

HIGHLIGHTS ON HEALTH IN NORWAY



Country Highlights give an overview of the health and health-related situation in a given country and compare, where possible, its position in relation with 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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TECHNICAL NOTES

Highlights on Health provide an overview of the health of a country's population and the main factors related to it. When possible, comparisons are made with other countries in the WHO European Region as one means of assessing the comparative strengths and weaknesses, what has been achieved so far and what could be improved in the future, similarly to the approach and rationale used for setting the 21 targets in HEALTH21, the health for all policy framework for the WHO European Region (*WHO Regional Office for Europe, 1999*). The country groups used for comparison are called reference countries and are chosen based on: similar health and socioeconomic trends or development and/or geopolitical groups such as the European Union (EU), the newly independent states, the central Asian republics or the candidate countries for EU accession.

For Norway, the reference countries are the 15 EU countries as well as Iceland, Israel, Malta, and Switzerland.

To make comparisons between countries as valid as possible, data for each indicator have been taken from one common international source (such as WHO, the Organisation for Economic Co-operation and Development, the International Labour Office or EUROSTAT), whenever possible. Nevertheless, other factors such as recording and classification practices and cultural differences can influence the comparability of the data. Unless otherwise mentioned, the source of all data is the health for all statistical database of the WHO Regional Office for Europe. Information on national policies has been obtained from health for all evaluation reports from national authorities and by personal communication with them and from *Health in Europe 1997 (WHO Regional Office for Europe, 1998)*.

A special case of comparison is when each country is given a rank order. Although useful as a summary measure, ranking can be misleading and should be interpreted with caution, especially if used alone, as the rank is sensitive to small differences in the value of an indicator. Also, when used to assess trends, ranking can overshadow quite important absolute changes in the level of an individual country. Mostly bar charts (to indicate a country's position versus the reference countries according to the latest data) or line charts (usually to show time trends from 1970 onwards) have been used. Line charts present the trends for all the reference countries and for the EU or another geopolitical group, as appropriate. Only the country in focus and the appropriate group average are highlighted in bold and identified in the legend. This enables the country's trends to be followed in relation to those of all the reference countries, and performance in relation to observable clusters and/or the main trend or average can be recognized more easily. To smooth out fluctuations in annual rates caused by small numbers, 3-year moving averages have been used, as appropriate. For example, this is the case for maternal mortality for all reference countries.

Comparisons should preferably refer to the same point in time. However, the countries' latest available data are not all for the same year. This should be kept in mind, as the country's position may change when more recent data become available.

OVERVIEW

The relatively large quantities of health data and information in Norway permit interesting insights into health trends there. The overall level of health is high. For example, the mortality for both genders and all ages is below that of the European Union (EU), premature mortality is low and the health of children is very good, including remarkable progress in oral health. The health care system is functioning well, as indicated by very low maternal and perinatal mortality. Over time, however, major health indicators that were at outstanding levels in previous decades have tended to reach the level of the EU in several cases.

In life expectancy, women in Norway have been among the absolute leaders in Europe but have lost ground compared with women in other countries in recent years. Norway's relatively favourable position in life expectancy for men before 1990 declined to a position close to that of the EU. This trend can be explained in part by the unfavourable trend in mortality among people 65 years or older. Men and women in this age group have increasing cancer mortality, and Norway's relative position regarding cardiovascular mortality in this age group has also worsened. Among people 0–64 years old, men have been less affected by regression to the EU rate, but mortality among women 0–64 years old and women and men 65 years and older has contributed to the regression towards the EU. Mortality from lung can-

cer among women is of special concern since the death rate has been constantly rising and now exceeds the level for the EU. A higher percentage of women in Norway smoke than in most other countries in Europe.

The overall improvement in health has been linked with socioeconomic progress. These two mutually supportive pillars of human development have been ensured by the increasing wealth of Norway and strong social welfare and integration policies. However, some population groups are still at relative social disadvantage, such as younger people or immigrants. Future health policy should focus on certain health problems that are not immediately obvious and are often confined to smaller segments of the population. Such problems include suicide among young people and mortality among older men from non-specified external causes. Such problems may also result from inequality between regions or districts. More specifically, Norway's regions differ substantially in such aspects as climate, population density and labour market from north to south. Although living standards are not very different, living conditions are. The health pattern often reflects some of these differences. For example, in general, people in the northern part of the country have higher mortality from cardiovascular diseases than the national rate, whereas people in the southern part have higher mortality from cancer than the national rate.

THE COUNTRY AND ITS PEOPLE

Norway gained independence from Sweden in 1905. The first Norwegian constitution, however, dates back to 17 May 1814. Since that day Norway has been a constitutional monarchy. Legislative power lies with the 165-member Storting (parliament), which is elected by universal suffrage and proportional representation for 4 years. The Storting is a one-chamber parliament that divides itself into two chambers following an election. Legislation has to pass both chambers. Judicial power is with the courts.

The King has the formal executive power. In practice, however, the Council of State exercises this power. The Council of State is elected mostly among the members of the Storting, but not necessarily, and must resign if called upon to do so by a majority

of the Storting. Major issues are decided when the Council of State assembles once a week in the presence of the monarch (*Torgersen, 1999*).

Norway is divided into 19 counties and 435 municipalities respectively governed by county councils and municipal councils (elected for 4 years at a time) that collect taxes (*Torgersen, 1999*). The counties are responsible for hospitals, pharmacies and practising specialists, and the municipalities for primary health care, general practitioners (GPs) and health promotion (*Nordic Medico-Statistical Committee, 1998*).

Norway is a member of the Nordic Council, the European Free Trade Area and the North Atlantic Treaty Organization but not of the EU.

Table 1. Basic data on Norway and the EU (1997 or latest available)

	Norway	EU	Minimum among EU countries	Maximum among EU countries
Capital	Oslo			
Population (in millions)	4.418	374.566	0.424	82.060
• 0–14 years (%)	19.5	17.4	16.0	24.4
• 15–64 years (%)	64.6	67.0	63.7	68.4
• ≥ 65 years (%)	15.9	15.6	11.4	17.5
Area in km ²	324 000	3 191 000	3 000	544 000
Density per km ²	14	117	15	380
Urban population (%)	73	79	36	97
Births per 1000 population	13.6	10.9	9.3	14.7
Deaths per 1000 population	10.4	10.0	8.8	11.6
Natural growth rate per 1000 population	3.2	0.9	–0.6	5.7
GDP per person in US \$ (PPP)	24 423	20 359	13 672	33 089
GDP: gross domestic product; PPP: purchasing power parity				

Demography

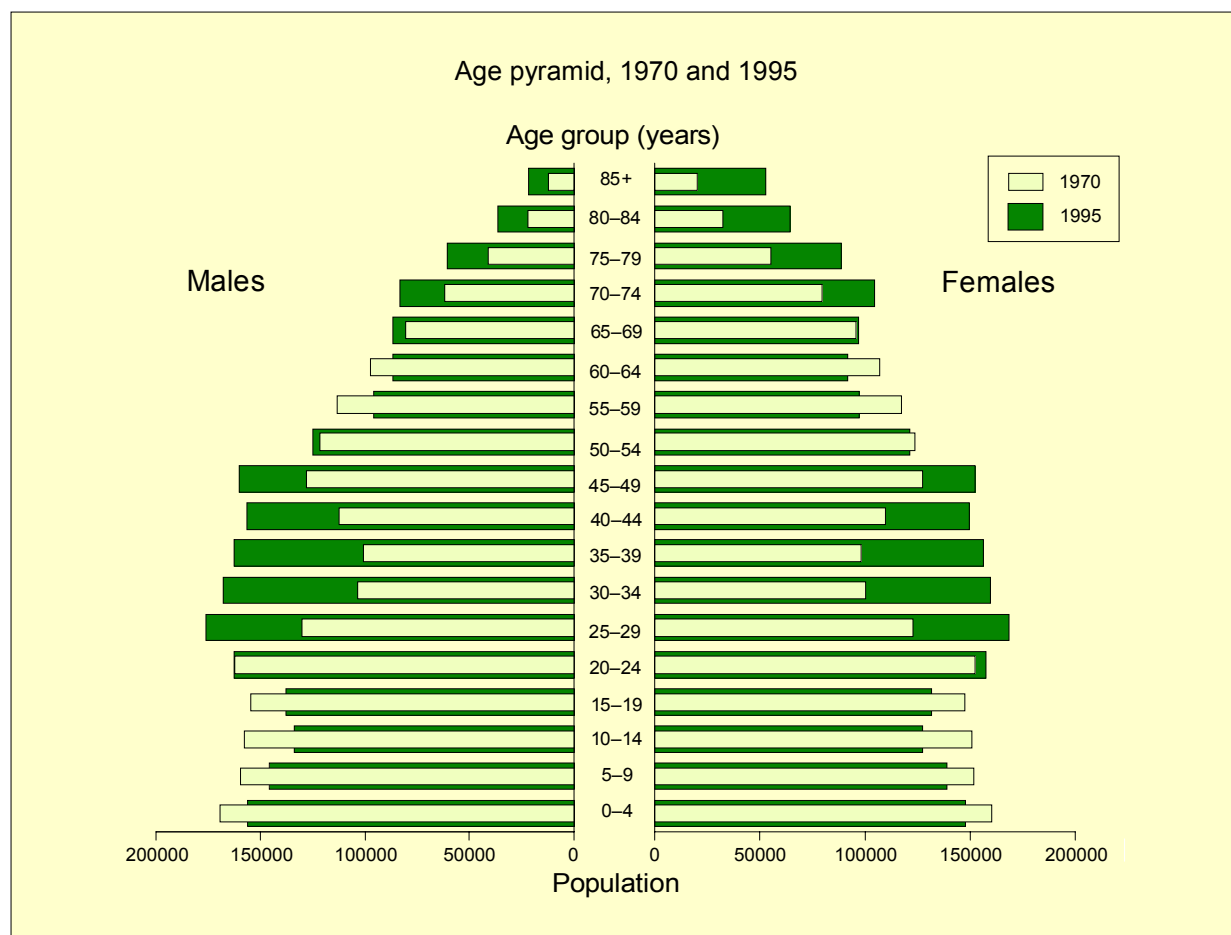
Oslo, together with the surrounding Akershus County, has a population of almost 1 million. Northern Norway is sparsely populated. In Finnmark County, the northernmost county, the population density was 2 per km² in 1996 (*Statistics Norway, 1998*).

The age pyramid (Fig. 1) presents the age structure of the population in 1970 and 1995. The proportion of the population aged 0–14 years reached its lowest value of 18.9% in 1990 and has increased slightly since then. The older age groups comprised a larger proportion of the population in 1995 than in 1970. The share of population aged 65 years or older has been about 16% since the mid-1980s. However, the share of the population aged 80 years or older will continue to increase in the years

to come (*Ministry of Health and Social Affairs, 1996*).

The total fertility rate in Norway was 1.9 children per woman in 1997 and thus slightly below the replacement level. The natural population growth rate (Fig. 2) fell to less than 2 per 1000 in the 1980s but has rebounded since and become considerably higher than the EU rate.

Low fertility rates in Norway in the 1980s combined with increased longevity have increased the proportion of elderly people in the population. As today's teenagers enter into the labour market over the next 10–15 years, there will be increasingly more pensioners and fewer people in the labour market to support the pensioners than previously, as in many other countries in Europe.



Household composition and family structure

The number of marriages remained relatively constant from 1983 to 1991 at about 20 000 marriages per year and has increased slightly since then. The number of divorces increased from about 2500 a year in the early 1960s to 11 000 in 1993 and 1994 and declined to about 10 000 in 1996. The average age at marriage increased by more than 5 years from 1961 to 1996 for both genders (*Statistics Norway, 1998*).

The percentage of children born out of wedlock increased from about 3% in the 1950s and early 1960s to 49% in 1997 (*Statistics Norway, 1998*). Most of these children live with both their parents, as cohabiting without marriage is common, also for families with children. Seventeen percent of children in 1995 lived with one adult, and women are the parent in 89% of the single-parent households (*Nordic Medico-Statistical Committee, 1998*).

Families are relatively small: the average household size was 2.1 in 1996. Many children are growing up without siblings or (at least temporarily) with only one parent, and a high proportion of women are employed outside the home. Thus, the availability of day care facilities is important in promoting the social integration of children and the psychosocial well-being of parents and children.

In 1996, 45% of children aged 0–6 years were in day care in Norway (*Statistics Norway, 1998*).

The overall family structure is characterized by a small household size, a very large share of cohabitation and a relatively high number of men as single parents. Same-sex partnerships have the same legal status as marriages. About 150 people per year enter into such a partnership.

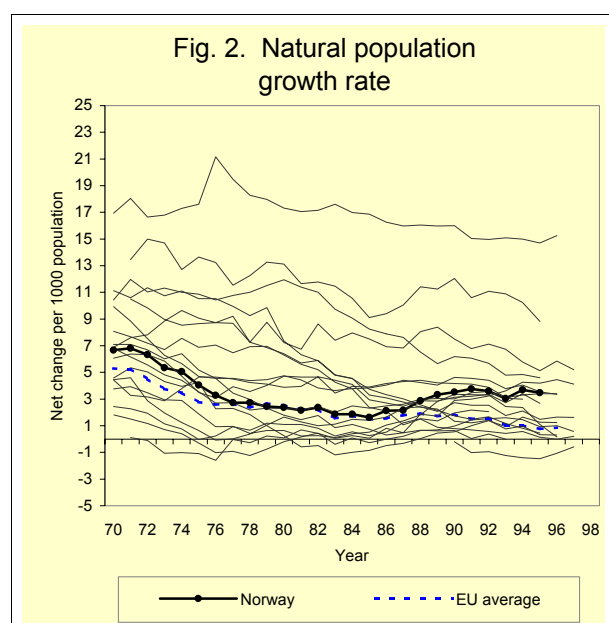
Migrant population and ethnic profile

Immigrants and ethnic minorities can have specific patterns of disease and health needs because of cultural, socioeconomic and behavioural factors and exposure to a different environment in their country of origin. Obtaining access to health care that can meet such specific needs and is culturally and linguistically acceptable can also be difficult. Moreover, many immigrants have a higher risk of living in relative poverty and being marginalized in their countries of residence, which can result in reduced health status compared with non-immigrants. Illegal immigrants, in particular, can find it difficult to obtain health care, and following up any care given can be problematic.

The immigrant population in Norway in 1997 included 4.5% first-generation immigrants and 0.8% second-generation immigrants. These numbers are low compared with many other countries. Twenty-seven per cent of the non-Norwegian citizens residing in Norway were from other Nordic countries, 34% from other countries in Europe (including 7% from Bosnia and Herzegovina), 6% from Africa, 22% from Asia and 7% from the Americas (*Statistics Norway, 1998*).

Immigrants predominantly settle in urban areas, as in most other countries, and there is a specific concentration in certain low-income areas of Oslo, the capital (*Statistics Norway, 1999a*).

The Sami people, an indigenous ethnic minority, reside in the three northernmost counties of Norway (and also portions of Sweden, Finland and the Russian Federation). The Sami



in Norway comprise about 30 000 people (Turner, 1998).

Education

The relevance of educational attainment to health is well documented. In Europe, where primary education is nearly universal, the proportion of the population with secondary or higher education would be an appropriate indicator of educational achievement. These were 66% of the Norwegians over 16 years in 1996 (Table 2), slightly more men than women (Statistics Norway, 1998).

The relatively high enrolment level in tertiary education and the very high enrolment level in secondary education make Norwegians among the most highly educated people in the world (United Nations Economic Commission for Europe, 1999).

Economy and labour

Norway is one of the most affluent countries among the reference countries. The GDP per person in 1997 was US \$24 423 in purchasing power parity (PPP) (Fig. 3). The gross domestic product in 1998 was derived mainly from private services (41% of GDP), government (16%), manufacturing (12%), exploitation of oil and gas resources (11%) and construction (4%) (Statistics Norway, 1999b). However, many people in the labour market have low income, more women (46%) than men (20%) (Ministry of Health and Social Affairs, 1996).

In 1997, the labour force participation in Norway was 67% among women and 78% among men. Unemployment is low. The overall unemployment rate was 4.1% (4.0% for men and 4.2% for women). Unemployment is more prevalent among young people (in the age group 16–24 years it was above 10% for both gender), whereas in the older age groups unemployment is virtually nonexistent (1.8% of men and 1.5% of women).

The unemployment rate is also higher than average among immigrants. The unemployment rate among first-generation immigrants was 7.2% in February 1999 versus 2.6% for the population as a whole (Statistics Norway, 1999c). The figures in May 1999 were 6.3%

and 2.2% respectively (Statistics Norway, 1999d). Immigrants from central and eastern Europe Turkey, Asia, Africa and Latin America had an overall unemployment rate of 10.5% in February 1999 (Statistics Norway, 1999c).

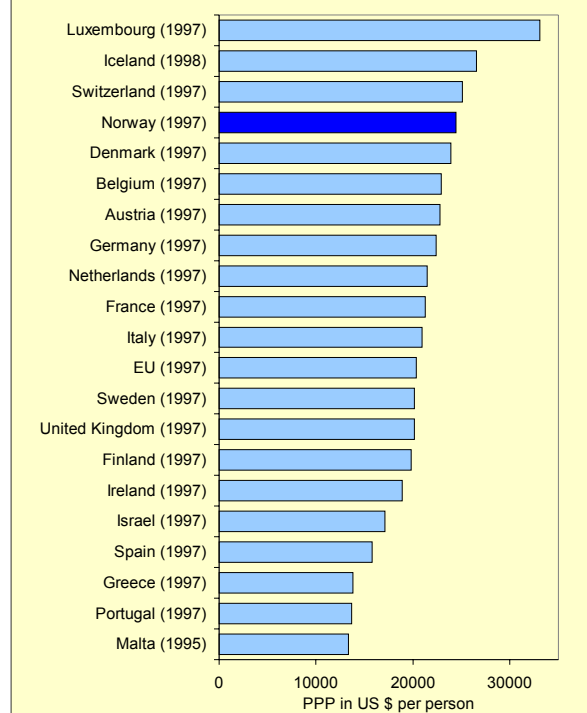
The main aim of Norway’s employment policy is employment for all. This aim is based on the recognition of the social importance of employment and minimizing the negative effects of the increasing dependency ratio.

Table 2. Highest level of education among the population of Norway over 16 years of age (%) in 1970, 1980, 1990 and 1996

	Secondary education	Tertiary education
1970	24	7
1980	32	11
1990	41	16
1996	46 (men 49%, women 43%)	20 (men 21%, women 19%)

Source: Statistics Norway, 1998

Fig. 3. GDP, PPP in US \$ per person



HEALTH STATUS

Life expectancy and health-related quality of life

In 1995, the overall life expectancy was 77.9 years (Fig. 4) This ranks ninth of the 20 reference countries. The figure was 81.0 years for women and 74.9 years for men. For both genders the life expectancy exceeded the EU rate (Fig. 5, 6). However, the EU life expectancy has been increasing faster than that of Norway, and the advanced positions of previous years have narrowed considerably.

The life expectancy at age 65 for men was 15.2 years in 1995 (Fig. 7).

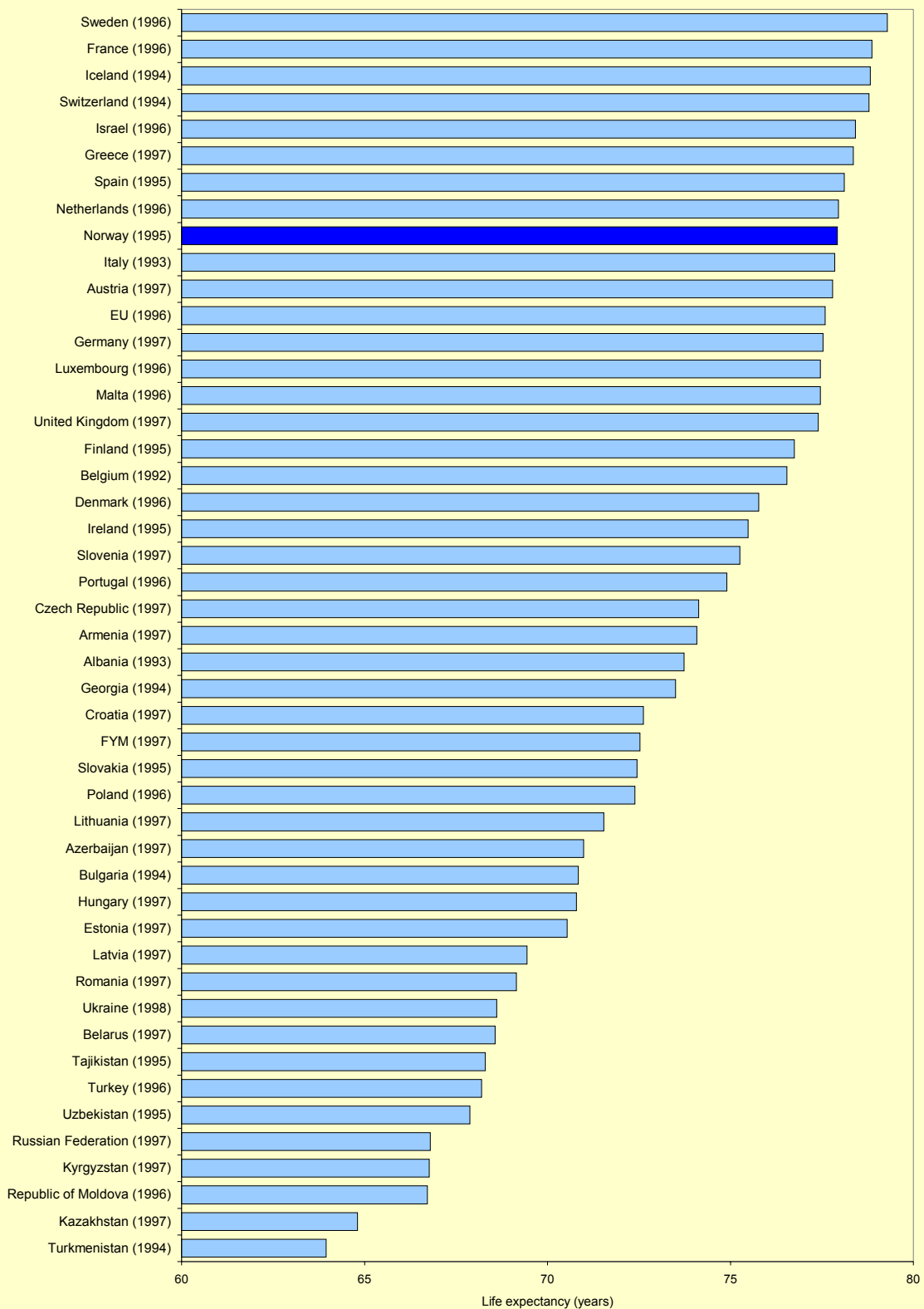
This has not increased as substantially in recent years as the EU rate of 15.4 years. For women, the life expectancy at age 65 was 19.3 years (Fig. 8). Similar to men, the EU rate has grown faster than that for Norway and now exceeds it slightly.

The loss in life expectancy from premature mortality is decreasing in Norway as in the EU as a whole (Fig. 9, 10). For both genders the loss in life expectancy from premature mortality (men 5.3 years; women 3.3 years, in 1995) was less than the EU rate in 1995. The progress among women in Norway has especially decelerated.

Table 3. Selected health indicators in Norway and the EU (1997 or latest available)

	Norway	EU	Minimum among EU countries	Maximum among EU countries
Life expectancy	77.9	77.6	74.9	79.3
Men	74.9	74.2	71.2	76.7
Women	81.0	80.7	78.6	82.8
Maternal mortality (1994–1996)	3.3	6.4	0.7	10.2
SDR for cardiovascular diseases per 100 000 population	295	285	181	385
SDR for cancer per 100 000 population	181	194	160	226
SDR for external causes per 100 000 population	42.9	42.6	28.5	79.1
New cases of tuberculosis per 100 000 population	4.7	13.5	5.1	51.4
New cases of AIDS per 100 000 population	0.8	3.7	0.4	11.7
Regular daily smokers, ≥15 years (%)	33.6	29.0	18.1	35.5
Registered alcohol consumption in litres per person	4.3	9.4	4.9	11.8
SDR: standardized death rate; AIDS: acquired immunodeficiency syndrome				

Fig. 4. Life expectancy at birth in years, latest available data



FYM: the former Yugoslav Republic of Macedonia

The WHO European Region includes 51 countries. Although the comparisons in the Highlights are made with the selected reference countries, Fig. 4 exceptionally presents all 46 countries in the Region for which data are available to include the broader regional perspective.

In summary, mortality in Norway changed from very good to more average levels compared with the reference countries. For men this change was mainly caused by convergence of the mortality rates of older people, whereas for women the convergence with the EU rate was more equally weighted between the age groups 0–64 years and 65 years and older.

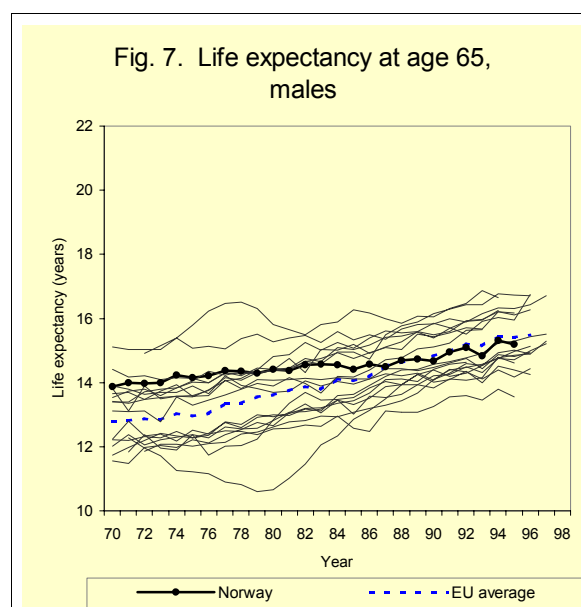
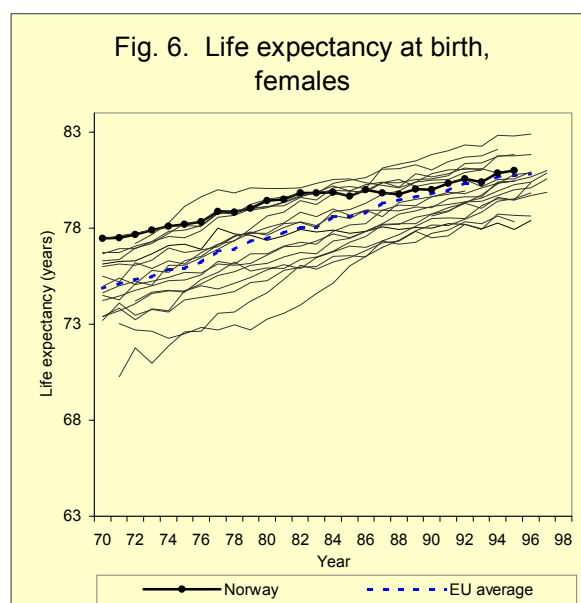
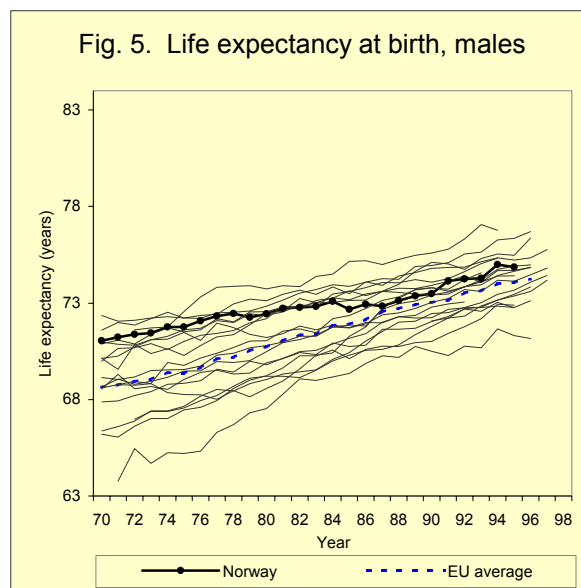
Two surveys have examined life expectancy free of chronic disease, in 1975 and 1985.

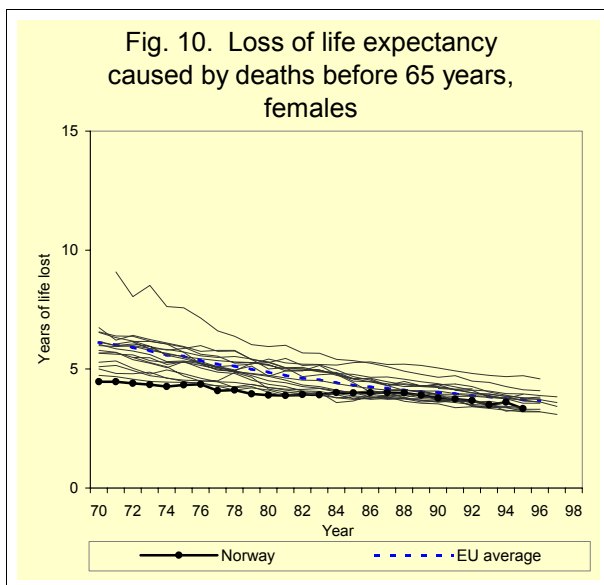
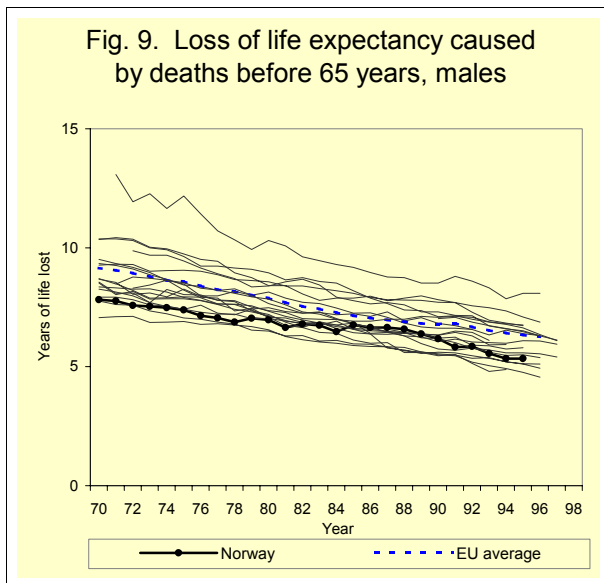
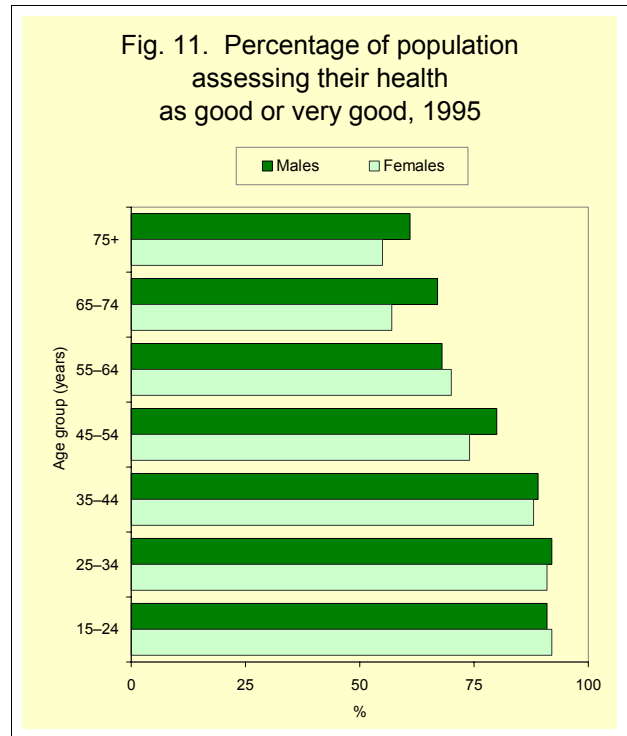
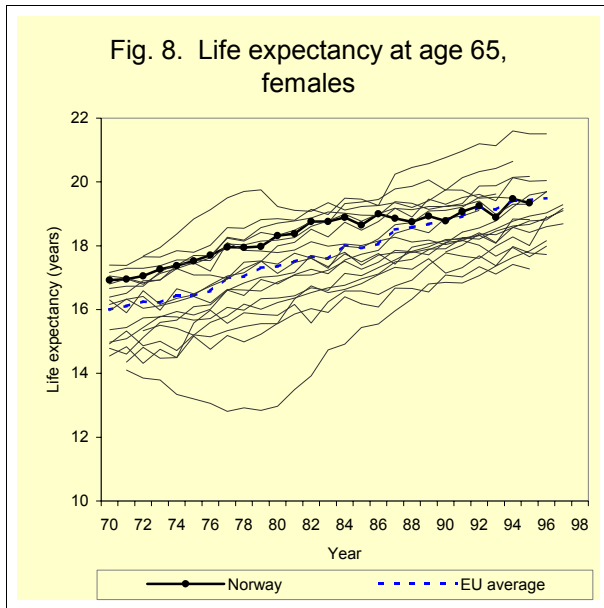
Although overall life expectancy increased from 1975 to 1985, life expectancy free of chronic disease declined from 39.1 to 38.9 years for men and from 39.6 to 37.9 years for women. At age 65 years, the life expectancy free of chronic disease was 3.8 years for men and 3.7 years for women in both 1975 and 1985.

Overall life expectancy at age 65 years increased for both genders but more slowly than did the EU rate (*Network on Health Expectancy and the Disability Process (REVES), 1998*).

These observations may indicate that Norway's health status declined relative to that of the EU during this period, and especially among women under 65 years. These observations also correlate with the slower increase in life expectancy. Changes in diagnosis and reporting between 1975 and 1985 may also play a role.

Longevity and disease-free life expectancy need to be complemented with an assessment of health-related quality of life. Self-assessment of health status (perceived health) is one general indicator of health-related quality of life. Overall, 79.5% of the people in Norway 15 years or older (81.3% of men and 77.5% of women) assessed their health as being good in 1995, as compared with 79.2% in Denmark, 78.4% in the Netherlands, 66.9% in Finland, 60.1% in Italy and 30.5% in Portugal. This proportion varied by age and gender (Fig. 11).





Social differences in health

The Minister for Health has emphasized that the level of health follows a social gradient (*Ministry of Health and Social Affairs, 1999a*). The higher the social position, the lower mortality, self-reported illness and effects of illness. In Norway this applies regardless of whether profession, education or income is used to indicate social status. This statement is based on the 1999 public health report of Norway (*Ministry of Health and Social Affairs, 1999b*), which highlights a number of critical factors. Norway's surveys of health and living conditions show that the reported prevalence rates of cardiovascular diseases and mental problems are several times higher in the group with the lowest income compared with the group with the highest income. Little evidence indicates that the social differences in health have diminished in recent decades. Another example of social differences in health is that the standardized death rate (SDR) in 1991–1994 in two of the most deprived districts in Oslo was 3.3 times higher for men and 2.1 times higher for women than in the most advantaged one (*Rognerud & Stensvold, 1998*).

The lowest mortality rates in Norway by occupation for both men and women are among teachers at all levels. The highest mortality among both men and women is in hotel and restaurant work.

Among men, unskilled workers had 40% higher mortality than professionals in 1980–1985. Among women, professionals had slightly higher mortality than unskilled workers in 1980–1985, but the difference is not statistically significant (*Ministry of Health and Social Affairs, 1996*). The eastern districts of Oslo have had excess mortality compared with western districts since the eighteenth century. The pattern is mainly explained by socioeconomic factors, but environmental factors also differ across Oslo (*Norwegian Board of Health, 1996*).

Main causes of death

Comparing the death rates from main causes between countries can indicate how far the observed mortality might be reduced. As almost all the causes underlying the deaths attributed to cardiovascular diseases, cancer and accidents are influenced by collective and individual habits and behaviour, a wide variety of health promotion and prevention measures can bring about changes to reduce health risks and thus disease and premature deaths. In general, Norway's age- and sex-specific death rates by cause are equal to or below the EU rates. The main causes of death are cardiovascular diseases, cancer and external causes of death and injury.

Cardiovascular diseases

The most frequent cause of death is cardiovascular diseases (CVD). The SDR from CVD declined from 461 per 100 000 population in 1970 to 295 in 1995 (both genders), similarly to the EU rates.

In the age group 65 years and older, CVD is also the most common cause of death. Although mortality from CVD has declined constantly since 1970, it was previously much lower than the EU rate but is now closer.

In the age group 0–64 years, the CVD mortality of men was above the EU rate in the 1980s

(Fig. 12), but these rates are now equal. The CVD mortality of women 0–64 years was lower than the level in the EU but has also converged to the same rate (Fig. 13).

The mortality from ischaemic heart disease is higher than in the EU, both in the age group 0–64 years (Fig. 14, 15) and among those 65 years or older.

The mortality from ischaemic heart disease displays large regional differences. The highest mortality in 1991–1995 was in Finnmark County in the north: 29% higher than the national rate among women and 41% higher among men. Counties with low mortality during 1991–1995 include Sogn og Fjordane County on the west coast and Aust-Agder County in the south. In Sogn og Fjordane,

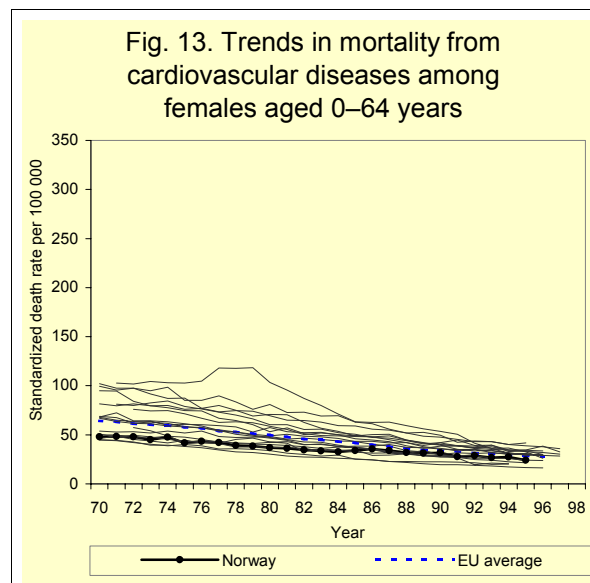
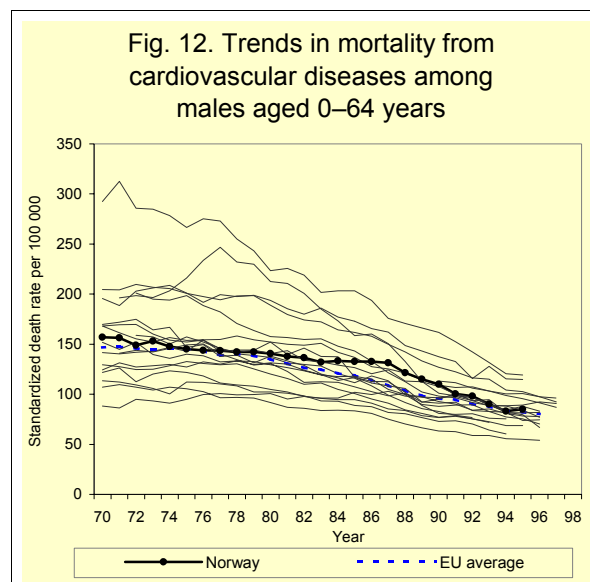


Fig. 14. Mortality from ischaemic heart disease among males aged 0–64 years, latest available data

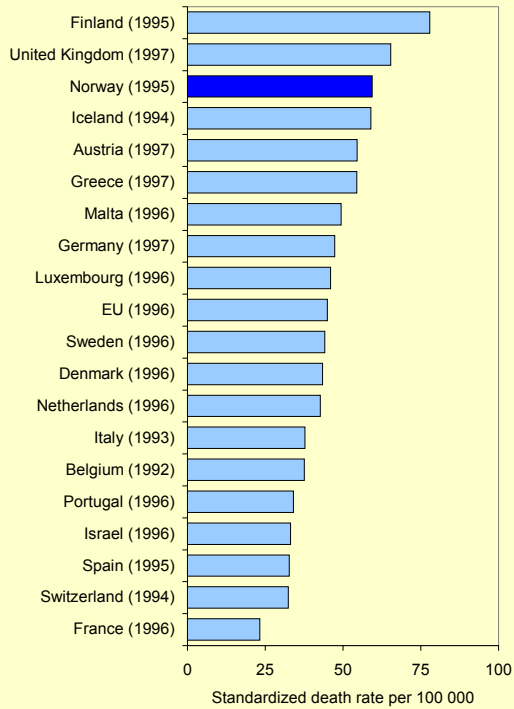


Fig. 16. Mortality from cerebrovascular diseases among males aged 0–64 years, latest available data

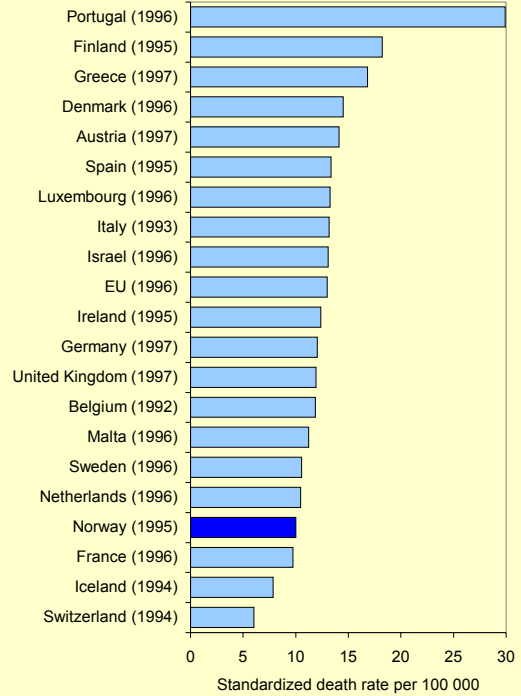


Fig. 15. Mortality from ischaemic heart disease among females aged 0–64 years, latest available data

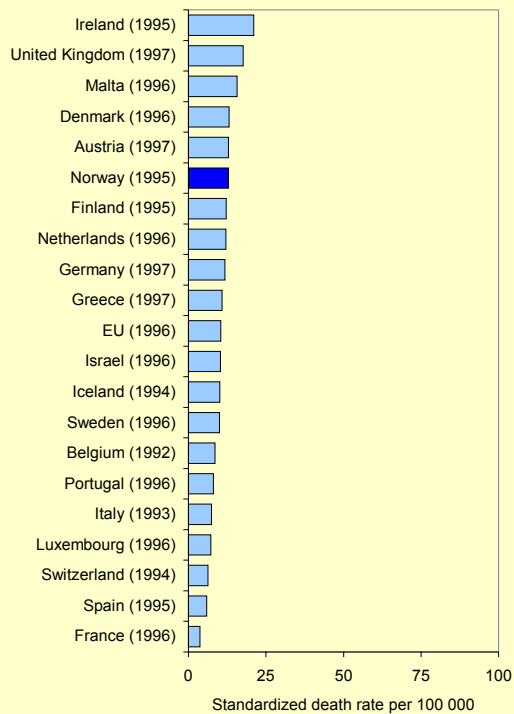
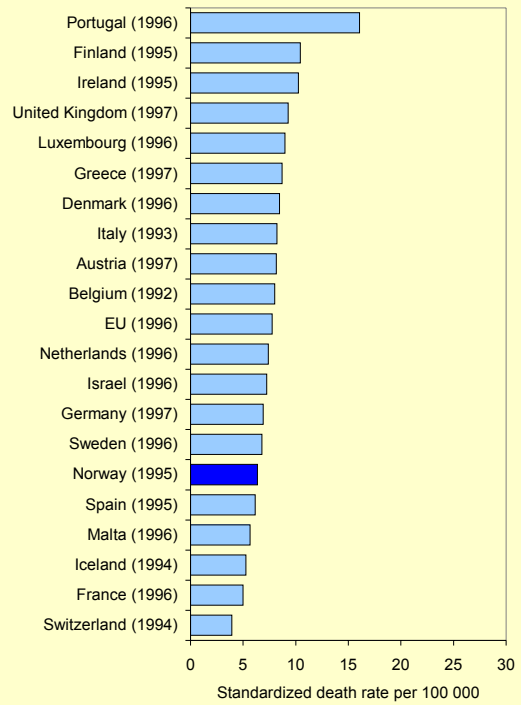


Fig. 17. Mortality from cerebrovascular diseases among females aged 0–64 years, latest available data



the mortality from ischaemic heart disease among men was 17% lower than the national rate and 15% lower among women. The regional differences in total mortality from CVD are similar (*Ministry of Health and Social Affairs, 1999b*).

The mortality from cerebrovascular disease is lower in Norway than in the EU for the age group 0–64 years (Fig. 16, 17). Among people 65 years or older, mortality was previously slightly lower than for the EU. In recent years, however, the gap has narrowed.

Cancer

The mortality from cancer in males is lower than in the EU, and an increasing trend has levelled off. The rates for females have been increasing, in contrast to the declining trend in the EU. In the age group 0–64 years, the male mortality is lower than the EU rate, whereas for females, the SDR has decreased less than the rate for the EU has and has mostly exceeded the EU rate since 1985 (Fig. 18, 19). The rates for males and females are similar in Norway, whereas the EU rate for males is much higher than that for females.

The mortality from cancer among people 65 years or older has also converged with the EU rate from previously lower levels. Mortality from cancer is thus an important part of the relative deceleration of progress in mortality, and probably health in general, in Norway.

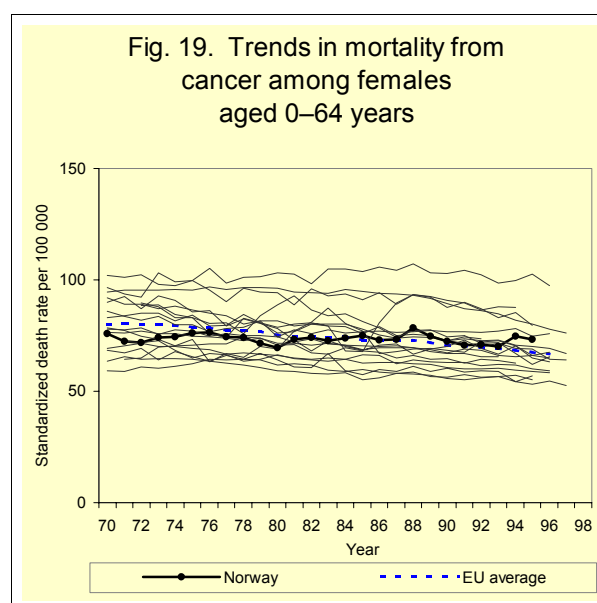
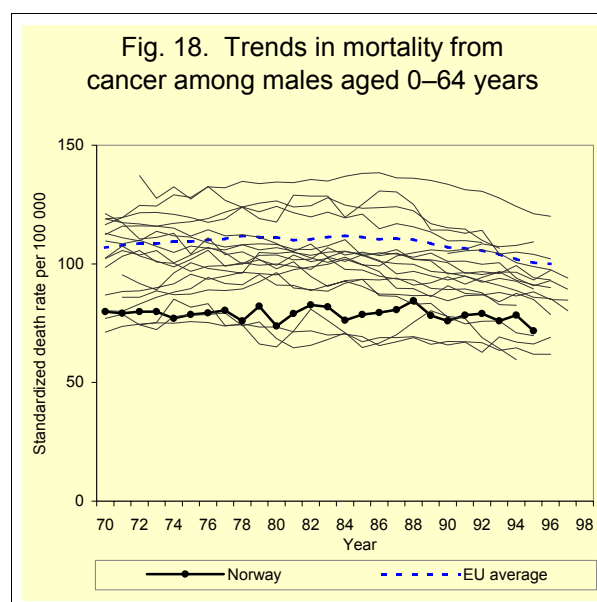
The mortality from lung cancer among men in Norway is low compared with men in other countries but higher than that among women in Norway. In 1995, the SDR for males aged 0–64 years from lung cancer was 18.1, substantially below the EU rate of 29.9 (Fig. 20).

The mortality from lung cancer among women has been increasing more rapidly than in the EU and has exceeded the EU rate since the mid-1980s (Fig. 21). In 1995 the SDR from lung cancer among females 0–64 years was 10.1 per 100 000 population versus 7.0 per 100 000 for the EU.

Mortality from lung cancer has increased among women 65 years or older and has begun to exceed the SDR for the EU in recent years.

The overall incidence of lung cancer was 41 per 100 000 and the SDR was 31 per 100 000 in 1995. These figures roughly indicate the poor chances of surviving lung cancer.

Cancer is a more frequent cause of death in southern Norway than in the north, for both genders. However, cancer of the stomach is most frequent in northern and western Norway and least frequent in the areas around Oslo. Breast cancer is more frequent in urban areas. Lung cancer has a very specific regional pattern. There is no north-south axis, but the mortality follows the smoking pattern (*Ministry of Health and Social Affairs, 1996*).

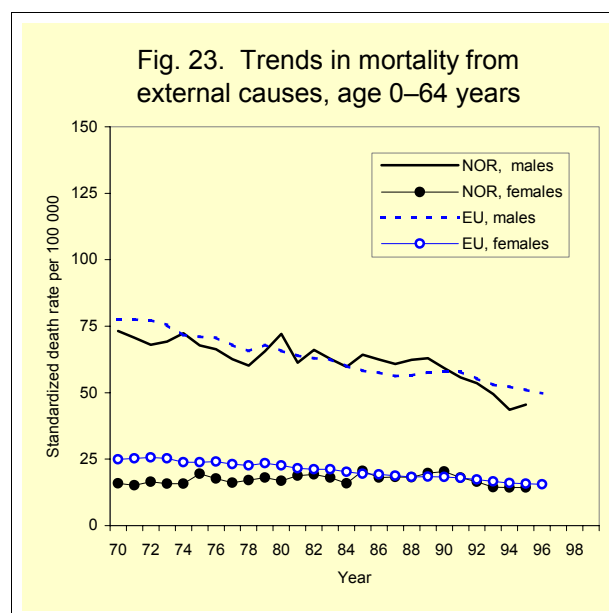
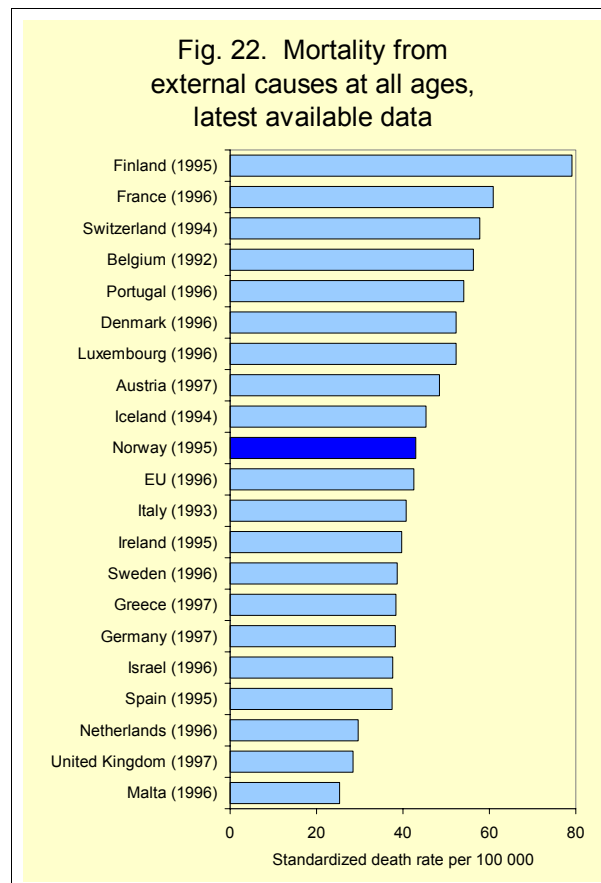
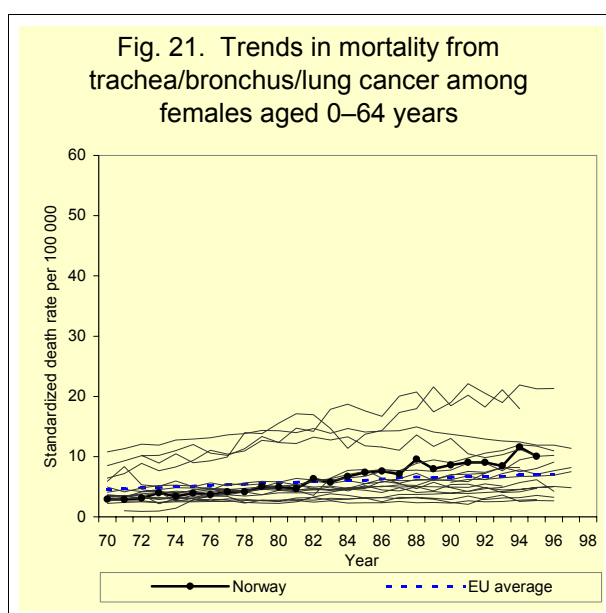
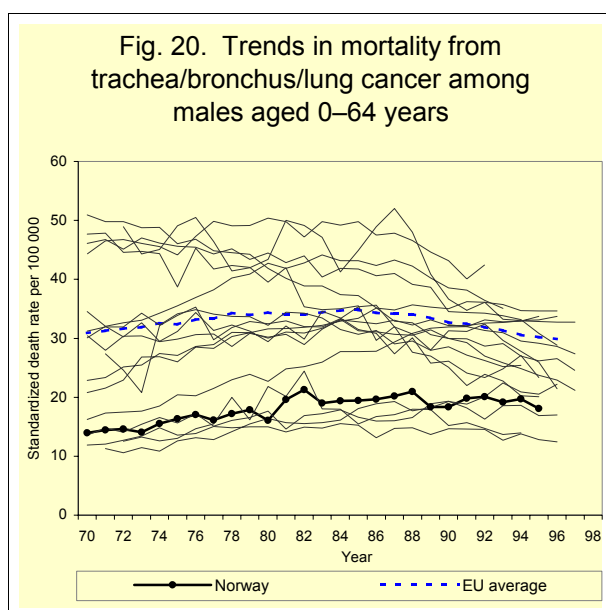


External causes of death and injuries

External causes of death and injuries covers all deaths caused by accidents, injuries, poisoning and other environmental circumstances or events such as violent acts (homicide) and suicide. The trend for mortality from these causes, and in particular from road traffic accidents, has been declining in western Europe since 1970.

Mortality from external causes in Norway was 43 per 100 000 in 1995, close to the EU rate (Fig. 22). In 1970 the rate was lower than

that for the EU. However, in the 1970s and the 1980s the rate in Norway stagnated while the EU rate declined. In the 1990s the rate declined more sharply in Norway than in the EU and the rates converged.



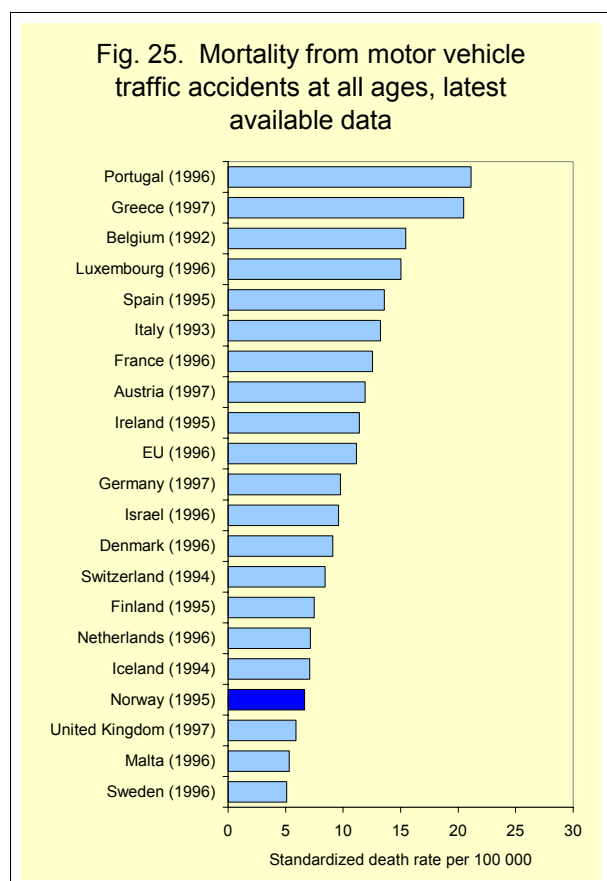
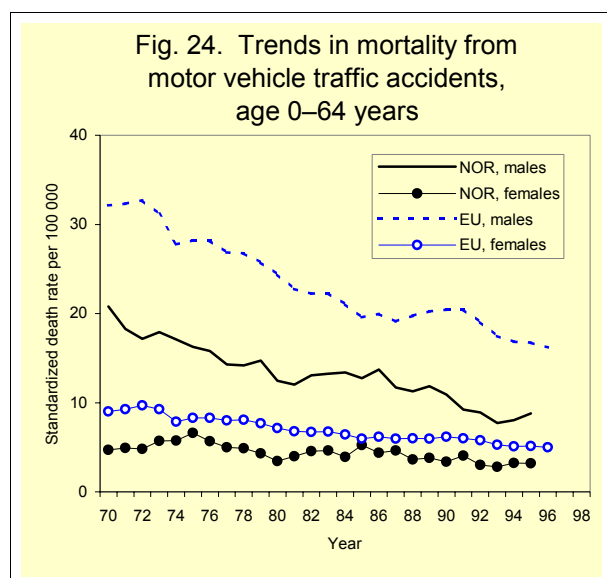
For men aged 0–64 years, the SDR from external causes is close to the level for the EU. The SDR for women aged 0–64 years was below the EU rate until the mid-1980s and has been very close since then (Fig. 23). In the age group 65 years or older, the mortality from external causes for men has not shown a clear trend and remained at the level of the early

1970s, slightly higher than the EU rate in 1995. For women 65 or older, the mortality is following the declining EU rate.

The mortality from external causes can be divided into four groups: motor vehicle accidents, suicide, homicide and other external causes. The mortality from motor vehicle traffic accidents (Fig. 24, 25) is lower than the EU rate and also follows the overall downward trend, but this is not the case for other external causes, including occupational accidents and home and leisure accidents. In particular, the rate among people 65 years or older is higher than the EU level. For men 65 years or older, the overall trend since 1970 is increasing (Fig. 26), even though mortality from motor vehicle traffic accidents is decreasing.

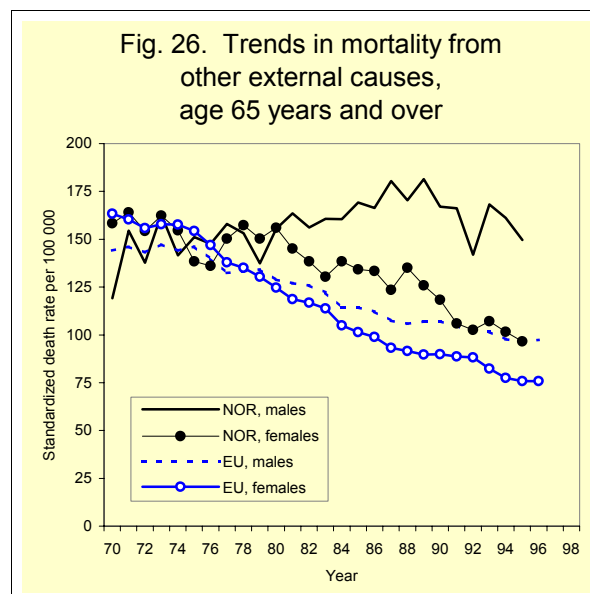
The SDR from homicide and purposeful injury has been below the level for the EU in recent years and displays a fluctuating trend (Fig. 27).

One specific problem is that Norway has one of the highest incidence rates of hip fracture in Europe – especially high in Oslo and lowest in the western part of Norway.



Mental health

Although mental and psychosocial wellbeing is an important aspect of health-related quality of life, too little information is usually available to allow these very important dimensions of the population's health to be described reliably.

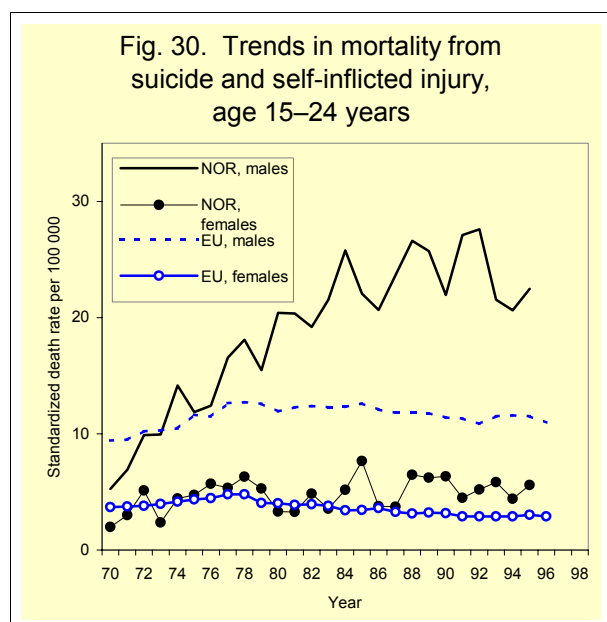
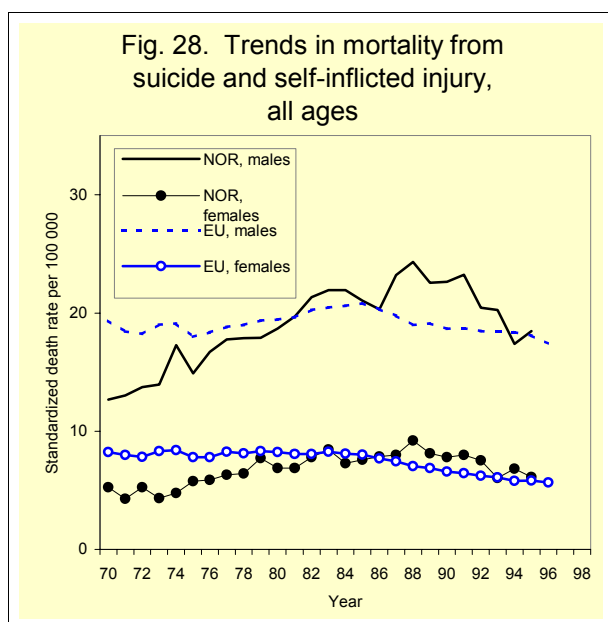
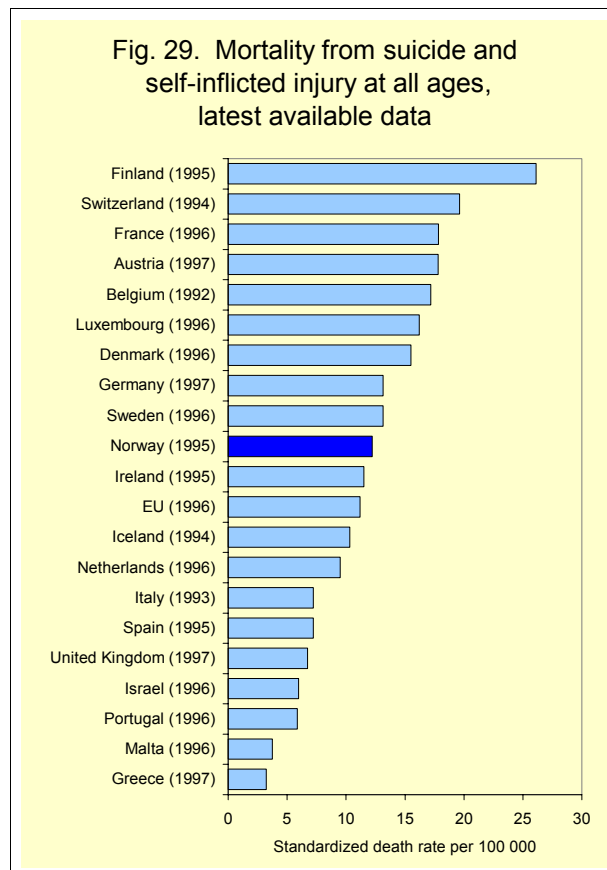
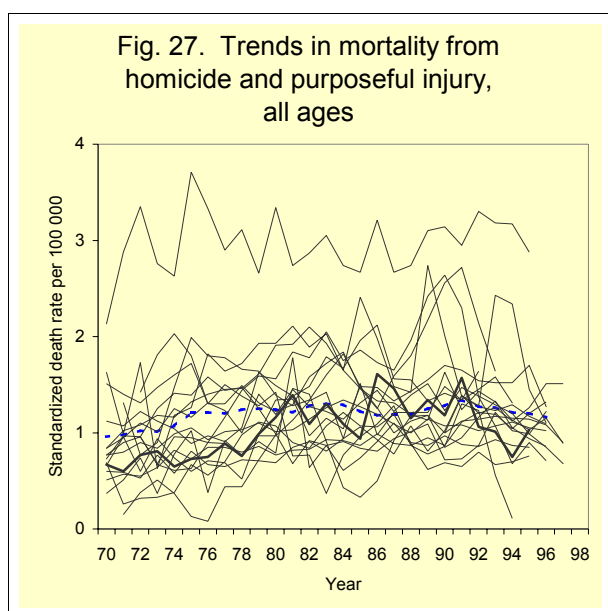


Suicide can be used as an indicator of the overall level of mental health.

Mortality from suicide was rising until the mid-1980s in practically all age groups (Fig. 28). Since then the rates have declined in most age groups to the EU rates (Fig. 29). However, this is not yet the same for people aged 15–24 years, and especially men (Fig. 30).

Unfortunately, several other reference countries have such a rising trend. The highest rates are in the north (Finnmark County) and in Oslo.

According to the 1999 public health policy statement (*Ministry of Health and Social Affairs, 1999a*), the prevalence of mental problems is estimated to be 15–20% in the general population and 10–12% for diagnosable mental disorders. This means that about 800 000 people in Norway have a mild mental problem



or more severe mental disorder. It is uncertain whether the incidence of such disorders has increased in the last one or two decades. Nevertheless, at the beginning of 1998 mental disorder was the main reason for disability for more than one fifth of disability pensioners. The share of new disability pensions awarded because of mental disorders has increased, and the increase among younger age groups has been very large.

AIDS and HIV infection

The acquired immunodeficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV), which can be transmitted in three ways: sexual transmission; transfusing infected blood or blood products or using non-sterile injection equipment; or from mother to child. The incubation period between initial HIV infection and developing AIDS is about 10 years or more.

Norway's incidence rate was 0.8 cases of clinically diagnosed AIDS per 100 000 population in 1997, down from 1.7 in 1994. The rate is lower than the level for the EU (Fig. 31). AIDS incidence rates in all reference countries have the same declining trends since about 1995, which shows the effect of preventive measures aiming to change people's behaviour. Norway had a cumulative total of 1771 HIV-seropositive people from 1984 to 1997. (Table 4). The risk factor of

heterosexual contact has become the largest category of mode of transmission, increasing from 17% of new cases of HIV infection in 1984–1997 to 34% in 1997 (Table 4). The category of infection contracted outside Norway by immigrants from countries with high prevalence of HIV infection increased from 16% during the entire period to 26% in 1997. In 1984–1997, 37% had the main risk factor of homosexual or bisexual contact; this proportion declined to 27% in 1997. Intravenous drug use decreased from 22% in 1984–1997 to 9% in 1997.

Other infectious diseases

Several vaccine-preventable diseases of childhood have been eradicated through comprehensive immunization programmes. The recommended schedule includes immunization for measles, mumps, rubella, diphtheria, tetanus, pertussis, poliomyelitis and meningitis caused by *Haemophilus influenzae* type b. The lowest immunization coverage in Norway in 1995 was 91.5% for poliomyelitis. Most of these diseases do not represent a threat to children's health except for meningitis. A vaccination programme has reduced the number of meningitis cases substantially.

Norway's hepatitis incidence rate is well below that of the EU but has increased in recent years. In 1994, there were only 3.1 cases per 100 000 inhabitants, a historically low value. In 1997, the rate was 11.8. The EU rate in 1997 was 23.6 per 100 000 population.

Syphilis has virtually been eliminated in Norway: in 1998 the incidence rate was 0.25 per 100 000 population (11 cases). As in other countries, the incidence of gonococcal infection has declined sharply in recent years: 4.2 cases per 100 000 population in 1997 versus 7.6 for the EU.

Immunization coverage against tuberculosis was 99% in 1992. Incidence rates for tuberculosis are low: 4.7 per 100 000 in 1997 versus 13.5 in the EU (Fig. 32)

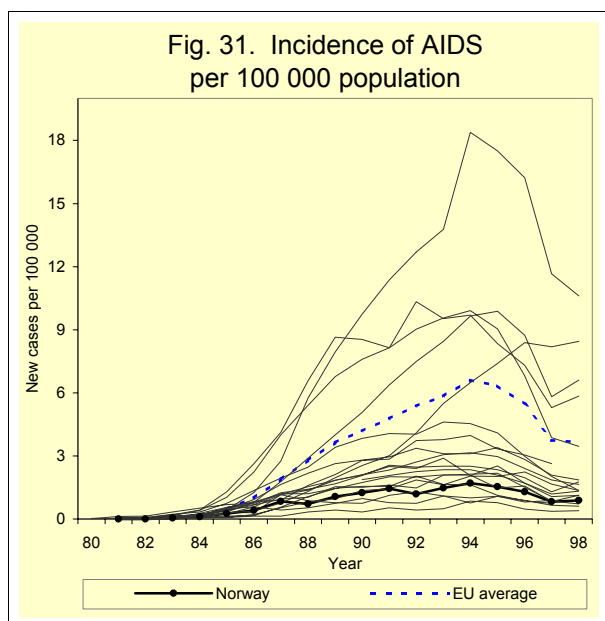


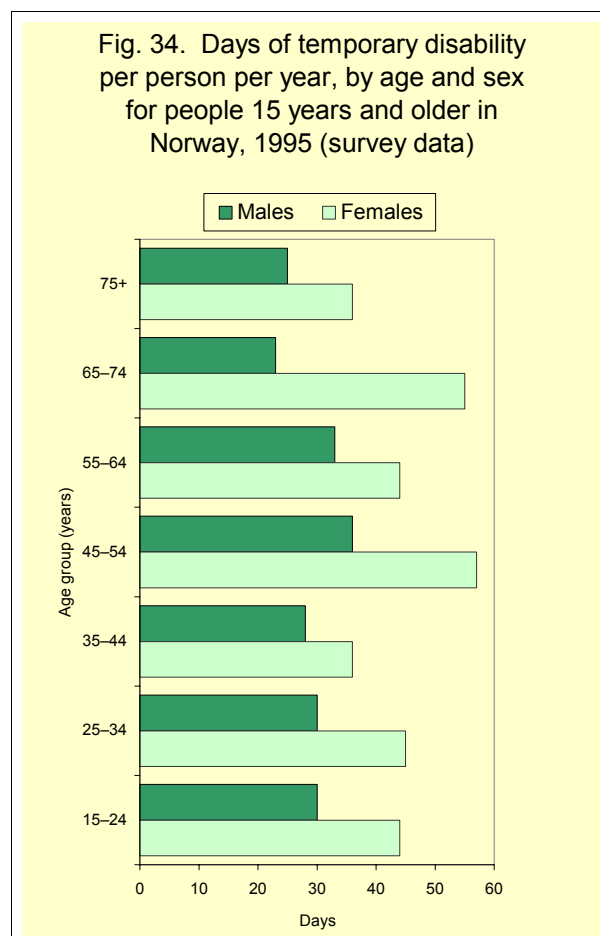
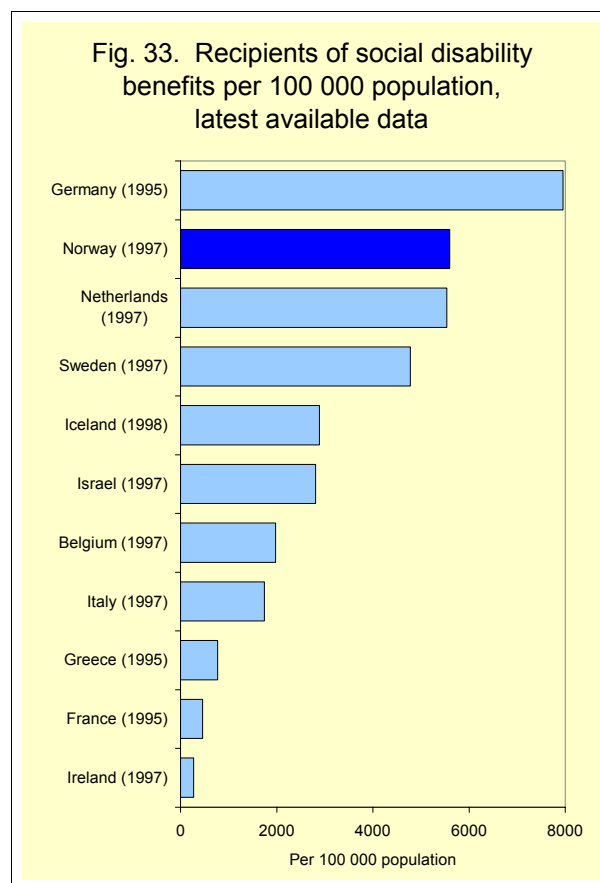
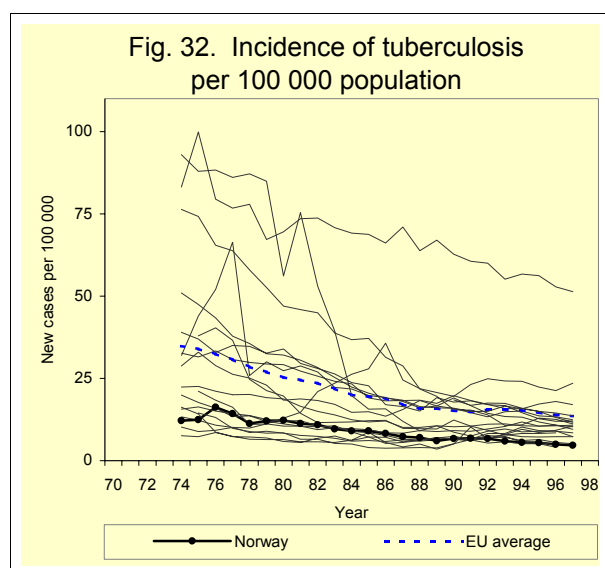
Table 4. New cases of HIV infection in Norway by mode of transmission and year, 1984–1997														
	1984–1997 cumulative total		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
	<i>n</i>	%												
Mode of transmission	1 771	100.0	194	194	145	135	90	142	105	113	94	105	116	111
Homo- or bisexual contact, males (A)	664	37.5	70	72	46	48	36	59	28	43	37	45	35	30
Intravenous drug abuser (B)	387	21.9	96	67	31	24	19	14	11	11	11	9	8	10
Combination of A and B	32	1.8	8	2	2	5	3	2		1	1	2	1	
Transfusion because of haemophilia or coagulation disorder	21	1.2	1											
Other transfusion	23	1.3		5	10	1		1	2	1				
Heterosexual contact	309	17.4	11	29	33	22	18	22	29	27	17	24	33	38
Immigrant from an area with high prevalence	287	16.2	6	19	20	30	11	40	31	29	17	23	31	29
Mother to child	10	0.6	1			3	2	1					3	
Other or unknown	38	2.1	1		3	2	1	3	4	1	11	2	5	4
<i>Source: Statistics Norway (1998)</i>														

Disability

The prevalence of long-term illness and disability is an important indicator of a population's health status and health-related quality of life. In Norway, the number of new registered disability cases per 100 000 population was 580 in 1995. The number of such new certified disability cases per 100 000 population fell from 840 in 1987 to 461 in 1993. From 1993 to 1995 the number increased. A total of 5.6% of the population was receiving disability benefits in 1997 (Fig. 33). These figures also reflect differences in national eligibility criteria.

In the 1995 health interview survey in Norway, 6.1% (age-standardized) of people aged 15 years or older reported subjectively experienced long-term physical disability. More men than women (2.4% and 2.1% respectively) had a higher level of disability, whereas the reverse was the case for a lower level of disability, which 3.1% of men and 4.6% of women experienced. Norway's figures were the lowest of the countries that reported data to WHO for this project. The figures should be compared cautiously, as indicators are not sufficiently comparable for all countries.

Norway seems to have a high level of temporary disability. Temporary disability is more prevalent among women than among men in all age groups. There is no clear age-related trend (Fig. 34). In 1995, the average number of days of temporary disability was 30 for men



and 43 for women versus 24 for men and 34 for women in the Netherlands, the second highest of the five countries reporting data (the others were the Czech Republic, Finland and Portugal).

Health of children and adolescents

The first year of life is a critical phase as regards mortality; only after the age of 55 years do death rates return to the same level. In Norway, the infant mortality rate was 4.1 per 1000 live births in 1995 versus 5.8 for the EU (Fig. 35, 36). Although Norway has traditionally scored very well on this indicator, infant mortality is still a matter of concern in Norway, as until 1994 the rate was higher than that in Sweden, which is often used for comparison. The authorities aim to further reduce infant mortality by reducing smoking among pregnant women and new mothers (*Ministry of Health and Social Affairs, 1996*).

The counties with the lowest infant mortality rates in 1991–1995 include Sogn og Fjordane (on the west coast) at 3.6 per 1000 live births and Vestfold (southwest of Oslo) at 3.8. In contrast, Finnmark County had 9.7 per 1000 live births and was the only county in Norway in which the rate increased from 1986–1990 to 1991–1995 (*Statistics Norway, 1998*).

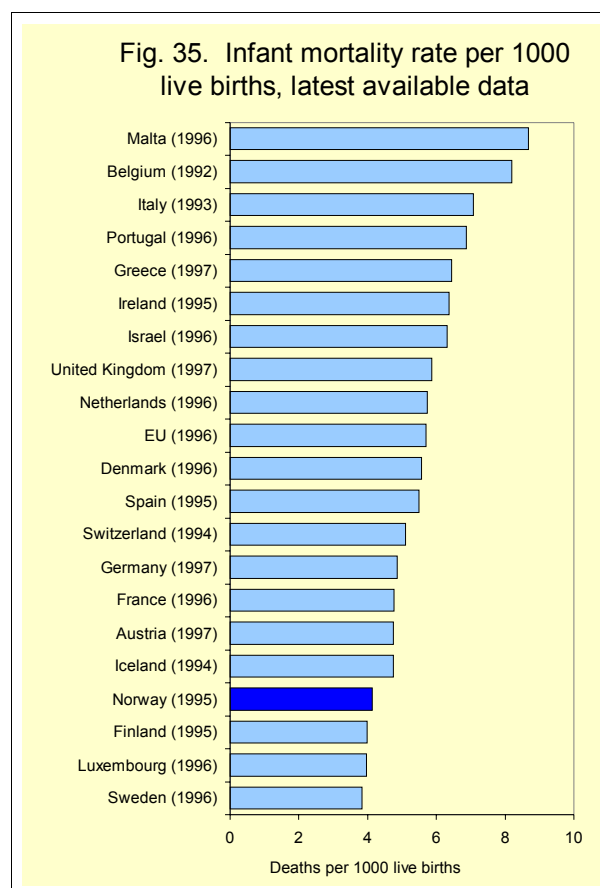
Neonatal mortality is low: 2.7 per 1000 live births versus 3.8 in the EU in 1995. Postneonatal mortality was 1.4 per 1000 live births in 1995 versus 2.2 for the EU, mainly because of a sharp decline in sudden infant deaths (*Ministry of Health and Social Affairs, 1996*).

The percentage of live births with low birth weight is one of the smallest among the reference countries (4.7% in 1997). The level has not changed substantially over the past 25 years.

Mortality among children 1–14 years old decreased steadily from an SDR of 50.6 in 1970 (versus 58.4 for the EU) to 18.4 in 1995 (versus 21.6 in the EU). The main causes of death in this age group are cancer and accidents. The mortality from accidents is similar to the EU level. However, Norway has a substantially higher incidence of accidents than does Sweden, which has caused increased public health

concern (*Ministry of Health and Social Affairs, 1996*).

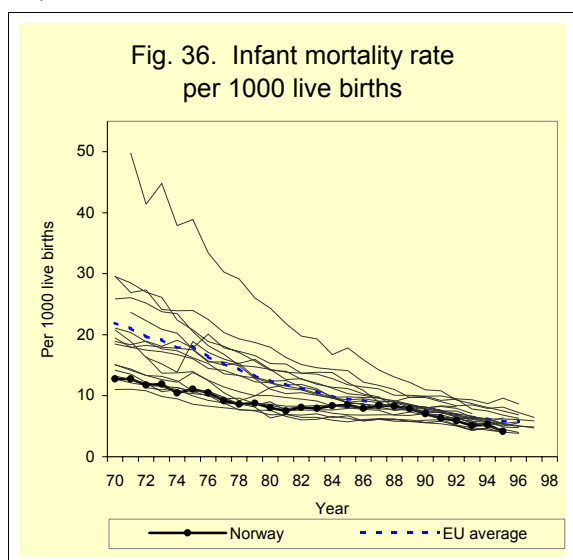
Children's oral health has improved significantly over the past decade because of preventive efforts, including treatment with fluoride. Fluoride, in the forms of mouth rinsing and fluoride tablets, was introduced in Norway in the early 1970s. Mouth rinsing in school programmes was abolished in the early 1980s. Fluoride toothpaste was introduced for sale without prescription in about 1980. About 90% of all toothpaste sold today has fluoride, and this is the largest source of oral fluoride in Norway. The number of decayed, missing or filled teeth per person at age 12 was 8.4 in 1980 and 1.9 in 1995 (Fig. 37). In 1980, Norway's score was close to twice the EU score, but in 1990 Norway had 2.7 and the EU 3.4. Recent data are available from few countries. Norway's scores are slightly worse than those in other Nordic countries but better than the scores in many other European countries.



Adolescents make 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, adopting an unhealthy lifestyle pattern can lead to chronic degenerative diseases. This is also a transition phase in the life cycle when social insecurity compounded by, for example, unemployment, can lead to mental health problems.

A study on schoolchildren's health in 1985 showed that almost half the schoolchildren suffered from irritability, 29% from insomnia and 22% from headaches once a week or more frequently. More girls than boys suffered from such disorders (*Ministry of Health and Social Affairs, 1996*).

One of the few routinely available indicators of adolescents' sexual health and behaviour is the rate of teenage childbirth, which can reflect social factors as well as access to and use of contraception. The births to mothers under 20 years of age have declined in almost all the reference countries in recent decades (Fig. 38). The frequency of all teenage pregnancies, as indicated by the sum of births and legal induced abortions, is presented for 13 reference countries in Fig. 39. Norway has relatively many teenage pregnancies. Most teenage pregnancies in Norway, however, end with abortion: 1497 abortions per 1000 live births among women under 20 years in 1997 (Fig. 40).

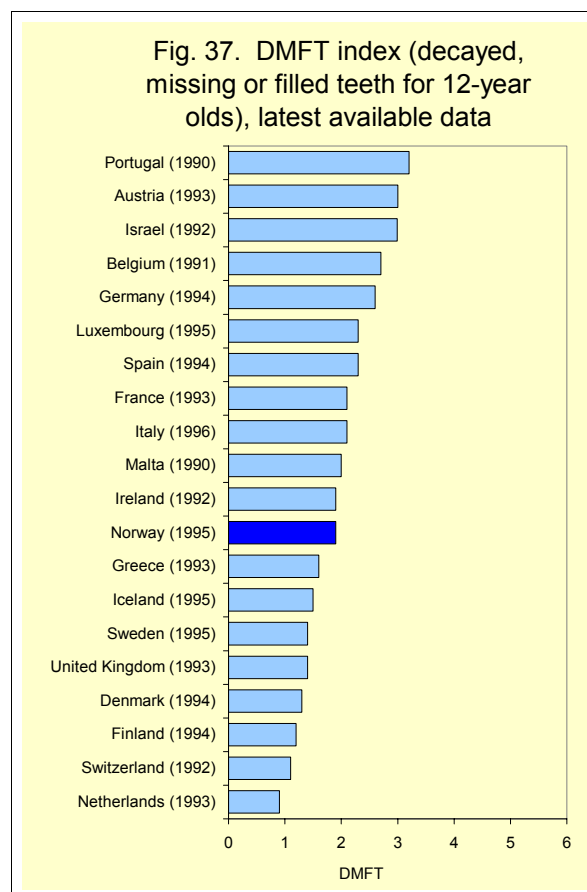


Another indicator is sexually transmitted diseases among teenagers. In 1998, 3 of 178 notified cases of gonorrhoea and none of the 11 cases of syphilis were among people under 18 years.

Women's health

Women as a group live longer than men and have lower mortality rates for most causes of death. However, women have higher rates of morbidity and utilization of health care services (especially related to childbirth), and they can be more affected by social welfare policies than men are. As described earlier, the life expectancy at birth for females in Norway is 81.0 years, about the same as in the EU. The gender gap in life expectancy at birth is 6.1 years. At age 65, the gender gap is 4.1 years, a pattern similar to that in most countries.

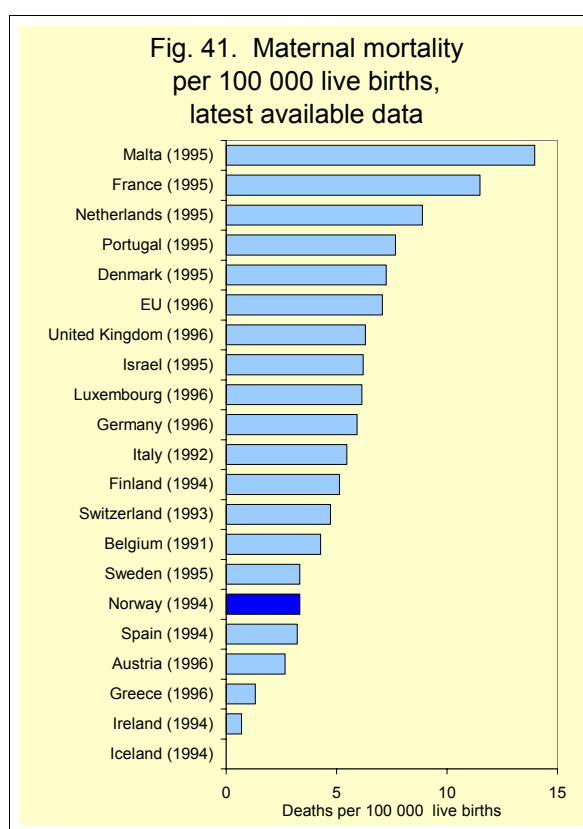
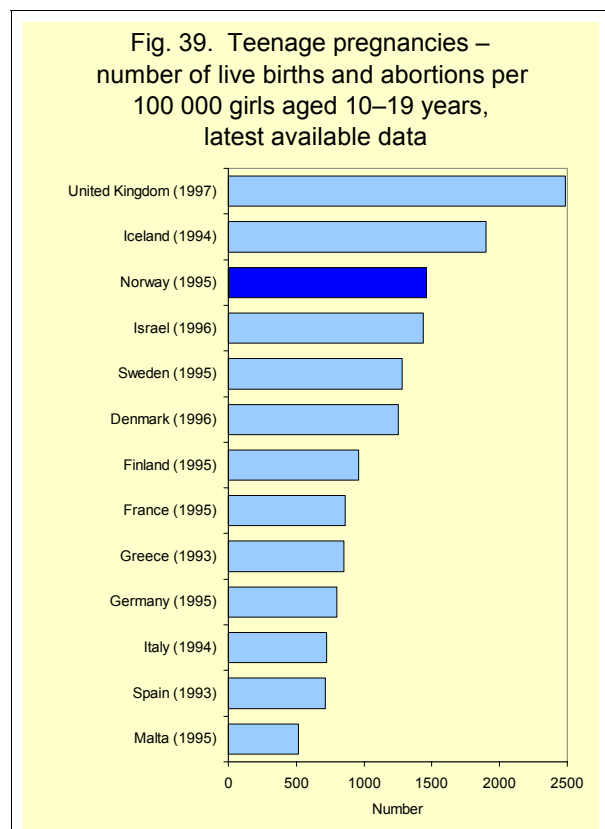
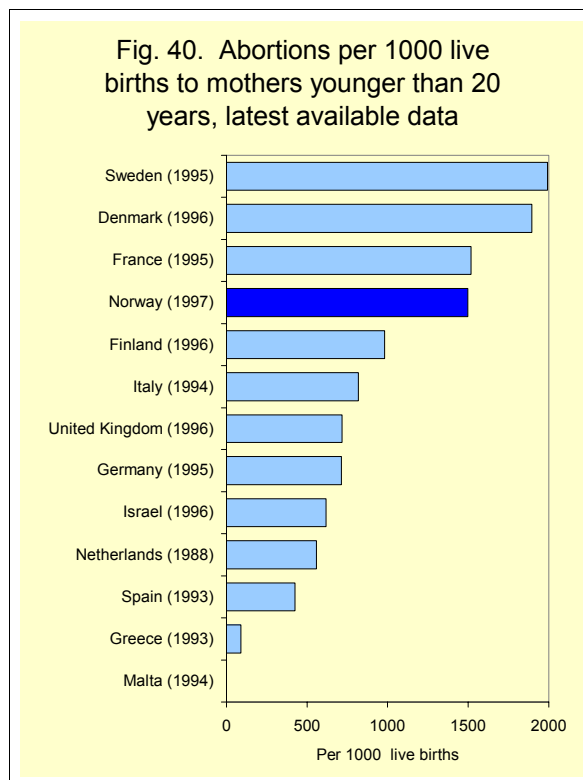
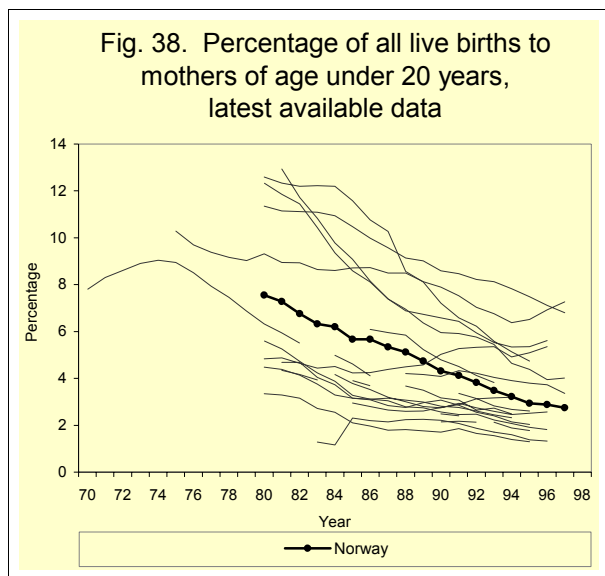
The mortality from lung cancer is relatively high among women, similar to the other Nordic countries. As mentioned, the rate of increase among women 0–64 years old is also higher than the increase in the EU (Fig. 21).



The number of maternal deaths in Norway is low and there is no trend as such. In 1994 there were no maternal deaths but the estimate was 3.33 per 100 000 live births, calculated as a 3-year average for 1993–1995 (Fig. 41).

The number of registered induced abortions (all ages) was 234 per 1000 live births in 1997 (Fig. 42) versus the EU rate of 198 per 1000 live births in 1995.

The mortality from cancer of the cervix is above the EU rate. Norway's rate is declining, although the absolute number of deaths is very low and fluctuation is large (Fig. 43).



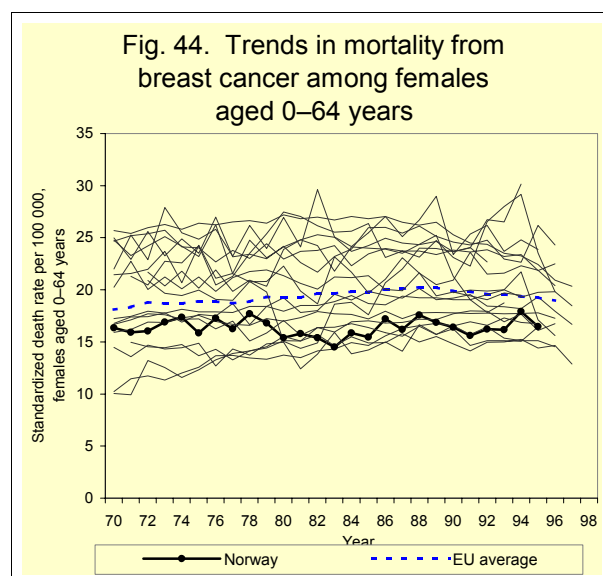
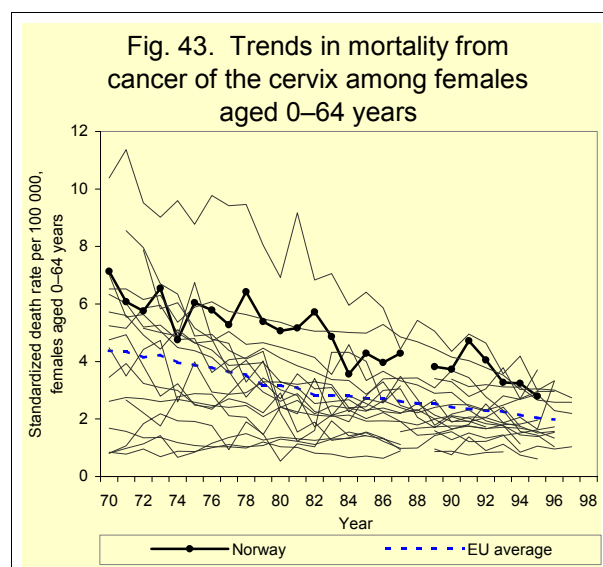
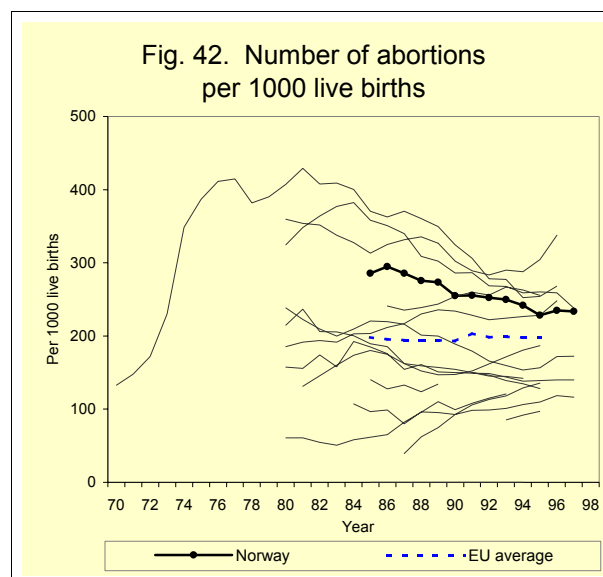
The mortality from breast cancer declined until 1983 and has increased somewhat since then.

Other countries have also had increasing rates since the early 1980s. Norway's mortality from breast cancer among women is below the EU level (Fig. 44).

The incidence rate for breast cancer is 104.3 and the SDR is 27.1 per 100 000 population. The incidence rate for cervical cancer is 16.2 and the SDR is 4.2 per 100 000 population.

In 1994, 23% of women and 16% of men aged over 16 years had some disability that reduced their ability to work. Data from interview surveys show that women report a higher prevalence of chronic conditions than do men (*Øverås, 1995*). More women than men were discharged from hospitals (16.5 discharges per 100 women in the population and 13.1 per 100 men in 1996): some of the difference results from pregnancy-related discharges (*Statistics Norway, 1998*).

Women account for most of the contacts with GPs. Except for the age group over 80 years of age, females utilize more general practice services in all age groups. Of the 13 million contacts in general practice, women account for 65%. The gender difference is sustained even when contacts related to pregnancy and other conditions related to the female reproductive organs are subtracted. For both genders, musculoskeletal disorders was the single most frequent reason for encounter with a GP. This is also the disease group with the largest gender difference (*Ministry of Health and Social Affairs, 1996*).



LIFESTYLES

Among the factors (including genetics and the physical and social environments) influencing health, behaviour substantially affects the health and wellbeing of each individual and the population. Lifestyle patterns such as nutritional habits, physical activity and smoking or heavy alcohol consumption together with the prevalence of such risk factors as elevated blood pressure, high serum cholesterol or overweight influence premature mortality, especially from cardiovascular diseases and cancers. These diseases are the main causes of death in Europe. Unhealthy behaviour also contributes to a wide range of other chronic illnesses and thus affects the quality of life in general.

Lifestyle, however, is also influenced by behavioural patterns common to a person's social group and by more general socioeconomic conditions. Evidence is growing that, at least in most western European countries, improvements in lifestyles have largely been confined to the more socially and economically privileged population groups, who are better placed to adopt health-promoting changes in behaviour (*WHO Regional Office for Europe, 1993, 1999*).

Tobacco consumption

The percentage of regular daily smokers among the population aged 15 years or older was 33.6% in 1997 versus 29.0% in the EU in 1994 (Fig. 45). Among men, 34.5% were regular daily smokers and 32.8% among women. The difference between men's and women's rates in Norway is the smallest in the European Region except for Sweden, in which 16.7% of men and 22.2% of women smoke. The prevalence of women smokers in Norway is the second highest (to Denmark) in the European Region.

Very few people in Norway smoke more than 20 cigarettes a day: 3% in 1995. This explains why the number of cigarettes consumed per person is relatively small. In 1997, 661 cigarettes were consumed per person in Norway versus 1580 in the EU.

As mentioned previously, in international comparison the mortality from lung cancer is high among women and low among men, although the rate for men is higher than that for women. Norway is similar to other Nordic countries in this respect. For women, the difference from other parts of the European Region is striking. The difference in smoking patterns between the genders by age groups gives reason for concern that the mortality from lung cancer among women will be even higher in the future.

Several policy efforts are being made to reduce smoking. Tobacco advertising has been banned since 1975, and cigarette packets have carried health warnings since the 1970s. Since 1996, indirect advertising has also been banned and vending machines abolished and the minimum age for purchasing cigarettes was increased from 16 to 18 years. Tobacco is heavily taxed: 78% of the retail price was taxes in 1995 (*WHO Regional Office for Europe, 1995a*). An increase in the price of rolling tobacco is being considered. Work to prevent young people from smoking is carried out in schools. A telephone hotline advising people who wish to quit smoking has been established. The aims of Norway's nonsmoking policy (*Ministry of Health and Social Affairs, 1999b*) are:

- to prevent children and adolescents from taking up smoking;
- to prevent smokers from forcing their second-hand smoke on others; and
- to help smokers quit smoking.

Alcohol consumption

The consumption of alcoholic beverages in the EU has steadily declined since 1980 following an increase in the 1970s. In Norway the amount of registered pure alcohol consumed per person has been almost constant since 1980, with a slight increase in recent years. The level of consumption is, however, considerably lower than that in the EU (Fig. 46). In 1996, Norwegians consumed 4.3 litres of pure alcohol per person versus 9.4 for the EU, ac-

ording to international statistics based on sales figures.

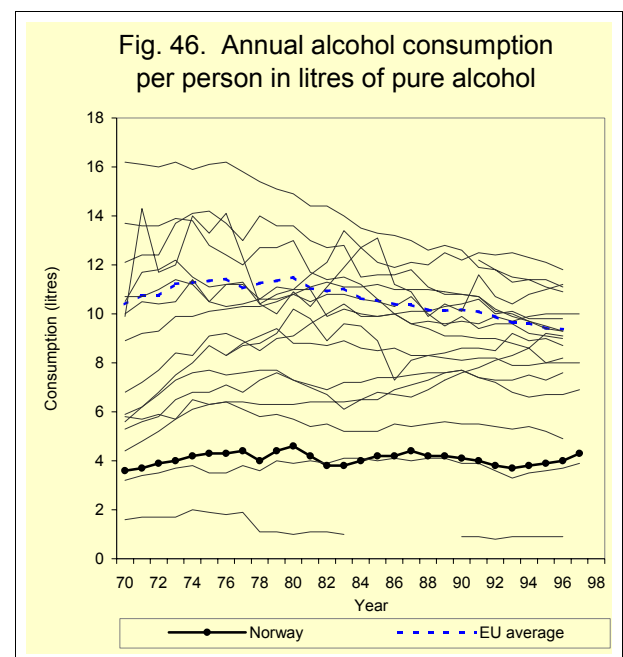
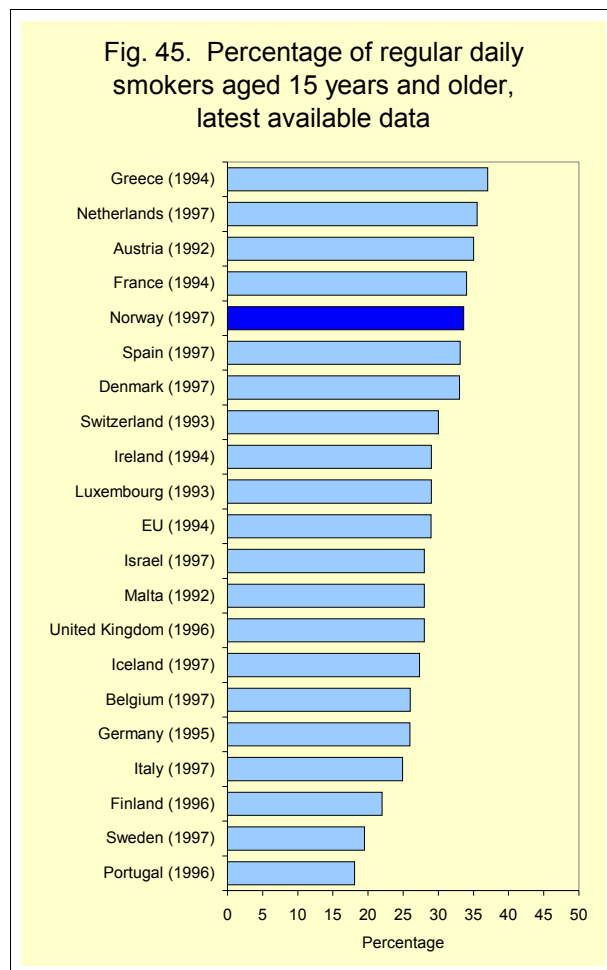
The statistics on sale of alcohol in Norway do not, however, completely reflect consumption. There is unregistered consumption, as there are several restrictions on the purchase of alcohol. Some people therefore produce their own alcohol. Illegal import (smuggling) is a potential source of unregistered consumption of alcohol (*Ministry of Health and Social Affairs, 1998a*).

As in other countries, the consumption of spirits is declining in Norway and the consumption of wine is increasing. Unlike other countries, consumption of beer is increasing in Norway, but from a very low level.

As in many other countries, the distribution of alcohol consumption in the population is very skewed. Ten percent of the population drinks about half of all alcohol consumed.

Men drink more alcohol and more often than women. Men drink more beer and spirits than women, but the wine consumption is similar for the two genders. People 45–66 years old drink more often than do other age groups. The percentage of people who drink more than once a week is three times higher among people with a higher educational level than among people with less education. A similar pattern is seen for income groups. The Oslo area has the highest percentage of people drinking more than once a week (*Ministry of Health and Social Affairs, 1996*). However, drinking alcohol more than once a week does not mean drinking large amounts of alcohol. Frequent drinking may be sensible drinking and less damaging than infrequent drinking of large amounts (bingeing) (*Ministry of Health and Social Affairs, 1998a*).

However, the problems related to bingeing are greater than the problems related to chronic high consumption of alcohol. Few people have enduring and high consumption of alcohol, but more people get very drunk and subsequently suffer from alcohol poisoning. Other problems associated with such bingeing are suicide attempts, accidents, violence and social conflicts (*Ministry of Health and Social Affairs, 1996*).



The alcohol policy is restrictive. The sale of alcoholic beverages with a percentage of alcohol exceeding 4.75% is restricted to a state-run monopoly. Beer can be sold in other shops with a permit from the municipality. There are restrictions on the hours and days of the week on which alcoholic beverages can be sold, the age of individuals purchasing alcohol and the circumstances in which alcohol is served (*Ministry of Health and Social Affairs, 1998a*). Advertising of alcohol and drinking in public places is prohibited. Drunken driving is punished severely (*WHO Regional Office for Europe, 1995b*). The strict application of a number of alcohol policy measures has contributed to keeping consumption low in Norway. The main measures are the limited availability of alcohol and its high price.

Illicit drug use

Cannabis is the most used illicit drug in Norway. According to a 1995 survey (*WHO Regional Office for Europe, 1997*), 9.9% of both girls and boys 15–20 years old had ever used cannabis. This proportion was closer to one quarter in Oslo (*Ministry of Health and Social Affairs, 1999b*).

Heroin is the most common hard drug (defined as illicit drugs but excluding cannabis). It is often mixed with other substances, such as alcohol or prescription drugs. Of the population aged 16–74 years, 1–2% had ever used heroin or similar drugs. The gender distribution of illicit hard drug users is 2.5 times as many men as women (*WHO Regional Office for Europe, 1997*).

The number of deaths from illicit drug use is increasing, from about 0.5 per 100 000 population in the early 1980s to 3 per 100 000 population in 1995. Information on this exists for only few countries, and international comparisons are not reliable. The trend is linked to an increase in the average age of drug addicts and of the duration of addiction (*Ministry of Health and Social Affairs, 1996*).

Norway's strategies towards reducing the harm of illicit drug use include outreach programmes such as a bus providing a range of services: free needles and syringes, training in needle cleaning and condom use and testing

for communicable diseases such as HIV infection and hepatitis B. Counselling is also provided, as is vaccination for hepatitis B (*WHO Regional Office for Europe, 1997*).

Nutrition

Nutritional habits are rooted in cultural traditions and food production. Nevertheless, in recent decades changes have occurred with increasing globalization, as global food markets have opened up, transport has become more rapid and more efficient techniques for conserving food have been developed. These factors together with increased mobility and increases in purchasing power are some of the reasons why the historically different nutrition patterns in Europe appear to converge.

The historical differences in Europe between the northern and southern dietary patterns are confirmed by national food balance sheets (data relating to the amount of food available within each country) collected since the 1960s by the Food and Agriculture Organization of the United Nations. Typical for northern Europe is a high availability of saturated fat accompanied by a low availability of fruit and vegetables. In contrast, in southern Europe, the Mediterranean diet consists of large quantities of fruit and vegetables and small quantities of saturated fat. Norway displays patterns and trends similar to the rest of northern Europe (Fig. 47). National statistics on food supplies and consumer surveys show that the total fat content in the Norwegian diet has declined from 40% of total energy in the 1970s to 34–35% (*Ministry of Health and Social Affairs, 1999b*). The positive trend appears to have levelled out. The percentage of total energy available from protein is 13%.

The 1999 ministerial statement on public health policy (*Ministry of Health and Social Affairs, 1999a*) suggests that changes in the composition of food can largely explain the decrease in the mortality from ischaemic heart disease during the last two decades in Norway. Nevertheless, the composition is not yet optimal and is still contributing to the development of cancer, osteoporosis, non-insulin-dependent diabetes mellitus and other diseases. The most important food policy challenges in

the time to come are therefore considered to be to reduce the intake of saturated fat by one third, double the intake of fruit and vegetables, increase the consumption of fish and halve the intake of salt.

Physical activity

As physical activity in daily life and at work has declined for most of the population in western Europe, leisure exercise has become more important to maintain an activity level beneficial to health. The 1995 health survey of Statistics Norway (*Øverås, 1995*) showed that 30–40% of the adult population and 10–15% of adolescents are not training regularly.

Norway's population is less active than previously. One result is that the average body weight is increasing even though people eat less. A primary cause is the increase in sedentary work as well as more sedentary leisure activities.

Similarly, a living conditions survey of 1997 (*Ministry of Health and Social Affairs, 1999a*) showed that about half the population exercises regularly. One of four indicated that he or she never does sport or exercises. Half engage in less than 3 hours of physical activity in a week. There was alarming information on the activity level of children and young people. The National Council on Nutrition and Physical Activity has initiated activities within the following areas:

- monitoring the level of physical and mental fitness in the population;
- reporting on the relationship between physical activity and health; and
- producing specific recommendations on the physical activity of the population.

Overweight

Overweight and obesity are commonly assessed using the body mass index (BMI), calculated as the weight (in kilograms) and divided by the height (in metres) squared (kg/m^2). In 1995, 9% of men 45–54 years old were obese (BMI 30 or more), and 20% were overweight (defined as BMI 27 or more but less than 30) (Fig. 48). Similar figures were

found for women older than 75 years, the age group with the highest BMI among women (Fig. 49). The percentage of overweight among women increases steadily with increasing age, whereas the percentage among men peaks at 45–54 years.

A survey in Norway (excluding Oslo) of people 40–42 years old at the time of the survey showed that the proportion of men with a BMI over 30 doubled to 9.1% from 1963–1975 to 1991–1995, whereas the proportion among women declined to 8.4%. The average BMI among the sampled 40- to 42-year-olds increased by 0.9 among men and declined by 0.2 among women during this period (*Tverdal, 1996*).

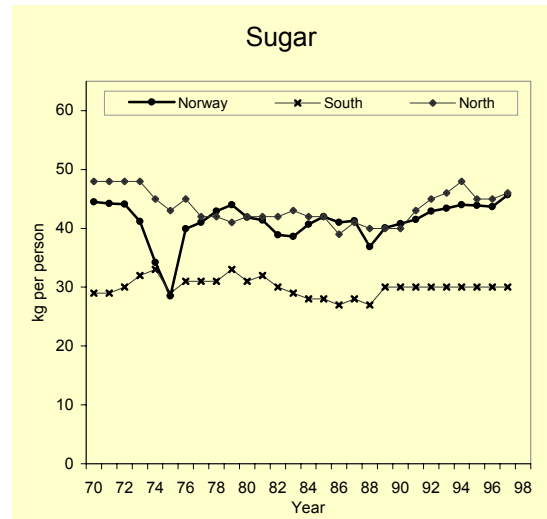
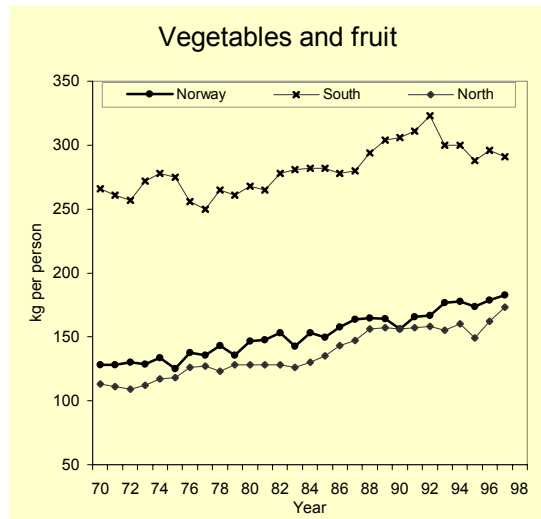
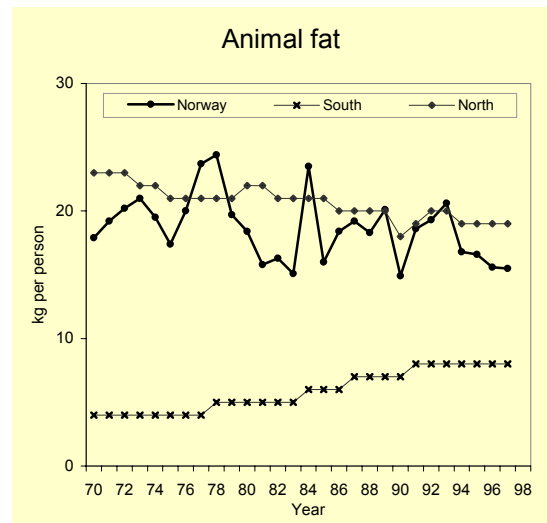
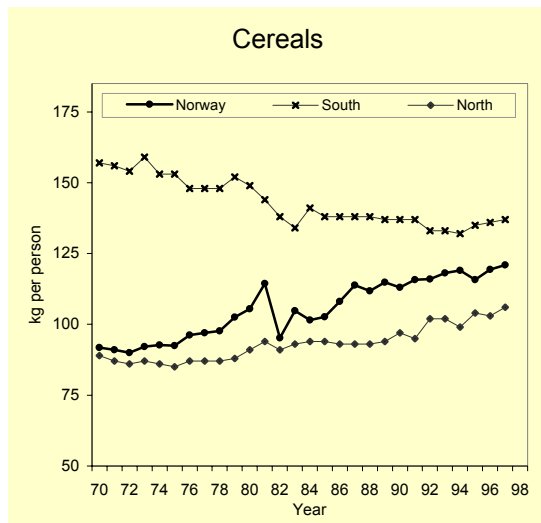
Hypertension

Five per cent of men and 6% of women respondents said they had hypertension in the 1995 health interview survey. This was the lowest value recorded in the ten European countries for which similar data are available. Hypertension is especially prevalent over the age of 65 years, as 16% of men and 20% of women aged 65–74 years had high blood pressure. In the age group 75 years and older, it is 17% of men and 13% of women. The blood pressure level in Norway has only changed slightly over the past decade (*Ministry of Health and Social Affairs, 1996*).

Cholesterol

A study of the age group 40–42 years of age in three counties shows a decline in serum cholesterol concentrations from 1975 to 1997. The concentrations were about 6.8 mmol per litre for Finnmark County, 6.1 for Sogn og Fjordane and 6.1 for Oppland in 1975 and (respectively) 5.9, 5.5 and 5.5 in 1997, still above the level recommended in Norway of 5 mmol per litre. Finnmark County has higher cholesterol counts than the other two counties and the highest prevalence of ischaemic heart disease in Norway (*Ministry of Health and Social Affairs, 1999b*).

Fig. 47. Food consumption patterns, 1970–1997



South: population-weighted average for Greece, Italy, Portugal and Spain.

North: population-weighted average for Denmark, Finland, Iceland, Norway and Sweden.

The rapid increase in international trade accelerated in 1994, when food was incorporated into international free trade agreements (the GATT Uruguay Round). This process has affected the reliability of the national food statistics, and the national food balance statistics became less reliable, making international comparisons more difficult.

Fig. 48. Percentage of men in Norway with body mass index (weight/height²) within the indicated range by age groups, 1995

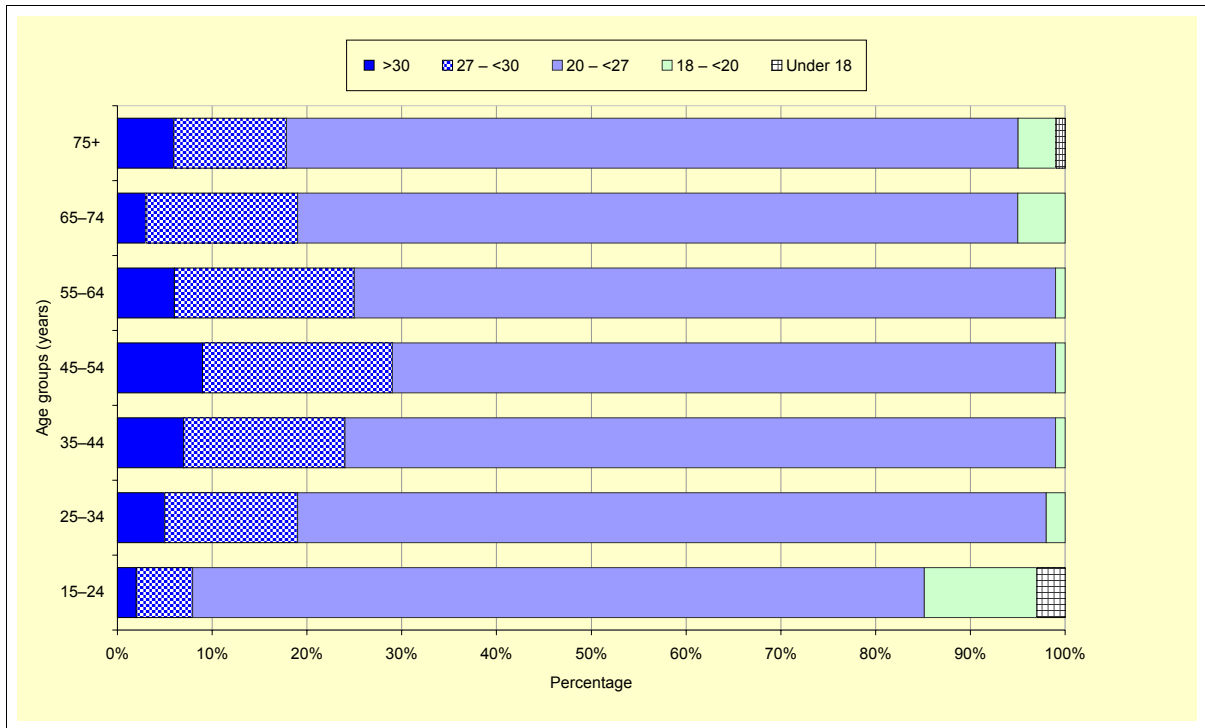
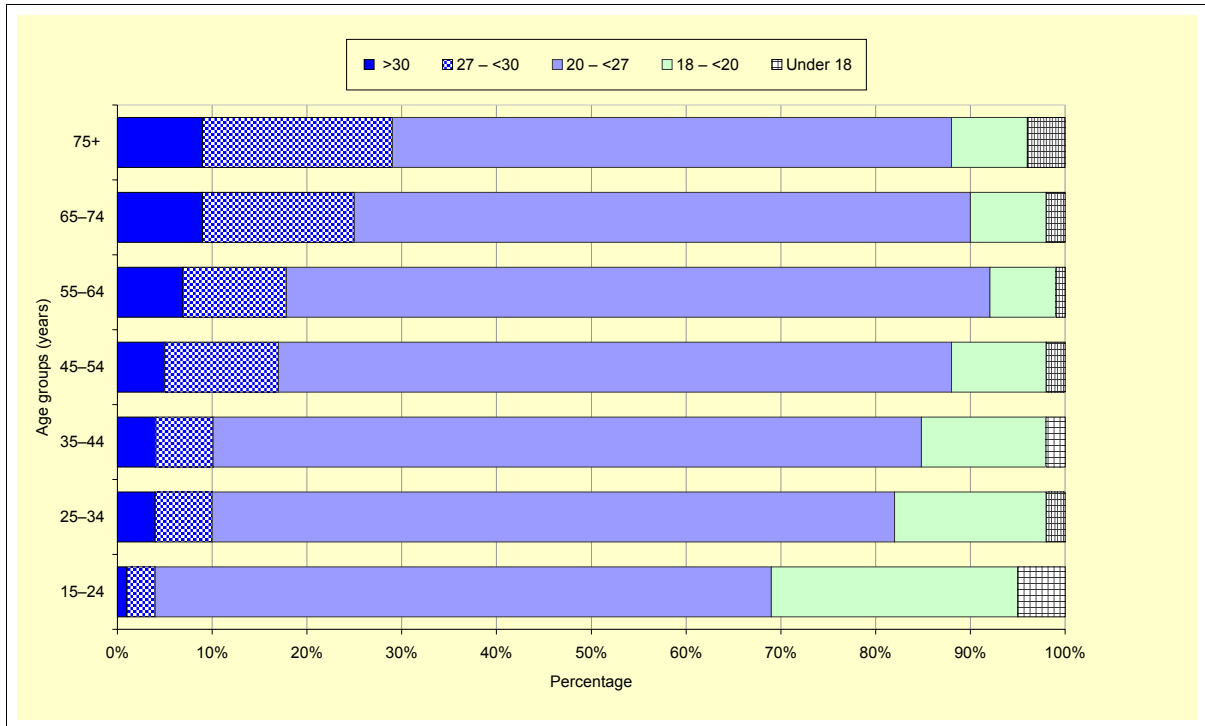


Fig. 49. Percentage of women in Norway with body mass index (weight/height²) within the indicated range by age groups, 1995



ENVIRONMENT AND HEALTH

Environmental conditions affect humans through short-term and long-term exposure to noxious factors. In the long term the main objective is to promote sustainable development compatible with good health. 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 people and ill people are more likely to be affected by polluted air or contaminated food. Also, specific population groups tend to experience more adverse environmental conditions. Low income, for instance, is often associated with exposure to environmental hazards at work (noxious substances and risk of accidents) and poor housing conditions (such as crowding, air pollution and noise). 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 intoxicating drugs or heavy drinking.

Air quality

Emission of carbon dioxide has increased in Norway and was 41.4 million tonnes in 1997, corresponding to nearly 10 tonnes per capita. Previously Norway had a national goal of not exceeding 35 million tonnes of emissions in 2000. This level has been exceeded since 1993 (*Statistics Norway, 1999e*). The level of sulfur dioxide emissions in Norway is low, 8 kg per person, less than one fourth of the EU emissions per person.

About 660 000 Norwegians are exposed to high levels of nitrogen dioxide, causing respiratory irritation and possibly other diseases. Thirteen thousand Norwegians are exposed to too much sulfur dioxide, leading to reduced respiratory function and chronic obstructive pulmonary disease (*Norwegian Board of Health, 1996*). In Oslo, national limit values for particulate matter and nitrogen dioxide are exceeded frequently in the winter, both 24-

hour and 6-month averages (*Rognerud & Stensvold, 1998*).

Indoor air quality can have health effects. Radon in houses causes an estimated 10% of lung cancer cases. In addition, 50 lung cancer deaths and 300–500 deaths from cardiovascular diseases are probably caused by passive smoking each year (*Norwegian Board of Health, 1996*).

Water and sanitation

In the EU, over 97% of the population has access to a supply of drinking-water at home. The entire population of Norway has access to hygienic sewage disposal. Nevertheless, an estimated 100 000 to 300 000 sick leave days per year are caused by waterborne gastroenteritis.

Waste

Almost all countries generate increasing quantities of waste. This is also the case in Norway, which generates 620 kg per person per year, the third highest figure among 25 countries for which data are available (*United Nations Economic Commission for Europe, 1998*).

The percentage of waste that is recycled is increasing: 52% of paper, 70% of bottles, 47% of oil waste and 2.3% of the stock of cars are recycled (*Statistics Norway, 1998*).

Food poisoning

Each year 2000 to 3000 bacteriologically confirmed cases of foodborne infectious diseases are registered. The actual number is about ten times higher. Most are caused by *Salmonella* and *Campylobacter* bacteria (*Norwegian Board of Health, 1996*).

Housing

Housing conditions affect people's health and wellbeing, but the health situation of homeless people is especially critical. They often suffer from health problems typically associated with poverty, including malnutrition, infectious diseases and psychosocial stress caused by soli-

tude and insecurity, and they may also be more vulnerable to health problems than the rest of the population.

In Norway the overall housing situation is good, although housing for people with lower incomes is in short supply in some urban areas. Nearly all dwellings have both a bathroom and toilet. From 1980 to 1995, the percentage of adults living in a dwelling in which one or more rooms is damp, cold or difficult to heat was reduced from 18% to 6% (*Ministry of Health and Social Affairs, 1996*). There are no data on homelessness. The number of people per room was 0.6 in 1990, equivalent to the EU rate.

However, increasing urbanization and road and air traffic have brought to the fore the issue of noise and its effects on health. In 1988, 18% of households were living less than 25 metres from a road with heavy traffic; 14% were in the vicinity of such a road but more than 25 metres away. In 1991, 13% of Norwegians aged 16–79 years were exposed to traffic noise, 8% were exposed to noise from air traffic, 6% to noise from neighbours and 2% to noise from industry or construction (*Statistics Norway, 1993*).

The number of people injured in home and leisure accidents in Norway displays a slightly decreasing trend: 3584 per 100 000 population in 1990 and 3441 in 1995.

Occupational health and safety

Exposure to health hazards at the workplace is still an important cause of ill health and death. Nevertheless, information about exposure in terms of the type, frequency and intensity of hazards and the number of workplaces or people affected is scarce.

In 1996, 634 people per 100 000 inhabitants were reported to be injured in work-related accidents in Norway. The trend is increasing, which may result from more complete registration. The EU rate was 1252 per 100 000 inhabitants and the trend is decreasing.

Fewer and fewer people are dying from work-related accidents in Norway. The other reference countries have a similar trend. In 1996, 0.7 per 100 000 population died following a work-related accident versus 1.6 in the EU. Registered work-related accidents have thus become more frequent but less fatal compared with previous years. The case-fatality rate is close to that for the EU – 1.10 versus 1.28 deaths per 1000 reported work-related injuries.

There are some national efforts to enhance occupational safety. The Working Environment Act specifies that the employer is responsible for ensuring a safe working environment. These efforts are supervised by a state agency and include education for employees, documentation of threats to safety, routines to avoid these threats and systematic monitoring and supervision of the working environment (*Lovdata Foundation, 1998*).

HEALTH CARE SYSTEM

Institutional structures and resources

Norway's health care system is mainly public and integrated, building on three tiers of government: the state, the counties and the municipalities. The state has overall responsibility for providing and financing health care. The state owns a few hospitals and some health promotion agencies but has delegated most technical responsibilities. The counties are responsible for hospitals and specialist services. The municipalities are responsible for general practitioners, preventive services, rehabilitation, nursing homes and home nursing (Saether & Olsen, 1997).

Health care is primarily financed through general taxation. The sources of financing are county and municipality taxes and state subsidies earmarked for health care. Some health care financing comes from the National Insurance Scheme. The scheme collects funds through a compulsory fee on employers and employees. There are user charges for primary health care and for accident and emergency care. Inpatient hospital treatment is free of charge.

As the health care system is decentralized, the role of the state is mainly to supervise and provide an overall legislative framework.

Health care expenditure in Norway comprises 8% of GDP (Fig. 50).

Primary health care

General practitioners

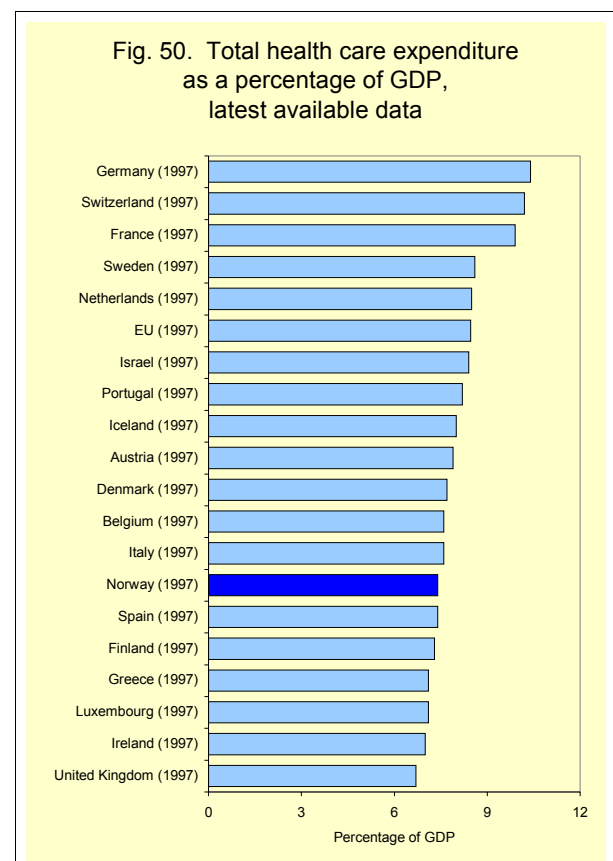
GPs are considered to be the foundation of health care. Patients need referral from a GP to receive treatment at hospitals: thus, the GPs are used as gatekeepers for hospital service.

The municipalities are responsible for primary health care. GPs are organized in units (poly-clinics) providing not only curative treatment but also public health services, after-hours home visits and other services. In 2000, the structure will undergo some change, as patient lists are implemented.

Health care is financed by taxes, reimbursement from the National Insurance Scheme and user charges. For consultations with a physician, patients pay Nkr 100–200 (about EUR 12–24), or 35% of the total cost of the consultation. The social insurance system finances the entire treatment for occupational injuries or if the patient is a child under 7 years of age or a pregnant woman (*Nordic Medico-Statistical Committee, 1998*).

Dental care

Dental services of Norway include a private sector with two thirds of the dental workforce and a public sector with one third. The public health services treat approximately one third of the population, mainly the groups given priority in the act relating to dental health services. Treatment is free of charge. The private sector treats mainly adults, who pays for the treatment themselves. Mentally retarded, elderly, long-term ill and disabled people also receive dental care for free.



Public health nurses

Primary health care includes public health nurses appointed by the municipalities focusing on maternal and child health and school health. The municipalities also organize home nursing.

Pharmacies

Pharmacies are mainly privately owned but are subject to extensive control by the state. The number of pharmacies is subject to regulation. In recent years, the wholesale market for pharmaceuticals has experienced increased competition, which has led to lower prices.

The co-payment for medicines is 36% and not exceeding a maximum of NKr 330 (EUR 40) per prescription. Reduced charges apply to people aged 7–16 years or 67 or older and people receiving disability pension. These groups pay 12% of the price for medicine. No user charges apply to children under 7 years. User charges for various types of treatment including medicines and primary health care exceeding NKr 1290 (EUR 156) per year are reimbursed (*Nordic Medico-Statistical Committee, 1998*).

Hospital care

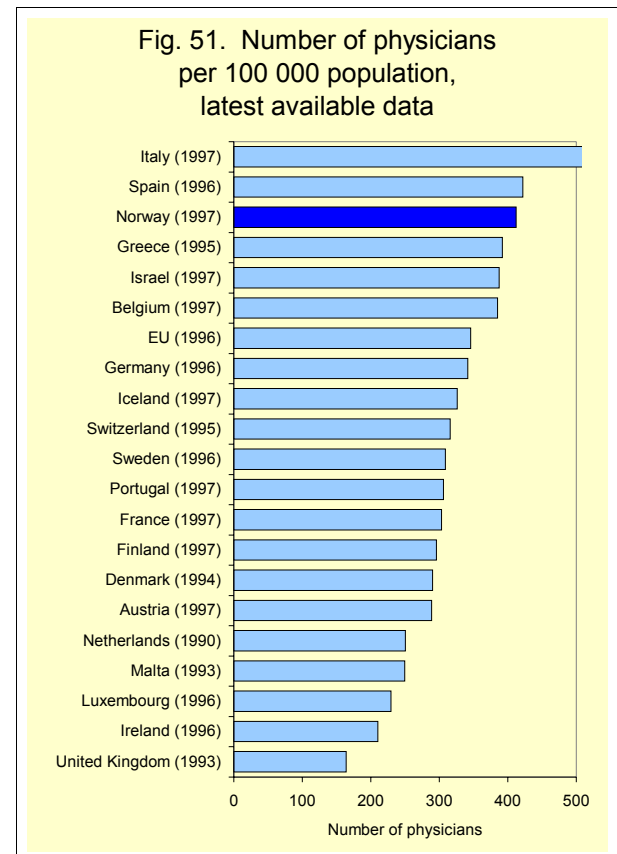
Norway has 84 general hospitals and 14 psychiatric hospitals. Of the general hospitals, five provide specialized treatment and the remainder mostly general and less specialized treatment. One reason Norway has many hospitals – most of which are rather small – is the dispersed population in the north, which also requires decentralized health care facilities (*van den Noord et al., 1998*). This also helps to explain the relatively high number of hospital beds as well as physicians compared with the EU (Fig. 51).

Before 1 July 1997, hospitals were financed through a global budget, based on state grants and county budgets. The size of the global budget was calculated according to the demographic and economic features of the county population as well as computed wage costs and investment (*van den Noord et al., 1998*). Since July 1997, treatment in hospitals has been paid for partly through a global budget

and partly (45% since 1 January 1998) through a system of adapted fees for services. The reimbursement for treatment is calculated based on diagnosis-related groups for inpatients (*Ministry of Health and Social Affairs, 1999c*). The state grant depends on the number of patients treated, their diagnosis and a national standardized cost per treatment (*van den Noord et al., 1998*). Outpatient treatment follows a different cost assessment and payment system (*Ministry of Health and Social Affairs, 1997b*).

The average length of stay in hospitals is lower in Norway than in the EU (Fig. 52) and declining. The number of admissions was similar to that in the EU for a long period, but since the mid-1980s it has stagnated or declined while the EU rate has continued to increase. In 1996, there were 15.3 admissions per 100 population in Norway (*Organisation for Economic Co-operation and Development, 1998*) (Fig. 53).

Norway's hospital system faces problems relating to shortage of capacity, increasing demands on the health care system and risks of major increases in expenditure (*van den Noord et al., 1998*).



Public–private mix

A study of the public–private mix of health care reveals that the public sector paid 86% of total health care expenditure in 1993 (including the publicly financed services of nongovernmental organizations). The private sector consists of physicians, dentists and physiotherapists in private practice and hospitals and health institutions owned by voluntary organizations. Twenty-two per cent of the health care institutions were privately owned in 1988. These are generally smaller than the public institutions, and their share of expenditure is somewhat smaller. Fifty-four per cent of general practitioners were in private practice in 1990 (*Saether & Olsen, 1997*).

The private health care providers are financed like their public counterparts. The subsidies from the state and the National Insurance Scheme are usually the same, regardless of whether the provider is public or private.

GPs employed in the public sector are in municipal employment (40% of all GPs). Most private practising GPs have a contract with the municipality that gives them the right to reimbursement from the National Insurance Scheme. The reimbursement comprises 69% of their income. The remainder is financed by user fees. About 5% of GPs have no contract with the municipality. The remainder of physicians are working as interns. In most cases, however, the National Insurance Scheme still reimburses treatment costs in the clinics run by physicians without a contract (*Saether & Olsen, 1997*).

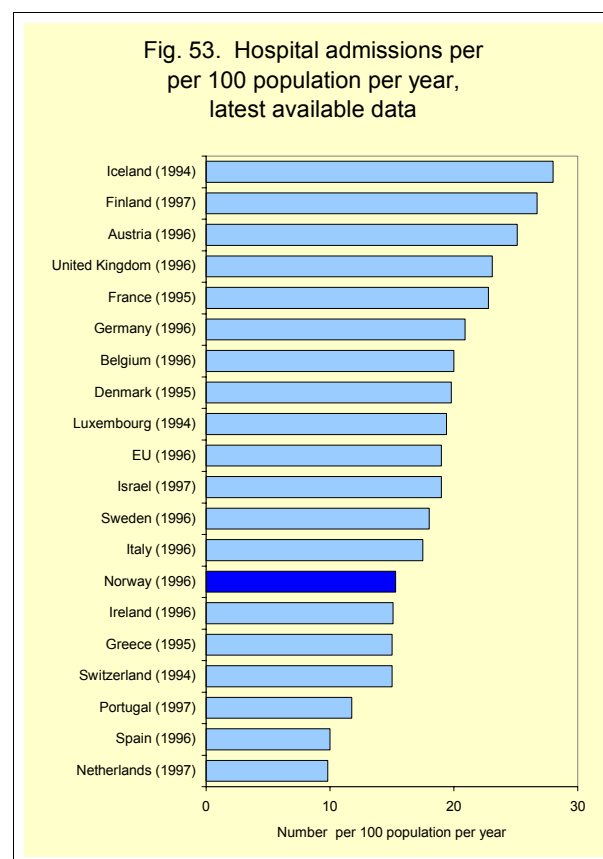
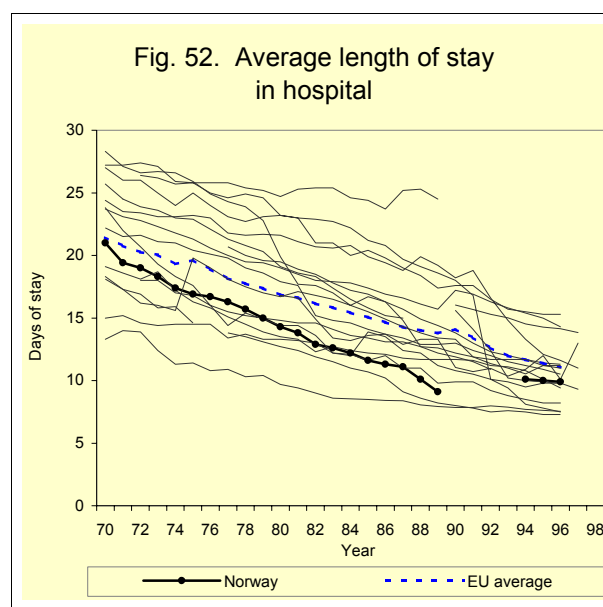
The private clinics are concentrated in densely populated areas and are mostly run by hospital physicians in their spare time. The government aims at limiting the number of these clinics and instead improving the availability of services in northern Norway.

Norway has five private for-profit hospitals with a total of 56 beds. The hospitals are located in Oslo and specialize in open-heart surgery, hip surgery and minor interventions, such as arthroscopy. Treatment in these hospitals is financed by the National Insurance Scheme and by user charges. Private not-for-profit hospitals are included in county budgets,

and thus only the ownership makes them different from public hospitals (*Saether & Olsen, 1997; van den Noord et al., 1998*).

Health care expenditure

International comparisons of health care expenditure are difficult because the definitions underlying health statistics as well as account-



ing practices vary from one country to another. The following data on health expenditure should therefore be used with caution, as the boundaries of what constitutes health care can vary substantially between countries.

As mentioned, Norway's total health care expenditure amounts to 8% of GDP. Inpatient care accounts for about 38% of this (*Organisation for Economic Co-operation and Development, 1998*). Pharmaceuticals accounted for 8.7% of total health care expenditure in 1995, and this expenditure has increased steadily since 1989.

Health care reforms

The health care sector is undergoing changes in several areas. One aim of the health care policy is equity in health care. This has a very specific meaning in Norway, where it is difficult to attract professionals, including health care personnel, to northern Norway. Equity in access to health care in Norway is therefore largely a question of equity between geographic areas.

New and improved methods of treatment have increased the demand for health services. The difficulty in balancing supply and demand has led to efforts in two areas: setting priorities and efficiency.

A set of criteria is being developed for setting priorities for treatment. It is proposed that the priorities be based on the seriousness of the disease and the effect of the treatment in relation to the cost of the treatment. The outcome of the priority-setting is proposed to be categorization of treatments in four categories: fundamental, complementary, lower priority and not to be provided by the public sector (*van den Noord et al., 1998*).

Several efficiency measures are being applied in the management of hospitals, including better regional planning. A legal waiting time guarantee was introduced in 1990, guaranteeing non-acute patients that their waiting time will not exceed 6 months. New payment schemes have also been implemented in primary health care. However, the most comprehensive reform, as mentioned, was the introduction of the adapted fee-for-service system

in 1997, which changed the entire hospital financing system (*Ministry of Health and Social Affairs, 1997a*).

A new bill on patients' rights was introduced to the Storting in 1999 that would give patients new material rights related to treatment, to free choice of hospitals, including a second opinion, and increased opportunity to present complaints (*Ministry of Health and Social Affairs, 1997a*). Other new bills introduced to the Storting in 1999 relate to specialized health care, compulsory psychiatric treatment and common legal and performance standards for health personnel.

The primary health care sector will undergo changes as well when GP patient lists GPs are introduced in 2000. Until 2000, patients are not assigned to a specific GP but can seek any GP of their choice. From 2000, each patient will be assigned to one GP. Physicians will then be prevented from practising without a contract with the National Insurance Scheme. A comprehensive valuation is planned (*Ministry of Health and Social Affairs, 1998b*).

A project on better quality of care for elderly people is being implemented. The aims include: quality and security in caring for elderly people, linking all services in one common framework, flexibility and variation and participation by clients (*Ministry of Health and Social Affairs, 1997c*).

Health promotion and disease prevention

Three levels of administration are responsible for health promotion: the Ministry of Health and Social Affairs and its unit for promotion and research, several state institutions, including the Norwegian Board of Health and voluntary organizations, organized in the Norwegian Coordinating Board of Health Promotion.

Initiatives in health promotion include the first and second public health reports of Norway (*Ministry of Health and Social Affairs, 1996, 1999b*), which have indicated areas requiring enhanced effort. These include asthma and allergy, musculoskeletal disorders and the connection between health and social conditions. Other efforts include the listing system for

GPs which, through better knowledge of the patient, will give the GP a better basis for influencing the lifestyle of the patient. In 1992, a new type of immunization was introduced to help to prevent meningitis in children. The government has programmes for preventing asthma, allergy and other environment-related problems, preventing musculoskeletal diseases, preventing communicable diseases and promoting physical activity among children.

Several efforts are in place to reduce smoking, especially among young people (mentioned in the section on tobacco).

A coordinated effort is being made on nutrition, tobacco and physical activity. One of the main aims is to prevent cancer.

REFERENCES

- LOVDATA FOUNDATION (1998). *Forskrift om systematisk helse-, miljø- og sikkerhetsarbeid i virksomheter (internkontrollforskriften) H-2093* [Regulation on systematic efforts related to health, the environment and safety in enterprises (internal control regulation) H-2093] (<http://www.lovdatab.no/rsk/hms/ik-veil.html#inn>). Oslo, Lovdata Foundation (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1996). *Folkehelse rapporten* [Public health report] (<http://odin.dep.no/html/fofovalt/depter/shd/publ/1996/folkehelse rapport>). Oslo, Ministry of Health and Social Affairs (accessed 17 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1997a). *Helsepolitikken – en mosaikk* [Health policy – a mosaic] (<http://www.odin.dep.no/shd/publ/mosaikk.html>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1997c). *Nye takster offentlige poliklinikker 1. juli 1997. Rundskriv I/22-97* [New reimbursement rates for public polyclinics, 1 July 1997. Circular I/22-97] (<http://odin.dep.no/shd/publ/rundskriv/199722>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1997c). *Handlingsplan for eldreomsorgen* [Action plan for care for elderly people] (<http://odin.dep.no/shd/proj/eldre/brosjyre/handlingsplan.html>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1998a). *Rundskriv I-6/98. Lov om omsetning av alkoholholdig drikk m v* [Circular I-6/98. Act on the sale of drinks etc. containing alcohol] (<http://odin.dep.no/shd/publ/rundskriv/199806>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1998b). *Evaluering av ISF* [Evaluation of financing based on effort] (<http://odin.dep.no/shd/proj/isf/evaluering.html>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1999a). *Folkehelsepolitisk redegjørelse* [Public health policy statement] (<http://www.dep.no/shd/hmintale/1999/990510.html>). In: *Om folkehelsen* [On the public health]. Oslo, Ministry of Health and Social Affairs, pp. I–IX (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1999b). *Folkehelse rapporten 1999* [Public health report, 1999] (<http://www.odin.dep.no/shd/publ/1999/folkehelse rapport>). In: *Om folkehelsen* [On the public health]. Oslo, Ministry of Health and Social Affairs, pp. 1–121 (accessed 22 August 1999).
- MINISTRY OF HEALTH AND SOCIAL AFFAIRS (1999c). *Innsatsstyrt finansiering (ISF)* [Financing based on effort] (<http://odin.dep.no/shd/proj/isf>). Oslo, Ministry of Health and Social Affairs (accessed 22 August 1999).
- NETWORK ON HEALTH EXPECTANCY AND THE DISABILITY PROCESS (REVES) (1998). *Health expectancies in OECD countries*. Montpellier, REVES (REVES Paper No. 317).
- NORDIC MEDICO-STATISTICAL COMMITTEE (1998). *Health statistics in the Nordic countries 1996*. Copenhagen, Nordic Medico-Statistical Committee.
- NORDIC SOCIAL-STATISTICAL COMMITTEE (1998). *Social protection in the Nordic countries 1996. Scope, expenditure and financing*. Copenhagen, Nordic Social-Statistical Committee.
- NORWEGIAN BOARD OF HEALTH (1996). *Utredning om miljø og helse – oppfølging af Helsinkideklarationen* [National environment and health action plan]. Oslo, Norwegian Board of Health.

- ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (1998). *OECD health data 1998*. Paris, Organisation for Economic Co-operation and Development.
- ØVERÅS, S. (1995). *Helseboka. Sammendrag* [Health book. Summary] (<http://www.ssb.no/emner/03/00/helseboka95/sammendrag.shtml>). Oslo, Statistics Norway (accessed 22 August 1999).
- ROGNERUD, M. & STENSVOLD, I., ED (1998). *Oslohelsa. Utredning om helse, miljø og sosial ulikhet i bydelene* [Public health in Oslo. Report on health, the environment and social inequality in the districts of Oslo]. Oslo, Ullevål Hospital, City of Oslo.
- SAETHER, E.M. & OLSEN, I.T. (1997). *96% public? The private/public mix in the Norwegian health sector*. Oslo, Diakonhjemmets Internasjonale Senter (DiS).
- STATISTICS NORWAY (1993). *Social survey 1993*. Oslo, Statistics Norway.
- STATISTICS NORWAY (1998). *Statistical yearbook of Norway, 1998* (<http://www.ssb.no/english/yearbook>). Oslo, Statistics Norway (accessed 22 August 1999).
- STATISTICS NORWAY (1999a). *SA 20. Innvandrere i Norge: sammendrag* (<http://www.ssb.no/emner/02/02/sa20/sammendrag.shtml>). Oslo, Statistics Norway (accessed 22 August 1999).
- STATISTICS NORWAY (1999b). *Nasjonalregnskap for Norge* [Norway's national accounts] (<http://www.ssb.no/knr>). Oslo, Statistics Norway (accessed 22 August 1999).
- STATISTICS NORWAY (1999c). *Unemployment among immigrants, 1st quarter 1999: four times higher unemployment among non-Western immigrants* (http://www.ssb.no/english/weekly_bulletin/editions/9919/1.shtml). Oslo, Statistics Norway (accessed 22 August 1999).
- STATISTICS NORWAY (1999d). *Unemployment among immigrants, 2nd quarter 1999: still high unemployment rate* (http://www.ssb.no/english/statistics_by_subject/06labour/innvarbl). Oslo, Statistics Norway (accessed 22 August 1999).
- STATISTICS NORWAY (1999e). *Utslipp til luft etter hovedkilde, 1973–1998* [Emissions to the air in Norway by main source, 1973–1998] (http://www.ssb.no/emner/01/04/10/luft/tabell/t_hkts.shtml). Oslo, Statistics Norway (accessed 22 August 1999).
- TORGENSEN, R.N. (1999). *Om norsk styresett og statsforvaltning. Kort oversikt over Norge og norske styringsorganer* [On Norway's form of government and state administration. A brief overview of Norway and Norway's organs of government] (<http://odin.dep.no/html/nofovalt/statfor.html>). Oslo, ODIN, 9 April 1999 (accessed 22 August 1999).
- TURNER, B., ED. (1998). *The statesman's year-book 1998–1999: the essential political and economic guide to all the countries of the world*. 135th ed. London, St Martins Press.
- TVERDAL, A (1996). Høyde, vekt og kroppsmasseindeks for menn og kvinner i alderen 40–42 år [Height, weight and body mass index of men and women aged 40–42 years]. *Tidsskrift for Den norske Laegeforening*, 116(18): 2152–2156.
- UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (1999). *Trends in Europe and North America 1998/1999. The statistical yearbook of the Economic Commission for Europe*.
- VAN DEN NOORD, P. ET AL (1998). *The Norwegian health care system*. Paris, Organisation for Economic Co-operation and Development (Economics Department Working Papers, No. 198).
- WHO REGIONAL OFFICE FOR EUROPE (1993). *Health for all targets. The health policy for Europe*. Copenhagen, WHO Regional Office for Europe (European Health for All Series, No. 4).
- WHO REGIONAL OFFICE FOR EUROPE (1995a). *Tobacco: Norway* (<http://www.who.dk/adf/profiles/tobacco/tprofnor.doc>). Copenhagen, WHO Regional Office for Europe (accessed 22 August 1999).

WHO REGIONAL OFFICE FOR EUROPE (1995b). *Profile of alcohol: Norway* (<http://www.who.dk/adt/profiles/ap-nor.pdf>). Copenhagen, WHO Regional Office for Europe (accessed 22 August 1999).

WHO REGIONAL OFFICE FOR EUROPE (1997). *Smoking, drinking and drug taking in the European Region*. Copenhagen, WHO Regional Office for Europe.

WHO REGIONAL OFFICE FOR EUROPE (1998). *Health in Europe 1997. Report on the third evaluation of progress towards health for all in the European Region of WHO (1996–1997)*. Copenhagen, WHO Regional Office for Europe (WHO Regional Publications, European Series, No. 83).

WHO REGIONAL OFFICE FOR EUROPE (1999). *HEALTH21 – the health for all policy framework for the WHO European Region* (<http://www.who.dk/cpa/h21/h21long.htm>). Copenhagen, WHO Regional Office for Europe (European Health for All Series, No. 6) (accessed 22 August 1999).

GLOSSARY

Incidence rate: the number of new cases of a disease occurring in a population per 100 000 people during a specified period (usually 1 year).

Infant mortality rate: the yearly number of deaths of children aged less than 1 year per 1000 live births.

Life expectancy at birth: an estimate of the average number of years a newborn child 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.

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 dollars). The EU uses the purchasing power standard to measure this.

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: 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 accordance with prevailing age-specific birth rates.

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