Country Highlights give an overview of the health and health-related situation in a given country and compare, where possible, its position in relation to other countries in the WHO European Region. The Highlights have been developed in collaboration with Member States for operational purposes and do not constitute a formal statistical publication. They are based on information provided by Member States and other sources as listed.

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HIGHLIGHTS ON HEALTH IN GREECE
AN OVERVIEW OF THE HEALTH SITUATION

Positive trends

Male life expectancy at birth and at 65 years was one of the highest among 18 European reference countries in 1993, although both had increased by smaller amounts since 1970 than the averages of the European Union (EU) countries.

Greek women were most successful among the reference countries in avoiding premature death during the 1980s: in 1993 they lost the smallest number of years due to death before the age of 65 years.

Maternal mortality declined considerably between 1980 and 1993 and is now among the lowest in the reference countries. The standardized death rate (SDR) for cancer of the cervix in women aged 0–64 years was also among the lowest, and for breast cancer the lowest among the reference countries.

Overall cancer mortality in Greek men aged 0–64 years was below the EU average in 1993, and in women in this age group it was the lowest among the reference countries.

Mortality from all external causes (mainly accidental and violent deaths) fell during the 1980s, especially in women. In 1993 it was the third lowest among the reference countries.

Negative trends

Although female life expectancy at birth was markedly above the EU average in the 1970s, it remained at the EU average from 1980 to 1993. This process of relative deterioration was even more pronounced with respect to life expectancy at 65 years.

Despite a marked reduction of the infant mortality rate during the 1980s, it was still the third highest among the reference countries in 1993.

Mortality from all cardiovascular diseases, ischaemic heart diseases and cerebrovascular diseases in the Greek population aged 0–64 years has shown only a small or negligible reduction since 1980, particularly in men. As a result, the SDRs for these causes moved up for both sexes from among the lowest in the reference countries to around the EU average. For cerebrovascular diseases the SDR was well above this average.

Death rates for cancer of the lung have been rising for both sexes but while the female SDR was still among the lowest in the reference countries, the male SDR was above the EU average in 1993.

In contrast to the general trend in the reference countries the frequency of deaths due to road traffic accidents has been rising in Greece. In 1993 this SDR was the third highest.

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1 The 15 countries of the European Union (EU) plus Iceland, Norway and Switzerland.
Highlights on Health provide an overview of the health of a country’s population and the main factors related to it. Based on international comparisons, they present a summary assessment of what has been achieved so far and what could be improved in the future. In order to enlarge the basis of comparison beyond the EU, data for Iceland, Norway and Switzerland have also been included where available and relevant.

A special case of comparison is when each country is given a rank order. Although useful as summary measures, ranks can be misleading and should be interpreted with caution, especially if used alone, as they are sensitive to small differences in the value of an indicator. Also, when used to give an assessment of trends (e.g. the table at the start of the Health Status section), ranks can hide quite important changes within an individual country. Therefore bar charts (to show changes over a relatively short period) or line charts (to show time trends from 1970) have also been used. Line charts present the trends for all the 15 EU countries and their averages, although only the country referred to in a specific Highlight and the EU average are identified. This makes it possible to follow the country’s evolution in relation to that of other EU countries and to recognize how it performs in relation to observable clusters and/or the main trend.

In general, the average annual or 10-year percentage changes have been estimated on the basis of linear regression. This gives a clearer indication of the underlying changes than estimates based on the more simple and straightforward percentage change between two fixed points over a period. For mortality indicators, countries with small populations (e.g. Luxembourg or Iceland) can have fluctuating values, and in these cases three-year moving averages have been used. For maternal mortality, because the number of deaths is in general small, three-year moving averages have been calculated for all countries.

Where possible (and where relevant for trend comparisons), data for Germany up to 1990 refer to the Federal Republic within its current territorial boundaries.

To make the comparisons as valid as possible, data for each indicator have as a rule been taken from one common international source (e.g. WHO, OECD, International Labour Office) or from Eurostat (the Statistical Office of the European Communities) to ensure that they have been harmonized in a reasonably consistent way. It should also be noted that other factors (such as case ascertainment, recording and classification practices and culture and language) can influence the data at times. Unless otherwise mentioned, the source of the data used in the charts and tables is the WHO Regional Office for Europe’s HFA statistical database (June 1995, version with 1992 or 1993 data). The latest data available to WHO as of August 1996 are mentioned, as appropriate, in the text.
THE COUNTRY AND ITS PEOPLE

Greece is a republic whose new written constitution was enacted in June 1975. The Chamber of Deputies (300 members) is elected for four years by proportional representation, with extra seats awarded to the party which leads in an election. The Chamber of Deputies elects the head of state, the President, for a five-year term.

In 1987 Greece was administratively reorganized into 13 regions comprising 51 departments, headed by prefects. In 1994 local governments at the level of both departments and the 434 municipalities were elected for the first time.

Greece joined the European Union (EU) in 1981.

Demography

The population increased from 8.8 million in 1970 to 10.4 million in 1995. However, there has been a considerable change in population structure; the number of people aged 65 years and over has increased from 11% to 15%, while the percentage of the population aged under 15 years has decreased from 25% to 17%. At the same time the number of young adults aged 15–34 years has increased.

As in most countries in western Europe, the total fertility rate is below replacement level. At 1.4 in 1994, it is one of the lowest in the EU; only Germany, Italy and Spain have lower rates. As a result the population growth rate is only 0.31% (most of it due to immigration) and the rate of natural increase is 0.06%, almost the lowest in the EU (Council of Europe 1995).

Low fertility and increasing longevity leads to aging...
of the population. Despite an expected increase in fertility over the coming years, by 2015 the proportion of people aged 65 years and over is projected to reach 18% and those aged 85 years and over 2%.

This aging process is even more pronounced for women. Over the age of 50 years women increasingly outnumber men. In 1995, nearly 60% of the population aged 85 years and over were women. The health and wellbeing of elderly people living alone can be significantly affected by the financial resources available for help with housekeeping and personal hygiene. Social exclusion may also result in isolation which can threaten mental health. These issues affect the costs and organization of health care.

**Household composition and family structure**

As in many European countries, marriage rates have fallen, divorce rates have slightly risen, and more women have entered the labour market. However, the traditional household structure has not changed as strongly as in other EU countries. In 1991, the average number of people per private household (3.1) was the third highest in the EU (Eurostat 1995d), and family solidarity is still very much the norm – only 28% of the elderly live alone, for example, although there has been concern that this could also be linked to the lack of appropriate care facilities.

Nearly half of all private households consist of couples with (dependent) children, while single-parent households represent 6% of total private households or 11% of all households with dependent children. These are the lowest percentages in the EU.

**Migrant population and ethnic profile**

Immigrants from ethnic minorities can have specific patterns of disease and health needs because of genetic and behavioural factors and exposure to different environments in their countries of origin. Access to health care that can meet such specific needs or that is culturally and linguistically acceptable can also be difficult. Moreover, immigrants can be at a higher risk of living in relative poverty and being marginalized in their host countries, which can exacerbate their diseases. Illegal immigrants in particular can find it difficult to use health care, and follow-up to any care given can be problematic.

The number of foreigners legally resident in Greece at the beginning of 1994 was 203 957 or 2% of the population. The administrative policy has been to try to limit emigration but new challenges have been posed recently by the substantial numbers of both legal and illegal immigrants arriving in Greece (Commission of the European Communities 1991). For example, only 3355 Albanians were registered in 1993 although it is clear that the actual number must be much higher (Council of Europe 1994). Some 40 000 illegal immigrants were estimated to be living in the country in the late 1980s, and there are likely to be many more now. This illustrates the extent of

<table>
<thead>
<tr>
<th></th>
<th>1995a</th>
<th>EU</th>
<th>2015b</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GRE</td>
<td>%</td>
<td>1000s</td>
<td>%</td>
</tr>
<tr>
<td>Population</td>
<td>10 443</td>
<td>64</td>
<td>371 563</td>
<td>78</td>
</tr>
<tr>
<td>Urban population</td>
<td>64</td>
<td>78</td>
<td></td>
<td></td>
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<tr>
<td>Distribution by age:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–14 years</td>
<td>1 785</td>
<td>17.1</td>
<td>65 423</td>
<td>17.6</td>
</tr>
<tr>
<td>15–64 years</td>
<td>7 052</td>
<td>67.5</td>
<td>249 000</td>
<td>67.0</td>
</tr>
<tr>
<td>65+ years</td>
<td>1 605</td>
<td>15.4</td>
<td>57 140</td>
<td>15.4</td>
</tr>
<tr>
<td>85+ years</td>
<td>149</td>
<td>1.4</td>
<td>6 015</td>
<td>1.6</td>
</tr>
<tr>
<td>Total fertility rated</td>
<td>1.4</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependency ratio</td>
<td>48.1</td>
<td>49.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* As per 1st January 1995 (Eurostat 1996b)
* Forecast, Eurostat intermediate scenario
* 1993 (UNDP 1996)
* 1994 (Council of Europe 1995)
the structural and administrative challenges facing the southern European countries since the number of immigrants began to exceed the number of emigrants in the mid-1980s.

**Education**

The relevance of educational attainment to health has been well documented. In Europe, where primary education is universal, the proportion of the population with more than a lower secondary education would be the appropriate indicator for educational achievement. A recent survey on education of the workforce in the former 12 EU countries (Eurostat 1995c) shows that the proportion of people having achieved an upper secondary education level or higher in Greece is still below the EU average, even though the educational attainment of people aged 25-29 years suggests that there has been a huge improvement, especially in terms of gender equality.

As today’s families are relatively small and many children are growing up without siblings or (at least temporarily) with only one parent, and as a high proportion of women are employed outside the home, the availability of preschool facilities is important in respect of both children’s social integration and mothers’ and children’s psychosocial wellbeing. Due to comparability problems, data on pre-primary education is scant. In Greece, preschool education provided by education authorities is available from the age of three and a half years (Eurostat 1995d).

**Economy**

Greece has a mixed economy with a large agricultural sector. The tourist industry, with nearly 10 million visitors in 1993, is an important contributor to the tertiary sector (Hunter 1995). In 1990–1992:
agriculture employed 22% of the workforce and represented 15% of GDP;
• industry employed 25% of the workforce and represented 28% of GDP;
• services employed 53% of the workforce and represented 57% of GDP (Eurostat 1994).

In 1992, women represented only 35% of the working population (Eurostat 1994).

According to national data, the unemployment rate among the group aged 14–64 years was 5.8% in 1992, and 10.6% among those aged 25–44 years. Unemployment is 42% higher in women than in men, and - increasing with educational level - 76% higher among university graduates than in the general population. Long-term unemployment (over 1 year) increased from 43% in 1985 to 52% in 1992. Furthermore, the estimation method is likely to leave out larger groups of the population such as, for instance, those working in agriculture. On the other hand, a recent study estimated that 25–35% of total revenue originated in the underground economy (Morin 1995). A sizeable proportion of the unemployed may work in the underground economy, especially illegal immigrants. Illegally employed foreigners receive no benefits, have no access to the national health system and are more likely to be underpaid and to work in more difficult or unsafe conditions.

In 1991, Greece spent 20% of its GDP on social protection, mainly on old age and sickness benefits.

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**Basic economic data**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>GRE</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNP per head (US$,1992)</td>
<td>7,390</td>
<td>20,043</td>
</tr>
<tr>
<td>Real GDP per head (PPP US$,1992)</td>
<td>8,310</td>
<td>17,792</td>
</tr>
</tbody>
</table>

**Source:** UNDP 1995
HEALTH STATUS

A description of the population’s health status against the background of 18 European reference countries shows that Greece managed to keep a very good position since 1980 with respect to life expectancy and other basic health indicators. In some areas, however, its position in 1993 relative to the reference countries was less favourable:

- Greece declined from one of the best positions in 1980 to around average in 1993 as regards mortality from all cardiovascular diseases (CVDs) and ischaemic heart diseases for people aged up to 64 years; mortality from cerebrovascular diseases in this age group was the third highest.
- Similarly, the position as regards standardized death rates (SDRs) from lung cancer in the group aged 0–64 years went down to close to the average.
- While mortality from all external causes (mainly accidental and other violent deaths) was the third lowest in 1993, fatal road traffic accidents became more frequent after 1980, resulting in the third highest SDR in 1993.

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3 See footnote 1 on page 3.

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<table>
<thead>
<tr>
<th>Indicator</th>
<th>BEST</th>
<th>WORST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life expectancy at birth (years)</td>
<td>77.7</td>
<td>76.8</td>
</tr>
<tr>
<td>Male/female difference in life expectancy at birth (years)</td>
<td>74.2</td>
<td>74.2</td>
</tr>
<tr>
<td>Infant mortality rate per 1000 live births</td>
<td>79.0</td>
<td>79.0</td>
</tr>
<tr>
<td>Maternal death, all causes, per 100 000 live births^1</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>SDR, cardiovascular diseases, age-group 0–64</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>SDR, ischaemic heart disease, age-group 0–64</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>SDR, cerebrovascular disease, age-group 0–64</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>SDR, cancer, age-group 0–64</td>
<td>8.7</td>
<td>8.7</td>
</tr>
<tr>
<td>SDR, trachea/bronchus/lung cancer, age-group 0–64</td>
<td>11.7</td>
<td>11.7</td>
</tr>
<tr>
<td>SDR, cancer of the cervix, age-group 0–64, females</td>
<td>56.6</td>
<td>56.6</td>
</tr>
<tr>
<td>SDR, cancer of the breast, age-group 0–64, females</td>
<td>25.8</td>
<td>25.8</td>
</tr>
<tr>
<td>SDR, external causes of injury and poisoning</td>
<td>23.2</td>
<td>23.2</td>
</tr>
<tr>
<td>SDR, motor vehicle traffic accidents</td>
<td>17.9</td>
<td>17.9</td>
</tr>
<tr>
<td>SDR, suicide and self inflicted injury</td>
<td>26.5</td>
<td>26.5</td>
</tr>
</tbody>
</table>

Note:  
a) Lowest value observed among 18 European countries.  
b) Highest value observed among 18 European countries.  
c) 3 years moving averages.  
d) SDR: Standardized death rate.
• Although infant and maternal mortality have dropped considerably and the mean rate of maternal deaths between 1991 and 1993 was even one of the lowest, infant mortality was still third highest.

Measures relating to the total population often hide important differences between segments of that population, for instance between men and women. In general, women have lower morbidity in terms of hospital admissions - except around childbirth - and lower death rates than men. As a result, women’s life expectancy at birth in Greece (79.8 years in 1992) is almost five years longer than men’s (74.9 years) and this gap has widened by half a year since 1980.

Cause-specific mortality varies between urban and rural areas, although the differences are diminishing. In particular, deaths from ischaemic heart diseases and malignant neoplasms (other than cancer of the stomach) are more frequent among the urban than the rural population. Variations in total and cause-specific mortality have also been observed between geographical regions (Ministry of Health, Welfare and Social Insurance 1992).

**Life expectancy**

Life expectancy at birth has shown a steady upward trend since 1970. In the early 1990s Greek people still enjoyed a remarkably high life expectancy, although the country lost its top ranking among the reference countries for male life expectancy to Sweden, and female life expectancy declined to the EU average.

A country’s position as regards life expectancy at the age of 65 years and loss in life expectancy due to premature death (i.e. deaths before the age of 65 years) gives some indication of the potential for improving overall life expectancy. The relative deterioration in life expectancy at birth in Greece is due to health problems in older age, as shown by the drop in women’s life expectancy at 65 years from well above the EU average at the beginning of the 1970s to below it in the 1980s and 1990s. In contrast, over the last decade younger women have experienced the biggest reduction in years lost under the age of 65 years and in 1992 were in the best position in this regard in the EU. Men still lose comparatively few years of life under the age of 65 years but they were relegated from their first position for life expectancy at 65 years by men living in France.

**Main causes of death**

Cancers are the most frequent cause of death under the age of 65 years, followed by CVDs. However, over all ages the situation is reversed and CVDs cause more deaths than cancers. A more detailed analysis
of age-specific mortality patterns shows that the causes of up to 80% of all deaths in each age group can be classified in three main categories: accidental or other injuries (by far the main causes until the age of 35 years), cancers and CVDs.

A comparison between countries of death rates related to these causes can indicate how far the observed mortality might be reduced. As almost all causes underlying these deaths are influenced by collective and individual behaviour, a wide variety of health promotion and prevention measures can be applied to bring about changes that will reduce health risks and thus diseases and premature deaths.

The main features of Greek age- and sex-specific mortality are the following:
At 1–14 years, overall age-specific mortality for boys is the second lowest among the EU countries and just below the EU average for girls. For both sexes, only the SDRs for congenital anomalies and cancers are comparatively high, conditions that can potentially be improved by intensified antenatal counselling and screening and through appropriate interventions to improve survival after childhood cancer.

At 15–34 years, men have the second highest death rate due to CVDs in the EU and the fourth highest for cancer; women’s death rates from both causes are above the EU average. Accidental deaths, however, contribute the biggest share to the marked excess male mortality, the male death rate being at the EU average for this age group.

At 35–64 years, overall age-specific mortality is the lowest among the EU countries for women and the second lowest for men. Cardiovascular mortality for both sexes is about average for the EU. Death rates from all other main causes are among the lowest observed in the EU countries. Cancer mortality is the lowest for women and third lowest for men among the 18 reference countries.

At 65 years and over, overall mortality remains the second lowest among the EU countries for men, while it is slightly above the EU average for women. The SDR for cancer remains the lowest among the EU countries for women and the second lowest for men. Only the SDR for CVDs in women is markedly higher than the EU average.

The analysis of age-specific mortality patterns shows that the highest potential for reducing mortality in early ages lies in improving counselling for women and couples of reproductive age, in systematic follow-up during pregnancy, and in efficient care of childhood cancer. The loss of many years of life in younger men could be avoided by preventing accidents, especially road traffic accidents. Finally, health promotion activities aimed at improving the lifestyles of middle-aged and older people should reduce the frequency of deaths caused by CVDs and cancers, as well as the burden of suffering and disability resulting from chronic degenerative diseases.
These charts show age- and sex-specific death rates for the main causes of death in Greece in 1993. These rates are compared with the lowest corresponding rate observed in any country of the EU, which can thus be considered as a reference value potentially attainable by other countries. The sum of these minima, however, has to be considered as an artificial value which is sensitive to different national coding practices or coding errors. The dashed lines show the smallest overall SDR observed in any one EU country.
Cardiovascular diseases

While the overall trend in the SDR for CVDs in the population aged 0–64 years has been falling since 1970 in western Europe, the rate for Greek men has been rising steadily from the lowest position among the reference countries in 1970–1975 to average in the mid-1980s, when it started to decline along with the EU average. The same is true for the rate for ischaemic heart diseases. Male mortality from strokes is the third highest among the reference countries. Similar trends, although not so pronounced, can be observed for women.

There is some evidence that CVD mortality differs between rural and urban areas. Ischaemic heart diseases in particular are a less common cause of death among the rural than the urban population, and are particularly frequent in Epiros (Ministry of Health, Welfare and Social Insurance 1992). A study carried out in an agricultural area of Crete (Lionis et al. 1993) found considerably lower SDRs from ischaemic heart diseases compared to Greece as a whole, and somewhat lower rates for cerebrovascular diseases. It could appear from these observations that this slight deterioration in health is related to modernization and its implications for everyday life, such as high levels of strain and psychosocial stress, changing nutritional habits and other lifestyle patterns.
Cancer

After increasing up to the mid-1970s, overall cancer mortality in the population aged 0–64 years stabilized for men at sixth place among the reference countries and fell for women to the lowest rate among these countries. Some 37% of overall male cancer mortality is due to cancers of the bronchus and lung; the latter has been rising constantly since 1970, in contrast to the falling trend in most of the European reference countries, so that in 1992 Greek men had an SDR for lung cancer just above the EU average. Female lung cancer mortality, on the other hand, rose only slightly over the last ten years, whereas (with a few exceptions) it has risen markedly throughout western Europe.
Mortality from malignant neoplasms is much higher in Macedonia and Thrace than in other regions, particularly for male stomach cancer mortality (Ministry of Health, Welfare and Social Insurance 1992). (For the trends in cervical and breast cancer see the section on women’s health below.)

External causes of death and injury

This category covers all deaths that are not due to somatic deficiencies such as illness but mainly to accidents, (accidental) poisoning, violent acts (homicide) and suicide. While the general trend in the EU for mortality from these factors, and in particular from road traffic accidents, has been falling...
since 1970, mortality in Greece rose at first and then fell again over the last ten years for both sexes. Greece now has the third lowest SDR for men and second lowest for women.

Motor vehicle traffic accidents, however, represent an increasingly serious health problem for the country with some of the biggest changes in the death rates over the last ten years among the reference countries: in 1993 men had the second and women the third highest SDR from traffic accidents in this context. While the risk of dying in a road traffic accident is very high (18 per 100 000 against 13 EU average, 1993), the risk of being injured in such an accident is considerably lower than in most of the reference countries (290 against 477 per 100 000 EU average).
(Eurostat 1996a). Given these figures and the fact that the rates of killed and injured people increased by about the same proportions during the 1980s, a reduction in mortality from motor vehicle accidents seems possible if the appropriate measures are taken to improve the chances of survival after such an accident.

Another concern is the growing number of deaths due to homicide and deliberate injury among both women and men, although that indicator remains just below the EU average. A slight increase has also occurred in male suicide during the last ten years, but for both sexes the country still has by far the lowest suicide rates among the reference countries.

**Psychosocial and mental health**

Although mental and psychosocial wellbeing are important aspects of health-related quality of life, too little information is generally available to allow a reliable description of this very important dimension of the population’s health. Suicide can be used as an indirect measure of mental disorder or lack of psychosocial wellbeing.

While women are more likely to attempt suicide, the rate of men actually committing suicide in Greece is more than three times higher than that of women (5.7 against 1.8 per 100,000). Whereas the female suicide rate has been falling over the last decade, the rate for men rose slightly. Nevertheless, Greece still has the lowest suicide rates among the reference countries.

There is no information available on morbidity, for instance in terms of frequency and distribution of psychosocial and mental health problems. The proportion of people discharged each year from psychiatric hospitals is reported to be 1.5 per 1000 population (Ministry of Health, Welfare and Social Insurance 1994).

**AIDS**

The acquired immunodeficiency syndrome (AIDS) is essentially a sexually transmitted disease which can also be transmitted through blood (via the transfusion of infected blood or blood products or use of non-sterile injection equipment). There is a delay of about ten years or more between initial infection with the human immunodeficiency virus (HIV) and development of the clinical illness of AIDS. The number of notified cases of AIDS is rising all over western and northern Europe, although annual rates of new cases are far higher in the south. The HIV epidemic in Greece, however, seems to be more similar to the northern European epidemic with a very low incidence as yet.
By the end of June 1995, 1111 AIDS cases had been reported, 41% of which had resulted in death. Forecasts predict an increase in new cases from around 200 in 1994 to 280 in 1998 (European Centre for the Epidemiological Monitoring of AIDS 1994 and 1995). In more than half of all cases reported by the end of 1994 the transmission mode was sexual contact between men (52%), followed by heterosexual contact (11%) and injecting drug use (4%); the proportion of cases where the transmission mode had not been determined (20%) is exceptionally high. However, the very long incubation period means that these figures do not necessarily reflect the current extent of the epidemic or prevailing modes of transmission. As no data about the incidence of infections are available, the prevalence of HIV-positive cases can only be estimated. According to recent estimates (European Centre for the Epidemiological Monitoring of AIDS 1994), there were some 3735 HIV-positive people in Greece at the end of 1993.

While HIV prevalence in Europe seems to have stabilized among homo/bisexual men, it is thought...
to have increased in the other main transmission groups with the largest increases in most countries among the heterosexual contact group. Thus the assumed distribution of HIV cases as to transmission mode has changed over the years.

**Disability**

The prevalence of long-term illness and disability is an important criterion of a population’s health-related quality of life. However, such data are not generally available. A recent comparative study (Eurostat 1995b) estimated that in 1991–1992 some 11.5% of the population of the EU suffered from disabilities resulting in a handicap in social or socioeconomic terms. While in some countries this figure is based on the results of health surveys, in others (such as Greece) an estimate has been derived from the list of people receiving social insurance disability pensions. According to this estimate, the country has the smallest proportion of disabled persons (9.3%) among the EU countries for which these data have been compiled. As the study points out, this figure might systematically underestimate the real proportion since the rate of disability pensioners under the age of 60 years is also comparatively low (3%). On the other hand, and given the fact that most disabilities are caused by chronic degenerative illness, this small proportion seems in line with the comparatively low observed rates of CVDs and cancers.

**Health of children and adolescents**

The first year of life is one of the most critical phases as regards mortality; only after the age of 55 years do death rates return to the same level as in the neonatal (during the first 28 days after birth) and postneonatal (from 28 days to 1 year after birth) periods. Decreasing on average by almost 35% over the last 10 years, infant mortality rates have converged throughout the EU. Since 1981, the Greek rate fell by more than 50% to 8.4 per 1000 live births in 1992, one of the most marked improvements among the reference countries during this period. However, this is still one of the highest rates and over 20% above the EU average. Neonatal deaths comprise more than two thirds of all infant deaths, occurring most often in very low-birth-weight babies. In 1989, 5.9% of newborn babies weighed under 2500 g. Most perinatal deaths (40%) were associated with intrapartum asphyxia, suggesting that efforts should be made to improve intrapartum and resuscitation techniques (Tzoumaka-Bakoula et al. 1990).
The sudden infant death syndrome is the main cause of death in the postneonatal period. Postneonatal deaths, particularly those due to infections and injuries, show a seasonal variation with a peak in the winter and are more evident in rural areas (Apostolidou et al. 1994).

Regional variations in the infant mortality rate do not necessarily reflect the availability of medical care, antenatal care or underlying socioeconomic conditions. It is estimated that a high proportion of mothers in the provinces travel to better equipped areas, such as Athens and Salonica, to give birth. Crude infant mortality rates are higher than the national average in these urban centres. It is also suggested that maternal mobility itself significantly increases the risk of infant mortality and deserves further investigation (Matsaganis 1992).

The three major causes of death in the group aged 1-14 years are accidents, neoplasms and congenital anomalies. The accident death rate for boys is in the medium range and for girls one of the lowest rates among the reference countries. Mortality due to congenital causes is the highest for girls, over 40% above the EU average. For both boys and girls, death rates due to the other major causes of mortality are generally around or below the EU average.

Immunization coverage of children has increased, reaching 90% for communicable diseases such as poliomyelitis, diphtheria and tetanus in 1994, whereas pertussis and measles coverage remained somewhat lower at 70–80%). In addition, the incidence of rubella most recently peaked with over 7800 cases in 1994, ten times more than the previous year.

Children’s oral health has declined slightly over the past decade. In 1990, Greek children had on average 30% more decayed, missing or filled teeth than the EU average, the highest index value (4.4) among the reference countries. Improvements in oral health will contribute positively to long-term benefits for general health, particularly for the functioning of the digestive system.

Adolescence is characterized by efforts to take on adult roles. This transition involves experimentation and imitation, which can make young people vulnerable to damage to their health. Acute health problems can result from accidents, experiments with drugs, unsafe sex or unwanted pregnancies. In the longer run, the adoption of specific lifestyle patterns can lead to chronic degenerative diseases. This is also the phase when social insecurity can be compounded by, for example, unemployment. Young women are particularly at risk as they make up almost two thirds
One of the few routinely available indicators of adolescents’ sexual health and behaviour is the frequency of teenage pregnancies, which can reflect social factors as well as access to and use of contraceptive methods. The number of births to young women aged 15–19 years has been falling in almost all the reference countries since 1980. In Greece, 5.6% of all live births in 1993 were to mothers under 20 years of age as against 8.6% in 1988, a significant drop. However, the fertility rate (18.9 per 1000) for this age group is among the highest in the reference countries and four times higher than the lowest rate observed (Council of Europe 1995). Improved sexual education programmes aimed at reducing the number of teenage pregnancies and ensuring adequate antenatal care - including psychological and social support - should be provided in order to avoid the medical and psychological problems encountered by young women (Creatsas et al. 1991).
Women’s health

After age, the second strongest correlate of mortality is gender. Women generally live longer than men and have lower mortality rates for all causes of death in the EU. However, women have higher reported rates of morbidity and utilization of health care services (especially around childbirth), and can be indirectly more affected by population and other social welfare policies. The range of female mortality levels varies greatly in Europe. Although overall female mortality in Greece under the age of 65 years is the lowest among the European reference countries and 25% lower than the EU average in 1993, life expectancy for women living in Greece, both at birth and at 65 years, approximates to the EU average. Similarly, death rates in women aged under 65 years for CVDs in general and for ischaemic heart diseases and...
cerebrovascular diseases in particular are around the EU average. Reductions in these three disease-specific mortality rates over the past decade have been smaller than those found in most other reference countries. However, cancer mortality is the lowest and almost 20% below the EU average. In addition, mortality from breast cancer has decreased over the past 10 years to 14.6 per 100 000 in 1990 and is also the lowest among the reference countries. Mortality from cervical cancer (without the body of the cervix) has remained relatively constant during the same period at one of the lowest rates. Mortality from lung cancer is more than 50% lower than the EU average, although it has increased slightly over the past decade.

A reduction in the level of risk factors contributing to chronic diseases and the maintenance of low breast and lung cancer mortality rates will continue to contribute positively to women’s health. A recent study comparing women from two different socioeconomic groups showed that approximately one third of all women of reproductive age had had a Papanicolaou smear test for cervical cancer screening within the previous year. However, more women in higher socioeconomic groups (55%) were likely to know how to examine their own breasts than in lower socioeconomic groups (45%) (Tsamandouraki et al. 1992).

Maternal mortality has gone down in Greece by 25% since 1982 to reach one of the lowest levels recorded among the reference countries, with an annual average rate of 3.2 maternal deaths per 100 000 live births between 1990 and 1992. The reported frequency of abortions and unplanned pregnancies has increased sharply, potentially reflecting the liberalization of abortion laws since the mid-1980s. In 1991, the ratio of abortions to 1000 live births was 108, almost 80% more than the rate reported in 1981. Recent legislation on the family has established greater equality between men and women within the family, as well as the rights of both legitimate and illegitimate children. Single mothers and their children have the same family rights as married women (WHO 1995b).

Sexually transmitted diseases (STDs) are more difficult to diagnose in women (many STDs occur without recognizable symptoms in women) and they suffer more severe sequelae than men (Fathalla 1994). While the occurrence of traditional STDs (gonorrhoea, syphilis and chancroid) has declined, new bacterial and viral syndromes associated with Chlamydia trachomatis, the human herpes virus, the human papilloma virus (HPV) and HIV have become prominent in western Europe. These agents are often more difficult to identify, treat and control and can cause serious complications often resulting in chronic ill health, disability, infertility or death.

In a recent study, over 80% of infertile women with damaged fallopian tubes also had a history of chlamydia trachomatis infection, confirming that this disease may be a major cause of tubal damage with resulting infertility in Greek women (Kalogeropoulos et al. 1993). Infertility is likely to decline if the prevention of STDs is improved. A study at the Alexandra Maternity Hospital in Athens showed that the occurrence of either an induced or spontaneous abortion independently and significantly increased the risk of the subsequent development of secondary infertility, suggesting that iatrogenic infections may be introduced during the procedure or follow-up care (Tzonou et al. 1993).

Other female health problems are not limited to women’s reproductive function or reproductive age. The cessation of ovarian function at menopause puts women at special risks, notably of osteoporosis due to bone loss. Osteoporosis-related morbidity, including pain, loss of mobility, periodontal disease and tooth loss, and fractures of the hip, vertebrae and wrist, is affecting increasing numbers of people, in particular women (von Wovern et al. 1994). In western Europe hip fractures are common in elderly people, affecting one in four women up to the age of 90 years, twice the rate for men (Armstrong/Wallace 1994).

Violence against women has in general received limited attention as a public health issue. Data on the occurrence and type of such violence are lacking but recent World Bank estimates indicate that in established market economies gender-based victimization is responsible for one out of every five healthy days of life lost to women of reproductive age (Heise 1994). Female mortality due to homicide and deliberate injury has increased over 30% in Greece during the past decade, although overall rates are lower than the EU average.

In general, the most endemic form of violence against women is abuse by intimate male partners. An investigation of causes of facial injuries to women over a three-year period showed that close to 10% of the injuries were related to violence perpetrated by a man, and in two thirds of the cases the husband or boyfriend was the perpetrator (Zachariades et al. 1990).
LIFESTYLE

Among the wide variety of factors influencing health (genetic disposition, the physical and social environment, etc.), behaviour has a major impact on each individual’s and the population’s health and wellbeing. Lifestyle patterns such as nutritional habits, (lack of) physical activity, smoking and heavy drinking of alcohol play an important role in premature mortality, mainly from CVDs and cancers. These diseases alone are responsible for the largest share of deaths under the age of 65 years in Greece. Unhealthy behaviour also contributes to a wide range of chronic illnesses and thus affects the quality of life, particularly in older age. Lifestyle, however, is also influenced by collective behavioural patterns, common to a person’s social group, and by the more general socioeconomic conditions. In most European countries, improvements in lifestyles have largely been confined to the more socially and economically privileged middle classes, who are better placed to live healthy lives (WHO 1993).

Somatic risk factors

The extent to which lifestyle is likely to influence morbidity and mortality in a population can be approximated by the prevalence of well known medical risk factors such as raised blood pressure, high cholesterol level or overweight. These are some of the most common determinants associated with cardiovascular diseases. The small amount of information available for these factors in Greece seems to indicate that they are likely to be within the medium range found among the reference countries.

Nutrition

Nutritional habits are deeply rooted in cultural traditions and agricultural production. Nevertheless, in recent decades changes have occurred as food markets have opened up, transport has become more
rapid and new and efficient techniques of food conservation have been developed. As a result the highly different nutrition patterns of northern and southern Europe are tending to converge. However, Greece still follows the typical Mediterranean diet, characterized by very high levels of cereals, vegetables and fruit consumption and a particularly low intake of saturated fatty acids. Contrary to the average levels found in southern countries, the intake of sugar per head has significantly increased during the 1990s. The overall fat intake has also increased over the past decade, but most of it is of the mono-unsaturated type, mainly olive oil.

### Alcohol consumption

In the EU as a whole, the consumption of alcoholic beverages has steadily declined since 1980 following an increase in the 1970s. However, it has risen in a few countries, and of these the increase in Greece was the largest, even though absolute levels are still comparatively low. In 1992, the total consumption of alcoholic beverages measured by pure alcohol intake was 9.2 litres per person compared to 10.2 litres in 1980, indicating a 10% decrease (Produktschap voor Gedistilleerde Dranken 1994). The “homogenization” of drinking patterns and diversification of beverages has been observed throughout Europe. For example, the consumption of imported distilled alcohol and beer has increased among younger people. However, the consumption of traditional beverages, such as wine and distilled spirits, still contribute most to the alcohol intake (54% and 30%, respectively), while beer contributes only 16% to overall alcohol intake (Ministry of Health, Welfare and Social Insurance 1992).

In Greece, alcohol is traditionally used in moderate quantities by the adult population during recreation and meals. This traditional pattern may be one explanation why alcohol-related problems are not particularly prominent among the population (Ministry of Health, Welfare and Social Insurance 1992), although Greece has a per head alcohol consumption roughly equal to the EU average. For example, the death rate from cirrhosis and other liver diseases is approximately half the EU average, and this rate has decreased over the past decade by 21% for women and 22% for men.

### Tobacco consumption

Based on sales figures, the cigarette consumption per head of the population has fallen slightly since 1985 in Greece, but at about 3300 cigarettes per head (at age 15+ years) it remained by far the highest among...
the EU countries in 1993 (BASP 1994). Moreover, those figures probably underestimate consumer behaviour as smuggling is estimated to account for approximately 6% of cigarette sales. In 1994, the female smoking rate (28%) was just above the EU average and showing a rising trend, while the male rate (46%) remained among the highest in the EU. A European survey conducted in 1992 also showed a far higher percentage of heavy smokers in Greece than in the other EU countries: 17% as compared to 6% for the next highest country, Denmark (BASP 1994). The presence of such a sizeable group of very

**Percentage of daily smokers among adolescents by sex and age, 1990 (N=4 538)**

### Males
- Spain
- Germany*
- Portugal
- France
- EU
- Denmark
- Belgium
- Netherlands
- Great Britain
- Ireland
- Greece
- Italy

### Females
- Denmark
- Great Britain
- Spain
- Netherlands
- Germany*
- EU
- Belgium
- Ireland
- France
- Portugal
- Greece
- Italy

* As per territorial boundaries before 3/10/90

**Source:** Van Reek and Adriaanse 1995

**Percentage of smokers among adult population aged 15+**

### Males
- Netherlands
- France
- Germany*
- Spain
- Denmark
- EU
- Belgium
- Portugal
- Italy
- Ireland
- United Kingdom
- Luxembourg
- Greece

### Females
- Denmark
- Netherlands
- France
- United Kingdom
- Luxembourg
- Greece
- EU
- Belgium
- Portugal
- Italy
- Ireland
- Spain

*1987/88 as per territorial boundaries before 3/10/90

**Source:** BASP 1994
heavy smokers, together with the slight increase in the rate of female smokers, may explain why a decreasing trend in the smoking prevalence among men (from 61% in 1987 to 57% in 1992 and 46% in 1994) has been observed, although cigarette sales have remained almost stable.

Current smokers are considered to have a 50% higher mortality rate than nonsmokers in the same population (Ministry of Health, Welfare and Social Insurance 1992). Tobacco-related deaths in 1990 were estimated at 11,700 annually (BASP 1994). Although the mortality rate due to lung cancer and other tobacco-related cancers is just below the EU average, over the past decade it has increased by 6% for men and 4% for women.

Between the ages of 14 and 15 years the prevalence of daily smoking roughly doubles to 6% for boys and 2% for girls. Whereas these are still some of the lowest rates found in the EU (Van Reek/Adriaanse 1995), smoking becomes increasingly frequent during adolescence. According to national data (Ministry of Health, Welfare and Social Insurance, personal communication), one in five of the group aged 15–17 years are regular smokers.

**Illicit drug use**

In 1994, the State Agency against Drugs estimated that approximately 50,000–70,000 people were addicted to illicit drugs, although the prevalence of using illicit drugs is unknown, given the nature of the problem (Ministry of Health, Welfare and Social Insurance, personal communication). Most known drug users are men aged 20–39 years, who principally use cannabis (53%) and, to a lesser extent, heroin and other opiates (28%). Heroin and other opiates were most prevalent among women drug users (51%), followed by cannabis (30%). Drug use is more prevalent in the major metropolitan cities, especially Athens (Ministry of Health, Welfare and Social Insurance, 1992). The annual number of deaths reportedly attributed to illicit drugs has increased dramatically from 9 in 1983 to 71 in 1991, and 146 in 1994 (Ministry of Health, Welfare and Social Insurance, 1992; State Agency against Drugs, unpublished data). Of the 3,597 individuals treated for drug addiction in 1992, most were male (55%) and more than one third (34%) were seeking treatment for the first time. Heroin is the most prevalent drug used by those in treatment centres (80%), followed by sedatives (8%), cannabis (3.6%), cocaine (2.6%), amphetamines (1.4%), volatile solvents (0.8%) and hallucinogens (0.3%) (WHO 1995a).

A 1991 national sample survey on the consumption of illicit drugs conducted among high school students aged 14–18 years indicated that the lifetime prevalence of use was 6%, although this is twice as high for boys as for girls (Ministry of Health, Welfare and Social Insurance 1992). The illicit drugs most frequently used by students of both sexes are cannabis, followed by cocaine, hallucinogens, opiates other than heroin and heroin. However, the use of psychotropic substances without prescription is more common among schoolchildren than the use of illicit drugs (WHO 1995a).
ENVIRONMENT AND HEALTH

Environmental conditions affect humans through acute, short-term and long-term exposure to noxious factors. In the long run the main concern is to promote sustainable development compatible with good health and, in particular, to preserve the food chain (water, agricultural production) from contamination by hazardous substances. Short-term environmental protection means avoiding or at least reducing potentially harmful situations, bearing in mind that people are not exposed equally to adverse environmental conditions and not all people and social groups are equally vulnerable to them. Thus, children, pregnant women, elderly or ill people are more likely to be affected by polluted air or contaminated food. Also, adverse environmental conditions tend to accumulate for specific segments of the population. Low income, for instance, is often associated with exposure to environmental hazards at work (noxious substances, risk of accidents) and poor housing conditions (crowding, air pollution, noise, etc.). These situations may affect health and wellbeing either directly or indirectly by causing discomfort and stress, giving rise to unhealthy coping behaviour such as the use of medical drugs or heavy drinking.

Air quality

For several decades air pollution has been a major concern of Greek environmental policy and efforts have been made both to protect the population against such pollution and to reduce it. At the beginning of the 1990s the levels of the main air pollutants per head for the country as a whole were below the EU average, except for sulfur dioxide (for which the most recent data are from 1983). But over the preceding decade emissions of pollutants seem to have risen, as reflected by an increase in carbon dioxide of almost 50%. Trends for the 1980s from the Athens area, where the situation is particularly critical owing to high emission levels from industry and urban traffic, only show a decrease for smoke concentrations, with relative stability for carbon monoxide and a slightly rising tendency as regards sulfur dioxide, nitrous dioxide and consequently ozone levels (Ministry of Health, Welfare and Social Insurance 1992). Episodes of summer-type smog (nitrous dioxide, ozone) and winter-type smog (high concentrations of black smoke, sulfur dioxide and carbon monoxide) are therefore still likely to occur.

![Carbon dioxide emissions from fossil fuels, tonnes per head](image-url)
Water and sanitation

In 1980, about two thirds of the water consumed was taken from surface water and the remaining one third from groundwater. The quality of surface water is monitored by a recently installed system (Ministry of Health, Welfare and Social Insurance 1994), but in 1987 only 10% of the population were served by a sewage treatment plant (Eurostat 1994: 349). In line with EU legislation, measures have been taken to preserve the quality of surface and groundwater, for instance as regards the use of fertilizers in agriculture.

Waste

Increasing quantities of waste are being generated in almost all countries, with serious implications for health from the resulting pollution of the air, water and soil. The amount of municipal waste generated in Greece during the 1980s increased by 14% (the EU average was 20%) to roughly 300 kg per head in 1990 (EU average: 350 kg). In 1990 some 30% of paper and cardboard and 15% of glass used were recovered. The maximum recovery rates among the EU countries were around 50% for paper and over 60% for glass (Eurostat 1995d). A special programme has been adopted in Athens to increase the proportion of recycled paper.

Housing

Housing conditions generally have an impact on people’s health and wellbeing, but the health situation of homeless people is particularly critical: they often suffer from health problems typically associated with poverty (malnutrition, infectious diseases, psychosocial stress caused by solitude and insecurity, etc.) and they may be more vulnerable to health problems than the rest of the population owing to traumatic events or personality traits which may play a part in their becoming homeless. In 1993 the number of homeless people in Greece on an average day was estimated to be 5500 and over the course of a year 7700, or 7 per 10 000 population, one of the lowest rates in the EU (Avramov 1995). The proportion of people living in dwellings without a basic sanitary infrastructure (inside toilet, shower or bathroom) was estimated to be about 16% of the total population around 1985 (Avramov 1995).

Increasing urbanization and road and air traffic has brought to the fore the issue of noise and its effects on health. For the urban population in Greece the situation is particularly threatening: in 1991, 40% were seriously disturbed and for an additional 31% the noise level at home was unbearable, the second highest proportions among the EU countries.

Safety at home and during leisure-time activities, sports and so on is not well documented. No data are available about the incidence of such accidents and
their health consequences, but a study in the EU countries which compared cases treated by health care services between 1990 and 1992 showed that in both men and women aged over 45 years accidents are more frequent than the EU average for this age group (EHLASS 1995). For the group aged 45–64 years, the risk of accidents is higher both inside and outside the home and in connection with transport compared to the EU average, but among older people the risk is only higher as regards accidents inside the home.

Several studies of the short-term effects of air pollution on the health of the Athenian population have shown that mortality (mainly from respiratory diseases among older people) increased noticeably during winter months on days with high concentrations of air pollutants, while in the summer an increase in emergency admissions from respiratory and cardiovascular diseases was recorded. Among the long-term effects of high atmospheric pollution, comparatively low levels of children’s respiratory function have been observed in Athens (Ministry of Health, Welfare and Social Insurance 1992).

**Occupational health and safety**

Exposure to health risks at the workplace is still an important cause of ill health and death. However, information about exposure in terms of type, frequency, intensity of hazardous conditions and the number of workplaces or people affected is scarce. The incidence rates of recognized occupational diseases attracting disablement benefit awards provide an estimate of risk levels, although such figures are generally lower than the actual number of cases. Usually only a small proportion of reported cases are recognized, although delays between reporting and recognition may be considerable.

The occupational accident rate is one of the lowest in the EU. In 1992, some 25 000 people were injured in a work-related accident (243 per 100 000 population), and 88 or 0.86 per 100 000 population were killed in 1991. Both rates are substantially below the EU average (ILO 1994).

As in other countries the incidence of occupational diseases is a matter of great concern but almost no information is available. Legislative measures as regards safety and health at work, particularly the protection of workers against chemical and biological hazards, were adopted in the mid-1980s according to EU directives.
HEALTH SYSTEM

Institutional structures and resources

The Greek health care system is characterized by a national health service introduced in 1983 and financed by various insurance funds. This service was intended to be under state responsibility to ensure equity, decentralization, and the development of primary health care centres (especially in rural areas but also in urban areas). General practitioners (GPs) were to act as gatekeepers, private practice was to be curbed (private practice was to be banned and no new private clinics were to be created), and prices were to be centrally fixed and kept down by the government. However, these policies could never be completely implemented and the following government modified the reforms. The situation is now very different from that originally envisaged: with very few general practitioners and no referral system, private provision is important and there is still inequity in both access to and quality of care.

Financing is through a combination of insurance funds (based on occupation rather than income) and general taxation. Sickness funds purchase hospital care on behalf of their insured members through contractual agreements with providers (doctors and hospitals). The main funds are:

- IKA, for urban wage- and salary-earners employed in the private sector and the non-civil service public sector;
- OGA, for the rural population (entirely financed by earmarked taxation and government subsidies);
- TEVE, for self-employed people and employers in small businesses;
- the civil servants’ health service, funded by budget resources (one of the wealthiest).

These four main funds cover 90% of the population through employees’ and employers’ contributions and state funding. All the funds are non-profit organizations, accountable to the Ministry of Health. The funds do not all cover the same services: for example, OGA and TEVE do not cover dental care, spectacles or laboratory tests. As a result of these differences, the private sector still accounts for up to 40% of health expenditure (OECD 1994).

With 40,116 physicians (some 30% are women) and 10,371 dentists (47% women), in 1993 Greece had the second highest ratio of doctors and the highest ratio of dentists to population but the second lowest ratio of nurses to population in the EU. Most rural health centres are understaffed. In 1991 there were 4.6 doctors and 7.3 hospital beds for every 1000 people in Greater Athens, but in 17 of the 52 health authorities there were only 1 physician and 2.3 hospital beds for every 1000 people (Matsaganis 1991).

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* Or latest available year
Source: OECD 1995
Primary health care

Health centres were set up in rural areas after the 1983 health care reform. In urban areas patients have to use hospital outpatient departments, except for a few primary health care centres for members of IKA. Health centres are free but there is a 1000 Dr charge for non-emergency use of outpatient departments (OECD 1994).

The national health care system includes:

• 173 health centres (staffed by 1300 physicians, 1431 nurses, 338 paramedical and 2024 administrative staff)
• 974 health stations
• 477 village doctors
• 17 mental health centres.

Nearly all primary care providers are specialists: in 1993 only 500 of almost 40 000 physicians in Greece were GPs (OECD 1994).

General practitioners

Although GP training has been provided since 1987, students do not enrol in this poorly estimated career. The lack of GPs has meant that there are no gatekeepers, as announced in the 1983 reforms, and patients go directly to specialists or to the outpatient departments of their preferred hospitals. The perpetual shortage of doctors means that medical graduates have to do one year’s service in a rural health centre (Karokis et al. 1993), but they are unmotivated and inexperienced and are widely distrusted by the population (OECD 1994). Doctors’ salaries have been dramatically increased in an effort to attract more physicians to the remote areas of the country, but this has not worked.

In rural health centres, physicians are on full-time salaries but in urban centres they are paid on a fee-for-service basis. The fees are determined by the Ministry of Health, which tries to keep them low. As a result, doctors still accept under-the-table payments and transfer their patients to their private practices.

Primary dental care

Although Greece has the highest ratio of dentists to the population in the EU, there is a serious shortage of dentists in rural areas, especially as some funds (OGA and TEVE) do not cover dental care. However, when dental services are available in a health centre, they are free. Otherwise most people use private dentists.

Primary health care nurses

Community nurses receive special training for their principal task of health promotion. There are also some health visitors and a few primary health care nurses.

Community pharmacists

Pharmacies are independent and private. Patients pay 25% of the cost of all prescriptions, except for people with chronic illnesses and poor people, who can be exempted or asked for a 10% co-payment. Greece spends an important share of its health expenditure on medication.

The Government sets the price of drugs on the basis of the cost of the active substance plus a mark-up for distribution, promotion, etc. There is no distinction between original and generic products.

Hospital care

Some 75% of all hospital beds are public. There is no referral system and patients go where they want to, although in order to be reimbursed they should go to their local hospital. However, because of the widespread dissatisfaction with the health services (Ferrera 1993), patients tend to go to Athens or to the main university hospitals. There are therefore important interregional flows, with the result that the big urban hospitals have waiting lists while local hospitals have occupancy rates of only 60%. The reasons for this situation are many but principally the public lack of confidence in local health services (OECD 1994). On the other hand, a study on maternal mobility and infant mortality showed that infants born locally had a better chance of survival than those whose mothers travelled to Athens or Salonica (Matsaganis 1992).

Public hospitals are paid on a per diem basis by the funds at a rate which is determined by the Ministry of Health but is below the real cost. Hospitals thus inevitably run large deficits which have to be met by the state. Although the funds’ payments to hospitals in 1992 represented 25% of their expenditure, they contributed less than 15% of the hospitals’ revenue. The rest had to be covered by public funds. The Government raised the rates by 220–300% in 1992.
and took several measures to contain the deficit. In 1993 again it almost doubled per diem rates, while pay rises were cut with the result that the percentage of total revenue coming from state funding went up to 34% for general hospitals, and to 57% for psychiatric hospitals (unpublished data from Central Health Council, Health Informatics Service). Nevertheless, still only 37% of the total running costs of general hospitals and 77% in psychiatry are covered by revenues actually earned by the hospital (health care delivery, property utilization, etc.). Therefore, the funds will face financial difficulties despite an increase in contribution rates (Mossialinos/Karokis 1992, OECD 1994).

Private sector

Despite the attempt in 1983 to limit the provision of private services there is still an important private sector. Private expenditure on health represents at least 40% of total health expenditure, and private non-reimbursed payments constitute the single largest source of revenue in the Greek health care system (OECD 1994). One of the by-products of the 1983 reform and the ban on further development of private clinics are high-tech diagnosis centres. They are contracted on a fee-for-service basis and – as for hospital care – patients have free access to them: in recent years IKA has tripled the number of its contracts. Physicians working in the public sector often have a financial interest in these centres and over-prescribe diagnostic tests. The fact that 40% of health expenditure is covered by non-reimbursed payments undoubtedly reflects important inequities as regards access to and quality of care (Berthod-Wurmser 1994).

Health expenditure

International comparisons of health care indicators are extremely difficult because the definitions underlying health statistics as well as accounting practices vary from one country to another. A recent comprehensive study (Schneider et al. 1995) tried to improve comparability by presenting a set of indicators based on adjusted national data. According to this study, with 5.5% of the GDP spent on health, Greece has the lowest health expenditure in the EU, although it is estimated that health expenditure could account for 7–8% of GDP if “black” payments were taken into consideration (OECD 1994). The proportion of GDP spent on hospital care has shown the greatest increase among the EU countries since 1980 but was still the second lowest in 1992. Spending on ambulatory medical care also went up to near the EU average. The share of GDP spent on medications, on the other hand, which was by far the highest in the EU in 1980, dropped to just below the average.

When total health expenditure is broken down by services and goods provided, the high share of the health budget spent on pharmaceuticals and the low share spent on nursing care are striking. The
Government increased the prices of drugs in 1991 and 1992 by 350% for the 50 most common drugs. The distinction between over-the-counter and prescription drugs is not clear, and might depend on the sickness fund. All this makes it very difficult to control the amount of money spent on pharmaceuticals.

There is an acknowledged shortage of nurses (3.5 per 1000 population) and no nursing-homes. The lack of facilities for care of the elderly and the traditional

Source: Schneider et al. 1995

*Data for Finland not available
reliance on informal family care both help to keep down the cost of nursing.

**Health care reforms**

Even if most people now have access to health care, after the 1983 reforms some problems of the health care system persist. In particular:

- the Government is having to meet the deficits created by the low level of centrally fixed hospital fees;
- private medicine is thriving; some hospitals have not contracted with the original sickness funds, and high-tech diagnosis centres have mushroomed;
- there is a serious informal economy in medicine, with physicians taking undeclared payments from patients in order to compensate for their low salaries.

The 1990 reform encouraged patients’ freedom of choice and private initiatives. The private sector can now operate freely and physicians can work part-time in the private sector. Physicians working full-time in the public sector are under a 12-year contract. The Government also suggested that health funds should remunerate any doctor or hospital (public or private), not just those contracted by the fund.

Doctors are paid on a fee-for-service basis and hospitals are paid retrospectively on their previous year’s performance: both are perverse incentives to increased health expenditure (on increased numbers of visits or unnecessary diagnostic tests). The lack of control on spending has become especially serious in the financing of public hospitals, which constantly run in deficit.

The lack of a referral system is also a problem and there is no continuity of care. The way forward will have to include improvements in health care management, planning and assessment. Priority must be given to a referral system, to a re-evaluation of the nursing profession and to the development of institutions devoted to the care of the elderly and of the permanently handicapped.

Equity of access will also have to be addressed as well as the quality of care. The fragmentation of the insurance system in different funds creates problems for planning. The introduction of a decentralized administrative structure as well as the creation of regional health authorities and the reorganization of the Ministry of Health are all planned.
REFERENCES


REFERENCES


MORIN, J. El trabajo clandestino se convierte en el motor principal de la economía sumergida en Europa [Clandestine work is becoming the principal driving force of the black economy in Europe]. *Fuentes estadísticas*, 7 (1995).


WHO. *Drug use and related issues: Greece*. Copenhagen, WHO Regional Office for Europe (unedited draft), 1995a.


**CARDIOVASCULAR DISEASES (CVDs):** all diseases of the circulatory system, including coronary heart disease and cerebrovascular diseases.

**Dependency ratio:** The ratio of the population defined as dependent (those under 15 and those over 64 years of life) to the working-age population, aged 15-64 years.

**Incidence rate:** the number of new cases of a disease occurring in a population during a specified period (usually a year) per 100,000 of that population.

**Infant mortality rate (IMR):** the yearly number of deaths of children aged less than one year per 1000 live births.

**Life expectancy at birth:** An estimate of the average number of years a newborn can expect to live provided that the prevailing age-specific patterns of mortality at the time of birth were to stay the same throughout the child’s life.

**Loss of life expectancy** due to deaths before the age of 65 years: describes the effect of premature death on life expectancy, and it measures the potential number of years that could be added to life expectancy at birth if all deaths before the age of 65 were eliminated.

**Prevalence rate:** the total number of people in a population who have a disease or any other attribute at a given time or during a specified period per 100,000 of that population.

**Purchasing power parity (PPP):** a “standardized” measure of the purchasing power of a country’s currency, based on a comparison of the number of units of that currency required to purchase the same representative basket of goods and services in a reference country and its currency (usually US$). The EU unit of PPP is PPS (purchasing power standard).

**Standardized death rate (SDR):** a death rate (usually per 100,000 population) adjusted to the age structure of a standard European population.

**Total fertility rate (TFR):** the average number of children that would be born alive per woman during her lifetime, if she were to bear children at each age in accord with prevailing age-specific birth rates.