both provide care for people who are ill and undertake individual health promotion. But prevention of the major health problems also depends on behavioural, economic and social action at the population level.

Towards a healthier Europe

The question is raised of how far life expectancy can be further extended. The main potential for increases in the near future is the reduction of mortality in young and middle aged people from cancer, cardiovascular disease and external causes of injury.

Chapter 1

Introduction

1.1 Why a health report for the Community?

In the European Community (EC), common approaches to existing problems are increasingly being implemented not only in the area of economic integration, but also in other areas such as migration, the environment, education and research.

Health is no exception to this. Not only are health problems tending to become more and more international in character, but the major problems appear to be growing more similar across countries as well. Moreover, as international cooperation on health has developed, attempts are being made to find common solutions and to increase the exchange of experience and expertise. As a result of such efforts, interest in other countries' problems and policies has increased and international information on health has become increasingly important.

At the same time, people in the European Community are becoming healthier than ever before. Improved housing, water and sanitation, better hygiene, improved nutrition and specific medicines, such as vaccines and antibiotics have together contributed to a major improvement in health. One measure of the improving health in the Community over the past four decades is the steady rise in life expectancy at birth for all EC countries (Fig. 1.1). Fig. 1.1 also shows another striking example of improvement in the form of the increasing height of the population, in this case young men in the Netherlands - amongst the tallest people in the Community.

Yet there are important health problems to be overcome. In this century, Europe has changed rapidly from a mainly rural society into an affluent industrial society of people living in cities. Social changes include the decreasing size of families and households and increasing numbers of older people and people living alone. The major diseases of adult life are heart disease, stroke, cancers, accidents and mental illness, while AIDS is a new and growing problem.

A highly developed and specialized health care system will not be able to solve these emerging health problems alone. Neither will increased resources channelled solely into health services and health technologies be sufficient by themselves to significantly improve the overall state of health. To reduce deaths and disability, the health services and other sectors with activities affecting health need to take more preventive action directed both at individuals and, through public health measures, at the whole population.

A coordinated effort by the Member States of the European Community can add value to such action. In the 1980s, Member States steadily increased their cooperation in the public health field to cover a wide range of health problems. Common action has been undertaken in important areas such as health and safety at work, cancer prevention, alcohol and drug abuse, health education and AIDS. Moreover, the Community has substantially increased resources for biomedical and health research programmes.

With the Treaty on European Union, Community action in public health has been given a specific legal basis. Article 129 of the EC treaty requires that "the Community shall contribute towards ensuring a high level of human health protection" and commits the European Community to contributing to disease prevention, in all its aspects, through Community action. The Commission, the European Parliament and the Council of Ministers have all contributed to the carrying forward of these new responsibilities and to the practical implementation of the obligations of the Treaty (1,2,3).

Both the Commission (1) and the European Parliament (2) recommended a regular report on the state of health in the European Community, with the former recommending that it should be based mainly on reports by Member States. This is the first report;¹ it provides an overview of the health status of people in the Community and the determinants of health, and it indicates the broad areas where further health improvements are possible.

1.2 Describing health and its determinants

Health and disease can be described in various ways. Surveys of the general population in six EC countries reveal that most people rate their own health as good (Fig. 1.2.1). However the variations shown between countries need to be interpreted cautiously since they may reflect differences in the questions being used, as well as different levels of contentment of people in these societies. A second source of information comes from health services, which record people who have perceived a health problem and sought care. The majority of illness episodes are treated at the primary care level, but some need more specialized care in hospital. An important source of incidence data for the Community is disease registers, such as those for cancer, congenital anomalies and AIDS. A third source of information is death records. Causes of deaths are certified by doctors according to an internationally agreed coding system and are relatively the most reliable data for international comparisons on health status.

Except for hereditary diseases and the process of aging, ill health results from the interplay between our genetic constitution, our physical environment, our society and our personal behaviour. Some types of ill health have apparently clear causes that are well known: for example, a fall may cause a broken arm and cigarette smoking may cause lung cancer.

However, more usually several factors are at work together - for example, a fall may cause a fracture when a person has poor nutrition and weakened bones, and smoking contributes, with dietary factors and lack of exercise, to causing heart disease.

Two sorts of health risk are considered in this report - risk for the individual and risk for the population. Individual risk includes the person's inherited constitution, personal behaviour and the environment to which the individual is exposed. Such risks are well known to insurers, who give discounts on life insurance to people who do not smoke and make higher charges for motor insurance to young drivers. However, population risk depends on the number of people exposed and the level of exposure with even small changes affecting a large number of people. This is the rationale for population-level action for example in areas such as nutrition and smoking.

¹ Progress in public health is reported by individual European countries to the World Health Organization in accordance with the European Regional Health for All Strategy. Since 1984, this has provided a framework for public health action, with 38 specific targets or health status goals. Because of this long-standing work, and the information provided by all EC countries, the Commission requested the European Regional Office of WHO to produce this report.

1.2.1 Information sources²

This report is based on information from a wide range of existing sources. These include data held by the Statistical Office of the European Communities (EUROSTAT) and the Organisation for Economic Co-operation and Development (OECD) and by the European Regional Office of the World Health Organization (WHO) in its health for all database. Moreover, it includes information provided to WHO by Member States as part of their national health for all monitoring reports, information published by national governments and local reports, and published scientific work. It also includes data collected by disease-specific centres, such as the International Agency for Research on Cancer (IARC) in Lyon and the European Centre for the Epidemiological Monitoring of AIDS in Paris, and networks such as the European Registration of Congenital Anomalies and Twins (EUROCAT).

The report uses this information to describe and compare trends over time, and differences between countries. The information always relates to the 12 EC countries which were Member States in 1994, irrespective of the year to which the data refer. Patterns of deaths, disease or injuries are mainly presented as rates - the number of events for a specific population size. These rates are usually "standardized" by age, that is adjusted to take account of age structures of the different populations. Sometimes, however, absolute numbers are used rather than rates.

The process of using the existing data to describe current levels and patterns of health and disease and their determinants, as precisely as possible, has revealed gaps in the information currently available in the Community. This should help to point out areas where new data should be collected or the existing data need to be improved.

In some cases it has been necessary to use data which do not cover the entire Community. In such cases, the most representative examples have been chosen, in order not to detract from the general conclusions of the report.

Data for Germany up to 1990 usually refer to the Federal Republic of Germany within its territorial boundaries up to 3 October 1990, and those after 1990 to the Federal Republic including the acceding territory, unless otherwise noted.

² Full sources of all figures, together with notes, definitions, a glossary of terms and a bibliography, are presented in the annexes.

1.3 Structure of this report

The purpose of this report is to provide a picture of health in the European Community. The report does not aim to cover all diseases or health problems but deals only with the problems which have most impact on health status and those which are most likely to be influenced by Community policies.

Chapter two starts with information on the size of the Community's population, trends in births and migration, and the changing proportions of young and older people. Trends in health status, indicated by life expectancy, are compared between countries. The final section points to the variations in health that exist, by sex, social group and geography.

Chapter three outlines the major patterns of health, disease and disability at different stages of life. Death rates are used to describe the major life-threatening diseases.

Chapter four describes the broader behavioural, environmental and social determinants of health, and the relation of health services to health protection.

Chapter five highlights the main potential for increases in life expectancy in the future.

References

1. *Commission Communication on the framework for action in the field of public health, 24 November 1993, (COM (93) 559 final).*
2. *Resolution of the European Parliament, 19 November 1993, (OJ C 329 of 5.12.1993).*
3. *Resolution of the Council of Ministers, 2 June 1994, (OJ C 165/1 of 17.6.1994).*

Chapter 2

The population's health

There are just under 350 million people in the European Community. Member States range in size from Luxembourg (395 000 people) to Germany (81 million people) (Fig. 2.0.1). The population is growing slowly, depending on the balance of births and deaths, and migration. Life expectancy is increasing, although not as fast as in some other countries. Cross-sectional and time-series data on variations are not complete; for mortality these are only generally available by age, cause of death, sex and geography: social group data is available for only a few countries.

2.1 Population trends: fewer children, more older people

The total population has increased to 350 million from about 320 million in 1970 and since 1988 the rate of growth has slowed to about 1.5 million a year. The population structure by 5-year age groups for the Community in 1970 and 1993 is shown in Fig. 2.1.1. The smaller number of children compared with young adults in 1993 is due to the particularly sharp drop in an already falling birth rate in the early 1970s. There are roughly similar numbers of men and women in each age group up to the age of 55, but at older ages women outnumber men.

Births

The falling fertility rate is a world-wide population trend. In the Community, total fertility rates (the expected number of births per woman age 15-44) began to fall in some, mainly northern, countries towards the end of the 1960s (Fig. 2.1.2). The fall coincides with oral contraceptives first becoming available, and probably reflects several social trends - increasing labour participation among women, people choosing smaller families, delaying the start of families or choosing not to have families at all. Rates in these countries stabilized later, but by then, other countries were also seeing a fall in their fertility rates. Within the Community, Spain and Italy now have the lowest fertility rates (1.2 child per woman). (1) Although the Community has lower rates than other groups of countries (overall 1.5 child per woman), the most recent data appear to suggest a tendency towards an increase in these rates for some EC countries. However, for the Community as a whole, the decrease is still the dominant trend (down 0.1 child for the period 1990 -1993).

Those data available on contraception show that the contraceptive pill is most widely used, followed by condoms. But there is some evidence that the use of condoms among young people has been increasing owing to their promotion in AIDS information campaigns. Male and female sterilization is increasing for couples towards the end of their childbearing period, and is now used by up to 25% of couples in Belgium and the United Kingdom.

In the Community, abortion is legal, except in the Republic of Ireland and in Northern Ireland in the United Kingdom. The ratio of recorded abortions to live births in EC countries varies from one in ten in the Netherlands and Spain, to one in three in Denmark and Italy, though these figures need to be treated cautiously because of differences in terminology and recording practices. Most women who have abortions are in their 20s and 30s.

Ageing

Both the high birth rates in the early part of the 20th century and increasing survival have contributed to the rising numbers of older people in the Community. Not only has there been a rise in absolute terms, but the proportion of those over 65 in the Community, and especially the very old (85+), has increased over the past two decades and is now among the highest in the world. Together with falling birth rates, this ageing of the population affects "dependency".³ In 1992, the dependency ratio for the Community, 49 per 100 aged 15-64, was lower than that for North America (52), the Nordic countries (53) and the countries of central and eastern Europe and the former Soviet Union (53) (2).

The proportion of those aged 65 and over is projected to rise from 15% in 1995 to 17.1% by the year 2010, while the proportion of adults aged 15-64 is expected to decline from 67.1% to 65.6% over the same period, with the proportion under 15 remaining relatively stable (3). This, coupled with the fact that more women in the age group 15-59 years are now in full or part-time paid employment - a rise in the Community from 47% in 1980 to 54% in 1989 - suggests that there may in consequence be fewer opportunities for informal care from this age group, adding to the demand on the caring services.

Migration

Around 6 million EC nationals (2%) live in other EC countries, with the highest proportion in Luxembourg and Belgium. Every year some 350 000 people (one per thousand) move from one EC country to live in another.

Net immigration from outside EC countries was low in the early 1980s but has increased more recently to about 1 million people a year. Germany is the major host country, the United Kingdom has net emigration. In 1992, the leading countries from which immigrants came to the Community were Poland, Turkey, the former USSR and Yugoslavia.

In the Community in 1992 more than 10 million people were non-EC citizens, about 4.4 million of whom were living in Germany. Nearly half of the 10 million non-EC citizens were citizens of other European countries (including Turkey), 2.8 million were from African countries, 1.6 million from Asia and 0.8 million from the American continent.

Migration is one example of social and cultural change, and the health of migrants is dependent on a number of factors, including the reasons for their migration, the culture and lifestyle of their country of origin and their host country and the experience of being migrants. Therefore, patterns of health and disease in migrants may differ from that in the host population. Refugees and asylum-seekers in particular might have a traumatic background, giving rise to needs for specialised treatment in the host country. However, information on the ethnic origins of the population is a sensitive issue, and data for the Community are lacking. If such data were available, they could help to identify the services needed to meet specific health problems related to ethnic origin.

³ Dependency is a purely demographic description, defined as the ratio of the number of people aged 0-15 and 65+ to those aged 15-64.

2.2 Life expectancy: Europeans are living longer

Year by year, Europeans are living longer. Since 1970, life expectancy - the age that a newborn child may expect to reach given current death rates - has increased in all EC countries (Fig. 2.2.1). Life expectancy in the Community rose from 71.8 years in 1970 to 76.5 in 1991. The difference between men and women widened over this period: the male average rose by 4.5 years from 68.6 to 73.1 years, while the female average rose by 5 years from 74.9 to 79.9 years. For older people, who have reached the age of 65, life expectancy in the Community rose from 14.6 years in 1970 to 17.1 years in 1991 - an extension of two and a half years of life. As we look forward to further life expectancy increases, issues surrounding the quality of life and healthy aging are beginning to come to the fore, with a new emphasis being put upon 'healthy life expectancy' and 'disability free life expectancy', together with a growing concern about the impact on the health and social services in all countries of the increasing numbers of older people.

The variations between industrialized countries in terms of life expectancy and general economic development (as measured by real GDP) can be seen in Fig. 2.2.2. Economic development is not the only factor involved in such variations, especially for the EC and other EFTA and OECD countries. High life expectancy has been achieved by some southern Community countries which currently have relatively low real GDP, such as Portugal where life expectancy increased by over 7 years to 74.4 years between 1971 and 1992 (Table 2).

On the other hand, the expectation of life in EC countries is not the highest in the world. Among developed market-economy countries, Japan, Iceland, and Switzerland all do better than the best EC country, France (which has the same life expectancy as Canada), while Denmark, Ireland and Portugal rank below the USA and New Zealand (Fig. 2.2.3). Japan, in particular, is of interest: in 1970 it ranked ninth, whereas by 1992 it was in first place, with an increase in life expectancy of 6.5 years over the period.

The increased expectation of life between 1970 and 1991/92 has not been uniform between countries. France, in increasing its life expectancy by 4.8 years, has overtaken Greece, the Netherlands and Denmark to become the country with the longest life expectancy in the Community. In contrast, Denmark has had only a small improvement (1.9 years): an investigation in Denmark has shown that the relative deterioration is across several disease groups. These include heart disease and lung cancer with the high smoking rate, established in both men and particularly women for over 40 years, being an important contributing factor. The proportion of women who smoke is higher in Denmark (42 %) than in any other country in Europe.

A further way of looking at what might still be achieved is to use a hypothetical model based on the best mortality rates at different ages from each of the countries across the whole of Europe.

When compared with the current average age-specific mortality rates for the Community (Fig. 2.2.4), it shows the improvement possible if the EC countries were to match the best age-specific mortality rates being achieved in Europe. There is scope for improving survival, particularly among the middle and older age groups. In their recent population forecasts, a number of the countries expect a considerable increase in their life expectancies in the years to come.

2.3 Differences persist

Age is the single factor most closely associated with death rates, but there are also other groupings which show important differences in mortality.

Sex

In all EC countries, women live longer than men. Women have fewer deaths from accidents and violence, and their death rates from heart disease and stroke rise with age more slowly than men.⁴

The mortality difference between women and men is probably not just inborn: it also reflects different behaviour by men and women, particularly consumption of alcohol and tobacco, and risk-taking behaviour e.g. in driving. In the Community in 1991, there were three times as many deaths in men aged 15-34 (65 000 deaths) compared with women of the same age (23 000 deaths). Fig. 2.3.1. shows how the excess of deaths in men has developed in France during this century. In the 1920s deaths in men were only a little greater than in women, and in adolescence the picture was actually reversed. However, by the 1960s, the higher death rates of men at all ages (and especially young adults) can be seen, and these differences have increased up to the present. Whether these differences will continue in future is open to question, given for example the rising smoking rates in women (see section 4.1).

Social groups

Differences in death rates between social groups are present in all countries. Whether the ranking is by occupational group, for example "white-collar" (nonmanual) compared with "blue-collar" (manual) groups in Germany (Fig. 2.3.2), social class (Fig. 2.3.3), educational level or income, differences between groups are found. Inequalities in health may also be increasing. In the United Kingdom, although mortality declined for all social classes (grouped by occupation in the ten-yearly census) between 1951 and 1981, the gap between the standardized mortality ratios of males with professional and unskilled occupations appears to have widened (Fig. 2.3.3). These differences exist despite the availability of health services, through social insurance or national health systems, for all social groups in EC countries. However, data on the pattern of use or uptake by social groups are generally not available.

Geography

There are marked local variations in death rates within EC countries. Fig. 2.3.4 shows standardized mortality ratios (SMRs) in local administrative areas of Member States in 1980-1984. There are also variations for specific causes of death. It is difficult to draw any firm conclusions, but in general favourable patterns seem to match rural areas in southern countries, while unfavourable patterns are found in industrial conurbations of northern countries.

⁴ In interview surveys, women report more symptoms of physical and mental illnesses than men (4); this difference has been described as "quantity of life but not quality".

Within regions and conurbations there are also geographical variations: some inner areas of older cities or peripheral areas with decaying public housing have higher death rates than affluent suburbs.

Chapter summary

The EC population has been growing slowly in size, and there are fewer children and more older people. People are living longer, but further improvement is possible through reducing disease in middle and older age. Differences in death rates by sex, social groups and geography persist.

References

1. EUROSTAT *Demographic statistics 1994*. Luxembourg, 1994.
2. UNDP. *Human development report 1994*. New York, 1994.
3. United Nations. *World population prospects. The 1992 revision*. New York, 1993.
4. For example, Smyth, M. & Browne, F. *General household survey 1990*. London, Office of Population Censuses and Surveys, 1992; and Ruwaard, D. et al. *Public health status and forecast: the health of the Dutch population over the period 1950-2010*. The Hague, Rijksinstituut voor Volksgezondheid en Milieuhygiene, 1994.

Chapter 3

Patterns of health, disease and disability

The incidence of and mortality from different diseases varies significantly by age. At the international level, information on incidence is limited, even for indirect measures such as admissions to hospitals and contacts with primary care. Mortality information, however, can be used to show the age profile of the main causes of mortality (Fig. 3.0.1), although it should be noted that only about a fifth of all deaths are before the age of 65, and only just over one in a hundred before the age of 15 years.

Cross-sectional analysis at different age bands allows a more detailed analysis of the major patterns of disease, and this chapter reviews these patterns by the stages of the life cycle, as depicted in Fig. 3.0.2.⁵ Accidents and suicide are the most common causes of death in young people. Cancers and cardiovascular disease begin to dominate in middle age, with cancers most frequent in late middle age. Cardiovascular diseases account for nearly 50% of all deaths over 65. Disability from chronic diseases is also a major concern for older people.

3.1 Children (0-14 years)

Deaths of children have fallen over the past 20 years, continuing a process that started early in the century. The infant mortality rate for the Community has halved, from over 20 per 1000 live births in 1970 to under 10 per 1000 in 1992, and the large differences between countries in 1970 have diminished (Fig. 3.1.1). This is mainly the result of better child care, care in pregnancy and intensive neonatal care; but some perinatal problems remain.

Congenital anomalies cause about a quarter of all infant deaths in the Community. New technologies in genetics and investigation of the foetus at an early stage in pregnancy can allow control of these diseases. Genetic counselling in relation to conception can assist in the context of the former, while selective abortion (with proper safeguards) may be an appropriate response to the latter where permitted by national legislation. However, medical practice needs to be in line with public opinion, and the important ethical and cultural issues need wide debate. Screening programmes for genetic abnormalities must offer enough information for people to make choices for themselves. For this approach to be successful, there should also be sufficient counselling and support.

Intensive neonatal care of premature babies reduces perinatal death rates but may increase postneonatal death rates. Severely premature babies that survive through intensive care are at risk of higher rates of mental and physical handicap than less premature ones. Specific groups, often living in deprived city areas with low incomes and sometimes within migrant and refugee communities, may have poorer maternal and child health. Preventive care and maternity services need to reach these groups effectively.

⁵ The subcategories chosen account for a large part of mortality and are primarily those which are "preventable" through public health action.

Much of the burden of chronic disease in children results from birth trauma and congenital anomalies. Down's syndrome is the most common cause of severe learning difficulty, and cystic fibrosis a common cause of severe lung disease. Two haemoglobin disorders, thalassaemia and sickle cell anaemia, have important health consequences. The high prevalence of the former in Greece and Italy can be seen in Fig. 3.1.2.

Dental health

There has been a marked improvement in children's dental health. The average number of decayed, missing and filled permanent teeth (DMFT) in 12 year-old children has fallen in all countries except Spain. Fluoride toothpaste and education for regular cleaning, together with addition of fluoride to water supply, have contributed to this change. Denmark and the Netherlands, which introduced systematic preventive programmes for child dental care, have moved from having among the worst average DMFT at this age to the best (Fig. 3.1.3).

Childhood infectious disease

Childhood infectious diseases are being controlled through the delivery and maintenance of immunization programmes. The Netherlands had an effective system throughout the 1980s; Denmark, Luxembourg, Portugal, Spain, and the United Kingdom introduced MMR (mumps-measles-rubella) vaccine in the second half of the 1980s, with substantial reductions in infections. Coverage of children with measles vaccination in 1992 was 94% in the Netherlands, 83% in Spain and only 50% in Italy. The differences in these national programmes are demonstrated in Fig. 3.1.4, where the Netherlands has a continuously low level of recorded disease and Spain a fall in the late 1980s, while Italy has continued to have epidemic fluctuations.

Accidents

Accidents are the leading cause of death in children aged 1-14 and a significant cause of disability. In children under 5 most accidents occur in the home, while for older children most accidents occur where they play or on the roads. Preventive measures include health education from a very early age and supervision. Much can also be done to make environments safer, including safety measures specifically for children.

Cancer

Cancer in children aged 1-14, although representing less than 0.3% of all cancers, is the second leading cause of death at this age. The incidence is rising in parts of the Community, but death rates are falling due to effective drug treatment of leukaemia and some solid tumours.

Mental health

The emotional wellbeing of children, especially in deprived city areas can give rise to concern. Child physical and sexual abuse by parents, other children and carers is now beginning to be recognized as a significant issue, but accurate statistics are not available. It is thought that abuse in childhood can contribute substantially to subsequent adult emotional and behavioural problems. More open discussion of these issues is needed, and new strategies for dealing with them must be found.

The European Network of Health Promoting Schools is a joint action between WHO, the Council of Europe and the Commission.
All EC Member States are now in the network. Countries and school teams implement projects to tackle issues which are important locally and at the same time have European relevance. These projects will be evaluated and used as models of good practice.

3.2 Young people (15-34 years)

Young people are the healthiest group in the population. They have fewer disabilities and they are more informed about health issues. However, it is at this age, and especially during adolescence, that forms of behaviour harmful to health can develop. Information on adolescent behaviour and attitudes can be gained through surveys. The results of a WHO collaborative study are shown in Figs 3.2.1 and 3.2.2. These forms of behaviour are important factors for the risk of disease in adult life, and it is of concern that smoking in girls in some parts of the Community is now rising to the same level as that of boys. The rapid and dramatic increase in daily smokers between the ages of 13 and 15 years indicates an important focus for anti-smoking campaigns.

Forms of adolescent behaviour creating health risks are inter-linked: the smokers are more likely also to be drinkers, take less physical exercise and have poorer diets (1). These forms of behaviour are also related to how adolescents think of themselves, their involvement at school and their relationships with their parents. Young people with similar views and behaviour seek each other for identity and acceptance, forming subgroups with strong peer group cultures.

Unprotected sexual behaviour may expose some people to unwanted pregnancy, sexually-transmitted diseases and HIV infection. There are almost a quarter of a million births a year to women aged under 20 years in the Community. The rates are falling (Fig. 3.2.3) in all EC countries except for the United Kingdom and the Netherlands. However, rates are lowest in the Netherlands.

Accidents

Mortality from external causes accounts for more than half of all deaths in the age group 15-34; of these, almost half are deaths from motor vehicle accidents. Such accidents are the most frequent single cause of death and disability in this age group. Young people also account for 45% of all motor vehicle accidents, followed by middle-aged adults (age 35-64).

About 50 000 people are killed, and one and a half million people are injured, each year on roads in the European Community. Road accidents are the leading cause of death in young adults (aged 25-34) and are therefore a major cause of lost working potential. Data from the United Kingdom shows that pedestrians are mainly killed by cars, while car occupants are killed alone or in collision with other cars or heavy goods vehicles (Fig. 3.2.4).

Over the past twenty years there have been falls in road accident death rates in most EC countries but there is a rising trend in Greece and Spain, and rates remain high in Portugal (Fig. 3.2.5).

The trends in injuries are rather different. Denmark, France, Luxembourg and the Netherlands show improvements in both death and injury rates, while others (e.g. Belgium and the United Kingdom), show improving death rates but little or no improvement for injuries (Fig. 3.2.6). It is not known whether the countries with a fall in deaths or injuries have had fewer seriously disabled people as well: data on the severity of disabilities resulting from traffic accidents are not routinely recorded.

The Commission has proposed a road safety programme including :

- * establishing a Community data bank for monitoring and research
- * vehicle passenger protection
- * education of road users
- * sensible driving, including limiting speed and alcohol misuse
- * road design improvements

Accidents other than road accidents and occupational accidents across the Community are reported in a sample survey of hospital accident departments or, in certain Member States, by a household survey (the European Home and Leisure Accidents Surveillance System). About one in three accidents is reported as "play and leisure", especially among children, and one in six accidents involves sports, most commonly in young adults. The majority of leisure accidents are falls and involve injuries to the arms and legs. The proportion of people admitted to hospital increases from 5% in children to 15% for people over 65. The survey is particularly useful for identifying accidents resulting from home and leisure consumer products, offering opportunities for prevention through better design.

Homicide

One indicator of broader social pathology is the homicide rate. Deaths from homicide in age groups 15-34 and 35-64 account for nearly 85% of all homicides; they are more frequent in men than in women. The age group 20-34 has the highest rates for men. The Community average, excluding Portugal and Italy, remained more or less unchanged between 1970 and 1990 (Fig. 3.2.7).

3.3 Adults (35-64 years)

In the Community, more than 600 000 adults (age 35-64) die every year; four out of ten die from cancer, three from cardiovascular disease and one out of ten from external causes (mainly suicides and accidents). These deaths are preventable and offer the greatest potential for further improvements in life expectancy in the Community.

Cancers

Cancer is the main cause of death for adults and accounts for 4 out of every 10 deaths in the age group 35-64 compared to 2 out of 10 in the age group 65+. Cancers occur most frequently in the lungs and prostate in men, and in the breasts and lungs in women (Fig. 3.3.1), and these cancers are also the most frequent causes of all cancer deaths. Many preventable factors contribute to the onset of cancer, notably smoking (especially of lung cancer), and survival from other cancers (e.g. cervical and breast cancer) can be improved through early detection.

Lung cancer

Many people dying from lung cancer in the 1990s started smoking in the 1950s and 1960s. At present there are many more deaths in men than in women in the Community, because men have been smoking for longer and are heavier smokers. Lung cancer death rates in men under 65 are rising in France, Greece, Portugal and Spain (Fig. 3.3.2). However, the male death rate has halved in the United Kingdom since 1970 and there is a similar, if less dramatic, steady fall in the rate for the Netherlands. Rates were also falling in Ireland and Italy in the late 1980s.

In sharp contrast to the trends for men, women's lung cancer rates, although much lower than rates in men, are rising in many countries as a result of increasing smoking by women (Fig. 3.3.3). In Denmark, where about 40% of women have been smoking since the 1950s, lung cancer death rates are now approaching those for breast cancer.

Breast cancer

Breast cancer is the most common cancer in women. About 2-3% of women in the Community develop this cancer during their lifetime and 70 000 die each year. About a quarter of women newly diagnosed with breast cancer are under 50, but average survival is relatively good (around 60% at 5 years), after diagnosis and treatment. Most women dying from breast cancer (nearly 60%) are of retirement age compared to 40% in the age group 35-64. The incidence of breast cancer is rising in most EC countries (Fig. 3.3.4). The causes of breast cancer are poorly understood.

Cancer of cervix

Cancer of the cervix causes about 7500 deaths in women in the Community each year, with roughly half of these deaths in the 35-64 age group and the other half in the over-65s. Risk factors include early sexual activity, multiple sexual partners and cigarette smoking. Screening and early intervention greatly improve survival. Denmark and the United Kingdom have higher death rates than other countries, but rates are static or falling in all countries except Greece and Spain. Screening is undertaken in EC countries for both cervical and breast cancer and it can reduce mortality from these diseases. However, screening programmes need good management to ensure satisfactory population coverage and quality.

Cancer of the ovary

Cancer of the ovary causes twice as many deaths as cancer of the cervix, since only one in three women with this cancer survive five years. Incidence and death rates are higher in northern than in southern countries. Little is known of the causes of ovarian cancer, although oral contraceptives appear to have some protective effect.

Stomach cancer

Stomach cancer causes about 1% of all deaths, and 5% of cancer deaths, in the Community each year. There has been a notable decline in stomach cancer over the past 20 years. This trend started earlier in the century in most EC countries, although later in Spain, and mortality in Portugal was still rising until 1970. Death rates in Portugal are still almost twice as high as most other EC countries. Denmark, France and Greece now have the lowest rates in the Community (Fig. 3.3.5). Rates in women are half those in men in all countries.

Stomach cancer still has a poor survival rate once diagnosed, as only about one in twenty people live for more than five years after diagnosis and treatment. The falling incidence of stomach cancer is probably related to changes in dietary patterns, especially people eating more fruit and vegetables and more refrigerated, rather than preserved, food.

Europe Against Cancer: the Second Action Programme (1990/1994) included :

- * an anti-smoking campaign
- * action to improve eating habits
- * development of systematic screening and early diagnosis for breast and cervical cancer
- * contribution to directives for protection against carcinogenic agents
- * The European Code against Cancer
- * development of a European network on cancer data

Cardiovascular disease

Mortality from cardiovascular disease (CVD) accounts for nearly 45% of all deaths in the Community. Middle-aged adults in the age group 35-64 are the main group affected after the over-65s. This disease accounts for nearly half of all over-65 mortality.

Coronary heart disease

Coronary heart disease, in addition to being the main cause of CVD mortality, is the largest single cause of death for people in the Community - around 17% of all deaths - and is a major cause of morbidity and disability. Changes in the prevalence of the disease thus have an important effect on the population's overall life expectancy and level of health.

Many coronary heart disease deaths are sudden: after a heart attack, about one in three people die suddenly, and another 10-20% within the next days or weeks, while the rest survive. New treatments include drugs to reduce blood clotting (both specific enzyme treatment given urgently after the attack, and aspirin and other drugs for longer-term treatment). Another important factor in longer-term survival is patients stopping smoking.

Death rates from coronary heart disease have been falling in most countries, especially over the past 10 years (Fig. 3.3.6), both in men and women. This has been more marked in northern countries, where there were high rates in the 1970s. Rates in Belgium have almost halved in 20 years. Greece is the only country in the Community showing a rising trend over the period.

Population surveys that monitor risk factors for heart disease at local level, and registers that collect information on disease rates, are available for several centres. Initial data on risk factors for some of the centres in EC countries are shown in Fig. 3.3.7, while the rates of heart attack are shown in Fig. 3.3.8.

Stroke

There are about half a million deaths from stroke (cerebrovascular disease) in the Community each year (one in seven of all deaths). Most strokes are due to damage, either bleeding or a clot, of blood vessels in the brain. As with heart disease, there has been a substantial fall in death rates in most EC countries, with a particular improvement in Portugal, which started the early 1970s with very high rates (Fig. 3.3.9). The relative trend in Denmark has been the opposite: it had the lowest rates in the Community in 1970, but by 1990/91 it had a higher mortality rate than several EC countries and higher than the EC average.

The falling trends in both heart disease and stroke are partly related to improvements in diet, including changing salt intake, less cigarette smoking, and management of high blood pressure, as well as treatment after heart attacks.

Liver disease

About one in 50 deaths in the Community is due to liver diseases and cirrhosis. The trends in death rates for liver cirrhosis in EC countries are shown in *Fig.3.3.10*. France stands out with a marked falling trend; similar although less marked trends are seen in other major wine-producing countries where consumption is also falling - Italy, Portugal and Spain. In Greece the pattern is less clear, as there has been a falling death rate from liver disease accompanied by a small rise in alcohol consumption. Of other EC countries, the patterns in Denmark and the United Kingdom are of concern. In both these countries, alcohol consumption has been rising and cirrhosis deaths are also increasing (see also section 4.1).

Other chronic diseases

Many of the diseases of adult life do not show up directly as causes of death. Good medical care continues to make an important contribution to limiting the progression of disease and its symptoms. Data on the prevalence of chronic disease are lacking, but *Fig. 3.3.11* gives some estimates based on various localized studies.

- * Joint conditions are a major cause of disability. Rheumatoid arthritis has a slow and variable course; it may be helped, but not usually cured, by drug treatment. Osteoarthritis is the "wearing out" of the joints: replacement of hips and knees has been a successful medical advance.
- * Treatment of chronic kidney disease is life-saving. Treatment can entail either dialysis or kidney transplantation. There has been cooperation at European level for several years, both in exchanging kidneys for transplantation across country borders and in sharing data on services and outcomes.
- * There are two forms of diabetes. In children and young adults the onset is sudden, and insulin is life-saving (there is an unexplained high incidence of insulin-dependent diabetes in Sardinia). Diabetes develops more slowly in older adults. Its onset is related to obesity and a diet with high sugar intake. Good control of diabetes, by collaboration between physicians and patients, can reduce complications, including blindness, kidney failure and arterial disease of the limbs.
- * The prevalence of asthma and of bronchitis is related to smoking and urban air pollution (e.g. from cars). Asthma prevalence appears to be rising.
- * About one in two hundred people in the population have established epilepsy, but over a lifetime up to 3% of people may experience at least one fit. For the majority of people, fits can usually be controlled through correct medication.

Occupational accidents and diseases

There are about 6500 deaths due to occupational accidents each year. The reported rates, although based on systems that differ in definitions and coverage, show considerable variations between countries (*Fig. 3.3.12*).

About one in ten of the 120 million workers in the Community suffers an industrial injury or an occupational disease every year. Common conditions include accidents, hearing impairment, chemical poisoning, ergonomic problems (especially back strain) and psychological stress. Data from France and Germany show patterns of permanent disability in different industries (see Fig. 3.3.13), and these mirror mortality patterns, with most deaths in the mining and construction industries and in agriculture and transport.

Health promotion in the workplace on forms of health-related behaviour, including smoking, drinking and exercise, will benefit both employers and the population in general. Occupational health services are available to only 50% of employees and are generally not provided to employees of small enterprises.

Health and safety at work is an important concern of the Community. The first directive, based on Article 100 of the EEC Treaty, was adopted in 1977. In 1989 a framework directive (89/391/EEC) was adopted on broad aspects of health and safety at work; and there are 12 "daughter" directives on particular aspects of occupational safety and health.

Infections

HIV/AIDS

The acquired immunodeficiency syndrome (AIDS) is a sexually transmitted disease which can also be transmitted through blood (via the transfusion of infected blood or blood products or through the use of non-sterile injection equipment) and from an infected woman to her fetus or infant. Transmission through sexual intercourse between men continues to be a significant mode of spread in many countries, as does transmission through the sharing of non-sterile needles and syringes by injecting drug users. AIDS appears to be fatal, but there is a delay of about 10 years or more between initial infection with the human immunodeficiency virus (HIV) and development of the clinical illness of AIDS.

Notified cases of AIDS are rising in all EC countries, with annual rates of new cases being by far the highest in France, Italy and Spain (Fig. 3.3.14). Up to the end of 1994, more than 120 000 AIDS cases were diagnosed throughout the Community; 73% of these were in the above-mentioned three countries, followed by Germany and the United Kingdom with 10% and 8% of the total cases, respectively. These figures reflect only a small part of the problem, however, because of the long incubation period. Availability of data on the incidence and prevalence of HIV infection is limited. One way of collecting information in order to determine the prevalence of HIV infection is anonymous testing (serosurveillance) of patients attending for treatment of sexually transmitted diseases or antenatal care, for example. However, such HIV surveillance exists in only a few countries, partly due to characteristics of their health systems and perhaps also related to ethical considerations. According to the latest estimates of the cumulative incidence and prevalence of HIV, around half a million persons were considered to be HIV-positive by the end of 1993.

The distribution of cumulative AIDS cases (adults/adolescents) by transmission group shows wide differences between countries (Fig. 3.3.15). In northern Europe (e.g. in Denmark, Germany, the Netherlands and the United Kingdom), homo/bisexual men are the transmission group with the highest proportion (69 to 75%) of all AIDS cases. In some of the southern countries, particularly Italy and Spain (which are among the countries with both the highest annual and cumulative incidence), injecting drug users are the predominant transmission group (66%), homosexuals accounting only for about 15% of the total cases in each country. Infection from blood products or as a result of transfusion is now rare and accounts for a diminishing proportion of all AIDS cases, whereas the proportion of AIDS cases transmitted through heterosexual contact, and from women to children, is increasing. People in prisons are particularly at risk of HIV infection from sex between men or drug use. Also, unsafe sexual behaviour while on holiday or business trips can be a way of HIV transmission, and such travel is currently expanding.

Europe Against AIDS has a programme of action 1991/1994 including :

- * collection of data
- * surveys of, and information to, the public
- * measures for children and young people
- * prevention of HIV transmission
- * social and psychological support
- * combatting discrimination

Transmission of HIV is preventable through known methods - "safer sex" practices, sterile injecting equipment, and screening blood for transfusion and blood products.

Other infectious diseases

Other infectious diseases continue to cause significant health problems in adults:

- * Tuberculosis notifications have generally been falling in EC countries; Fig. 3.3.16 indicates trends for a selected number of EC countries. There has been a substantial improvement in Germany and Greece but rates remain high in Portugal. There was an increase in notifications in Spain during the early 1980s, and this seemed to be the case again in the early 1990s. The decline in some other countries has stopped, perhaps as a result of increased immigration and TB developing in people with AIDS. Anti-tuberculosis immunization programmes exist in only some EC countries.
- * Hepatitis B is most frequent in Portugal and Italy. Italy has a universal immunization programme. Spain's programme is planned to cover 14 of its 17 regions by 1994 and the remainder by 1997. Portugal has similar plans, whereas other countries have or are planning programmes for high-risk groups only.
- * Foodborne infections are an increasing problem, indicated by rising trends in France and the United Kingdom (some countries do not record these data). The sources of infection can be within the foods themselves, including chicken and eggs infected with Salmonella and some milk products infected with Listeria. Actions are needed aiming to promote good hygiene in preparing food at home and for sale.
- * Malaria is becoming a frequent infection in the Community, with a rising incidence in Belgium, France, Greece and the UK.

Mental illness

At any one time, about 10% of the population are estimated to have a mental illness, most commonly mild depression or anxiety. Mild mental illnesses are present in between a third and a half of consultations in general practice, although patients may initially present with physical rather than emotional problems. A wide range of social factors contribute to mental illness. Depression is more common in women with young children, and in bereavement. Schizophrenia, while found less frequently in the population, has a more persistent chronic course, and patients with this condition need continuing psychiatric care and supportive social settings to prevent relapse.

Suicide

There are about 40 000 deaths from suicide in the Community each year. There are four- to five-fold differences in suicide death rates between countries. The rates were increasing between 1975 and 1985 in Belgium, Denmark, France, Italy and the Netherlands, but subsequently fell again (Fig. 3.3.17). Rates in Germany fell substantially during the 1980s. Ireland and Spain have seen a rise towards the rates of other countries, whereas rates for Greece have remained low. All these figures need to be interpreted with care, however, as cultural differences may influence the reporting of suicides.

Suicides are more common in older people, more frequently men. Depression and alcoholism are the two major background factors, while a physical disease (for example, terminal cancer) is less common. Many people who commit suicide have been in contact with a doctor and may have received drug treatment, although not necessarily drugs for depression. Earlier diagnosis of depression by general practitioners and appropriate treatment, combined with strategies to combat social exclusion, could have a significant impact on suicide rates.

Attempted suicides ("parasuicide") not leading to death are more common in younger people and are more usually found in women. A WHO collaborative study is measuring parasuicide rates in several Community countries (Fig. 3.3.18) and, like the suicide mortality pattern, frequency is higher for Denmark and France and low for Italy and Spain.

3.4 Older People (65+ years)

While 65 years is often taken as the start of older age, ageing is a continuous process which varies considerably between individuals - some people remain fit well into their 80s. In the Community, there are roughly the same number of people aged over 75 as between 65 and 75. The very elderly are predominantly women, and widows: women usually marry men older than themselves and they also live longer than men. They have often cared for their husbands at the end of their life, but then live alone.

Life expectancy of older people has increased steadily in EC countries, with France leading and Denmark showing a much slower increase than other EC countries (Fig. 3.4.1). The main causes of death in older people are cardiovascular diseases and cancers, which account for over 70% of all deaths in this age group. Although most older people are not disabled, the majority of disabled people are elderly. At least 20 million EC citizens are estimated to have a disability severe enough to receive some kind of benefit (payment or assistance).

Some diseases in older age need special attention. Physical disabilities, especially arthritis and chronic heart disease, frequently limit the ability of older people to care for themselves. Support is also needed for impaired hearing, foot complaints and incontinence, which all affect the quality of life in old age. There is improving dental health of older people. For example, in Denmark, the United Kingdom and Ireland, the proportions of people aged 65-74 without any natural teeth fell by 10%, 12% and 23%, respectively, between 1985 and 1990. Dementia increases with each decade of life: European-wide surveys show that up to 25% of people aged 85 and over have some clinical dementia. Support for informal carers as well as for the person with dementia is the primary need.

Chapter summary

Most children are healthy, and more attention is being paid to the control of inherited disorders. In adolescence forms of behaviour are developed which may contribute to disease later. Young adults have high death rates from road accidents, while heart disease, stroke and cancers (especially lung and breast cancers) are the main health problems of middle-aged and older adults. Deaths from occupational accidents are relatively low, but industrial injuries and occupational disease affect one in ten workers. The incidence of AIDS is growing.

Health-related behaviour - smoking, alcohol, drugs, exercise, nutrition and sexual behaviour - are important risk factors for these diseases. Together with other determinants - such as the environment and social and health service provision - they are considered in the next chapter.

References

1. KING, A.J. & COLES, B. *The health of Canada's youth: views and behaviours of 11, 13- and 15-year olds from 11 countries*. Health and Welfare Canada, 1992, p. 90.

Chapter 4

The determinants of health

The health and ill health of people in Europe has so far been described through the main diseases. However, most diseases have several determinants, each of which contributes a part to the overall pattern of disease. This section looks at the behavioural, environmental and social determinants of health and at the role of health services.

Addictions such as cigarette smoking, alcohol misuse and drug abuse, as well as bad diet, contribute to the main causes of premature death. The quality of the immediate and the more general external environment (e.g. housing, transport, air, water and waste) is of increasing public concern, and improvements here also contribute to health. Social issues include employment, poverty and leisure as well as social marginalization and exclusion. The health services undertake health promotion and protection as a part of primary care, for example through immunization and screening programmes, as well as at the level of national policies.

4.1 Health-related behaviour

The high levels of premature deaths and the prevailing trends in those rates underscore the need to examine the pattern of risk factors for heart disease, stroke, cancers, liver disease, accidents and mental health; these include tobacco smoking, alcohol misuse, drug abuse, bad diet, lack of exercise and exposure to ultraviolet radiation.

Tobacco

The effects of smoking on a population are dramatic. In the first years, the health effects are relatively invisible and unrecognized. It is only up to 40 years later that the full effects are seen. It has been estimated that one in two teenagers starting to smoke now could die from tobacco if he or she continues to smoke steadily.

Cigarette smoking also contributes substantially to deaths from lung and heart diseases in particular. At present, only one in five smoking-related deaths is in women, because they have not been smoking as long as men and are less heavy smokers. Overall, in 1990, it has been estimated that smoking contributed to half a million deaths with one in three deaths in males aged 35-64, and one in five in males aged 70+. For women in these age groups, smoking led to one in ten and one in twenty deaths, respectively.

In the Community in 1992, 42% of men and 28% of women aged 15 and over were smokers (Fig. 4.1.1). Smoking rates in younger women are higher than in older women and are approaching the same levels as in men. Of current smokers, more than one in two men and one in five women smoke 20 or more cigarettes a day. In the last decade, most countries have seen a decline in men smoking but an increase in women doing so.

A recent survey in the Community revealed that, of the 72 million current smokers, two in three had tried to stop once or several times, and one in three - 23 million people - wished to stop now (Fig. 4.1.2).

Directives to control tobacco products include:

- * display on packets and advertisements of:
 - maximum tar yield of cigarettes (1990);
 - health warning and tar and nicotine content (1989);
- * ban on advertising tobacco products on television (1989);
- * minimum taxation 57% of retail price of most popular brand (1992).

A resolution of the Council and the Ministers of health assembled in the Council invited Member States to ban smoking in places open to the public, including public transport (1989).

Retail prices are influenced by tax policies and Fig. 4.1.3 shows the range of tobacco prices between different countries, indexed for local general price levels.

Alcohol misuse

Excessive and inappropriate drinking⁶ is harmful not only to the individual but also to the people around him or her.

Alcohol misuse is associated with social and mental health problems including domestic violence, crime, occupational and road accidents, depression and suicide. Misuse is more common in certain occupations, including people in the hotel trade, entertainment, journalism and the armed forces.

Heavy drinking can cause liver cirrhosis, and levels of cirrhosis deaths in a country are a population indicator of alcohol misuse. Sustained heavy drinking progressively increases the risk of raised blood pressure and stroke and possibly coronary heart disease.

As far as alcohol consumption is concerned, the trend (see Fig. 4.1.4) shows a decrease in the sales of alcohol in the mainly wine-drinking southern EC countries and an increase in the mainly beer-drinking northern countries. There is reason to believe that part of the explanation for this development is a change in consumption patterns, which has resulted in a marked rise in wine consumption in northern Europe and a decrease in the south.

Fig. 4.1.5 shows the large differences in excise taxes on spirits in Member States and there are equally wide ranges for table wine and beer.

⁶ Some Member States have published guidelines on levels of weekly alcohol consumption in relation to health risk.

Some recent Community directives on alcohol relate to:

- * television advertising (1989)
- * driving licences not be issued to applicants dependent on alcohol (1991)
- * minimum rates of excise tax on alcoholic beverages (1992).

Drug misuse

Despite customs and police action, illegal drugs are a growing problem in the Community. Seizures of heroin in the Community rose from 1.9 tonnes in 1987 to 5.2 tonnes in 1992. Cocaine powder seizures rose from 3.5 tonnes to 17 tonnes over the same period.

There are estimated to be up to one million people using illegal drugs in the Community; the true picture is not clear because countries have different laws about drug misuse and different reporting systems. A recent national survey in France recorded that over 30% of men and 10% of women aged 18-34 had used drugs (mainly cannabis) at some time in their lives, and half of this group had done so during the previous year. In Spain in 1988, 36% of 18 year-old males reported having used cannabis and 3% cocaine.

Opiate and cocaine misusers are more often men than women. Crime, especially burglary and prostitution, may be used to pay the costs of addiction.

Some countries record the number of people attending treatment programmes, but only a minority of drug misusers are in regular treatment. Deaths from drug misuse, probably accounting for 1-2% of regular opiate users, rose steeply in the late 1980s (Fig. 4.1.6).

The Commission has adopted an integrated action plan for 1995-1999 to combat drugs. This proposes action:

- * *on demand reduction through prevention, including health education and social reintegration;*
- * *to combat illicit trafficking, including cooperation between police, customs and judicial systems, training and exchange;*
- * *to increase international cooperation and coordination;*
- * *to obtain better quality information concerning drugs and drug addiction and improve information flows through the European Monitoring Centre for Drugs and Drug Addiction in Lisbon.*

Nutrition

Most nutritional problems now are related to eating too much or the wrong balance of food, leading to obesity. Germany (West), Ireland and the United Kingdom show high levels of obesity in men and women (Fig. 4.1.7), though the differences between countries may be influenced by different methods of data collection.

No systematic surveys of eating patterns in the Community have yet been published. However, economic data are available about food products. These are based on the balance between home production, imports and exports, and so only roughly reflect what is actually eaten. Since the 1970s there appear to have been significant changes of consumption in EC countries; there are also marked, and continuing, differences between northern and southern EC countries (grouped in Fig. 4.1.8 as eight northern countries, with Greece, Italy, Portugal and Spain, representing southern countries).

- * Animal fats: consumption is high and steady in northern countries, while it is low, but rising, in the south.
- * Sugar: consumption in northern countries is high but falling whereas in southern countries it is low and is more or less unchanged.
- * Vegetables and fruits: consumption increased in all countries in the 1980s but remains considerably lower in northern than southern countries;
- * Cereals and cereal products: there is a falling trend in southern countries and a low, but rising (since the early 1980s) consumption in northern countries;
- * Oils: there has been a substantial increase in the use of oils containing polyunsaturated fatty acids in southern countries. Since the mid 1970s, the rates in southern countries have increased beyond those in the north. Olive oil continues to be consumed mainly in southern countries.

The traditional Mediterranean diet, eaten in Greece, southern Italy, southern France and parts of Portugal and Spain, when accompanied by regular physical activity, appears to be associated with long life expectancy. This diet is of vegetable origin, including bread, pasta or rice, fresh fruit and vegetables, pulses and legumes, olives and olive oil. Cheese and other dairy products, and fish, poultry or eggs are consumed on most days, but red meat is eaten only a few times a month. In contrast, northern European diets, high in animal products, have been associated with poorer life expectancy, and especially with coronary heart disease.

Several EC countries have made proposals for changing national diets by: reducing the energy derived from, and the proportion of, saturated (especially animal) fats; decreasing sugar intake and increasing that of other carbohydrates (for example, cereals) according to energy needs; increasing the amount of fibre (from cereals, vegetables and fruit); and balancing nutrient intake with needs. However, transferring these population recommendations to individuals is difficult.

Few people are aware of the nutrient content of their meals, and eating is a very strongly ingrained area of cultural behaviour. Health education is needed to develop knowledge and attitudes, but healthy choices must also be supported by policies and actions of other sectors in relation to the food available to the consumer.

Exercise

Physical fitness contributes to good health. Exercise, either at work or in leisure, reduces death rates from both heart disease and cancer⁷, and can also increase mental wellbeing. Even moderate improvements in fitness have important effects.

⁷ BLAIR, S.N. ET AL. Physical fitness and all-cause mortality. *Journal of the American Medical Association*, **262**(17): 2395-2401 (1989).

For the elderly, exercise within the limits of their physical capacity and on the advice of their physician can reduce symptoms of heart disease, reduce bone loss associated with aging and increase muscle mass and strength. It can also improve mental functioning and contribute to an overall sense of wellbeing. Simple walking done regularly, especially with companions, may be all the exercise that is needed.

Physical activity needs to be done regularly to strengthen the heart and lungs. This is possible in some manual occupations, but may need to be paid special attention by other people.

For most people, walking, rather than a sport, provides the most frequent exercise. Health surveys show that a substantial proportion of young adults play sport regularly, but the numbers fall off rapidly over the age of 30. Work and domestic commitments may in part explain this.

4.2 The environment and health

There is as yet insufficient clear-cut information on the harmful effects to humans from environmental hazards, and where the exact effects are not known, especially of low levels of exposure, only broad estimates of the risks for large populations can be made.

The relative contribution of environmental hazards to disease is generally small, but damage to the environment may be irreversible and exposure can lead to health effects over many years. The environment may particularly affect the health of some groups of the population, such as children, pregnant women or people with existing illnesses, more than others; and effects showing as deaths may be only part of the full impact. Some environment-related diseases are shown in Fig. 4.2.1.

The World Health Organization and the European Commission are collaborating to investigate the risks of environmental damage. A report of the major conference, "Second European Conference on Environment and Health" held in June 1994 in Helsinki, is forthcoming. A pan-European state of the environment report "Europe's environment: the Dobris assessment", together with a Statistical Compendium, have been prepared by the Commission in collaboration with international organisations and national focal points. These give an overview of environmental problems, including health and environment.

Housing

A minimum component of good housing is having basic sanitary facilities - an inside lavatory and bath or shower. The data available, which should be interpreted cautiously because of differing methods of definition and collection, suggest that in 1985 no EC country had achieved this standard in all its housing. About 20 million people live without an inside lavatory and 30 million without an inside bath or shower. Using a rather broader definition, about 28 million housing units, accommodating 71 million people, are estimated not to reach national criteria of good quality (Fig. 4.2.2).

People, especially in northern countries, are inside buildings most of the time. Central heating in northern climates, with fewer coal fires, has helped reduce some children's respiratory illnesses. However more insulation and less ventilation, to keep houses warm, creates higher humidity and may lead to an increase in house dust mites and fungal spores, which cause allergy and asthma. Tobacco smoke in enclosed rooms is a risk for lung cancer through passive smoking; it is also a health risk for children in daytime indoor environments, increasing problems with respiratory and middle ear infections and with bronchitis and asthma.

Data available for housing in Germany shows that, compared to the western Länder, housing units in the eastern Länder are smaller and their rents have risen sharply (Fig. 4.2.3).

Homelessness

In the Community in 1994, nearly 2.5 million people were estimated to be without shelter or living in temporary accommodation. The highest rates were estimated to be in France, Germany and the United Kingdom (Fig. 4.2.4), but there may be underrecording in some EC countries. There are also the "hidden homeless", for example people staying with a friend, in a hotel or a guest house, or those soon to be released from institutions (prisons, mental hospitals), bringing estimates of all homeless people to 5 million. There are many reasons for homelessness, but men are more likely to be without housing for financial reasons and because of problems of dependency, while women are more likely to be homeless through relationship problems, especially domestic violence.

Homeless people experience greater stress and poorer health, especially chronic illnesses, than the general population. Overcrowding in temporary accommodation can cause stress and encourage the transmission of infectious diseases, for example tuberculosis in migrant families and infectious hepatitis in centres for refugees. Homeless people without shelter are exposed to respiratory illnesses (including pneumonia), hypothermia, accidents and violence.

Transport

Transport can promote health through exercise (e.g. bicycling), and through access to employment, shops, social networks, recreation and countryside. Transport can, however, also adversely affect health through, for example, accidents and environmental pollution.

Transport accident, death or injury rates do not directly measure safety, as they also depend on exposure. For example, there has been a decreasing rate of children injured on the roads in Britain, but the proportion of 7-year-old children allowed to go to school unaccompanied fell from 70% in 1971 to 10% in 1990⁸. Walking and cycling, even for short distances, are, however, healthy forms of transport that reduce heart disease (Fig. 4.2.7) and promote mental health. Their use should be encouraged and supported through better safety and other measures.

⁸ HILLMAN, M., ED. *Children, transport and the quality of life*. London, Policy Studies Institute, 1993: Figure 2.

Access

Up to 15% of the population - 50 million people - have some form of temporary or permanent reduction in their mobility owing to physical disabilities, such as locomotor, chest and heart problems, sensory impairment such as partial sight, or mobility constraints such as people with push-chairs. The majority affected are older people. Their special transport needs include access to public transport vehicles and buildings, "dial-a-ride" schemes, and pavement improvements. The demand can only rise and this will require an appropriate response to prevent social exclusion and all its consequences.

Noise

A number of studies have been made on noise and health. Apart from inducing hearing impairment, noise can interfere with communication, lead to sleep disturbance and provoke stress and annoyance. A survey in Germany showed that road traffic is a predominant source of disturbance, with 20% of people seriously disturbed by traffic noise (Fig. 4.2.5). A EUROBAROMETER survey shows that urban car traffic noise adversely affects more than half the population in most Member States (Fig. 4.2.6).

Air

The replacement of coal by other fuels in domestic heating and energy production has resulted in a steady decline in levels of smoke and sulphur dioxide in urban air. In spite of these reductions, concern about the effects of exposure to particulates has increased with the recent publication of studies indicating that exposure to small particles, at levels currently experienced in many European cities, is associated with changes in morbidity and mortality. Figs 4.2.8a and 4.2.8b show particle levels as measured in large cities in the Community. In urban areas a major source of particulate pollution is traffic. Other traffic related pollutants currently of concern include photochemical smog in the summer, in particular ozone, exposure to which has been associated with irritation of the eyes and increased asthmatic symptoms. Winter smog has been associated with bronchitis and asthma. Exposure to low levels of lead from traffic fumes has been associated with impaired intellectual development in children, and products of incomplete combustion may contribute to lung cancer in adults. Deposition of heavy metals and compounds such as dioxins on soils, and directly on crops and vegetables has been identified as a possible route by which human health may be affected.

Water

As a result of good engineering control, drinking-water supplies in the Community now do not usually contain harmful concentrations of bacteria or viruses. However, agricultural fertilizers and pesticides, which are hazards to health, are entering groundwater and thus drinking-water, causing concern about potential risks of diseases such as cancers or birth defects.

Waste and sewage

The Community produces 2000 million tonnes of industrial waste, which is either put in landfills or incinerated; 1% of this is toxic and hazardous waste, but it accounts for 20% of all costs of treatment. Combustion of solid waste contributes to air pollution. An overall reduction of waste would reduce these risks. Discharge of untreated sewage into rivers and the sea can both make sea-bathing dangerous and contaminate fish through the food chain.

Radiation

Ultraviolet radiation from sunlight is an important cause of skin cancers, accelerates the development of cataracts and impairs immunocompetence. Behaviour is an important determinant of exposure to ultraviolet radiation and education has a role in reducing the exposure of the population. Exposure to ionizing radiation can cause leukaemia and other cancers. There are well-recognized arrangements to protect people from radiation in industry; use of medical X-rays, an important source of exposure for the population, should be optimised. Radon in buildings arises primarily from ingress from the underlying soil, but also from some building materials; however, exposure can be limited by a number of measures.

Biodiversity

The conservation and sustainable use of biological and genetic resources in the Community and worldwide is particularly important to the development of future medicinal products.

4.3 Social concerns

Unemployment

The relationship between unemployment and health is complex. Sudden redundancy and long-term unemployment can create stress with consequent psychological problems. Unemployment in the Community fell from 10.8% in 1985 to 8.3% in 1990. However, this gain was lost in the recession of 1992/1993 (Fig. 4.3.1). In many areas of the Community, especially those in Greece, Ireland, Portugal and Spain (see Fig. 4.3.2) more than 20%, and at times more than 40%, of the unemployed are young people. About 5 million new jobs need to be created by 2000 to keep unemployment in the Community at current levels, and 15 million new jobs would be needed to bring unemployment down to 5-6%.

The European Commission has published a White Paper on proposals for achieving faster economic growth, including employment skill training and new job creation. The 'caring services', including health and social services, are identified as an area of potential employment growth, offering flexibility in working hours, opportunities for women and solidarity between generations.

Poverty

Poverty describes the position of people who are significantly worse off than the average for the society. On average, poor people are less healthy than rich people (section 2.3). Children in families where there is insufficient support have more emotional disorders. Accidents and violence, heart disease, most cancers and dental caries are more common in poor people. Groups with low incomes include single-parent families, the long-term unemployed, migrants and elderly people living alone.

One definition of poverty sometimes used is the percentage of the population whose household expenditure is less than 50% of the average. Fig. 4.3.3 shows two approaches using this definition of poverty, based on data taken from national surveys. The first method compares household expenditure to the country's own average (18% of the UK's population has an expenditure which is 50% or less than the average household expenditure in the United Kingdom compared with 6% of the population of Belgium). The second method compares expenditure against the Community average, emphasizing the comparatively lower national expenditure levels of Greece, Ireland, Portugal and Spain. By both methods Belgium, Denmark, Germany and the Netherlands appear to have less "poverty" than other countries.

4.4 Health services

Health services contribute to improving health both after the onset of disease and through prevention. Health services cure some conditions - for example, treatment of bacterial infections with antibiotics and some surgical operations - and provide palliative and supportive care for chronic conditions such as arthritis, heart disease, chronic mental illnesses and many cancers.

Country health systems

Health services have an important place in national economies. In EC countries, they consume between 5 and 9% of gross national product (10 to 15% of public expenditure), and across the Community they employ more than 6.5 million people. All countries are experiencing pressure for more expenditure, due to the greater needs of aging populations, medical advances, the need for prevention and rising expectations regarding the quality of care.

Although the health services are all seeking to achieve the same ends, each country's is different, because of its historical and political development. There are two basic patterns. Five countries - Belgium, France, Germany, Luxembourg and the Netherlands - have pluralist systems, with services from both private (usually non-profit) and public organizations financed mainly from compulsory health insurance. Seven countries - Denmark, Ireland, Greece, Italy, Portugal, Spain and the United Kingdom - have national health services in which provision and financing is mainly within the public sector.

Within these broad categories there is considerable diversity in terms of methods of organisation, financing and ideology, which make comparisons more difficult. The Netherlands has a mix of public and private insurance, while in France most health insurance is controlled by the state and in Germany there is a large number of occupation-related insurance funds. The United Kingdom health service is managed through specific health authorities, while in Denmark it is controlled mainly by county administrations. General practitioners usually refer patients to specialists in Denmark, Germany, Ireland, Italy, Portugal, Spain, and the United Kingdom, but in other countries patients have direct access either to generalists or specialists. The methods of remuneration for medical practitioners (fee - for - service, capitation fee, salary) also differ widely. Public health services, oriented towards the population as a whole rather than individual clinical practice, are at various stages of development in different countries.

Several countries are currently seeking to reform their health services, to improve both the efficiency (including cost-containment) and the effectiveness (including quality of care and inequalities). For example:

- * A review of health insurance was made in the Netherlands in 1986. The main concern was to ensure equitable cover for basic health care through either public or private insurance, and to extend market principles. A national Strategy for Health was published in 1992.
- * Changes in the German health system in 1989 and 1991 have included co-payments for drugs, payment of general practitioners for preventive care, rationalization of hospitals and improvements in the quality of medical practice, as well as increasing finance for long-term care.
- * The United Kingdom has seen major reforms since 1991: payment to general practitioners oriented towards targets for preventive care; and local budgets for health authorities and general practitioners to buy health services in an "internal market" of health care providers. Also, across the country, there have been parallel efforts to develop long-term health strategies with specific health targets.
- * Greece, Italy, Portugal and Spain all reformed their health services in the 1970s and 1980s. While finance is primarily through the public sector, each country retains a mix of private as well as public provision, and there is decentralization of planning to regions.
- * Ireland is strengthening general practitioner and community-based services. Its national health strategy, published in 1994, seeks a greater focusing of services towards measured health gain and social gain, and sets specific targets.

Health promotion and disease prevention

Health services are increasingly engaging in health promotion and disease prevention. Ministries of Health in several Member States have developed national policies in these areas. Some Member States have specific health promotion budgets at national level, while all include health education within local public health programmes. Intersectoral initiatives, also at local level, are increasingly being developed.

There are three broad fields of public disease prevention programmes: acute infectious disease surveillance and control; child health, especially vaccination; and screening programmes, for example for cervical cancer. Providers of these services may either be employed within the public authority's services or be privately contracted practitioners. However, in contrast to individual clinical practice, where a patient voluntarily consults a doctor, preventive services need overall management by the local public health service to ensure population coverage and effectiveness.

General practitioners are playing an increasing role in individual preventive medicine for adults. Some of this is primary prevention, such as advice on contraception, stopping smoking, reducing alcohol intake and improving diet; some is secondary prevention, for example cervical cytology and blood pressure screening; and some is tertiary prevention (early diagnosis and management of depression). Effective management of prevention in primary care needs good information systems, usually computer-based, to ensure coverage and recall of all patients served. In the United Kingdom general practitioners are now being paid for achieving target levels of prevention for their patients.

Patterns of care

The broad structure of medical practice is the same in all countries. Primary care is the usual level of first contact for a patient. Because of the mixed nature of many illnesses, primary care is increasingly provided by teams including doctors, nurses and other health staff. Secondary care is mainly provided in general hospitals or clinics, where specialists can work together and share nursing, laboratory and imaging facilities. There is an increasing move to integrate specialist mental health care in general hospitals, to coordinate provision with community care, and to close large, separate mental institutions. Highly specialized hospitals are often associated with universities for research and training.

Staff

Numbers of professional staff are increasing. Between 1980 and 1990, the total number of nurses in the Community countries rose from 1.2 million to 1.5 million. For doctors, general practitioners increased from 0.78 to 1.03 per 1000 population in France, from 1.0 to 1.2 in Germany and from 0.48 to 0.57 in the United Kingdom. Numbers of specialists increased even more over the same period - from 0.6 to 1.2 per 1000 in France and from 1.0 to 1.6 in Germany. However, an upward trend in the proportion of expenditure on hospitals in the 1970s, rising for the Community from 43% in 1970 to 49% in 1980, was reversed down to 46% by 1990. Only Greece has seen a significant further rise, from 49% in 1980 to 57% in 1990.

Hospital use

There are substantial differences between countries in the provision and use of acute hospitals (the data should be interpreted with caution because of variations in definitions between countries). There has been a downward trend in the provision of hospital beds for acute (short- rather than long-term) care. For example, in Ireland several hospitals were closed, with a fall between 1980 and 1990 from 5.4 to 3.5 acute beds per 1000 population, while in France provision fell from 5.8 to 5.0 over the same period. However, there are continuing differences between countries in acute bed provision: in 1990 there were 7.5 beds per 1000 in Germany, 5.0 in France and 2.8 in the United Kingdom.

At the same time, there has been increasing in-patient admissions. Between 1980 to 1990 the percentage of the population admitted to hospital increased from 17.5 to 21.0 in France and from 16.3 to 18.5 in Germany. Similarly, average patient days per admission fell from 9.9 to 7.0 days in France and 14.9 to 13.4 in Germany over the same period.

Pharmaceuticals

Member States are both producers and consumers of pharmaceuticals. The number of drugs available for prescription, and their relative price (Fig. 4.4.1), varies between different EC countries. Differences between countries are the result of national regulations on pharmaceutical retailing, price control mechanisms and the product pricing structures of pharmaceutical companies.

About one new drug in four is made using biotechnology, and this market is likely to increase. Only 15% of all biotechnology patents are European, and there is a need to develop research in this area. The areas of authorizing new pharmaceuticals before marketing and recording adverse reactions are to be the concerns of the new European Agency for Evaluation of Medicinal Products sited in London.

Quality

Two assessments of the effectiveness of health care have been made from research sponsored by the EC:

- * An atlas of 'avoidable death' (2) compares countries using standardized mortality ratios from selected conditions amenable to medical or surgical intervention. For example, deaths from appendicitis by the 451 administrative areas of the EC are shown in Fig. 4.4.2. However, it is difficult to draw conclusions on the quality of care from these data, as there may also be variations in both the incidence and the recording of these conditions.
- * A study of colon cancer survival, using cancer registers in EC countries, showed significant variations in the Community (Fig. 4.4.3). Data are based on hospital diagnoses reported to cancer registers. However, there remain difficulties in comparing survival because of variations in the completeness of the data, methods of follow-up, etc. Further information on treatment given, for example to individual patients within defined populations, will help understand these variations.

Improvements in recent years in mental health services include more mental health care being provided in local settings by multidisciplinary teams, with support from general practitioners. As a result, patients are being admitted to hospital for shorter periods and the number of psychiatric hospital beds is being reduced in most countries (Fig. 4.4.4).

Older people are higher users of hospital services than younger people. Integrated services, with good communication between hospitals and primary care teams, can contribute effectively to reducing many problems of aging, and to limiting the need for residential care.

Research

Most EC countries have a longstanding tradition of medical research. The EC funds research through programmes on Research and Technological Development. Six programmes of medical research have been funded since 1978, and the success of the strategy is indicated by the rapid increase in participating teams (Fig. 4.4.5).

The biomedical and health research programmes cover a wide range of basic and applied topics. Epidemiological and health services research has been supported, but the largest proportion has gone to basic science and laboratory research. With the new public health responsibilities of the EC, there is a need to support population-based research in these areas, such as the development of information systems and studies evaluating public health interventions for major health problems.

A significant amount of research relevant to health has also been carried out in the framework of the Community's environmental research programmes.

The Telematics Application and the AIM (Advanced Informatics in Medicine) programme (1991 to 1994), brought together industry, telecommunication service providers, academic research and health care professionals in Member States. Actions to date include:

- * telematic tools for transmitting laboratory information
- * telematic transfer of microscope images
- * a network of national bone marrow donor banks
- * data cards for the care of patients with diabetes
- * telematic exchange of health and health care data between Member States
- * telemedicine
- * a multilingual computerized drug prescription system.

Chapter summary

In addition to health-related behaviour, the environment and social life are important determinants of health. Improvement of the external environment - air, water, waste, radiation - contributes to health; transport, especially motor vehicles, can be a health risk. Health services are being reformed in many countries, mainly to improve cost control, and need to include public health within their objectives.

References

1. HOLLAND, W.W., ED. *European Community atlas of 'avoidable death' (2nd edn.)*. Oxford, Oxford University Press, 1991.

Chapter 5

Towards a healthier Europe

This report has described the main health issues facing the European Community. While most children are healthy, young adults are particularly affected by accidents. Important health problems of middle age include cardiovascular diseases and cancer. Older people are the largest group with disabilities. The determinants of ill health have also been described. The main addictions - tobacco, alcohol and drugs - are closely associated with the main health problems. Aspects of the environment, social behaviour and health services have also been considered.

The report has also illustrated that life expectancy in the Member States of the Community is among the highest in the world, although other countries have shown impressive improvements, in some cases outranking countries of the Community.

It is in this context that two important and linked questions arise: is it feasible to expect further improvements in life expectancy in the Community, and from which age and disease groups are such improvements most likely to come?

Present knowledge about the biological limits on human longevity is insufficient to give any definitive answer to these questions. But a simple comparison of past mortality trends and theoretical limits (when mortality is completely eliminated by main causes of death or age groups) can give an indication of potential for further improvements. This allows the identification of priorities, as well as of areas where improvement in health status can be obtained.

During the past two decades, average infant mortality has decreased significantly in the Community, resulting in an increase in life expectancy of more than one year or 25% of the total increase. However, because of the already low levels, potential for further improvements is very limited. Even if infant mortality was completely eliminated (which, of course, is impossible) the maximum gain in life expectancy would be only 0.6 years. The elimination of all mortality in the age group 1-34 would give an increase of about 1.2 years, while in the age groups 35-64 and 65-74 it would yield an increase of about 4.1 and 3.3 years respectively. The elimination of each of the major causes of mortality in the age group 0-74 (i.e. cardiovascular diseases, cancer and external causes) would provide about 2.3, 2.7 and 1.2 years of increase in life expectancy respectively. Given the above estimates, it becomes clear that the main potential for improvements in life expectancy are to be found in tackling the three leading causes of death in middle ages. A 50% reduction in these causes would give an increase of about 3 years. With the present average annual increase in life expectancy of 0.2 years it would take about 15 years to achieve this.

On this basis three main conclusions can be drawn:

1. At present, the main potentials for increasing life expectancy lie in reducing mortality in young and middle-aged people from cancer, cardiovascular diseases and external causes of injury and poisoning.
2. Once the potential for improvement in premature mortality has been exhausted, it would be expected that the present increasing trends in life expectancy would start to slow down.

3. In the not too distant future, increases of life expectancy could come through gaining some influence on the aging process, but with such an extension of life, diseases of the elderly could become more prominent.

It is against this background that the trends in the main addictions considered in this report, especially among young people, are of particular concern. If the main gains in life expectancy are to come from a reduction of cardiovascular diseases, cancers and accidents in the age groups 35-64 then steps must be taken to influence current trends in health-related behaviour.

These require action by all the sectors that could influence such health behaviour and should comprise three elements: first, intersectoral action to promote health. Measures should aim at influencing behaviour through education and information and at facilitating and enhancing healthy lifestyles. Second, actions aimed at improving the quality of life, such as by reducing social exclusion promoting solidarity, and by taking measures based upon sound scientific research to improve the environment. Third, actions to develop public health, such as improving the accuracy and comprehensiveness of health data and strengthening of prevention and promotion measures by the health services.

Annex 1

Notes and glossary

This report describes the 12 countries that constituted the European Union in 1994. Data available since 1970 for all countries have been included where possible. For the period before the unification of Germany in October 1990, information generally is for west Germany, and from 1991 it includes east Germany.

The information comes from many sources. The main ones are the data provided by the Member States to the World Health Organization's Regional Office for Europe and contained in its Health for All database and country monitoring reports; publications issued by the European Commission, including EUROSTAT; specialist sources within other international and nongovernmental organizations; and scientific publications.

Wherever possible, data for all 12 member countries are shown. In line graphs this may reduce the readability - especially in the case of infrequent events and/or small populations. For this reason, annual trend data for Luxembourg are usually represented as smoothed 3-year moving averages.

Mortality data

Although this report is concerned with health, much of it is based on evidence of mortality given available data. Reduction of premature mortality and its determinants is, nevertheless, an important component of improved health.

Data on deaths are from death certificates, which are completed by doctors and are legal documents. The cause of death written on the certificate is coded by internationally agreed procedures but may underestimate the presence of some diseases, especially if there has not been a pathological examination after death, which is more often the case for older people. However, these shortcomings are relatively steady over time, allowing more confidence in trends.

When presenting data on deaths in this report, the actual number is sometimes given, to emphasize the total. More often, however, standardized death rates (SDRs), are used as these take into account the age structure of different populations and allow more meaningful comparisons.

Glossary of selected terms

Incidence: the rate of occurrence of new cases of a disease in a population during a period (usually a year).

Prevalence: the number of existing cases of a disease in a population at a given time or period.

Standardized death rate (SDR):

deaths (usually per 100 000) adjusted to the age structure of a standard European population. (*See* World Health Statistics Annual 1993. Geneva, World Health Organization 1994: p. XXXIV.)

Standardized mortality ratio (SMR):

the ratio (multiplied by 100) of deaths in the study population or subgroup to the number that would be expected if the study population had the same specific rates as the reference population. Populations or subgroups with SMRs greater than 100 are less healthy, and less than 100 more healthy, than the comparison population.

Perinatal mortality rate:

the number of children stillborn and dying within the first week of birth per 1000 still and live births.

Infant mortality rate:

the yearly number of deaths of children aged less than one year per 1000 live births.

Total fertility rate:

the average number of children that would be born alive to a woman during her lifetime, if she were to bear children at each age in accord with prevailing age-specific rates.

Annex 2

List of figures

Fig. 1.1

Life expectancy at birth in EC countries and heights of Dutch recruits, 1950-1990

Fig. 1.2.1

Self-perceived health in selected EC countries, 1990-1991

Fig. 2.0.1

Population (in thousands), EC countries, 1993

Fig. 2.1.1

Population age structure in EC, 1970 and 1993, males and females

Fig. 2.1.2

Trends in total fertility rates, 1960-1990

Fig. 2.2.1

Life expectancy at birth, total population, 1970-1992

Fig. 2.2.2

Life expectancy at birth and real GDP around 1991, in selected countries

Fig. 2.2.3

Life expectancy in developed market-economy countries: changes in rank between 1970/1971 and 1991/1992

Fig. 2.2.4

Age-specific total mortality: Community average and best in Europe, 1990

Fig. 2.3.1

Changes in male/female death ratios in France between 1920-1924 and 1985-1989.

Fig. 2.3.2

Average age of insured population of males at death, Germany, 1975-1985

Fig. 2.3.3

Standardized mortality ratios by social class, males of working age under 65, United Kingdom, 1951-1981

Fig. 2.3.4

All-causes mortality, all ages, standardized mortality ratios, by administrative areas, EC, 1980/1984

Fig. 3.0.1

Main causes of death; profile by age, EC, 1991

Fig. 3.0.2

Distribution of total deaths by cause, age and sex, EC, 1991

Fig. 3.1.1

Infant mortality rates in EC, 1970-1992

Fig. 3.1.2

Prevalence per million population of haemoglobin disorders, EC countries, 1992

Fig. 3.1.3

DMFT index for 12 year-olds, 1980 and 1990

Fig. 3.1.4

Measles incidence in selected countries, 1980-1993

Fig. 3.2.1

Adolescents, 15 year-olds' behaviour in selected countries, 1990

Fig. 3.2.2

Daily smokers in selected countries, females at ages 11, 13 and 15 years, 1990

Fig. 3.2.3

Live births per 1000 women aged 15-19, 1980 and 1990

Fig. 3.2.4

Road deaths in the United Kingdom by means of transportation, 1992

Fig. 3.2.5

Trends in road traffic deaths, age-standardized death rates, all ages, 1970-1992

Fig. 3.2.6

Change in road traffic deaths and injuries, 1985-1992

Fig. 3.2.7

Trends in homicide rates in males aged 20-34 years

Fig. 3.3.1

Distribution of main cancers in men and women by site, Italy and the United Kingdom, 1983-1987

Fig. 3.3.2

Trends in male lung cancer deaths, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.3

Trends in female lung cancer deaths, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.4

Breast cancer annual incidence in registries of selected EC countries, 1970 and 1985

Fig. 3.3.5

Male mortality from stomach cancer, age-standardized death rates, all ages, in selected EC countries, 1970-1974 and 1985-1989

Fig. 3.3.6

Trends in mortality from coronary heart disease, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.7

Risk factors in men in 7 EC regions

Fig. 3.3.8

Heart attack rates by sex, age 35 to 64, 7 EC regions

Fig. 3.3.9

Trends in mortality from cerebrovascular diseases, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.10

Trends in mortality by liver diseases and cirrhosis, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.11

Estimated prevalence of some chronic diseases (from a variety of localized studies)

Fig. 3.3.12

Occupational accident death rates per million population and total number of fatal accidents, 1992

Fig. 3.3.13

New cases of permanent disability recorded by social insurance in France and Germany, per year, per 1000 employees, 1986, 1987

Fig. 3.3.14

Trends in incidence of AIDS, 1981-1993

Fig. 3.3.15

Cumulative AIDS cases (adults/adolescents) by country and transmission group (December 1994)

Fig. 3.3.16

Tuberculosis, rates of annual notification, EC average and selected countries, 1974-1993

Fig. 3.3.17

Trends in mortality by suicide and self-inflicted injury, all ages, 1970-1992

Fig. 3.3.18

Parasuicide rates in towns of five EC towns and regions, 1989

Fig. 3.4.1

Trends in life expectancy at age 65, 1970-1992

Fig. 4.1.1

Percentage of adult population (15+) who are regular smokers, 1991-1992

Fig. 4.1.2

Percentage of smokers wishing or trying to stop, 1993

Fig. 4.1.3

Relative price index of 20 cigarettes (popular brand) in EC countries, 1992

Fig. 4.1.4

Annual alcohol consumption in litres per person, 1970 and 1990

Fig. 4.1.5

Excise taxes on spirits (100% alcohol) in EC countries, 1992

Fig. 4.1.6

Trends in deaths from overdose of illicit drugs, crude death rates, selected EC countries, 1980-1993

Fig. 4.1.7

Percentage of adult population very overweight, selected EC countries, around 1990

Fig. 4.1.8

Changing patterns of food consumption in the EC, 1970-1990

Fig. 4.2.1

Environment-related diseases

Fig. 4.2.2

Households lacking sanitary facilities in the EC, 1985

Fig. 4.2.3

Housing in Germany, western and eastern Länder, 1987-1991

Fig. 4.2.4

Estimated homelessness per 1000 inhabitants in the EC, 1991-1992

Fig. 4.2.5

Percentage of population disturbed by noise, Germany, 1987

Fig. 4.2.6

Effects of urban car traffic, 1991

Fig. 4.2.7

Heart attack rates in cyclists and non-cyclists, males, United Kingdom, 1976-1986

Fig. 4.2.8a

Total suspended black smoke concentrations in selected EC cities, average over 1986-1991

Fig. 4.2.8b

Total suspended particulates in selected EC cities, average over 1986-1991

Fig. 4.3.1

Unemployment levels in the EC, Japan and USA

Fig. 4.3.2

Percentage of unemployed under 25 years of age, EC, 1992

Fig. 4.3.3

Per cent of the population with household expenditure less than half of the national average and EC average household expenditure, 1985

Fig. 4.4.1

Relative price index of pharmaceuticals, 1993

Fig. 4.4.2

Standardized mortality ratios for appendicitis, ages 5-64 years, EC, 1980/1984

Fig. 4.4.3

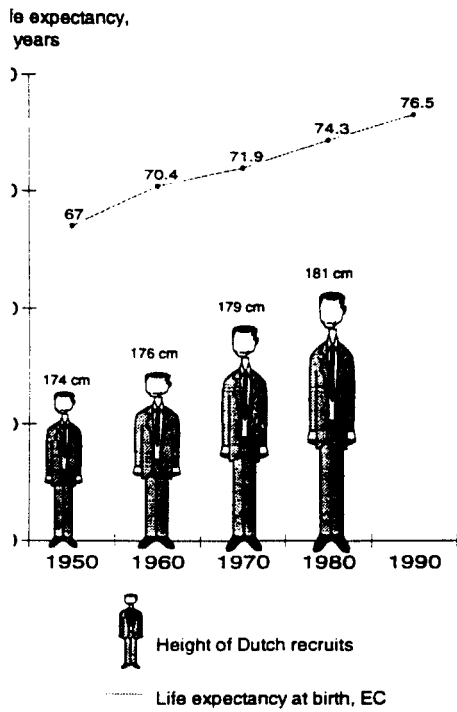
Variation in survival (%) for colon cancer, from cancer registries in EC countries, 1978-1985

Fig. 4.4.4

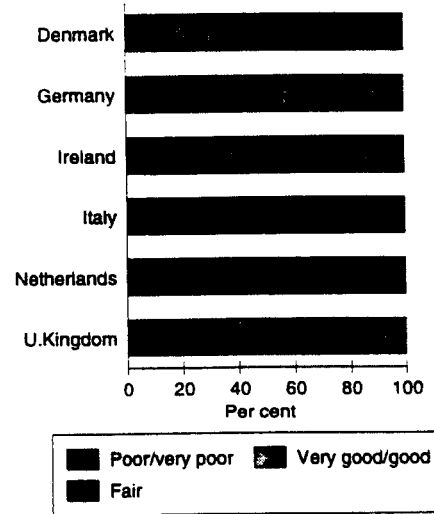
Psychiatric hospitals - beds per 1000 population, 1980 and 1989

Fig. 4.4.5

Biomedical and health research programmes, EC, 1978-1994



Source: United Nations. World Population Prospects. The 1992 Revision. New York, 1993 and Fلود R., Measuring European inequality: the use of height data.



Source: WHO/EURO: Health for All country monitoring reports.

Fig. 1.2.1. Self-perceived health in selected EC countries, 1990-1991

Fig. 1.1. Life expectancy at birth in EC countries and heights of Dutch recruits, 1950-1990

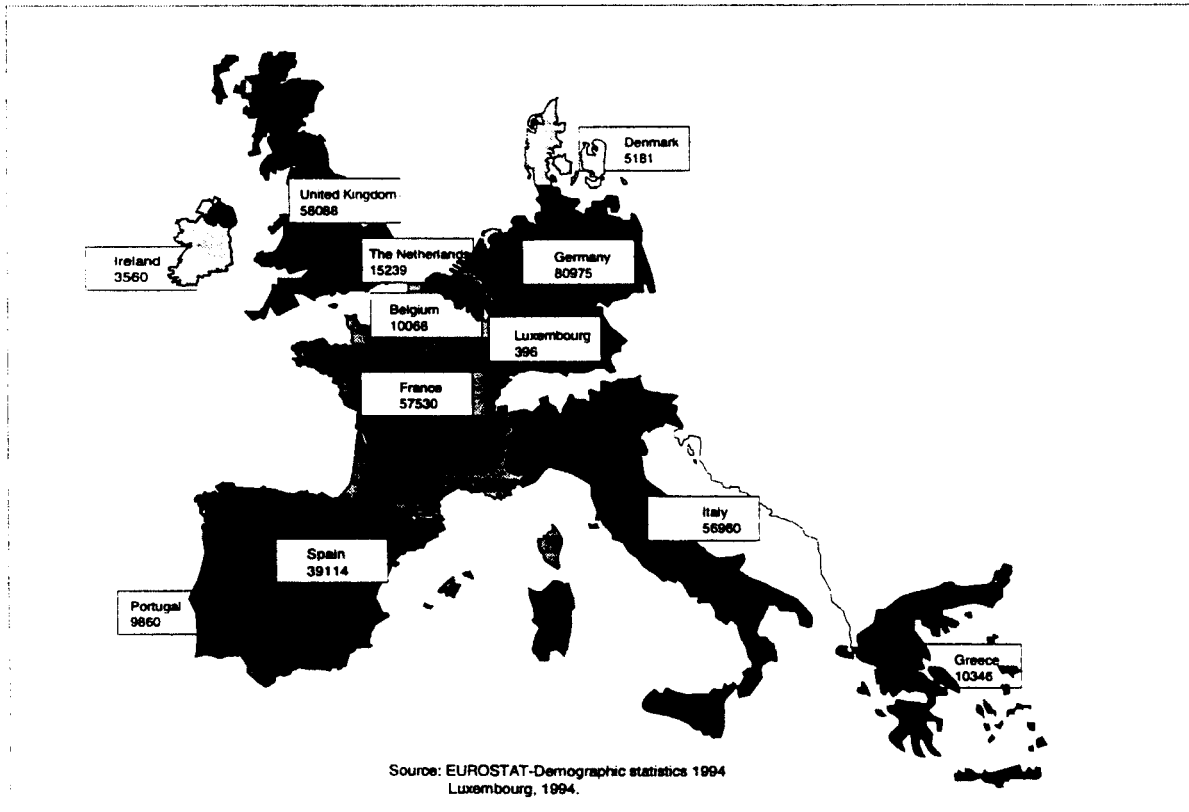
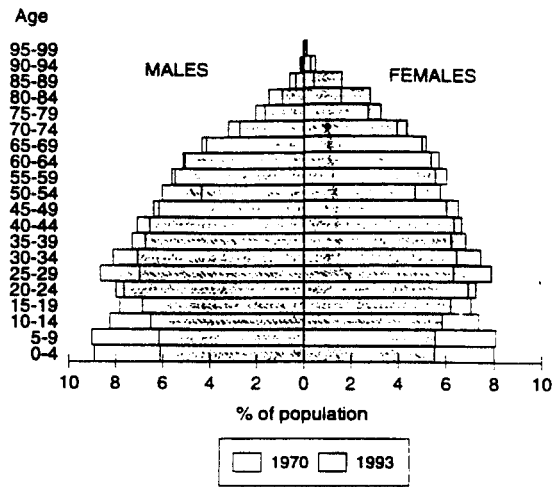
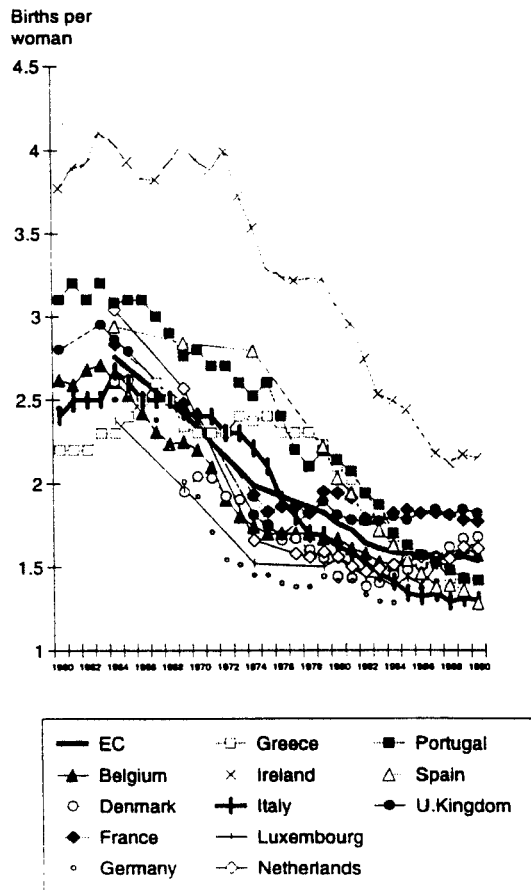


Fig. 2.0.1. Population (in thousands), EC countries, 1993



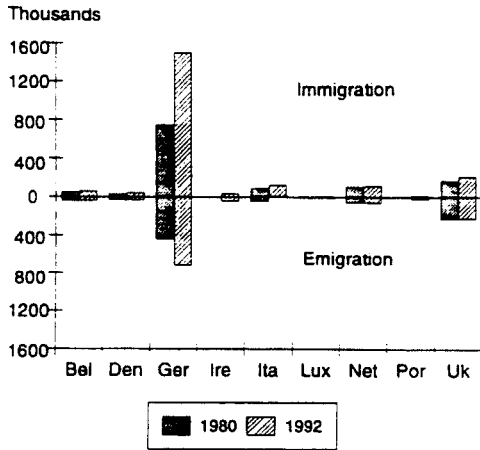
Source: Data provided by Eurostat.

Fig. 2.1.1. Population age structure in EC, 1970 and 1993, males and females



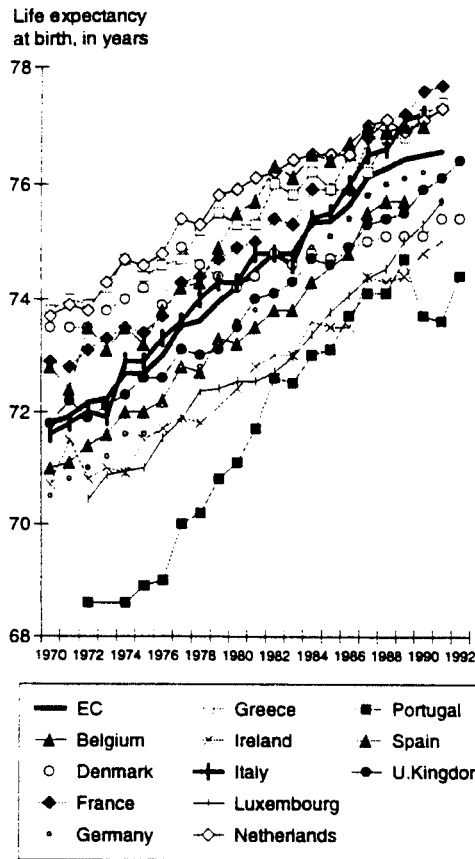
Source: OECD, Health Data Base, 1993.

Fig. 2.1.2. Trends in total fertility rates, 1960-1990



Source: Data provided by EUROSTAT
 Note: France, Greece and Spain not included, because of lack of data. Data not available for Ireland and Portugal in 1980

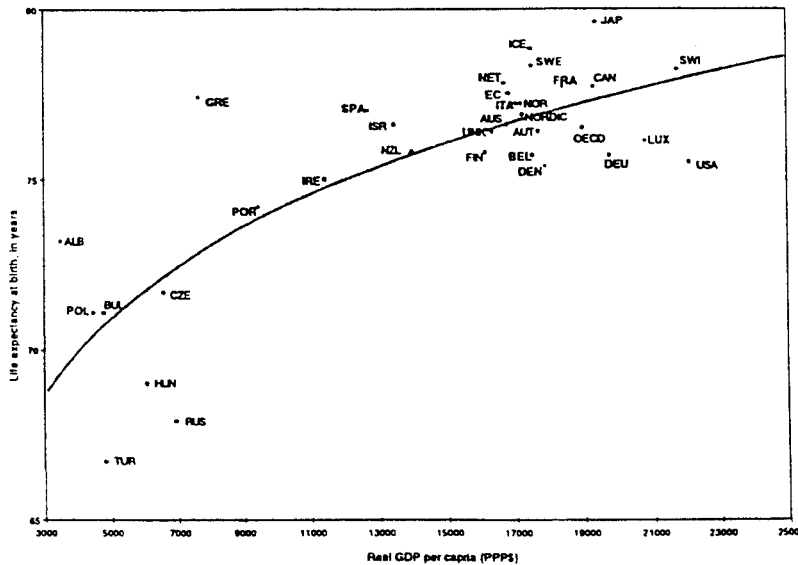
Fig. 2.1.3. Annual immigration to and emigration from EC countries, 1980 and 1992



Source: WHO/EURO, HFA Data Base
 Luxembourg: 3 year moving average
 Note: There was an artificial decline in Portugal in 1990, due to post-census change in population

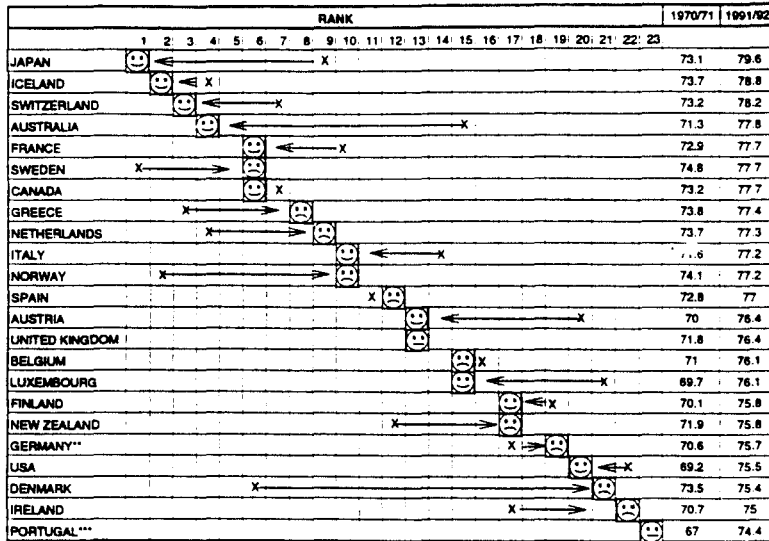
Fig. 2.2.1. Life expectancy at birth, total population, 1970–1992

Fig. 2.2.2. Life expectancy at birth and real GDP around 1991, in selected countries



Source: WHO/EURO Health for all database and UNDP, Human development report 1994. New York, 1994.
 Note: Includes average of EC, OECD and Nordic countries.

Life expectancy
at birth, total
population



Keys:
 X Country's position in 1970-1971
 😊 😐 😞 Country's position in 1991/1992

Note: This table includes the EC member countries and 11 industrialized countries that rank in the top of the world. The ranking is sensitive to differences in periodization.

- * Italy, Spain, Sweden and USA 1990
- ** 1970 estimate for Germany was calculated as a weighted average for the Federal Republic of Germany before reunification and the German Democratic Republic with weights 0.8 and 0.2 respectively
- *** There was an artificial decline in Portugal in 1990 due to post-census change in population

Source: WHO/EURO-HFA Data Base and WHO World Health Statistics Annual (several years)

Fig. 2.2.3. Life expectancy in developed market-economy countries: changes in rank between 1970/1971 and 1991/1992

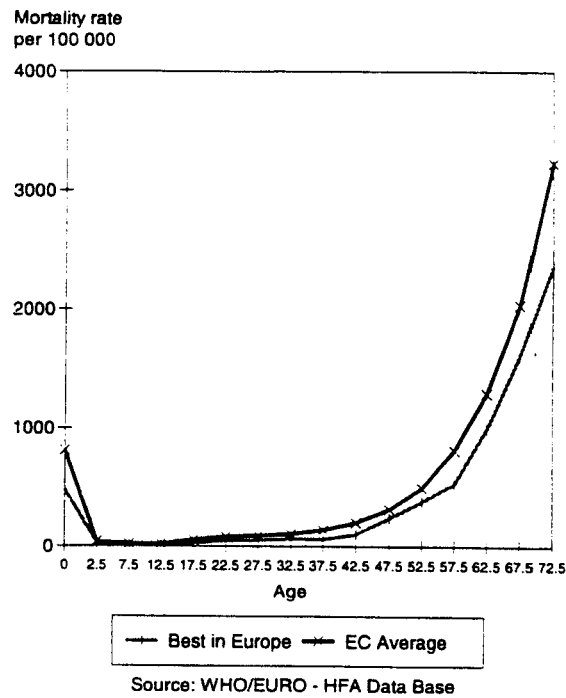
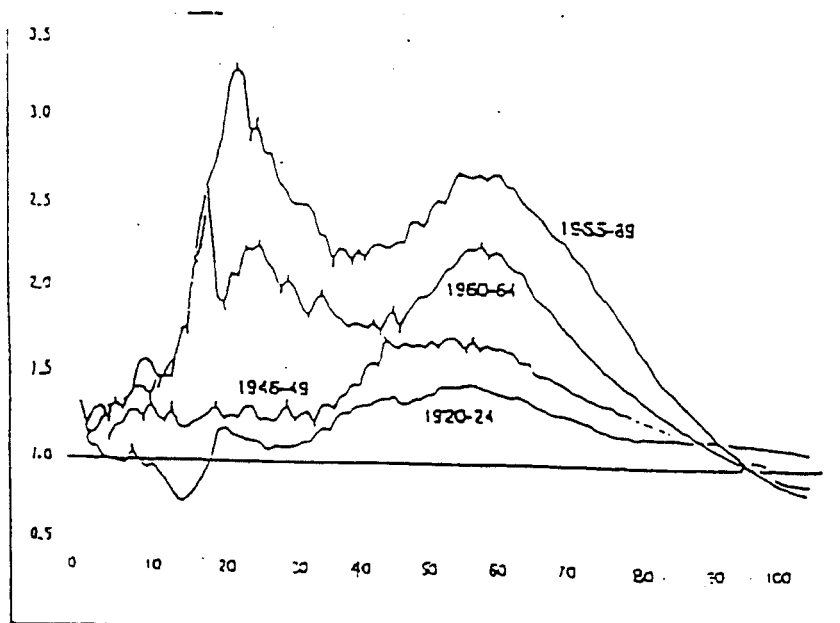


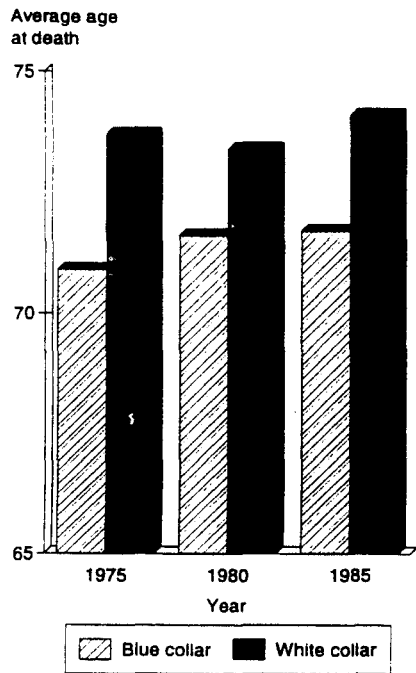
Fig. 2.2.4. Age-specific total mortality: Community average and best in Europe, 1990



Source: Majnoni d'Intignano, Economic considerations at conference "Action on social inequalities and health", London, 3-4 May 1994

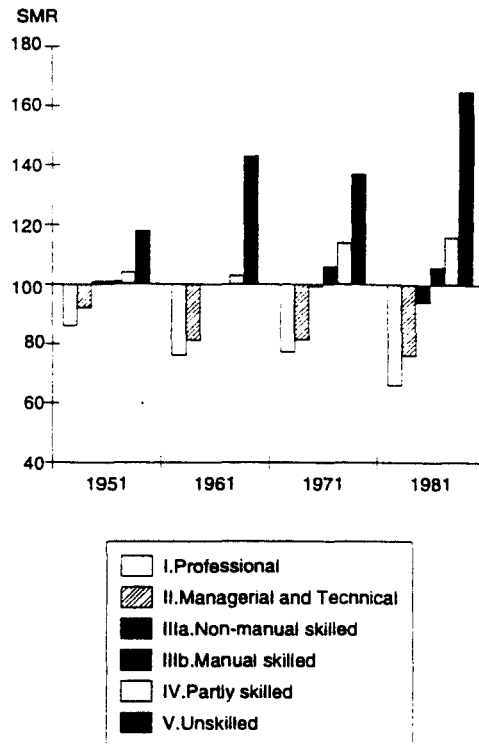
Fig. 2.3.1. Changes in male/female death ratios in France between 1920-1924 and 1985-1989

Figures from Institut National de la Statistique et des Etudes Economiques (INSEE)



Source: Krichgässler K.U. Health and social inequities in FRG Social Science and Medicine 1990: 31: 252

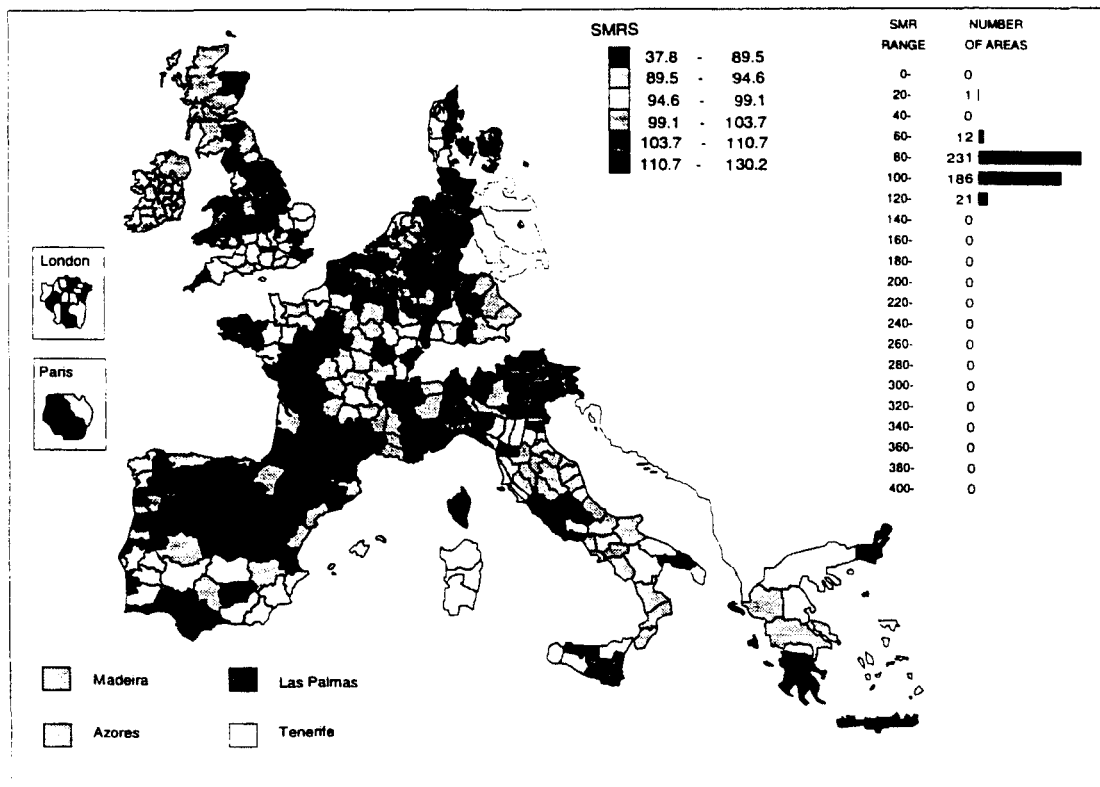
Fig. 2.3.2. Average age of insured population of males at death, Germany, 1975-1985



Source: WHO/EURO - HFA Monitoring report, U.K.

Note: A rate higher than 100 implies that the group has a mortality above the average

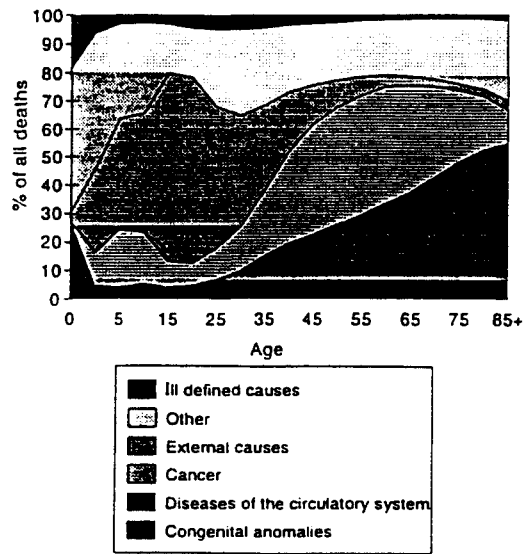
Fig. 2.3.3. Standardized mortality ratios by social class, males of working age under-65, United Kingdom, 1951-1981



Source: Commission of the European Communities European Community Atlas of avoidable death.

Fig. 2.3.4. All-causes mortality, all ages, standardized mortality ratios, by administrative areas, EC, 1980/1984

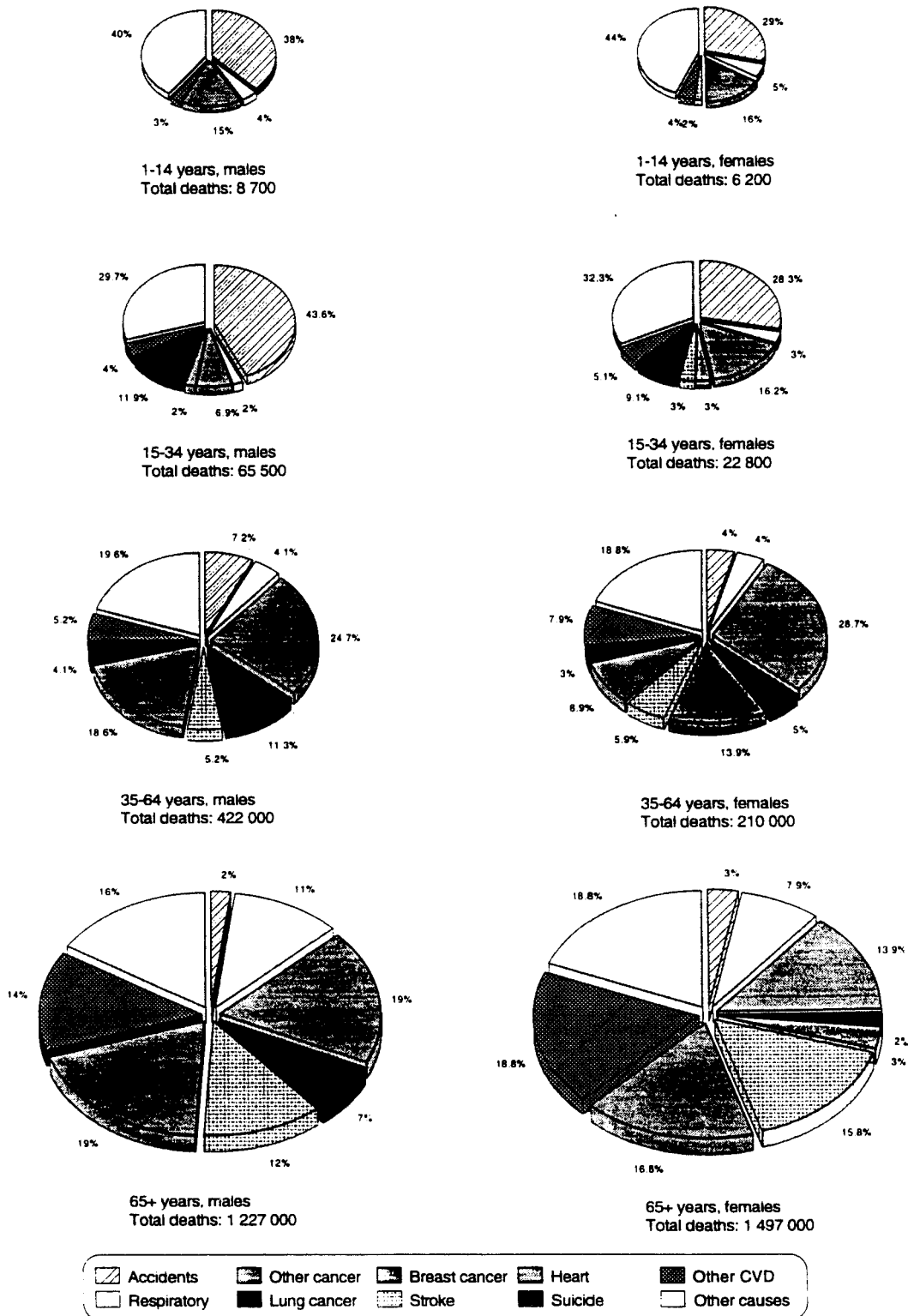
Fig. 3.0.1. Main causes of death;
profile by age, EC, 1991



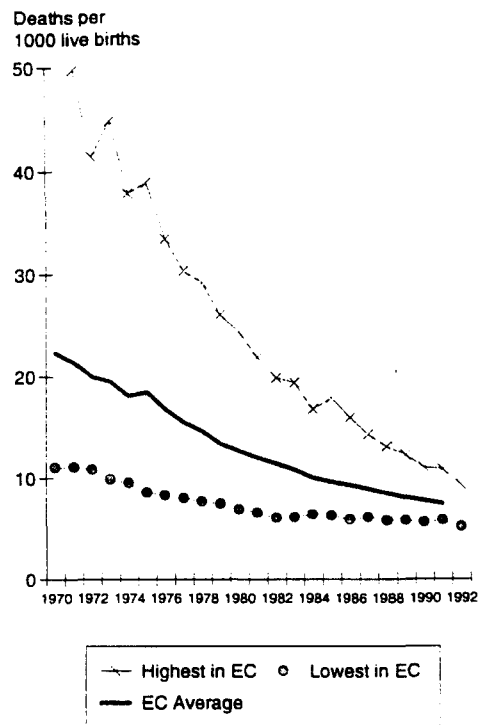
Source: WHO/EURO Health for all database.

Note: This figure shows only the relative proportions at given ages.

Fig. 3.0.2. Distribution of total deaths by cause, age and sex, EC, 1991



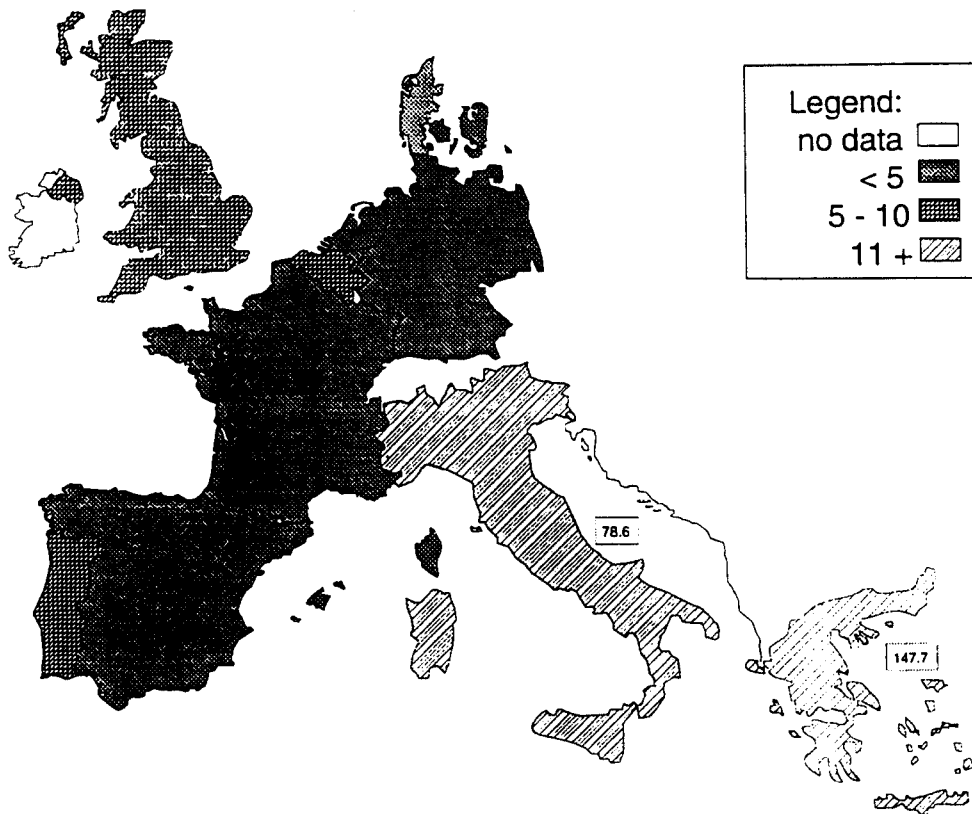
Source: WHO/EURO Health for all database.



Source: WHO/EURO, HFA Data Base

Fig. 3.1.1. Infant mortality rates in EC, 1970-1992

Fig. 3.1.2. Prevalence per million population of haemoglobin disorders, EC countries, 1992



Source: Modell, B. EC concerted action on developing patient registers as a tool for improving service delivery for haemoglobin disorders.

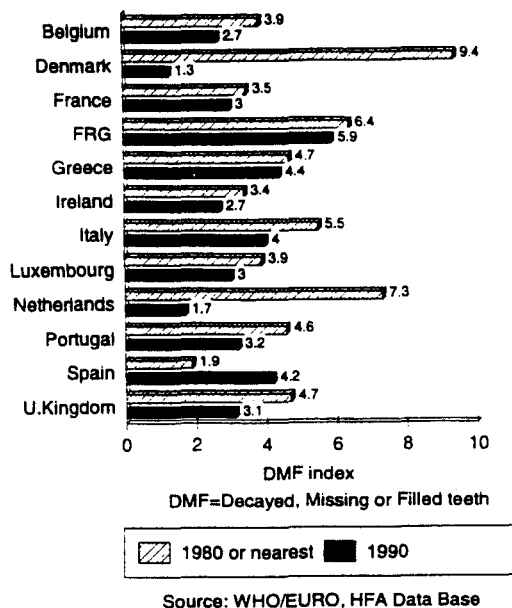


Fig. 3.1.3. DMFT index for 12 year-olds, 1980 and 1990

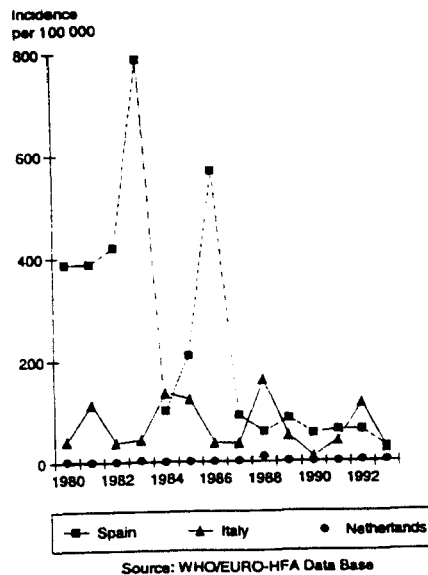


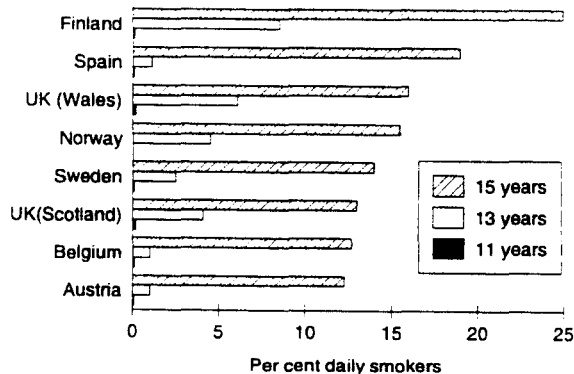
Fig. 3.1.4. Measles incidence in selected countries, 1980-1993

Behaviour	Belgium		U.K.(Scotland)		Spain	
	% Males	% Females	% Males	% Females	% Males	% Females
Smokes every day	11	13	12	13	12	19
Drink alcohol weekly or more often	37	24	32	26	42	29
Exercises out of school half hour or less	12	37	15	28	22	56
Eats whole wheat/rye bread daily or more often	57	58	51	55	20	21
Eats sweets or chocolate more than once daily	27	31	28	17	16	21
Brush teeth more than once a day	30	56	49	78	24	48
Often felt low (depressed) in last six months	10	21	11	24	7	14

Source: * King AJ, Coles B. The health of Canada's youth: views and behaviours of 11-, 13- and 15-years olds from 11 countries. Canada, Minister of Supply and Services, 1992, various tables

Fig. 3.2.1. Adolescents, 15 year-olds' behaviour in selected countries, 1990

* Original data being requested from the HBSC project group (a WHO collaboration study) secretariat in Norway



Source: * King AJ, Coles B. The health of Canada's youth: views and behaviours of 11-, 13- and 15-years olds from 11 countries. Canada, Minister of Supply and Services, 1992, various tables.

Fig. 3.2.2. Daily smokers in selected countries, females at ages 11, 13 and 15 years, 1990

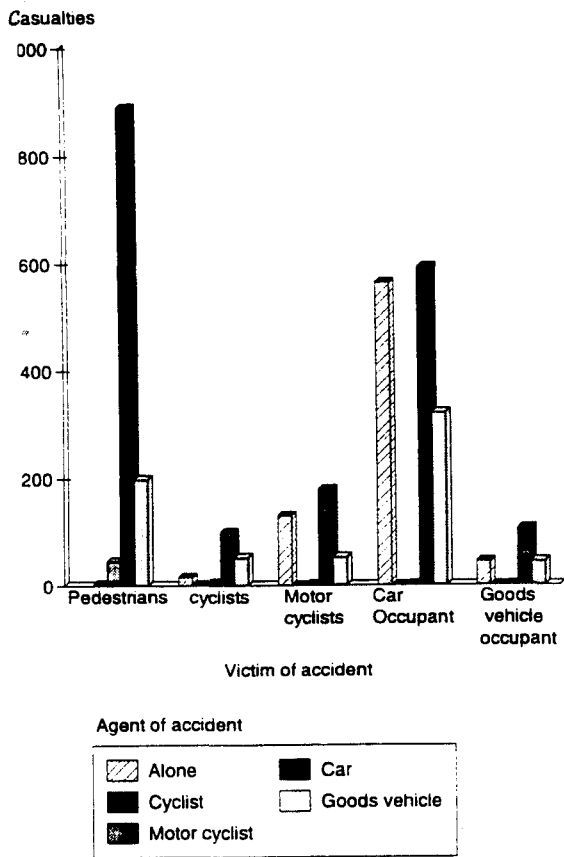
*Original data being requested from the HBSC project group (a WHO collaborating study) secretariat in Norway.



Source: WHO/EURO, HFA Data Base

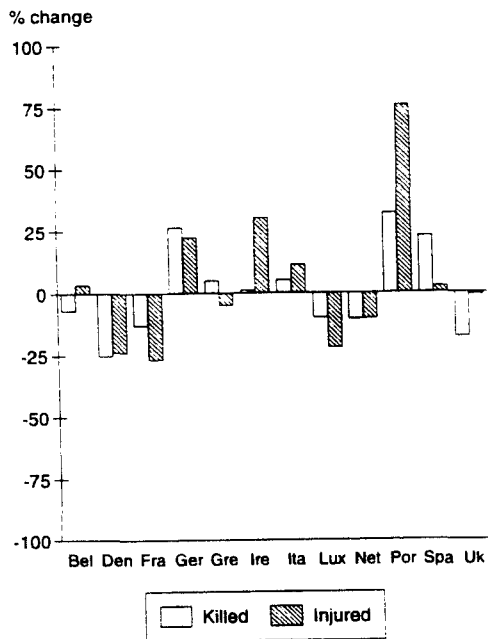
*Note: Portugal, 1985 data

Fig. 3.2.3. Live births per 1000 women aged 15-19, 1980 and 1990



Source: Road accidents Great Britain 1992: the casualty report. London, Her Majesty's Stationary Office, 1993: table 23.

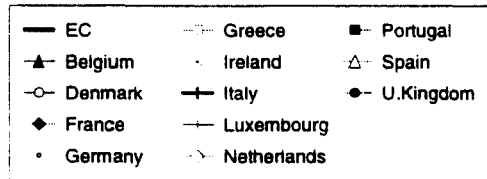
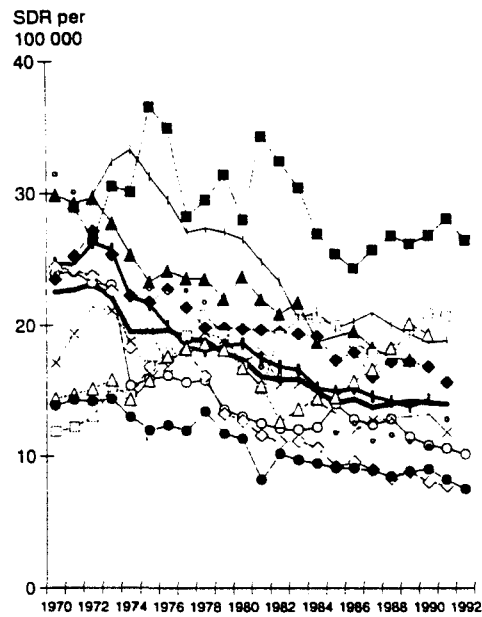
Fig. 3.2.4. Road deaths in the United Kingdom by means of transportation, 1992



Source: Economic Commission for Europe. Statistics of road traffic accidents in Europe, vol. 39. Geneva, United Nations, 1994: table 2.

Note: Greece, Italy and Portugal, 1985-92
Luxembourg, 1985-90

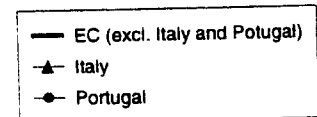
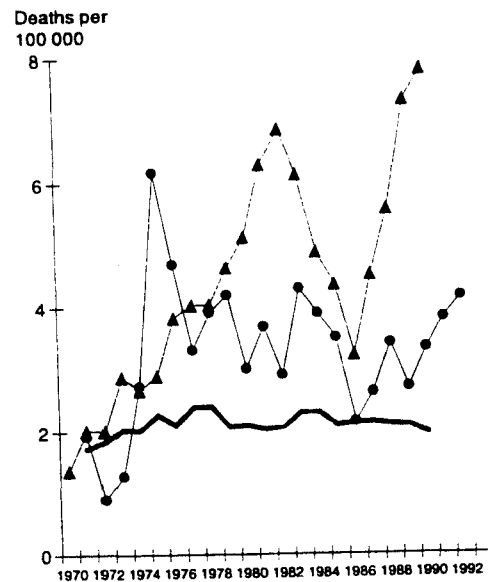
Fig. 3.2.6. Change in road traffic deaths and injuries, 1985-1992



Source: WHO/EURO, HFA Data Base
Luxembourg: 3 years moving average

Note: trends in Portugal affected by post-census change in population in 1990.

Fig. 3.2.5. Trends in road traffic deaths, age-standardized death rates, all ages, 1970-1992



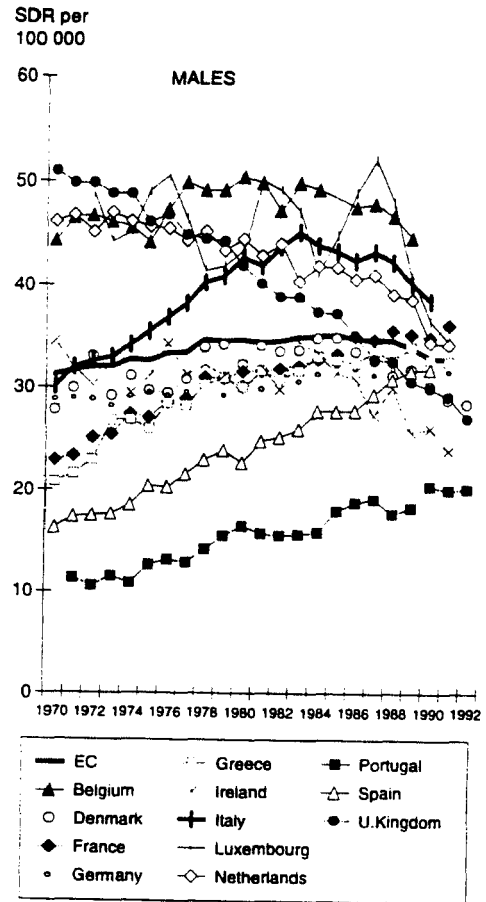
Source: WHO/EURO- HFA Data Base
Note: Crude death rates

Fig. 3.2.7. Trends in homicide rates in males aged 20-34 years

Fig. 3.3.1. Distribution of main cancers in men and women by site, Italy and the United Kingdom, 1983–1987

Cancer site	Male		Female	
	UK (England & Wales) %	Italy (Varese) %	UK (England & Wales) %	Italy (Varese) %
Oesophagus	2.7	2.2	2.1	0.5
Stomach	7.4	9.8	4.8	8.8
Pancreas	3.1	2.5	3.2	2.8
Colon	7.3	7.1	9.2	9.4
Rectum	5.8	4.4	4.7	4.2
Lung	28.1	23.9	11.1	4.2
Bladder	7.6	9.2	3	2.7
Skin melanoma	1	1.1	1.9	1.8
Lymphoma	3.4	4	2.9	4.2
Breast			24.8	28.2
Cervix			4.4	2.8
Body of uterus			3.8	6.1
Ovary			5.1	4.5
Prostate	10.9	7.5		
Other	22.7	27.9	19	19.8

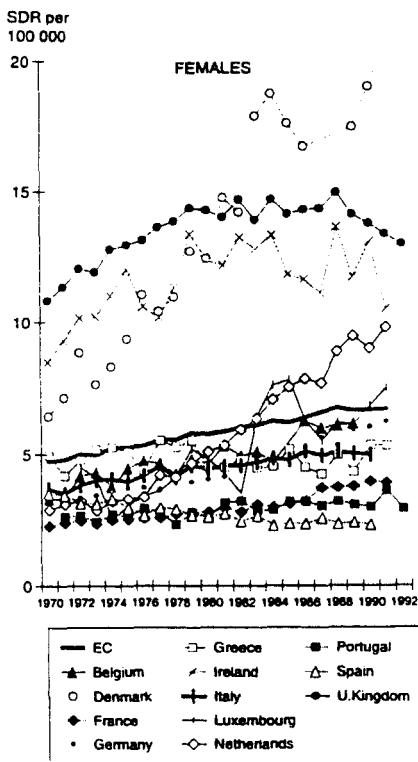
Source: IARC. Cancer incidence in five continents. Lyon, 1992.
 Note: The figure shows the distribution of cancers by site based on average annual incidence 1983–1987.



Source: WHO/EURO, HFA Data Base, 1993

Note: trends in Portugal affected by post-census change in population in 1990.

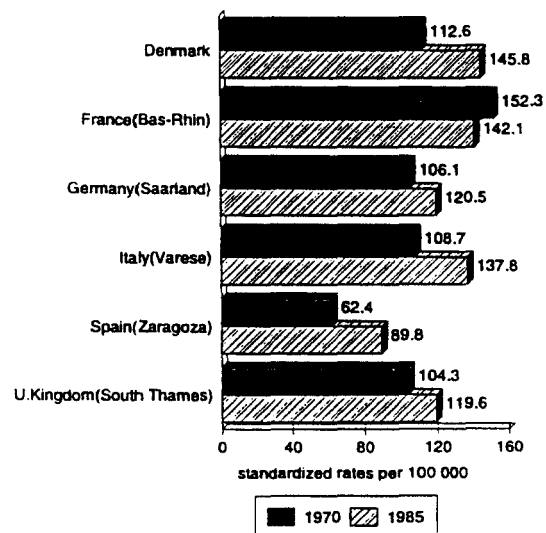
Fig. 3.3.2. Trends in male lung cancer deaths, age-standardized death rates, age 0–64 years, 1970–1992



Source: WHO/EURO, HFA Data Base, 1993

Note: trends in Portugal affected by post-census change in population in 1990.

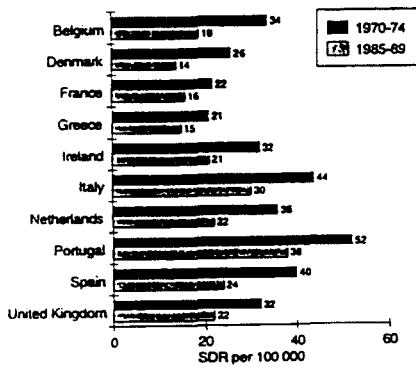
Fig. 3.3.3. Trends in female lung cancer deaths, age-standardized death rates, age 0–64 years, 1970–1992



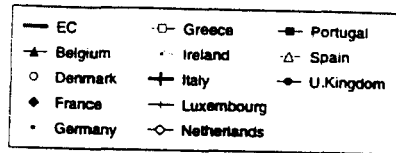
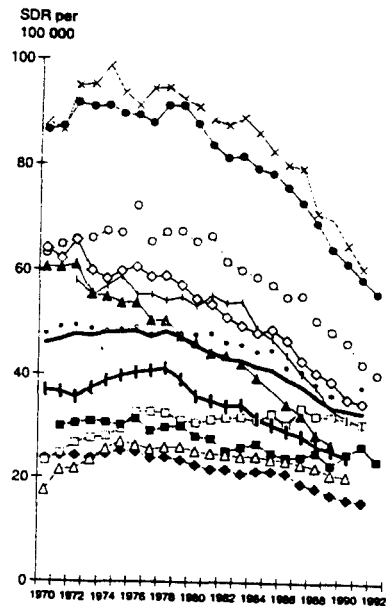
Source: IARC-Trends in cancer incidence and mortality, Lyon, 1993

Fig. 3.3.4. Breast cancer annual incidence in registries of selected EC countries, 1970 and 1985

Fig. 3.3.5. Male mortality from stomach cancer, age-standardized death rates, all ages, in selected EC countries, 1970-1974 and 1985-1989



Source: WHO/Geneva, World Health Statistics Annual 1993, Geneva, 1994.



Source: WHO/EURO, HFA Data Base
Luxembourg: 3 year moving average

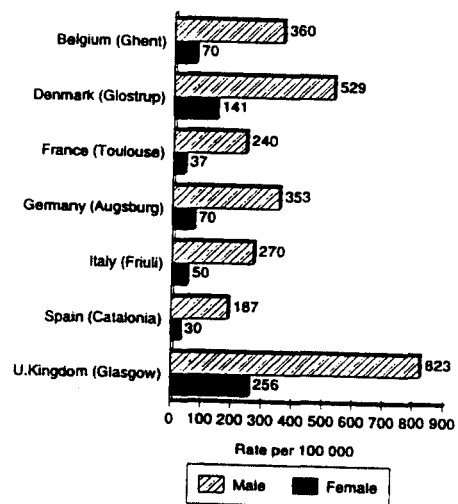
Note: trends of Portugal affected by post-census change in population in 1990.

Fig. 3.3.6. Trends in mortality from coronary heart disease, age-standardized death rates, age 0-64 years, 1970-1992

COUNTRY	% Current smokers	Median body mass index Kg/sq.m	% high blood pressure	Median Cholesterol mmol/l	% with 2+ risk factors
Belgium (Ghent)	52	26.1	13	6.1	23
Denmark (Glostrup)	61	25.4	14.9	6.2	33
France (Haute-Garonne)	43	25.5	25.7	5.9	26
Germany (Augsburg)	39	26.8	27	6.1	29
Italy (Friuli)	37	26.3	33.9	n.a.	n.a.
Spain (Catalonia)	57	26.5	8.4	n.a.	n.a.
U.Kingdom (Glasgow)	62	25.4	32	6.2	43

Source: WHO-MONICA project, World Health Quarterly, vol. 41, no.3/4, 1988

Fig. 3.3.7. Risk factors in men in 7 EC regions



Source: Tunstall-Pedoe H. et al., Myocardial infarction and coronary deaths in the WHO MONICA project. Circulation 1994;90:583-612

Fig. 3.3.8. Heart attack rates by sex, age 35 to 64, 7 EC regions

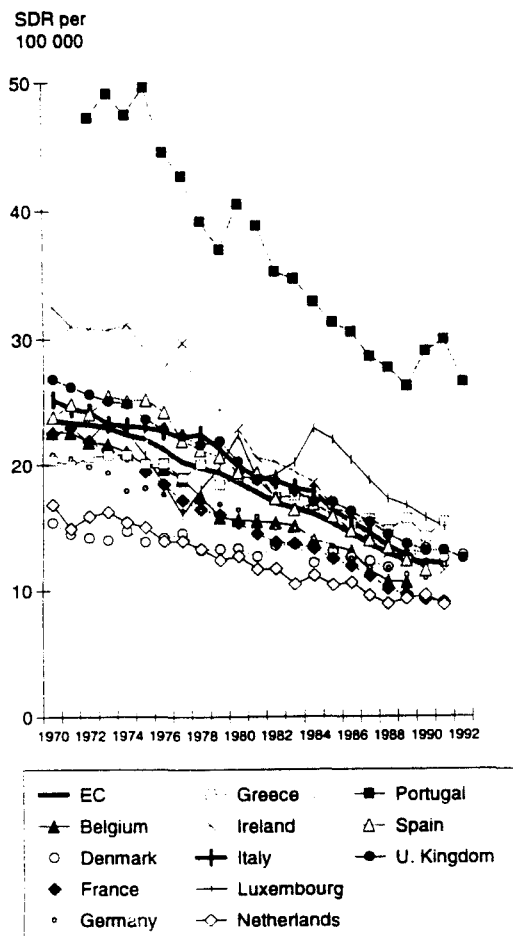


Fig. 3.3.9. Trends in mortality from cerebrovascular diseases, age-standardized death rates, age 0-64 years, 1970-1992

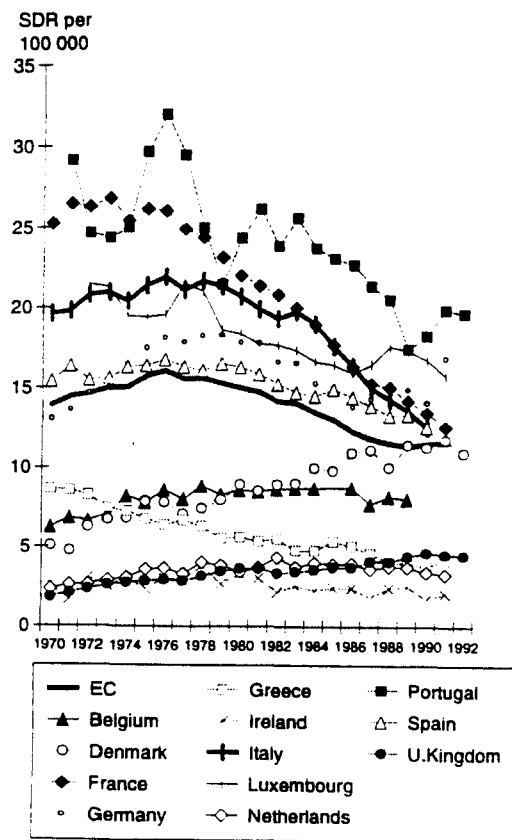


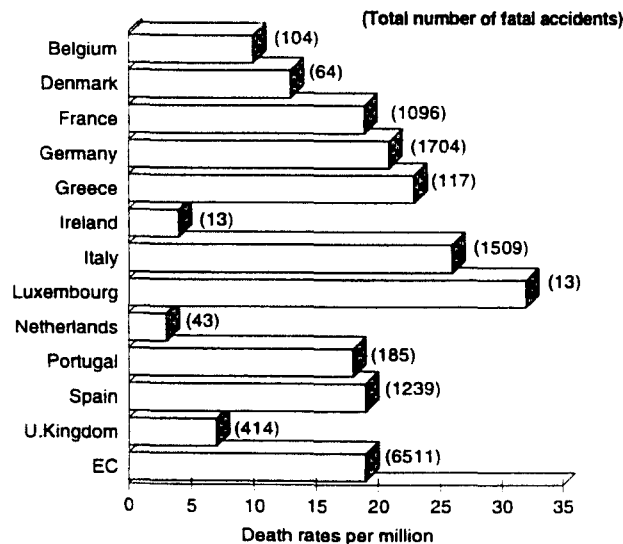
Fig. 3.3.10. Trends in mortality by liver diseases and cirrhosis, age-standardized death rates, age 0-64 years, 1970-1992

Fig. 3.3.11. Estimated prevalence of some chronic diseases (from a variety of localized studies)

Chronic disease	Men	Women
Rheumatoid arthritis	2%	3%
Osteoarthritis of any joint	50% of adults	
Renal failure	80 per 100 000	
Diabetes	2% at age 40+, rising to 6% in elderly	
Asthma	3-5%	
Epilepsy	one in 200	

Source: Various sources, see note.

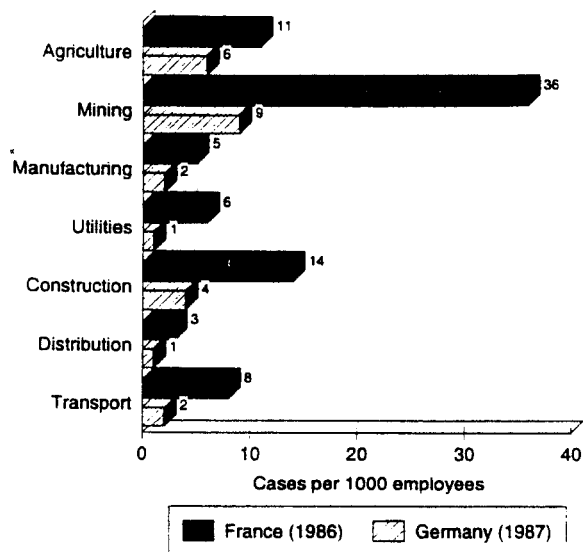
Note: Community-wide information is not available, and these estimates have been quoted to give some information on the extent of the problem. The estimates are derived from a wide variety of sources and in general are based on very localized studies. They should not therefore be taken as representative of prevalence in the Community.



Source: Commission of the European Communities. Directorate-General of employment, Industrial Relations and Social Affairs. Occupational accident statistics in the Member States of the European Community. Luxembourg, DGV (unpublished) 1993.

Note: Non-harmonized data

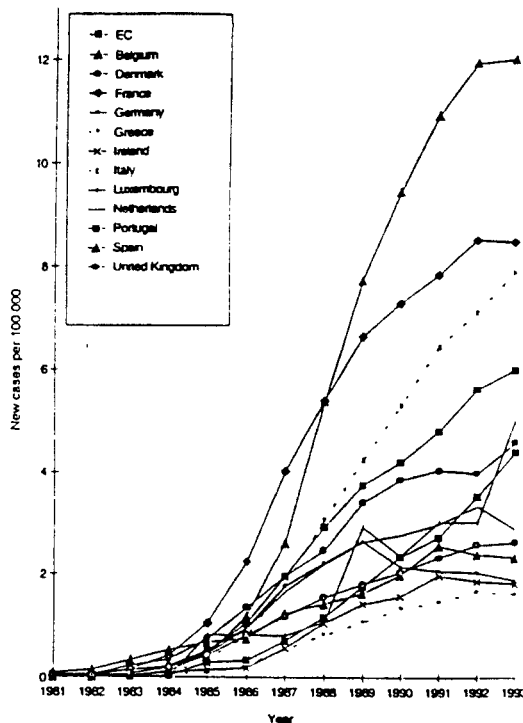
Fig. 3.3.12. Occupational accident death rates per million population and total number of fatal accidents, 1992



Source: EUROSTAT- Disabled persons: Statistical data. Luxembourg, 1991.

Fig. 3.3.13. New cases of permanent disability recorded by social insurance in France and Germany, per year, per 1000 employees, 1986, 1987

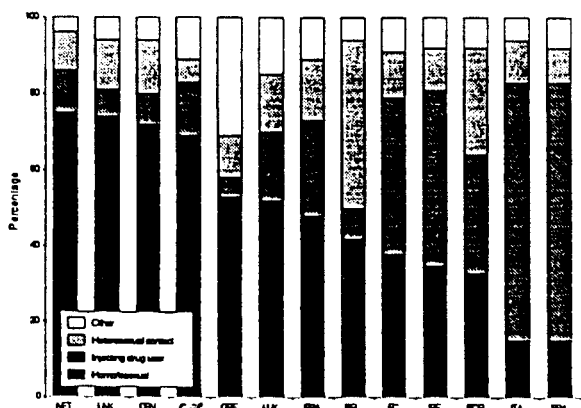
Fig. 3.3.14. Trends in incidence of AIDS, 1981-1993



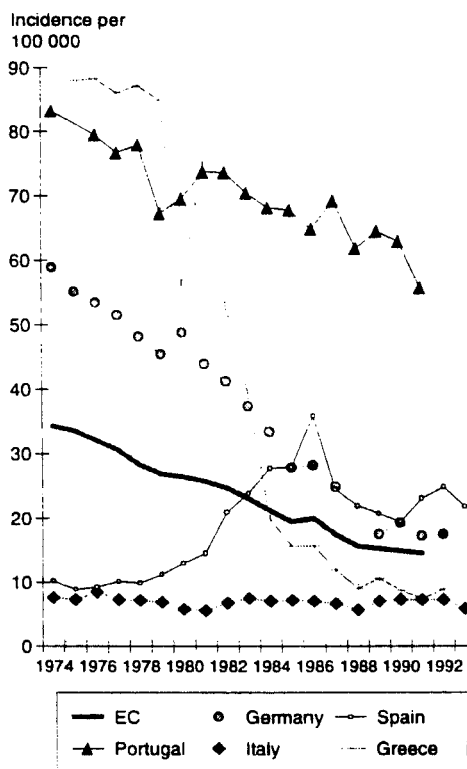
Source: WHO/EURO Health for all database.

Note: Data is by year of diagnosis and unadjusted for reporting delays. Therefore the figures for latest years are actually higher.

Fig.3.3.15. Cumulative AIDS cases (adults/adolescents) by country and transmission group (December 1994)

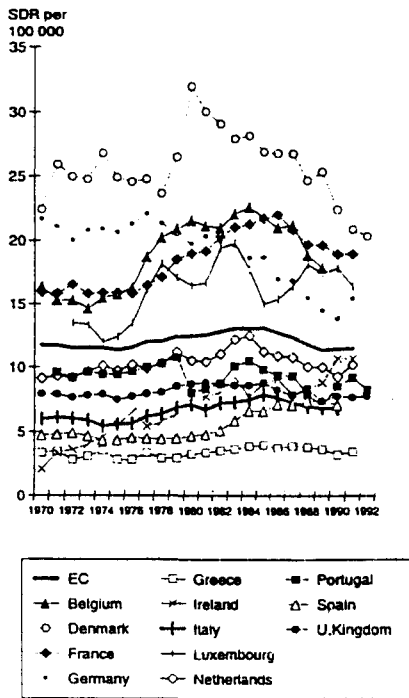


Note: Totals at bottom of columns give the cumulative cases up to 31 December 1994.



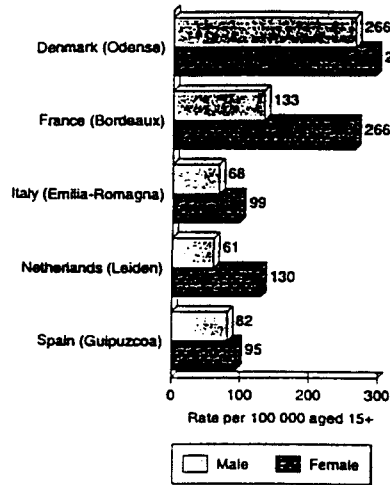
Source: WHO/EURO, HFA Data Base

Fig. 3.3.16. Tuberculosis, rates of annual notification, EC average and selected countries, 1974-1993



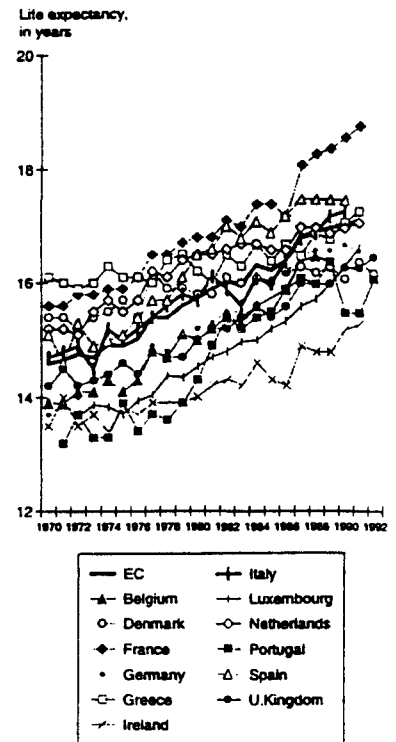
Source: WHO/EURO, HFA Data Base
Luxembourg: 3 years moving average
Note: trends in Portugal affected by post-census change in population in 1990

Fig. 3.3.17. Trends in mortality by suicide and self-inflicted injury, all ages, 1970–1992



Source: WHO/EURO multicentre study on parasuicide
Platts et al. Acta PsychiaScand. 1992;85:97-104

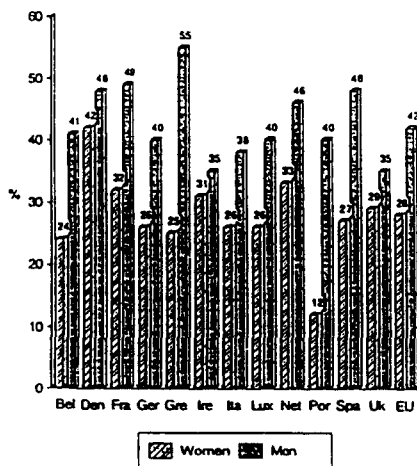
Fig. 3.3.18. Parasuicide rates in five EC towns and regions, 1989



Source: WHO/EURO, HFA Data base
Luxembourg: 3 year moving average
Note: trends in Portugal affected by post-census change in population in 1990

Fig. 3.4.1. Trends in life expectancy at age 65, 1970–1992

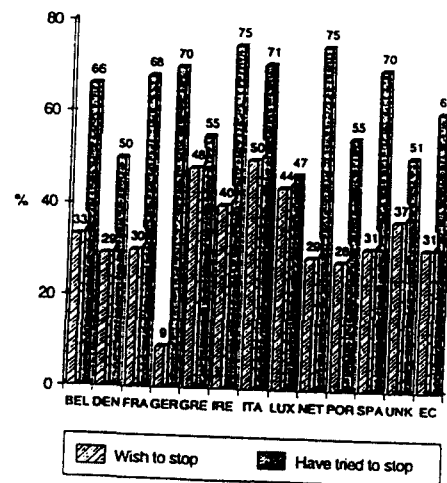
Fig. 4.1.1. Percentage of adult population (15+) who are regular smokers, 1991–1992



Source: WHO/TOH database, 1994 (original source: EUROBAROMETER).

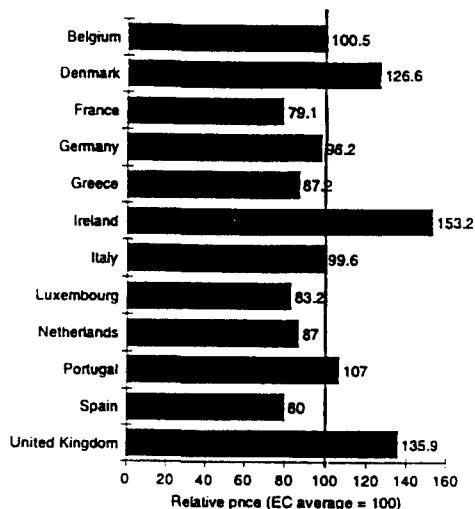
Note: Estimate for Germany is calculated as a weighted average with weights of 0.8 and 0.2 for the Federal Republic of Germany before unification and the German Democratic Republic, respectively

Fig. 4.1.2. Percentage of smokers wishing or trying to stop, 1993



Source: WHO/EURO TOH database, 1994.

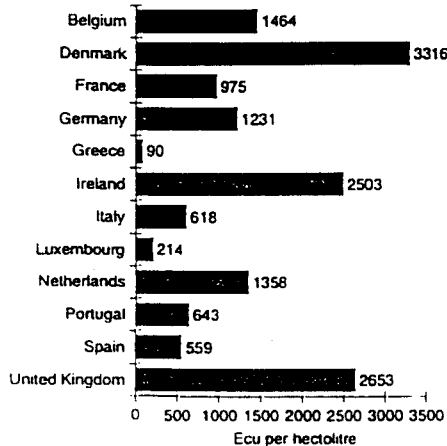
Fig. 4.1.3. Relative price index of 20 cigarettes (popular brand) in EC countries, 1992



Source: Joossens, L. et al., Taxes on tobacco products. European Bureau for Action on Smoking Prevention, Brussels, 1992.

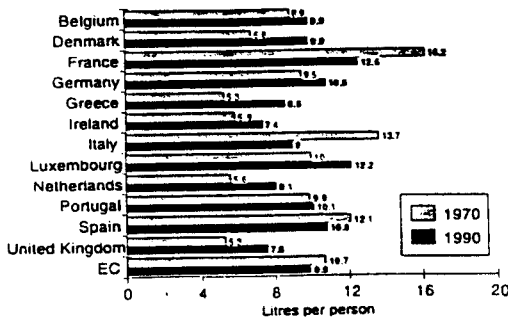
Note: The relative price shows the consumer price relative to general price levels.

Fig. 4.1.5. Excise taxes on spirits (100% alcohol) in EC countries, 1992



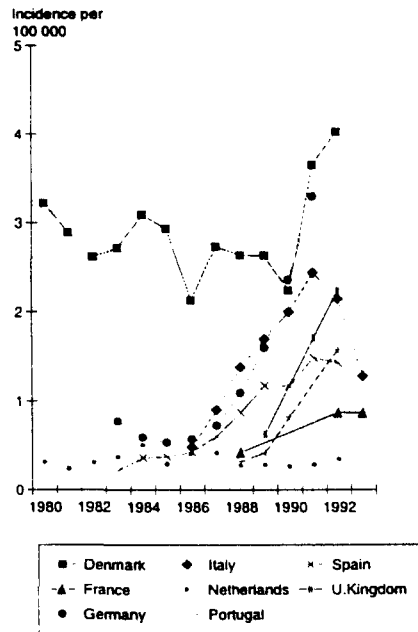
Source: Lehto, J. Approaches to alcohol control policy. Copenhagen, WHO Regional Office for Europe, 1995 (WHO Regional Publications, European Series, No. 61).

Fig. 4.1.4. Annual alcohol consumption in litres per person, 1970 and 1990



Source: WHO/EURO Health for all database.

Note: Estimate for Germany is calculated as a weighted average with weights of 0.8 and 0.2 for the Federal Republic of Germany before unification and the German Democratic Republic, respectively.

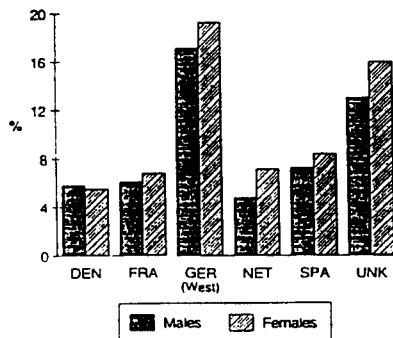


Source: WHO/EURO, HFA Data Base

Note: includes only EC countries for which information is available.

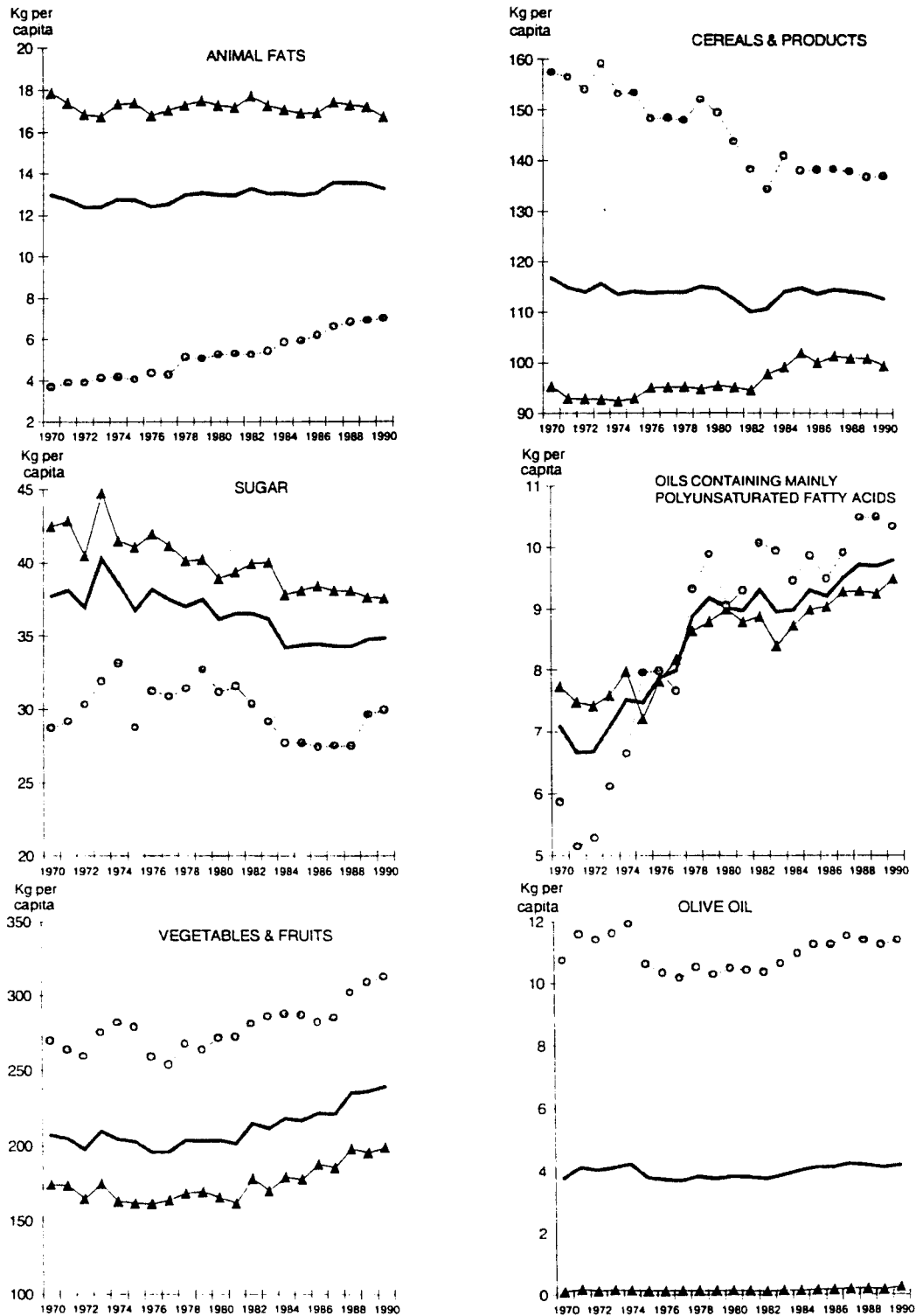
Fig. 4.1.6. Trends in deaths from overdose of illicit drugs, crude death rates, selected EC countries, 1980-1993

Fig. 4.1.7. Percentage of adult population very overweight*, selected EC countries, around 1990



Source: WHO/EURO Health for all Monitoring reports
*Body mass index $30 > \text{Kg/m}^2$ ($31+$ for United Kingdom)

Fig. 4.1.8. Changing patterns of food consumption in the EC, 1970-1990



Note: The group of southern countries are Greece, Italy, Portugal and Spain. The remaining eight EC countries constitute the northern group.

— EC ▲ NORTH ○ SOUTH

Source: WHO/EURO, Nutrition/PC (based on FAO food balance sheet data).

ENVIRONMENT RELATED DISEASES
Cancer: especially lung and skin
Respiratory diseases: bronchitis, emphysema
Allergic diseases: eczema, asthma
Nervous system diseases: brain and peripheral nerve disorders
Reproduction: miscarriage, congenital anomalies, infertility

Source: Environment and public health: an epidemiological research programme. Solna, Swedish Environmental Protection Agency, 1993

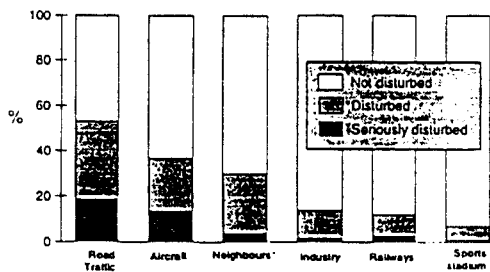
Fig. 4.2.1. - Environment related diseases

Fig. 4.2.3. Housing in Germany, western and eastern Länder, 1987-1991

Category	Western Länder	Eastern Länder
Private households (1990)	27.6 million	6.6 million
Flats (1990)	26.8 million	7.0 million
Built before 1919	18%	37%
Owners of flats (1990):		
- State/Local Authority	3%	41%
- Association	13%	17%
- Private	84%	42%
Living space/flat (1987/89)	85 m ²	65 m ²
Average monthly rent per flat:		
- 1987/89	486 DM	62 DM
- 1991/92	589 DM	298 DM
Housing shortage (estimated number of flats)	1.5 million	1 million

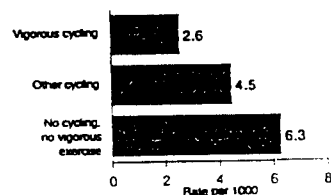
Source: EC Observatory on policies to combat social exclusion. Social exclusion in the Federal Republic of Germany.

Fig. 4.2.5. Percentage of population disturbed by noise, Germany, 1987



Source: The State of the Environment in the European Community. European Commission. Figure 5.4. * 1986.

Fig. 4.2.7. Heart attack rates in cyclists and non-cyclists, males, United Kingdom, 1976-1986



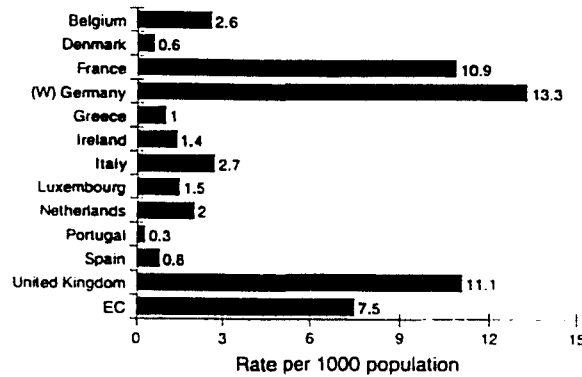
Source: Morris, J.N. et al., British health journal, 63:325-334 (1990).

Fig. 4.2.2. Households lacking sanitary facilities in the EC, 1985

Country	No inside lavatory			No inside bath or shower		
	Households (%)	Households (thousands)	People (thousands)	Households (%)	Households (thousands)	People (thousands)
Belgium	13	518	1 398	20	795	2 145
Denmark	3	68	149	6	135	297
France	10	2 046	5 524	8	1 723	4 652
Germany	2	557	1 337	5	1 672	4 012
Greece	15	515	1 596	16	522	1 617
Ireland	6	63	220	8	84	295
Italy	2	392	1 177	7	1 425	4 274
Luxembourg	1	1	2	3	4	11
Netherlands	0	0	0	2	129	348
Portugal	44	1 397	4 612	44	1 397	4 612
Spain	8	963	3 468	17	2 047	7 368
United Kingdom	1	205	534	1	228	593

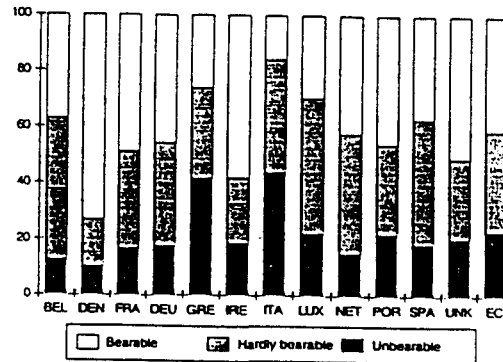
Source: FEANTSA. Homelessness: a condition or a social process? An overview for the 12 Member States of the EU. Brussels, 1994.

Fig. 4.2.4. Estimated homelessness per 1000 inhabitants in the EC, 1991-1992



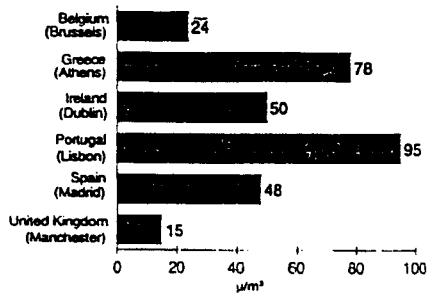
Source: FEANTSA. Abandoned: Profile of Europe's homeless people, Brussels, 1994. Table 1.

Fig. 4.2.6. Effects of urban car traffic, 1991



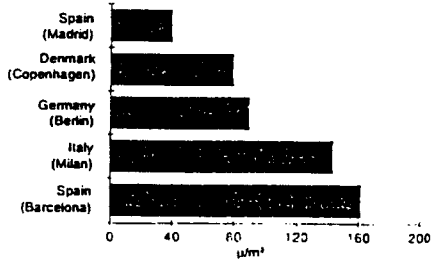
Source: EUROBAROMETER. Urban congestion and public transport. Basic tables: 19 September 1991.

Fig. 4.2.8a. Total suspended black smoke concentrations in selected EC cities, average over 1986–1991



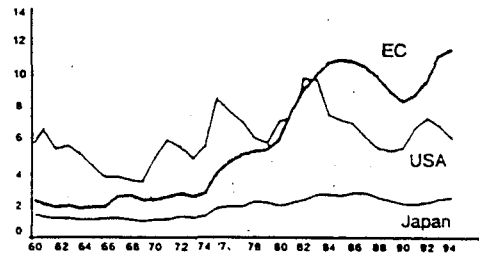
Source: WHO-ECEH, Urban BS.

Fig. 4.2.8b. Total suspended particulates in selected EC cities, average over 1986–1991



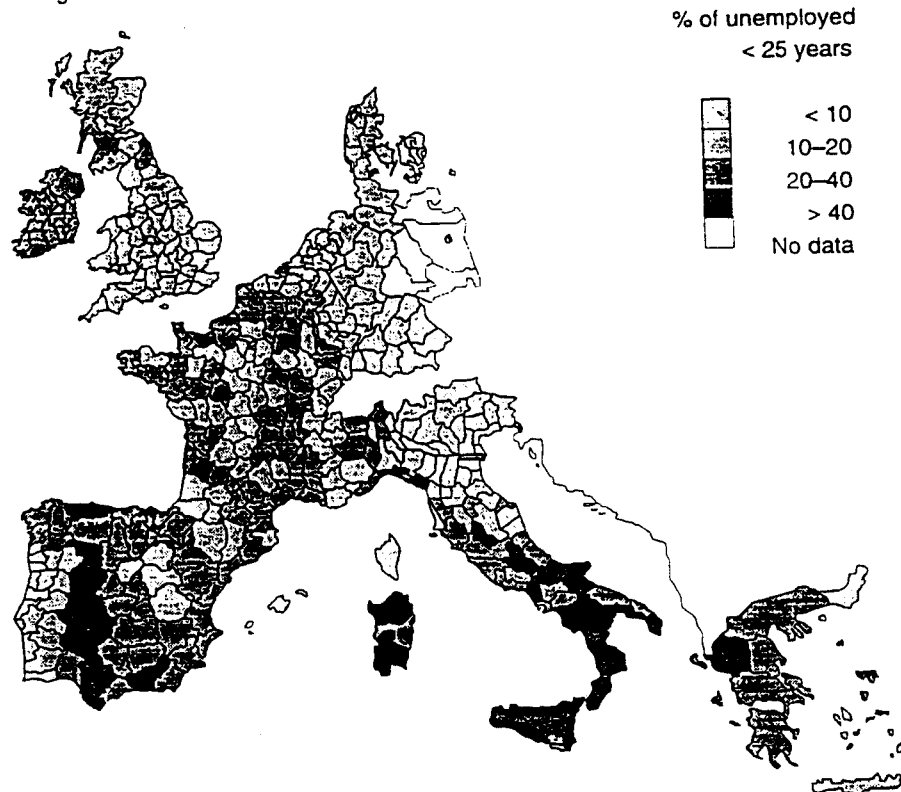
Source: WHO-ECEH, Urban TSP.

Fig. 4.3.1. Unemployment levels in the EC, Japan and USA

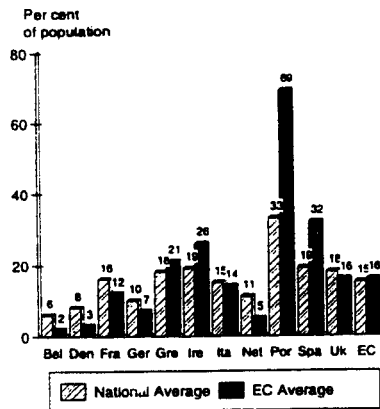


Source: European Commission, Growth, competitiveness, employment: The challenges and ways forward into the 21st century (white paper). Luxembourg, 1993.

Fig. 4.3.2. Percentage of unemployed under 25 years of age, EC, 1992

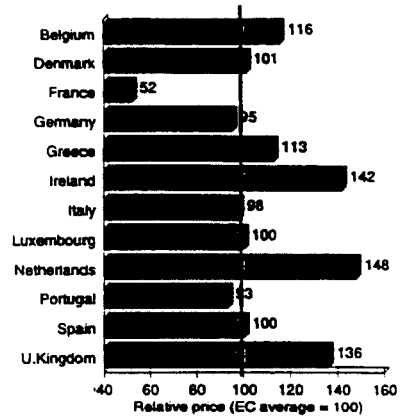


Source: Commission of the European Communities, European social policy, options for the future. Green Paper. Luxembourg, 1993.



Source: EUROSTAT. Poverty in figures: Europe in the early 1980s. Luxembourg, 1990.

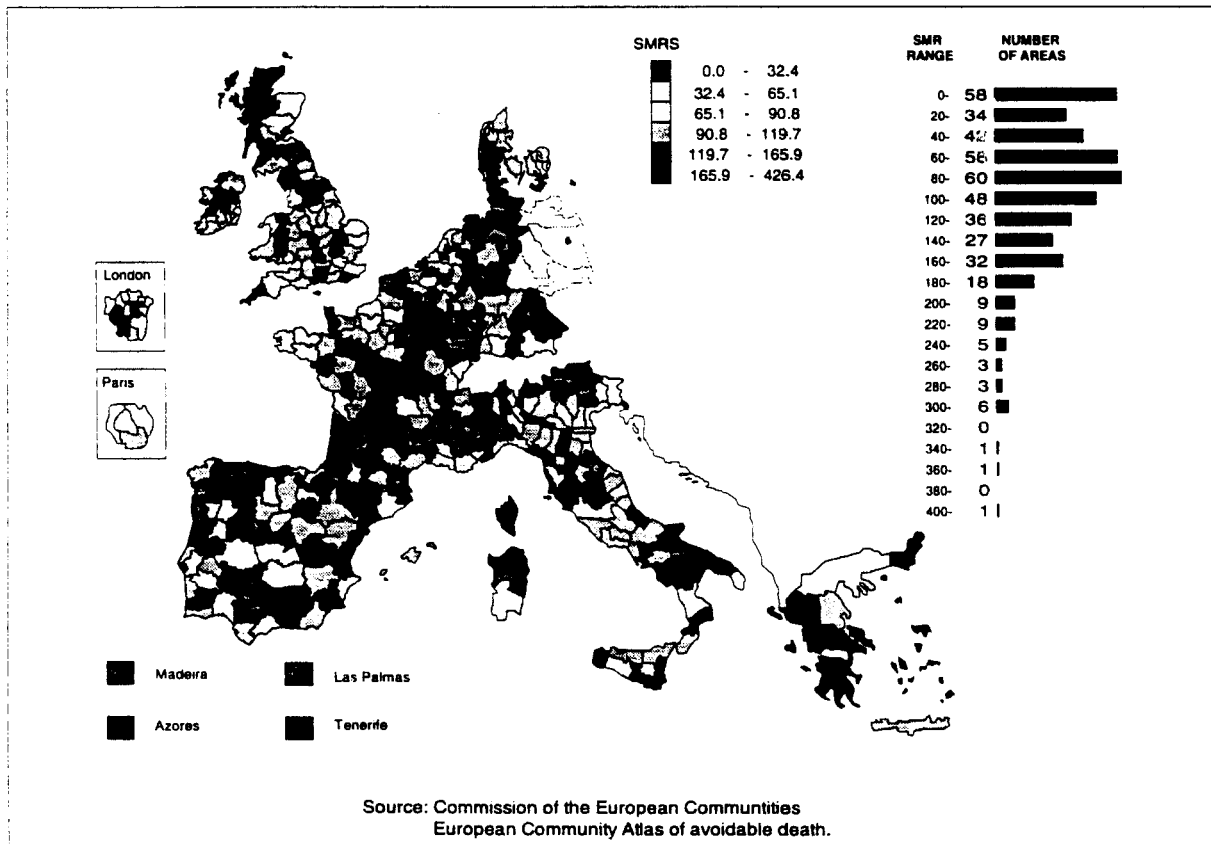
Fig. 4.3.3. Per cent of the population with household expenditure less than half of the national average and EC average household expenditure, 1985



Source: European Commission. On the outlines of an industrial policy for the pharmaceutical sector in the European Community. Com (93) 718. Brussels, 1994

Note: The relative price shows the consumer price relative to general price levels.

Fig. 4.4.1. Relative price index of pharmaceuticals, 1993



Source: Commission of the European Communities. European Community Atlas of avoidable death.

Fig. 4.4.2. Standardized mortality ratios for appendicitis, ages 5-64 years, EC, 1980/1984

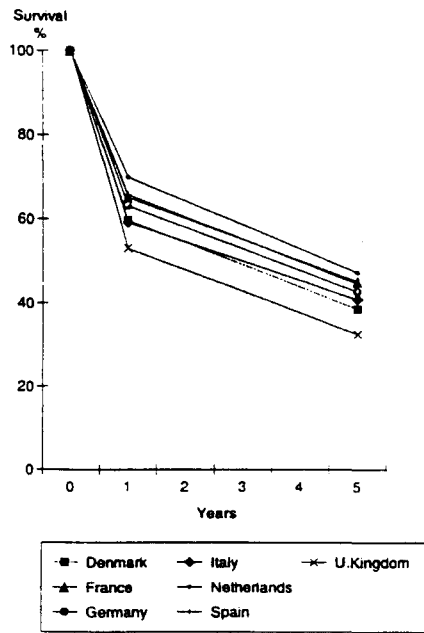


Fig. 4.4.3. Variation in survival (%) for colon cancer, from cancer registries in 7 EC countries, 1978-1985

Source: Local registers

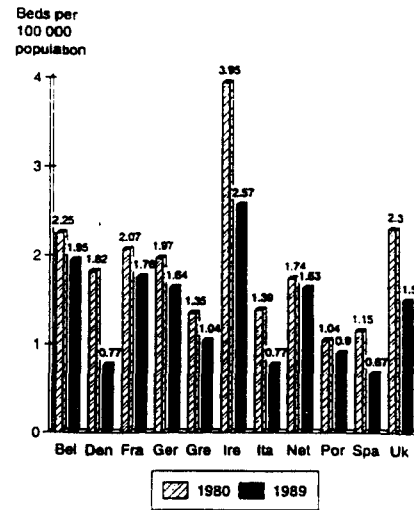


Fig. 4.4.4. Psychiatric hospitals - beds per 1000 population, 1980 and 1989

Source: OECD, Health database, 1993. * 1983 data

Fig. 4.4.5. Biomedical and health research programmes, EC, 1978-1994

Programme	Duration	Nº of projects	National teams	ECU (million)
FIRST	1978-81	3	100	1.09
SECOND	1980-83	7	230	2.32
THIRD	1982-86	34	1200	13.30
FOURTH	1987-91	135	4500	65.00
BIOMED 1	1990-94	100	6650	150.00
BIOMED 2	1994-1998	—	—	336.00

Source: Data provided by the Commission of the European Communities, DG XII/E.

Annex 3

Tables of causes of death, EC, 1991

Table 1.	Deaths according to cause, EC, around 1991
Table 2.	Life expectancy at birth, in years
Table 3.	Infant mortality rate, per 1000 live births
Table 4.	Standardized death rates, diseases of the circulatory system, 0-64 years, per 100 000
Table 5.	Standardized death rates, ischaemic heart diseases, 0-64 years, per 100 000
Table 6.	Standardized death rates, cerebrovascular diseases, 0-64 years, per 100 000
Table 7.	Standardized death rates, malignant neoplasms, 0-64 years, per 100 000
Table 8.	Standardized death rates, trachea/bronchus/lung cancer, 0-64 years, per 100 000
Table 9.	Standardized death rates, malignant neoplasm female breast, 0-64 years, per 100 000
Table 10.	Standardized death rates, external causes of injury and poisoning, all ages, per 100 000
Table 11.	Standardized death rates, motor vehicle traffic accidents, all ages, per 100 000
Table 12.	Standardized death rates, suicide and self-inflicted injury, all ages, per 100 000

Table 1. Deaths (in thousands) according to main groups of causes, EC, around 1991

Cause of death	Sex	All ages	YEARS					
			0	1-14	15-24	25-34	35-64	65+
Cardiovascular diseases	T	1525	0.4	0.7	1.7	4.7	179.8	1340
	F	833	0.2	0.3	0.6	1.5	47.5	783
	M	692	0.2	0.4	1.1	3.2	129.3	557
Cancer	T	862	0.1	2.2	2.9	6.7	250.3	600
	F	382	0.05	1.0	1.1	3.4	100.1	276
	M	480	0.05	1.3	1.7	3.3	150.2	324
External causes	T	189	1.0	5.1	22.9	23.7	58.7	77.6
	F	70	0.4	1.8	4.4	4.5	14.9	43.7
	M	119	0.6	3.3	18.5	19.2	43.8	33.9
Infectious & parasitic diseases	T	25	0.5	0.5	0.4	0.8	5.2	18.4
	F	12	0.2	0.2	0.1	0.2	1.6	9.9
	M	13	0.3	0.3	0.2	0.5	3.6	8.5
Respiratory diseases	T	268	0.7	0.6	0.8	1.4	25.2	239
	F	120	0.3	0.3	0.3	0.4	7.7	111
	M	148	0.4	0.3	0.5	0.9	17.5	128
Mental and nervous system diseases	T	114	0.7	1.3	2.3	4.0	19.8	86.0
	F	62	0.3	0.6	0.6	1.0	6.5	52.7
	M	52	0.4	0.7	1.7	3.0	13.2	33.3
Ill defined causes	T	76	5.1	0.7	1.5	2.8	16.6	49.2
	F	35	2.0	0.3	0.4	0.7	4.5	27.4
	M	41	3.1	0.4	1.2	2.1	12.1	21.8
Digestive system diseases	T	158	0.2	0.2	0.3	2.1	46.1	109.6
	F	75	0.1	0.1	0.1	0.6	14.0	60.4
	M	83	0.1	0.1	0.2	1.4	32.1	49.2
Endocrine, metabolic and immunity disorders	T	101	0.4	0.5	0.9	5.7	17.3	76.9
	F	58	0.2	0.2	0.3	1.1	5.7	51.4
	M	43	0.2	0.3	0.6	4.6	11.6	25.5
Other diseases	T	166	19.9	2.3	1.3	1.5	14.2	127.6
	F	98	8.6	1.0	0.6	0.8	6.5	80.6
	M	68	11.3	1.2	0.7	0.7	7.8	47.0
All causes	T	3486	28.9	14.1	34.9	53.4	630.1	2725
	F	1747	12.3	5.8	8.6	14.2	209.0	1497
	M	1739	16.6	8.2	26.4	39.2	421.1	1228

Table 2. Life expectancy at birth, in years

	Historical year		Latest available year	
	Year	Value	Year	Value
EC	1970	71.8	1991	76.5
Belgium	1970	71.0	1989	75.7
Denmark	1970	73.5	1992	75.4
France	1970	72.9	1991	77.7
Germany	1970	70.5	1991	75.7
Greece	1970	73.8	1991	77.4
Ireland	1970	70.7	1991	75.0
Italy	1970	71.6	1990	77.2
Luxembourg	1971	69.7	1992	76.1
Netherlands	1970	73.7	1991	77.3
Portugal	1971	67.0	1992	74.4
Spain	1970	72.8	1990	77.0
United Kingdom	1970	71.8	1992	76.4

Table 3. Infant mortality rate, per 1000 live births

	Historical year		Latest available year	
	Year	Value	Year	Value
EC	1970	22.3	1991	7.5
Belgium	1970	21.1	1989	8.5
Denmark	1970	14.2	1992	6.5
France	1970	15.1	1991	7.3
Germany	1970	23.6	1991	6.9
Greece	1970	29.6	1991	9.0
Ireland	1970	19.5	1991	7.6
Italy	1970	29.6	1990	8.0
Luxembourg	1971	20.5	1992	7.2
Netherlands	1970	12.7	1991	6.5
Portugal	1971	49.8	1992	9.3
Spain	1970	20.8	1990	7.6
United Kingdom	1970	18.5	1992	6.6

Table 4. Standardized death rates, diseases of circulatory system, 0-64 years, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	102.5	1991	62.4	-39.1
Belgium	1970	116.4	1989	58.6	-49.7
Denmark	1970	96.5	1992	66.3	-31.3
France	1970	74.8	1991	40.6	-45.8
Germany	1970	101.7	1991	74.1	-27.2
Greece	1970	68.3	1991	65.6	- 3.9
Ireland	1970	149.3	1991	87.3	-41.6
Italy	1970	96.7	1990	51.5	-46.7
Luxembourg	1971	149.5	1992	63.6	-57.4
Netherlands	1970	99.3	1991	60.4	-39.1
Portugal	1971	109.0	1992	64.9	-40.4
Spain	1970	93.3	1990	51.3	-45.1
United Kingdom	1970	140.5	1992	79.3	-43.5

Table 5. Standardized death rates, ischaemic heart diseases, 0-64 years, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	46.0	1991	32.6	-29.2
Belgium	1970	60.6	1989	26.6	-56.1
Denmark	1970	63.1	1992	40.2	-36.3
France	1970	23.7	1991	15.6	-34.3
Germany	1970	47.8	1991	37.7	-21.2
Greece	1970	23.3	1991	30.6	31.5
Ireland	1970	88.1	1991	60.7	-31.1
Italy	1970	36.9	1990	24.2	-34.5
Luxembourg	1971	69.3	1992	30.6	-55.8
Netherlands	1970	64.1	1991	34.6	-46.0
Portugal	1971	30.0	1992	23.4	-21.9
Spain	1970	17.5	1990	20.4	16.4
United Kingdom	1970	86.6	1992	55.9	- 5.4

Table 6. Standardized death rates, cerebrovascular diseases, 0-64 years, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	23.6	1991	12.0	-49.0
Belgium	1970	22.6	1989	10.6	-52.9
Denmark	1970	15.4	1992	12.7	-17.3
France	1970	22.5	1991	9.0	-59.8
Germany	1970	20.8	1991	12.0	-42.5
Greece	1970	20.4	1991	15.4	-24.4
Ireland	1970	32.5	1991	11.5	-64.5
Italy	1970	25.2	1990	11.8	-53.3
Luxembourg	1971	18.9	1992	14.2	-25.1
Netherlands	1970	16.8	1991	8.8	-47.6
Portugal	1971	33.6	1992	26.5	-21.2
Spain	1970	23.8	1990	11.6	-51.4
United Kingdom	1970	26.8	1992	12.5	-53.3

Table 7. Standardized death rates malignant neoplasms, 0-64 years, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	92.7	1991	88.7	-4.5
Belgium	1970	100.0	1989	93.5	-6.5
Denmark	1970	100.1	1992	99.3	-0.8
France	1970	91.7	1991	94.8	3.3
Germany	1970	93.5	1991	88.5	-5.4
Greece	1970	69.4	1991	70.3	1.2
Ireland	1970	99.5	1991	92.0	-7.5
Italy	1970	93.5	1990	90.0	-3.8
Luxembourg	1971	110.1	1992	92.5	-15.9
Netherlands	1970	98.6	1991	86.1	-12.7
Portugal	1971	78.6	1992	76.8	- 2.3
Spain	1970	74.3	1990	80.0	7.7
United Kingdom	1970	105.9	1992	89.7	-15.3

Table 8. Standardized death rates, trachea/bronchus/lung cancer, 0-64 years, per 100.000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	17.1	1991	19.6	14.6
Belgium	1970	22.9	1989	24.8	8.4
Denmark	1970	16.8	1992	24.4	45.5
France	1970	12.1	1991	19.7	62.6
Germany	1970	14.2	1991	18.7	31.7
Greece	1970	12.6	1991	18.4	46.4
Ireland	1970	21.7	1991	17.2	- 20.6
Italy	1970	16.2	1990	21.0	29.4
Luxembourg	1971	26.9	1992	22.0	- 18.2
Netherlands	1970	23.5	1991	21.8	- 7.1
Portugal	1971	6.6	1992	11.0	65.3
Spain	1970	9.4	1990	16.6	76.2
United Kingdom	1970	29.9	1992	19.9	- 33.6

Table 9. Standardized death rates malignant neoplasm female breast, 0-64 years, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	18.3	1991	20.0	9.4
Belgium	1970	21.5	1989	24.6	14.8
Denmark	1970	25.0	1992	24.8	- 0.8
France	1970	15.9	1991	17.7	11.4
Germany	1970	18.0	1991	19.9	10.7
Greece	1970	10.1	1991	13.8	37.5
Ireland	1970	22.0	1991	25.3	15.0
Italy	1970	17.2	1990	19.0	10.6
Luxembourg	1971	22.2	1992	15.5	-30.3
Netherlands	1970	24.7	1991	23.6	- 4.2
Portugal	1971	15.0	1992	18.0	20.1
Spain	1970	10.2	1990	16.5	61.4
United Kingdom	1970	25.7	1992	24.5	- 4.5

Table 10. Standardized death rates, external causes of injury and poisoning, all ages, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	67.2	1991	48.3	-28.1
Belgium	1970	84.7	1989	57.7	-31.9
Denmark	1970	73.1	1992	59.7	-18.3
France	1970	91.0	1991	69.8	-23.3
Germany	1970	90.3	1991	49.6	-45.1
Greece	1970	45.5	1991	38.4	-15.6
Ireland	1970	50.8	1991	42.0	-17.3
Italy	1970	56.1	1990	43.4	-22.7
Luxembourg	1971	96.8	1992	60.2	-37.8
Netherlands	1970	63.3	1991	32.6	-48.5
Portugal	1971	72.2	1992	63.4	-12.2
Spain	1970	43.0	1990	45.8	6.5
United Kingdom	1970	46.7	1992	30.7	-34.2

Table 11. Standardized death rates motor vehicle traffic accidents, all ages, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	22.5	1991	14.1	-37.5
Belgium	1970	29.9	1989	17.4	-41.8
Denmark	1970	24.0	1992	10.2	-57.5
France	1970	23.5	1991	15.7	-33.4
Germany	1970	31.4	1991	12.9	-59.1
Greece	1970	11.9	1991	20.7	74.8
Ireland	1970	17.1	1991	11.9	-30.7
Italy	1970	24.7	1990	14.4	-41.9
Luxembourg	1971	27.3	1992	17.9	-34.4
Netherlands	1970	24.5	1991	7.8	-68.1
Portugal	1971	29.0	1992	26.5	- 8.4
Spain	1970	14.4	1990	19.3	34.3
United Kingdom	1970	13.8	1992	7.5	-45.6

Table 12.

Standardized death rates, suicide and self-inflicted injury, all ages, per 100 000

	Historical year		Latest available year		% Change
	Year	Value	Year	Value	
EC	1970	11.8	1991	11.7	- 0.6
Belgium	1970	16.4	1989	17.8	8.8
Denmark	1970	22.4	1992	20.4	- 9.2
France	1970	15.9	1991	18.9	19.0
Germany	1970	21.7	1991	15.4	-28.8
Greece	1970	3.4	1991	3.4	1.9
Ireland	1970	2.1	1991	10.7	41.9
Italy	1970	6.0	1990	6.8	12.4
Luxembourg	1971	13.4	1992	14.0	4.5
Netherlands	1970	9.1	1991	10.2	11.4
Portugal	1971	9.6	1992	8.3	-14.2
Spain	1970	4.7	1990	7.1	50.1
United Kingdom	1970	7.9	1992	7.8	- 2.2

Annex 4

Bibliography

General references

Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *Commission communication on the framework for action in the field of public health*. Luxembourg, Office for Official Publications of the European Communities, 1993 (COM(93) 559 final).

Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *European social policy: options for the Union (Green paper)*. Luxembourg, Office for Official Publications of the European Communities, 1993.

Commission of the European Communities. *XXVIIth general report on the activities of the European Communities*. Luxembourg, Office for Official Publications of the European Communities, 1993.

Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *Growth, competitiveness and employment: the challenges and ways forward into the 21st century*. Luxembourg, Office for Official Publications of the European Communities, 1993.

Richards, T. *Medicine in Europe*. London, British Medical Journal Publications, 1992.

World Development Report 1993: Investing in health. Washington, The World Bank, 1993.

World Health Quarterly, 41(3/4), Table 2: 1988 *Concern for Europe's tomorrow*. Copenhagen, WHO Regional Office for Europe, 1994 (WHO Regional Publications, European Series, No. 53).

Health in development: prospects for the 21st century. Geneva, World Health Organization, 1994 (WHO/DGH/94.4, p. 36).

The health of Europe. Summary of the second health for all evaluation. Copenhagen, WHO Regional Office for Europe, 1993 (WHO Regional Publications, European Series, No. 49.).

Chapter 1. Introduction

1.1 Why a health report for the Community

Secular trends in anthropometric data also in: Eveleth, P.B. & Tanner, J.M. *Worldwide variation in human growth*. Cambridge, Cambridge University Press, 1990 (Figs. 13 and 14).

Fig. 1.1: Life expectancy in 1950 and 1960 has been calculated for all 12 EC countries as of 1994.

1.2 Describing health and its determinants

Evaluation of the strategy for health for all by the year 2000. Seventh report on the world health situation, volume 5. Copenhagen, WHO Regional Office for Europe, 1986. *And Health for all targets: the health policy for Europe*. Copenhagen, WHO Regional Office for Europe, 1993 (European Health for All Series, No. 4). *And* Abelin, T. et al., ed. *Measurement in health promotion and protection*. Copenhagen, WHO Regional Office for Europe, 1987 (WHO Regional Publications, European Series, No. 22). *And* Ruwaard, D. et al., ed. *Public health status and forecasts: the health status of the Dutch population over the period 1950-2010*. The Hague, Rijksinstituut voor Volksgezondheid en Milieuhygiene, 1994.

Chapter 2. The population's health

2.1 Population

Births: *Eurostat. Demographic statistics 1994*. Luxembourg, Office for Official Publications of the European Communities, 1992 (Series 3A). *And Demographic trends in the European Region*. Copenhagen, WHO Regional Office for Europe, 1984 (WHO Regional Publications, European Series No. 17). Contraception rates: (personal communication), United Nations Population Division, New York, 1994. Abortion: *Recourse to abortion: legal conditions, practices and frequency*. *Entre Nous*, 22/23, pp. 8-9, June 1993. Sexuality and Family Planning unit, WHO Regional Office for Europe. Unintended pregnancy: Cartwright, A. Unintended pregnancies that lead to babies. *Social science and medicine*, 27: 249-254 (1988). *And* Fleissig, A. Unintended pregnancies and the use of contraception: changes from 1984 to 1989. *British medical journal*, 302: 147 (1991).

Ageing: Population forecasts and dependency ratio. *World population prospects. The 1992 revision*. New York, United Nations, 1993. Female employment participation rates: *health database*, Paris, OECD, 1993.

Migration: *Eurostat*, op. cit.

2.2 Life expectancy

United Nations Development Programme. *Human development report 1994*. New York, Oxford University Press, 1994. And World Bank. op. cit. And Middellevetidsudvalget. *Levetiden i Danmark*. Copenhagen, Sundhedsministeriet, 1994.

Fig. 2.2.2: The line drawn in the graph is only indicative.

2.3 Inequalities

For a bibliography on inequalities in health see: Whitehead, M. *The concepts and principles of equity and health*. Copenhagen. WHO Regional Office for Europe, 1990. Country-by-country descriptions are in a special issue "Health inequities in Europe" of *Social science and medicine*. 31(3): 223-420 (1990). See also: Power, C. Health and social inequality in Europe. *British medical journal* 308: 1153-1156 (1994). And Fox, J., ed. *Health inequalities in European countries*. Aldershot, Gower, 1989. For surveys showing symptoms in women and men see, for example, Smyth, M. & Browne, F. *General household survey 1990*. London, Office of Population Censuses and Surveys, 1992 (tables 4.7-4.10); and Ruwaard, D. et al. *Public health status and forecasts: the health status of the Dutch population over the period 1950-2010*. The Hague, Rijksinstituut voor Volksgezondheid en Milieuhygiene, 1994.

Fig. 2.3.1: the graphs show the ratios of male to female deaths, by age, at different periods during the century. Thus, in 1920-1924 male deaths exceeded female deaths most at age 50-60, but only by a factor of about 1.5 : 1. By 1960-1964 this ratio had increased considerably, and for the later periods the peak of excess mortality in young men - three times as many deaths in their mid-20s in 1985-1989 - is visible.

Fig. 2.3.2: the data, from a study of health and social inequalities in the Federal Republic of Germany, are for men in "blue-collar" and "white-collar" pension funds. They do not indicate true expectation of life, as men who die before pensionable age are not included. The trend is different for women (see source).

Fig. 2.3.3: this comparison over time should be treated cautiously, because the data are standardized for each decade rather than for a single year, and the occupational groups (and sizes) constituting the social classes were changing.

Chapter 3.

Patterns of disease and health-related behaviour

Fig. 3.0.1: definition of causes by ICD9 code(s). Diseases of the circulatory system 390-359; External causes E800-E999; Cancer (Malignant neoplasms) 140-208; Congenital anomalies 740-759; Ill-defined causes 780-799.

Fig. 3.0.2: definition of causes by ICD9 code(s). Accidents includes all external causes (E800-E999) except suicide (E950-E959) and homicide (E960-E969); Respiratory diseases 460-519; Lung cancer 162; Breast cancer 174; Heart (Ischaemic heart disease) 410-414; Stroke (Cerebrovascular diseases) 430-438; "Other cancer" and "Other CVD" defined as the residual within cancers and diseases of circulatory system (see notes to Fig. 3.0.1). This figure does not include the deaths of infants (aged less than 1 year). The main causes of infant mortality in EC are congenital anomalies, sudden deaths and certain conditions originating in the perinatal period.

3.1 Children

Genetic screening: ethical issues. London, Nuffield Council on Bioethics, 1993. For handicap in very premature babies see Escobar, G.J. et al. Outcome among surviving very low birthweight infants: a meta-analysis. *Archives of disease in childhood*, **66**: 204-211 (1991). And Johnson, A. et al. Functional abilities at age 4 years of children born before 29 weeks of gestation. *British medical journal*, **306**: 1715-1718 (1993). Child accidents see: *European Home and Leisure Accident Surveillance System (EHLASS): summary of data 1987-88* (Commission working document SPC/089/89, table 2). Cancer see: Coleman, M.P. et al. *Trends in cancer incidence and mortality.* Lyon, IARC Scientific Publications, 1993 (No. 121).

Fig. 3.1.2: known numbers of thalassaemia major: Greece 1528; Italy 4475; UK 598. Of sickle cell disease: Greece 406; Italy 400; UK 3233 (see figure for source).

Childhood infectious diseases: The rates (from country HFA reports) depend on notifications by doctors; they are an underestimate of true incidence but may be compared over time. Studies of immunization and outbreak investigation in EC countries, see: Guerin, N. *EUREPI: research in methodologies of immunisation programmes management in Europe.* In: Fracchia, G.N. & Theofilatou, M., ed. *Health services research.* Amsterdam, IOS Press, 1993. And *EUREPI final report* (unpublished). EC paper "for box": COM(93) 246, 9 June 1994.

3.2 Young people

The WHO Cross-National Health Behaviour in School-Aged Children Study is currently analysing data from a fourth survey. It aims at representative samples of children, see Smith, C. et al. Health behaviour research with adolescents: a perspective from the WHO cross-national health behaviour in school-aged children study. *Health promotion journal of Australia*, **2**(2): 41-44 (1992). Also *The European Network of Health Promoting Schools.* Copenhagen, WHO Regional Office for Europe, 1993. Also Jones, E.F. *Teenage pregnancy in industrialized countries.* New Haven, Yale University Press, 1986.

Fig. 3.2.3: The rate has been calculated for this report by taking the percentage of all women giving births who are aged less than 20 (HFA indicator 28.06.01) divided by the number of women aged 15-19 years in the population.

Accidents: Data on deaths and injuries (from *Statistics of road traffic accidents in Europe, vol XXXIX.* Geneva, United Nations, Economic Commission for Europe, 1994) are collected by police and may differ slightly from WHO mortality data derived from death certificates. EHLASS, op. cit.

Fig. 3.2.4: is derived from a large table of standard road accident statistics for England and Wales. Most accidents involve a combination of vehicles. The table records vehicle A, and pedestrians, here called the victim (who is hit), and vehicle B (here called the agent) which does the hitting. See source.

Fig. 3.2.5: ICD9 code(s) E810-E819.

Fig. 3.2.7: ICD9 code(s) E960-E969.

3.3 Adults

Cancers: Breast cancer: See Coleman, M.P. et al., op. cit. (this publication includes registry and country mortality data by cancer site for EC countries).

Fig. 3.3.1: Main cancers from Parkin, D.M. et al. *Cancer incidence in five continents, volume VI*. Lyon, IARC Scientific Publications, 1992 (No. 120). Cancer registration is incomplete across EC countries; England and Wales is chosen as the largest published population, reflecting a northern pattern; Varese province an established registry in a southern EC country.

Fig. 3.3.2 and 3.3.3: ICD9 code(s) 162.

Fig. 3.3.4: ICD9 code(s) 174.

Fig. 3.3.5: ICD9 code(s) 151.

Coronary heart disease: Sudden deaths and survival. *Myocardial infarction community registers*. Copenhagen, WHO Regional Office for Europe, 1979 (Public Health in Europe, No. 5).

Fig. 3.3.6: ICD9 code(s) 410-414

Fig. 3.3.9: ICD9 code(s) 430-438.

Fig. 3.3.10: ICD9 code(s) 571

Chronic diseases: Studies supported by the European Commission include: Silman, A. *The epidemiology of vertebral osteoporosis in Europe: prevalence, risk factors and impact*. In: Vuylsteek, K. & Hallen, M. *Epidemiology*. Amsterdam, IOS Press, 1994 (168-181). And Fuller, J.H. *The epidemiology and prevention of diabetes*. In: Vuylsteek, K. & Hallen, M., op. cit. (140-167). And Burney, P. *Asthma prevalence and risk factors*. In: Vuylsteek, K. & Hallen, M. op. cit. (241-251). And Hauser, W.A. et al. Incidence of epilepsy and unprovoked seizures in Rochester, Minnesota, 1935-1984. *Epilepsia*, **34**(3): 453-468 (1993). Also Williams, R. et al., ed. *Diabetes in Europe*. London, Libbey, 1994.

Occupational diseases: Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *European social policy: options for the Union. (Green Paper)*. Section C.6(a) - health and safety at work. Luxembourg, Office for Official Publications of the European Communities, 1994. EUROSTAT. *Disabled persons: statistical data. Volumes 1 and 2*. Luxembourg, Office for Official Publications of the European Communities 1991. *Salud u ambiente de trabajo en Barcelona*. Barcelona, Ajuntament de Barcelona, 1993. And *Lifestyle and health risks at the workplace*. Copenhagen, WHO Regional Office for Europe, 1993 (European Occupational Health Series, No. 2).

Fig. 3.3.12: collection of these data has not been standardized between countries.

Infections: HIV/AIDS. Data collected by the European Centre for the Epidemiological Monitoring of AIDS, Hôpital national de Saint-Maurice, 94410 Saint-Maurice, France, available as quarterly reports. And F. Dubois-Arber & Paccaud, F. Assessing AIDS/HIV prevention: What do we know in Europe? *Social and Preventive Medicine*, **39**, Suppl.1. (1994). *Vivre en Europe: La santé en Europe*. Institut international d'administration publique, 1994. Foodborne infections: *WHO Surveillance programme for control of foodborne infections and intoxications in Europe. Fifth report 1985-89*. Berlin, Institute of Veterinary Medicine, Robert von Ostertag Institute, 1992.

Mental health: Prevalence estimates depend on methods and samples. See Burvill, P.W. *The epidemiology of psychological disorders in general medical settings*. In: Sartorius, N. et al., ed. *Psychological disorders in general medical settings*. Toronto, Hogrefe & Huber, 1990. Also Lehtinen, V. et al. The prevalence of PSE-CATEGO disorders in a Finnish adult population cohort. *Social psychiatry and psychiatric epidemiology*, **25**: 187-92 (1990); table 1. Also Faria, J.G.S. *The WHO health targets for Europe and psychiatric epidemiology*. Paper presented at the Congress of the International Federation for Psychiatric Epidemiology, Lisbon, 14-17 April 1993. Suicide, medical care: see Barraclough, B.M. et al. A hundred cases of suicide: clinical aspects. *British journal of psychiatry*, **125**: 355-373 (1974).

Fig. 3.3.17: ICD9 code(s) E950-E959

Fig. 3.3.18: These data represent individual towns and are not national figures. The data are also unstandardized for age, and may be revised as the study progresses.

3.4 Older age

Disability in EU countries: sum of data by country in EUROSTAT, 1991 (op. cit.) And Muller, I. *Country profiles on oral health in Europe 1991*. Copenhagen, WHO Regional Office for Europe, 1991. And Hofman et al. The prevalence of dementia in Europe. *International journal of epidemiology*, **20**(3): 736-748 (1991); table 4. And *Age and attitudes: main results from a Eurobarometer survey*. Brussels, CEC DGV, 1993. And *A European community health policy for older people*. London, Eurolik Age, 1993. And Heikkinen, E. et al., ed. *The elderly in 11 countries: a socio-economic survey*. Copenhagen, WHO Regional Office for Europe, 1983.

Chapter 4. The determinants of health

4.1 Health-related behaviour

Smoking: information from: WHO Tobacco or Health Database. *And* Peto, R. et al. Mortality from tobacco in developed countries: indirect estimation from national vital statistics. *Lancet*. 339: 1268-1278 (1992). (Peto et al. extrapolate US data, showing "half of all regular smokers would be killed by their habit" to other countries including the EC.) *And* Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs (V/E/1). *And* Europe against cancer: background file for the evaluation of the first five years of execution of the programme 1987-91. D: summary of the EURO health survey. Brussels, DGV (internal document) 1992. *And* Europe against cancer: second action plan 1990-1994. Brussels, Commission of the European Communities, 1990. Passive smoking: *see No smoke between us*. Brussels, BASP, 1993.

Fig. 4.1.1: These data were collected in a EUROBAROMETER survey, sampling 12 500 people age 15+ in February - March 1992.

Fig. 4.1.4: National alcohol consumption in litres of pure alcohol per capita per year, which is consumed in different beverages according to national customs.

Drug misuse: Hartnoll, R. (on behalf of the European Monitoring Centre on Drugs and Drug Addiction). *Epidemiological research on illicit drugs in Europe. Final report*. Institut Municipal d'Investigació Mèdica, Barcelona, 1993. *Tenth Ministerial conference of the Pompidou Group. National reports*. Strasbourg, Council of Europe, 1994. *Also* Paris, *Baromètre santé 92*. Comité français d'éducation pour la santé, 1994. *And* Gutiérrez-Fisac, J.L. et al. *Health indicators (period 1990-91)*. Madrid, Ministerio de Sanidad y Consumo: Secretaria General de Salud, 1993.

Fig. 4.1.3: Own calculations. Indices of general price levels has been provided by Eurostat/B3

Fig. 4.1.6: The data should be interpreted cautiously as there have been changing awareness and patterns of recording.

Nutrition: Current etiological studies are coordinated under EURONUT Concerted Action of DGXII. *See* Hautvast, J.G.A.J. *Nutrition and health in the European Community*. In: Vuylsteek, K. & Hallen, M., ed. op. cit. (298-331). Food balance measurement *see*: Becker, W. & Helsing, E. *Food and health data: their use in nutrition policy-making*. Copenhagen, WHO Regional Office for Europe, 1991 (WHO Regional Publications, European Series, No. 34) *And* James, W.P.T. et al. *Healthy nutrition: preventing nutrition-related disorders in Europe*. Copenhagen, WHO Regional Office for Europe, 1988 (WHO Regional Publications, European Series, No. 24).

Fig. 4.1.7: Body mass index, defined as a person's weight divided by the square of their height, is closely related to skin-fold thickness and thus obesity. Values over 26 kg/sq m are regarded as overweight, 30+ very overweight.

Fig. 4.1.8: Country food balance data are reported in a standard form to the UN Food and Agricultural Organization. They reflect the balance between production, imports, exports, consumption and waste. They are useful as indicators over time.

Exercise: Blair, S.N. et al. Physical fitness and all-cause mortality. *Journal of the American Medical Association*, **262**(17): 2395-2401 (1989). Also: Koplan, J.P. et al. Physical activity, physical fitness, and health: time to act. *Journal of the American Medical Association*, **262**: 2437 (1989). And British Medical Association. *Cycling: towards health and safety*. Oxford, Oxford University Press, 1992.

4.2 Environment and health

Environment: *Concern for Europe's tomorrow: health and environment in the WHO European Region*. Copenhagen, WHO Regional Office for Europe, 1994. Also *Europe's environment: the Dobbris assessment* and *Europe's environment: statistical compendium for the Dobbris assessment*, Luxembourg, Office for Official Publications of the European Community, 1995 (in press)

Housing: For a broader definition of poor housing, see Avramov, D. *Homelessness: a condition of a social process?* Brussels, FEANTSA (Fédération Européenne d'Associations Nationales Travaillant avec les Sans-Abri), 1994 (17-18). (Estimates based on data from *Statistics on housing in the European Community, dwellings which do not meet criteria of good quality in 10 EC countries* (data not available for Germany and Greece). Brussels, CEC DGV, 1993, (39). Also Bellerman, M. et al. *Social exclusion in the Federal Republic of Germany*. European Economic Interest Group "Animation & Research", Lille, 1993.

Homelessness: Daly, M. *The right to a home, the right to a future*. Third report of the European Observatory on Homelessness, Brussels, FEANTSA, 1994. (This estimate uses approximately similar definitions, of people without accommodation or using short-term lodgings but modes of reporting and enumeration vary considerably between countries: homelessness is probably underreported in official data in southern EC countries.)

Transport: Transport and Health Study Group. *Health on the move*. Birmingham, Public Health Alliance, 1991. British Medical Association, 1992 (op. cit.). Children travelling to school in Britain: Hillman, M., ed. *Children, transport and the quality of life*. London, Policy Studies Institute, 1993 (chapter 3, Fig. 2). *European Sustainable Cities*, first report October 1994 of the EU Expert Group On The Urban Environment Sustainable Cities Project, Brussels, CEC DGX1, 822/94

Fig. 4.2.6: This figure is derived from data in the source paper; the data are not standardized for other coronary risk factors.

Access: A report commissioned by the Directorate-General for Transport estimates that "up to 52 million people in Europe will have some degree of difficulty using public transport at any one time". *In: Transport information for people with disabilities; Summary and recommendations*. Research Institute for Consumer Affairs, 1992. Also European Conference of Ministers of Transport. *Transport for people with mobility handicaps: policy and achievements in Europe*. Paris, OECD, 1991.

Noise: *Europe's Environment 1993 Noise Pollution*, report for the European Environment Agency, January 1994

Air, water, waste, radiation: See *The state of the environment in the European Community*. Brussels, Commission of the European Community, 1992 (COM(92) 23, chapter 4) and the Dobbris report and statistical compendium, cited above.

4.3 Social concerns

Unemployment: data from Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *Growth, competitiveness, employment: the challenges and ways forward into the 21st century (White paper)*. Luxembourg, Office for Official Publications of the European Communities, 1993 (44).

Poverty: EUROSTAT. *La pauvreté en chiffres: l'Europe au début des années 80*. Luxembourg, Office des publications des Communautés européennes, 1990. And EUROSTAT. *Analysing poverty in the European Community: policy issues, research options and data sources*. (Eurostat news, special edition). Luxembourg, Office for Official Publications of the European Communities, 1993. Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *European social policy: options for the future*. Luxembourg, Office for Official Publications of the European Communities, 1993.

4.4 Health services

Country health systems: Commission of the European Communities. Directorate-general of Employment, Industrial Relations and Social Affairs. *Social protection in Europe*. Luxembourg, Office for Official Publications of the European Communities, 1994 (chapter 7 on health care systems). And Berthod-Wurmser, M. *La santé en Europe*. Paris, La documentation française, 1994. And Schneider, M. et al. Health care in the EC member states. *Health policy*, 20(1): 1-251 (1992).

Health promotion and prevention: Duplessis, P. *Public health and industrialized countries*. Québec. Les Editions du Québec, 1989. And Dekker, E. & van der Werff, A. *Policies for health in European countries with pluralistic systems*. Houten, Bohn Stafley Van Loghum, 1990.

Patterns of care: The data are from: *OECD health systems: facts and trends 1960-91*. Paris, OECD, 1993 (Health policy studies No 3, vols 1 and 2). Also mental health: Mangel, S.P., ed) *Mental health care in the European Community*. London, Croom Helm, 1985. And King, D. *Moving on from mental hospitals to community care: a case study of change in Exeter*. London, Nuffield Provincial Hospitals Trust, 1991. And Breemer ter Stege, C.P.C. & Gittleman, M. Trends in mental health care in western Europe in the past 25 years. *International journal of mental health*, 16(1-2): 3-243 (1987).

Pharmaceuticals: Commission of the European Communities. *Report on the operation of the Committee for Proprietary Medicinal Products in 1991 and 1992* (Commission working paper SEC(93) 771), 1993. And *The rules governing medicinal products for human use in the European Community*. (Commission internal document III/5826/93-EN.) And Biotechnology; Directorate-general of Employment, Industrial Relations and Social Affairs. *Growth, competitiveness, employment: the challenges and ways forward into the 21st century (White paper)*. Luxembourg, Office for Official Publications of the European Communities, 1993 (pp. 100-101). And Commission of the European Communities. *On the outlines of an industrial policy for the pharmaceutical sector in the European Community*. Brussels 1994 (COM(93) 718 final).

Fig. 4.4.1: Own calculations. Price indices of a basket of pharmaceuticals published by the Commission in COM(93) 718 originate from a survey carried out by ABDA. This survey was a replication of a survey carried out by BEUC (Belgian Consumers Association) in 1987. Eurostat/B3 has provided data on the general consumer price levels in 1992 which has been used as a proxy for 1993 price levels.

Quality: see also: Holland, W.W. *EC working group on health services and "avoidable deaths"* (pp. 16-31) and Berrino, F. *EUROCARE. Cancer registries-based study on survival and care of cancer patients in Europe* (pp. 420-427) In: Fracchia, G.N. & Theofilatou, M., ed. *Health services research*. Amsterdam, IOS Press, 1994.

Fig. 4.4.3: These data are from local registries and may not reflect national differences.

Research: De Moor, G. et al. *Telematics for health care. Its impact? Its future?* Luxembourg, Commission of the European Union, Directorate General XIII, Unit C4, 1994. And Roger France, F.H. & Laires, M., ed. *Results of the study on "Communication of health care resource management data in Europe"*. Luxembourg, Commission of the European Union, Directorate General XIII, 1994. And Larédo, P. et al. *The research networks built by the MHR4 programme*. Luxembourg, Commission of the European Communities, Directorate-General for Information, Technologies and Industries, and Telecommunications, 1992. And *Research and technology development on telematic systems in health care (AIM programme)*. Luxembourg, Commission of the European Communities, DGXIII Unit C4, 1993. And *Ecosystems Research Report 15, A Review of Research in Environmental Health & Chemical Safety, In The Step (1989-92) & Environment (1991/94) Research Programmes*. Report EUR 15909 EN, Commission of the European Communities. And *EPHA conference on research priorities for public health in Europe*. Brussels, EPHA, 1994.

Fig. 4.4.5: Data from Commission of the European Communities DGXII/E.