

HIGHLIGHTS ON HEALTH IN POLAND



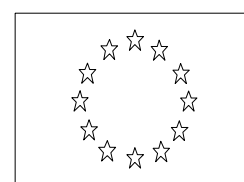
Country Highlights give an overview of the health and health-related situation in a given country and compare, where possible, its position in relation with other countries in the region. The Highlights have been developed in collaboration with Member States for operational purposes and do not constitute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

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AN OVERVIEW

The crude birth rate per 1000 population has decreased in Poland, and the crude natural growth rate reached zero in the late 1990s. Even though it is still one of the highest among the reference countries¹, the fertility rate has fallen below the replacement level.

Life expectancy at birth – 68.9 years for males and 77.6 years for females in 1999 – is increasing and higher than the average of the reference countries, though significantly lower than in the EU. After a long period of stagnation, life expectancy started to increase again, first for females in the mid-1980s, then for males in the early 1990s.

The SDR (standardized death rate) for cardiovascular diseases in the age group 0–64 has fallen in the 1990s, and it is below the average of the reference countries in the late 1990s. However, the male SDR for cerebrovascular diseases continues to rise.

The SDR for cancer in the age group 0–64 for men increased until 1990, decreasing thereafter to the level of the early 1980s. For women, the changes have been smaller, and the SDR in the late 1990s remained at the level of the 1970s. The SDR for trachea, bronchus and lung cancer in the age group 0–64 years is among the highest in the reference countries and, although male mortality in this age group has been falling for almost a decade, female SDRs (for those both under and over 65 years of age) have increased steadily since the 1970s. This reflects the high prevalence of smoking in recent decades. The SDR for cancer of the cervix has been decreasing rapidly, but mortality remains one of the highest in the reference countries, more than three times the EU average. While the SDR for cancer of the female breast has increased in many reference countries, the mortality rate for Poland has

been stable since 1980. It is now the lowest among the reference countries, below the EU average.

The SDRs for infectious and parasitic diseases (for all ages) have decreased, and Poland's relative position among the reference countries has improved as a consequence. The SDRs for the diseases of respiratory and digestive systems also decreased until the mid-1990s, but started to increase again in the late 1990s. Increasing respiratory disease mortality will also be partly related to high smoking prevalence. A major component of digestive system mortality is liver disease and cirrhosis. The Polish SDR for liver diseases and cirrhosis for all ages is lower than the average of the reference countries, even though the decreasing EU average has now passed the Polish level. Premature mortality (ages 0–64) for liver diseases and cirrhosis is increasing for men, especially in the age groups 25–54.

The SDRs for homicides and for suicides for all ages are below the average of the reference countries, but higher than the EU average.

Though the incidence of AIDS is lower than in the EU, the Polish rate is higher than in many other reference countries. Poland is the only reference country where drug users are the largest transmission group (49% of all cases). The incidences of tuberculosis, viral hepatitis and syphilis have decreased remarkably since the mid-1980s.

The DMFT-index indicating the number of decayed, missing and filled teeth shows a deteriorated oral health among children aged 12 years in the 1990s, and Poland has now one of the poorest indexes among the reference countries.

The taxation-based health care system has been phased out and replaced, since 1999, by a health care system that is financed through autonomous health insurance bodies (sickness funds).

Both the number of hospital beds and the number of physicians per 100 000 population are lower than in the reference countries in general and in the EU.

¹ The following ten candidate countries for accession to the European Union were used as reference countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

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, international comparisons are used as one means of assessing the country's comparative strengths and weaknesses and to provide a summary assessment of what has been achieved so far and what could be improved in the future. 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 Poland, the reference countries are ten central and eastern European candidate countries for accession to the EU (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia).

To make comparisons between countries as valid as possible, data for each indicator have, whenever possible, been taken from one common international source (such as WHO, EUROSTAT, the Organisation for Economic Co-operation and Development or the International Labour Office). This is done to ensure that they have been harmonised in a reasonably consistent way. It should also be noted, however, that 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 (*WHO Regional Office for Europe, 2001*). 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 (such as the table at the start of the section on health status), ranking can hide 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, 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 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.

Note: *For Poland, cause-specific mortality data for 1997 and 1998 is not complete due to data collection problems. Therefore, in many figures the data for these two years are missing and the trend has been interpolated between 1996 and 1999 and is shown as a broken line. Please note that these data are available up to 1996 and also for 1999.*

THE COUNTRY AND ITS PEOPLE²

The former Constitution was initially adopted in July 1952, and amendments for it were adopted in 1976, 1983 and 1992. In the last reform, the relations between the President, Government and Parliament were redefined so that the powers of the President and the Prime Minister were enhanced. A new Constitution was adopted in April 1997.

Authority for the Republic of Poland is vested in Parliament (Sejm), elected by proportional representation every four years. There is a 5% threshold for parties and 8% for coalitions, but seats are reserved for representatives of ethnic minorities, even if their vote falls below the thresholds. There are 460 seats in the Sejm, which elects the Council of Ministers.

There is also an elected upper house, the Senate, with one hundred members. It has a power of veto, which only a two-thirds majority of Parliament can override.

The head of state is the President, who is directly elected for a five-year term. Only two terms are possible. The President chooses the Prime Minister with the approval of Parliament. Cabinets are appointed, but cannot be dismissed, by the president. The President has a power of veto over legislation, which only a two-thirds majority of Parliament can override.

The 16 regions (voivodships) are administratively divided into 308 districts (powiats) and subdivided to 2 489 wards (gminas). Local government is carried out by councils, which

Table 1. Poland and the reference countries (1999)

	Poland	Reference countries		
	Warsaw	Average/total	Minimum	Maximum
Population	38 741 000	104 705 300	1 442 400	38 741 000
Population 0–14 years (%)	20.9	18.8	16.1	21.2
Population 15–64 years (%)	67.1	68.4	66.3	74.2
Population ≥ 65 years (%)	12.0	12.8	9.6	16.0
Area in km ²	313 000	1 078 066	20 000	313 000
Density per km ²	124	97	32	130
Urban population (%)	65	64	50	75
Births per 1000 population	9.9	9.7	8.0	10.5
Deaths per 1000 population	9.9	11.2	9.6	14.2
Natural growth rate per 1000 population	0.0	-1.5	-5.5	0.8
GDP per person in US \$ PPP	8079	8369	5071	15 977
GDP: gross domestic product; PPP: purchasing power parity				

² These introductory paragraphs are based on the material from *The statesman's yearbook* (Turner, 2000).

are elected every four years at every level using either first-past-the-post system or a proportional party-list system. Local government is financed partly by local and partly by central taxes.

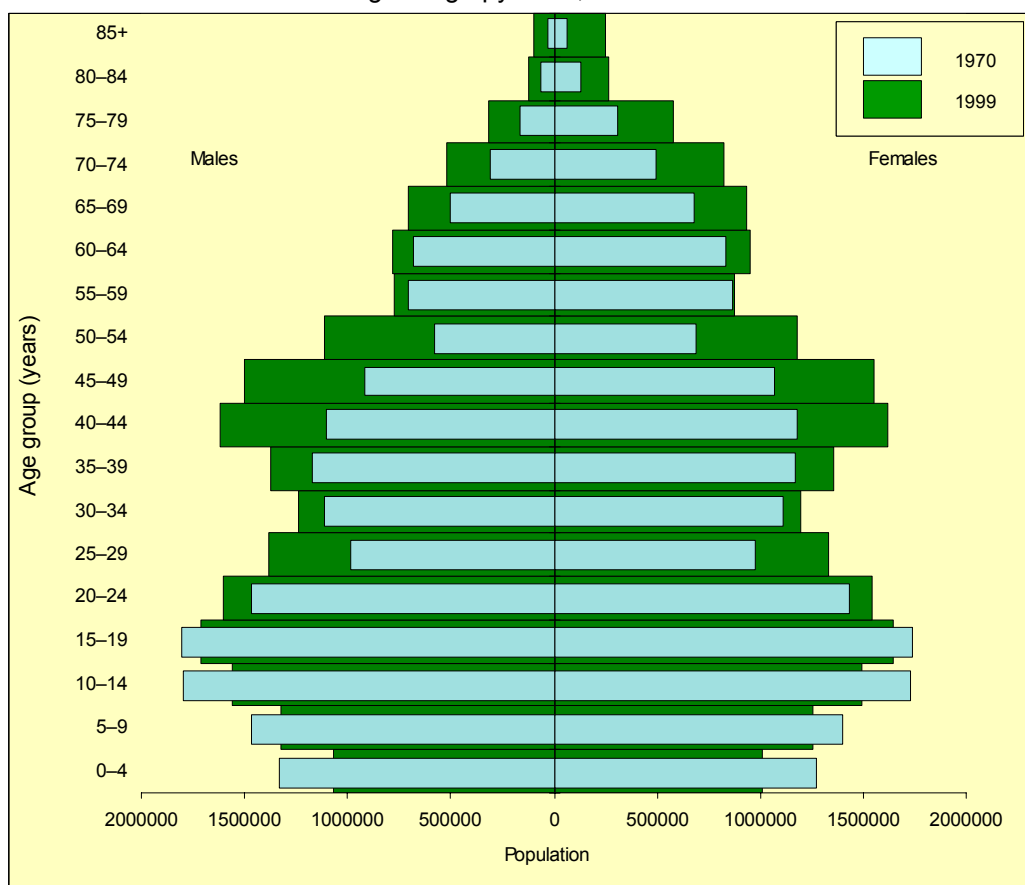
Poland is a member of the United Nations, the Council of Europe, the Organization for the Economic Co-operation, the Central European Free Trade Area and Development and the Central European Initiative, and it is an associate member of the European Union and an associate partner of the Western European Union. Poland has applied for full membership of the European Union, which the European Commission reportedly endorsed in December 1999 and named Poland (along with Hungary) as the country from central and eastern Europe most likely to be the first to join the European Union. Poland became a full member of NATO in March 1999.

Demography

The shape of an age pyramid shows the stage of the demographic transition of a population. The overall changes in population structure, caused by changes in fertility, mortality and migration, can be easily seen when the age pyramids for two different years are compared (Fig. 1). The countries of the EU have generally reached an advanced stage of demographic transition, with the younger age groups becoming smaller in relation to the middle and, at times, older age groups. The reference countries are, in general, developing a similar population structure.

The Polish age groups of 10–14 years and 35–49 years were proportionally larger and the age groups of 25–29 years and 50–84 years smaller than the average of the reference countries in 1999.

Fig. 1. Age pyramid, 1970 and 1999

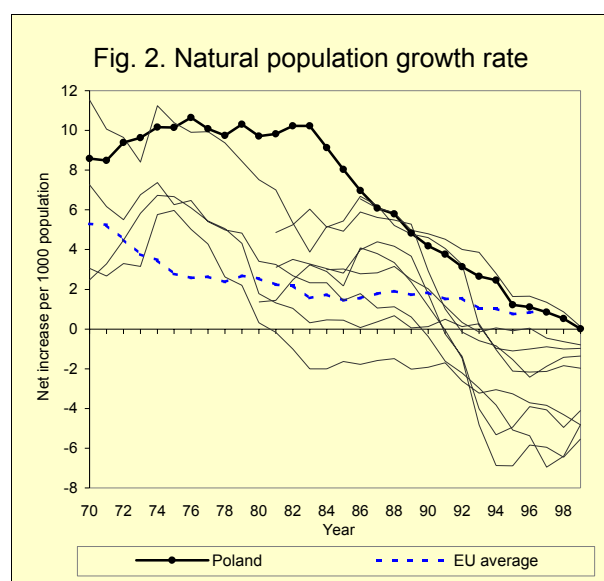


The Polish natural growth rate was around 10 per 1000 population until 1984, but started to decline after this and reached the EU level in the late 1990s due to diminishing number of births: the crude birth rate declined from 19 births per 1000 population in 1984 to 10 per 1000 in 1999. Despite the decreasing number of births, the Polish natural growth rate (0.0 per 1000 population in 1999) was the second highest among the reference countries in 1999, but below the EU rate (1.1/1000 in 1997) (Fig. 2).

Though the Polish fertility rate (1.4 in 1999) is the highest among the reference countries (average 1.3 in 1999), it has fallen below replacement level.

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 that is culturally and linguistically acceptable can also be difficult. Moreover, many such people have a higher risk of living in relative poverty and being marginalized, which can result in reduced health status compared with other minority groups. Illegal immigrants, in particular, can find it difficult to obtain health care, and following up any care given can be problematic.



Ethnic minorities are not officially identified in Poland, but there were estimated to be 1.2 millions Germans in 1984 as well as smaller minorities of Ukrainian, Belorussian and Lithuanian background (Turner, 2000).

The net migration has been negative in Poland in 1990s, but its level has decreased from 19 000 in 1994 to 14 000 in 1999. The main destinations for emigration in the 1990s have been Germany, the United States and Canada (Council of Europe, 1997), Austria, Sweden and France (Council of Europe, 1999). The largest numbers of immigrants are from Germany, the United States, the Ukraine, other newly independent states and Asia (Council of Europe, 1999).

Social conditions and economy

The relevance of educational attainment to health is well documented. The literacy rate among the adult population (aged 15 or older) has often been used as an indicator, but the uniformly high adult literacy rates in Europe (all reference countries report a literacy rate of 96% or more) limit its value for comparison. As all the reference countries have universal primary education with almost all children participating, the enrolment ratio³ for primary education is also an insensitive indicator for detecting differences in educational levels.

Comparable data on enrolment ratios in secondary education (such as middle school, high school and vocational and technical schools) are more useful. In Poland, enrolment in secondary education has risen since comparable figures became available (1980). By 1996, the net enrolment ratio for secondary education was among the highest in the reference countries, at 84%, compared with an average of 79% (UNESCO, 1999).

³ The net enrolment ratio is the number of enrolled students in the official age group, divided by the population of the same age group which corresponds to a specific level of education. National regulations are used to define the level of education and, therefore, the official age group (UNESCO, 1999).

The Polish gross domestic product (GDP) adjusted for purchasing power parity (PPP) was US \$4190 in 1988. By 1999, it had reached US \$8079. This was near the average of the reference countries, but still only 37% of the EU average. Real wages decreased by more than a fifth between 1989 and 1996. Inequalities in the distribution of earnings also increased during the same period (*United Nations Economic Commission for Europe, 1999*). In 1999, it was estimated that some 14.4% of the population lived in households with an income below the official social minimum income (*Central Statistical Office, 2000a*).

In 1996, the working population was 20.1 millions, of which 3.3 millions were working in industry and building, and 3.6 millions in transport, communication, trade, education, or in financial, social or health services, and approximately four millions were small farmers (*Turner, 2000*). Although there is a relatively large agricultural workforce, its contribution to

the gross national product (GNP) is low. According to preliminary figures for 1997, 57% of the GDP came from services, 37% from industry and 6% from agriculture the (*United Nations Economic Commission for Europe, 1999*).

The official unemployment rate in Poland increased from 6.3% in 1990 to 16.4% in 1993, but decreased to 10.5% in 1998, but national sources indicate a rise to 13.1% in 1999 (*Central Statistical Office, 2001*). This is higher than the average of the reference countries (10.3% in 1999) and the EU average (10.3% in 1999). Unemployment in most countries in central and eastern Europe may be higher than these official rates.

Inflation has caused severe problems for some countries in central and eastern Europe. In Poland the inflation rate rose to 71% in 1991 and then declined to 10% in 2000 (*Central Statistical Office, 1999*).

HEALTH STATUS

A summary of recent changes in Poland's health position compared to the reference countries (Fig. 3) shows:

- Poland's relative position on life expectancy and on maternal and infant mortality have improved.
- Cancer mortality in general and lung and cervical cancers in particular, are generally high in Poland compared with the other reference countries. Breast cancer is a marked exception with the best rate among the reference countries.
- Poland's relative position on ischaemic heart disease has improved dramatically, in contrast with its deterioration for cerebrovascular disease.
- Poland's relative position on external causes has deteriorated, because of stable mortality rates in Poland set against declining trends elsewhere.

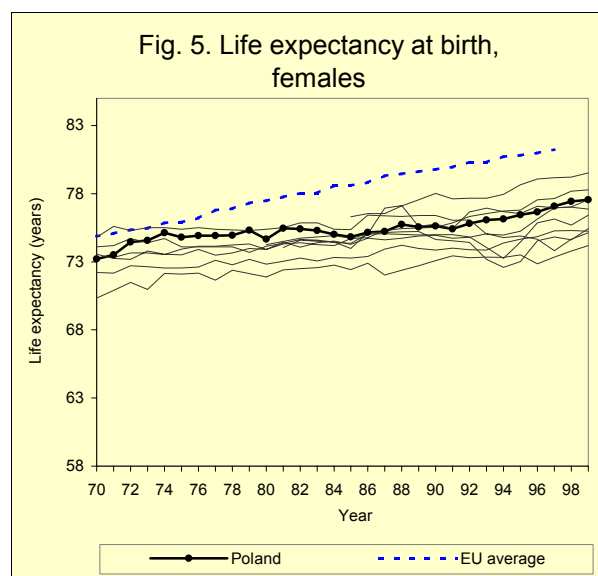
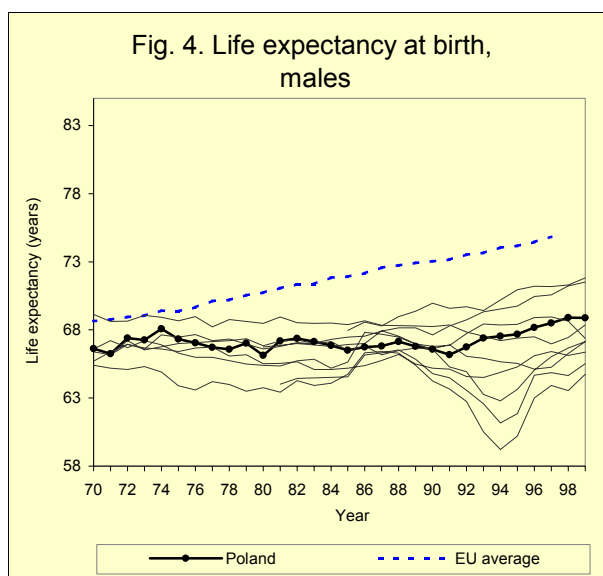
Fig. 3. Poland relative to reference countries in 1985 ● and latest available year (1999 ^e) ☺															
	BEST					WORST									
POSITION	1	2	3	4	5	6	7	8	9	10	Poland	Reference country average	Minimum ^a	Maximum ^b	
Life expectancy at birth (years)			☺		●						73.2	72.4	70.2	75.8	
Male versus female difference in life expectancy at birth (years)						☺					8.7	8.1	6.8	10.9	
Infant mortality rate per 1000 live births						☺		●			8.9	10.9	4.6	18.6	
Maternal mortality rate from all causes per 100 000 live births ^c			☺	●							8.6	17.6	6.3	44.1	
SDR ^d from cardiovascular diseases, age 0–64 years			☺				●				114.0	129.9	61.1	167.3	
SDR from ischaemic heart disease, age 0–64 years			☺				●				50.1	57.5	25.3	88.0	
SDR from cerebrovascular disease, age 0–64 years	●				☹						25.7	32.6	14.3	51.1	
SDR from cancer, age 0–64 years							☺				105.4	107.3	92.7	145.3	
SDR from trachea/bronchus/lung cancer, age 0–64 years								●	☹		27.8	26.8	19.4	42.0	
SDR from cancer of the cervix among females aged 0–64 years							☺		●		6.7	7.4	3.3	11.9	
SDR from breast cancer among females aged 0–64 years	☺	●									13.7	15.7	13.7	20.6	
SDR from external causes of injury and poisoning				●	☹						70.2	74.0	52.2	156.6	
SDR from motor vehicle traffic accidents					●		☹				16.6	14.5	10.2	26.0	
SDR from suicide and self-inflicted injury		●			☹						14.7	17.3	12.0	42.1	
☺	Position improved		7		(indicators)									^a Lowest value observed among ten reference countries	
☺	Position unchanged		2		(indicators)									^b Highest value observed among ten reference countries	
☹	Position deteriorated		5		(indicators)									^c Three-year averages	
														^d SDR: standardized death rate	
														^e Maternal mortality 1997–1999 (Poland 1994–1996)	

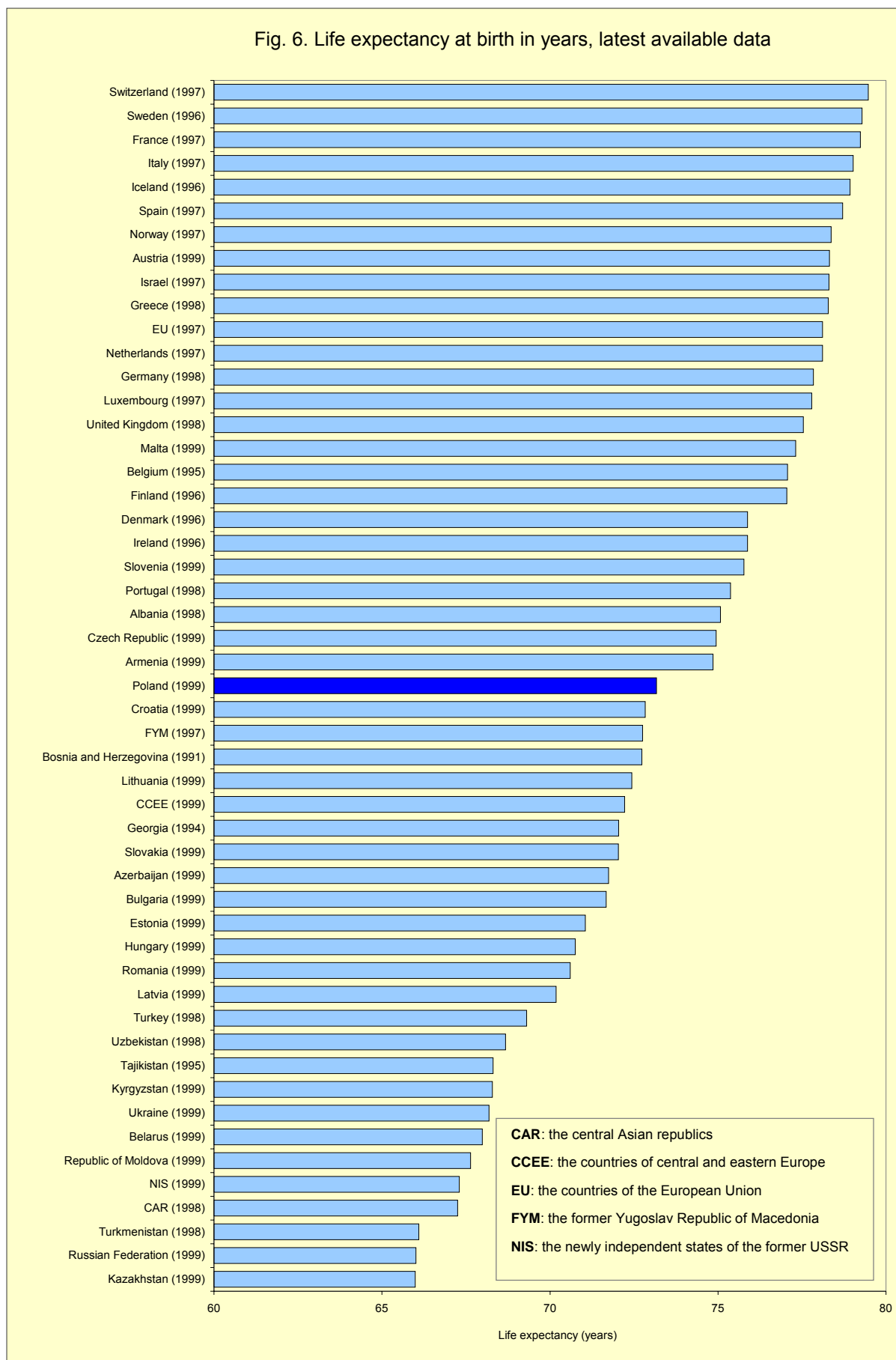
Life expectancy

The Polish life expectancy at birth was 68.9 years for men and 77.6 years for women in 1999, both of which were above the average of the reference countries. In the early 1970s, the life expectancy increased in Poland, but little overall progress was made in the 1990s. The increase in the life expectancy for women re-started in the mid-1980s, and it is now some 2.5 years longer than in 1974. For men, the increase started in the 1990s, and their life expectancy reached the level of 1974 more than two decades later (Fig 4, 5, 6).

The gender difference in life expectancy has increased in almost all the reference countries. In 1999, the Polish difference was 8.7 years, which equalled the average of the reference countries, but which was more than two years greater than in the EU.

Life expectancy is higher for urban men than for rural men, but rural women live longer than urban women. The highest mortality and the shortest life expectancy is reported in the western and central parts of Poland (*Ministry of Health and Social Welfare, 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 common with the reference countries in general, the male mortality in Poland in the age group 15–34 is high, largely as a result of high mortality due to external causes. For women of this age group, the position is better, with overall mortality being lower than the reference country average, approaching the EU average (Fig. 7).

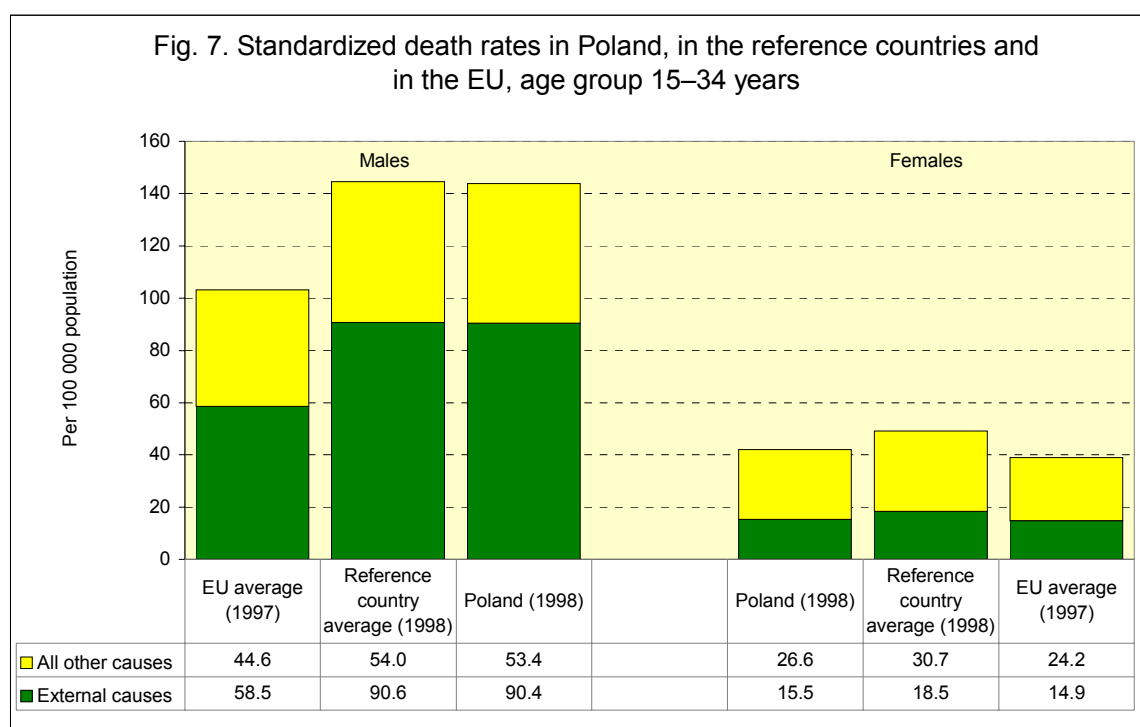
Cardiovascular diseases

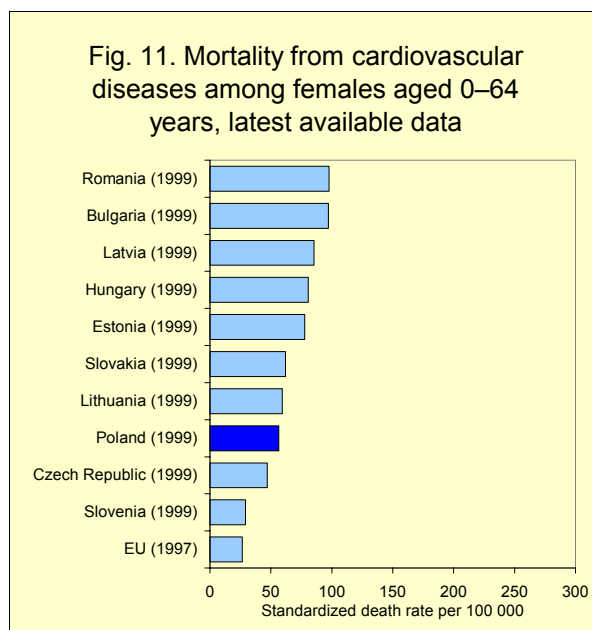
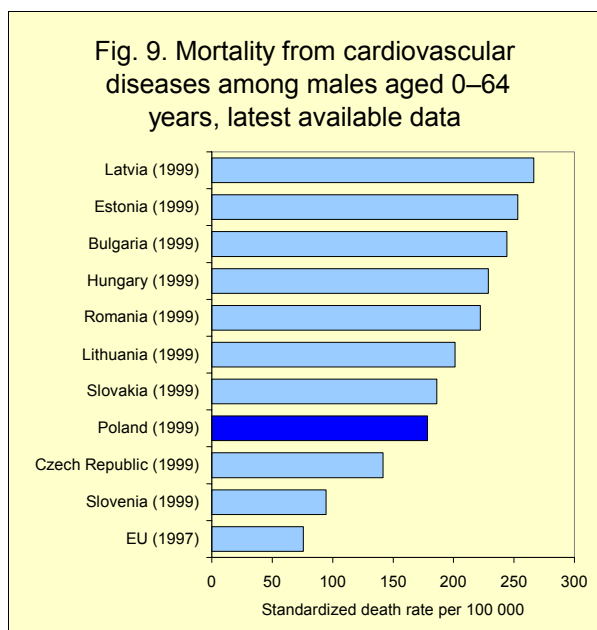
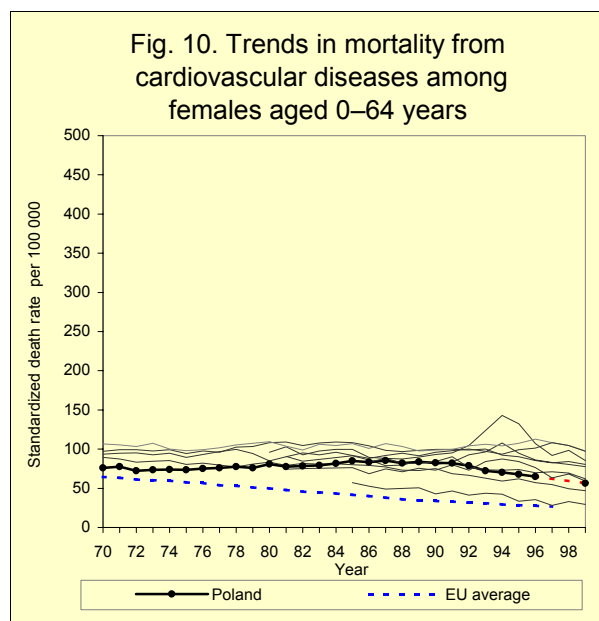
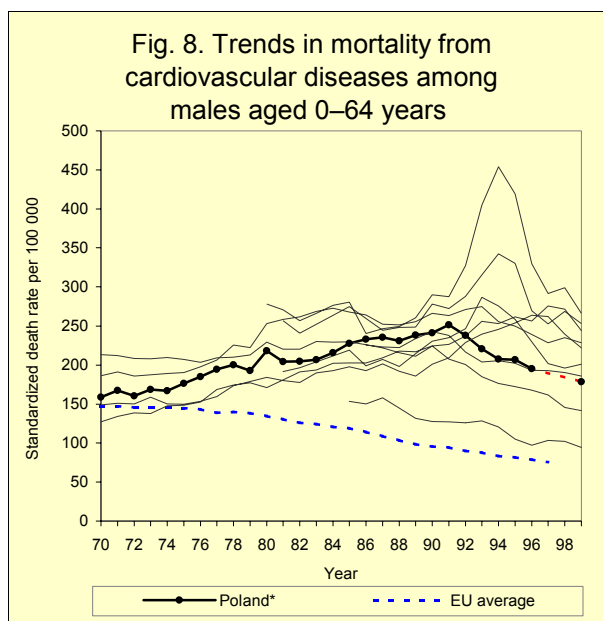
The SDRs for cardiovascular diseases for men aged 0–64 years in the reference countries were near the EU average in 1970. Since then, however, the SDR of the EU has declined and the SDRs in most reference countries have

increased. The Polish SDR increased until 1991, but has since fallen by 30%. In 1999, the Polish rate was one of the lowest among the reference countries, though more than double the EU rate (Fig. 8, 9).

The SDR for cardiovascular diseases for women aged 0–64 years was by 1970 lower in the EU than in the reference countries. Since then, the rate for Poland increased slightly, but constantly, until the early 1990s, after which it has declined by more than a third. In the late 1990s, the Polish mortality rate was below the average of the reference countries, but – as for men – still more than double the EU average (Fig. 10, 11).

The EU average for the SDR for ischaemic heart disease among the population aged 0–64 years has declined since the 1970s, but the decline has started much later or the trend has even been increasing in the reference countries. In Poland, the decline started in the early 1990s, and the SDR has decreased by one fourth from the maximum. In spite of this decrease, the present SDR is still higher than in the 1970s (Fig. 12).





* Cause specific mortality data are available for Poland up to 1996 and for 1999, but not for the two years 1997 and 1998. (See explanation in Technical Notes).

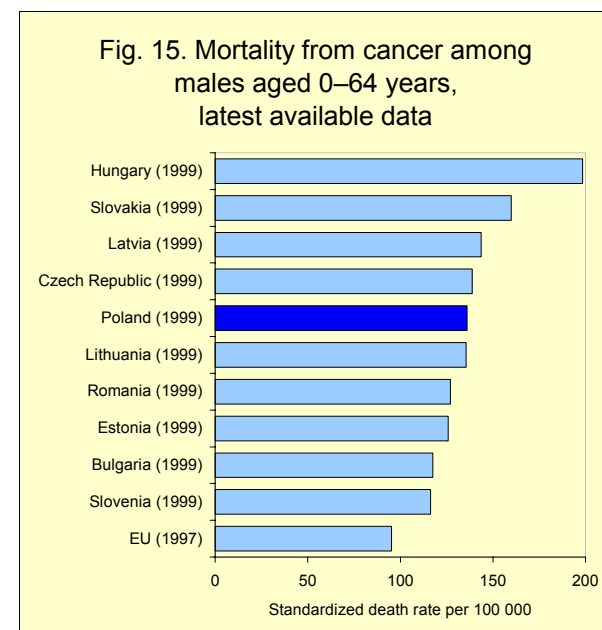
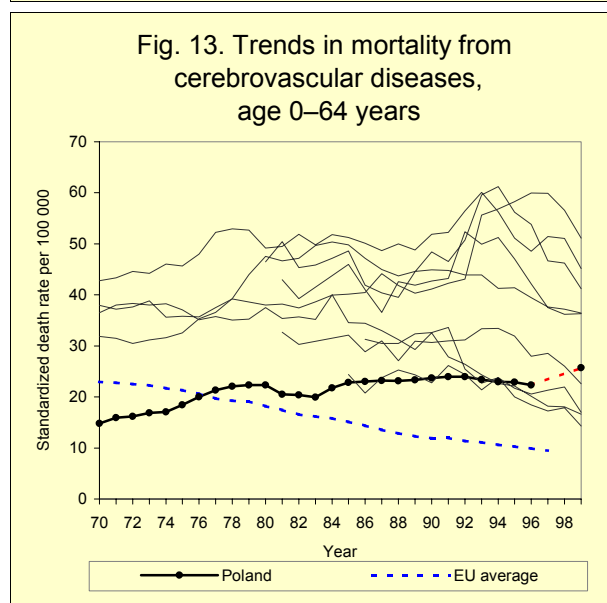
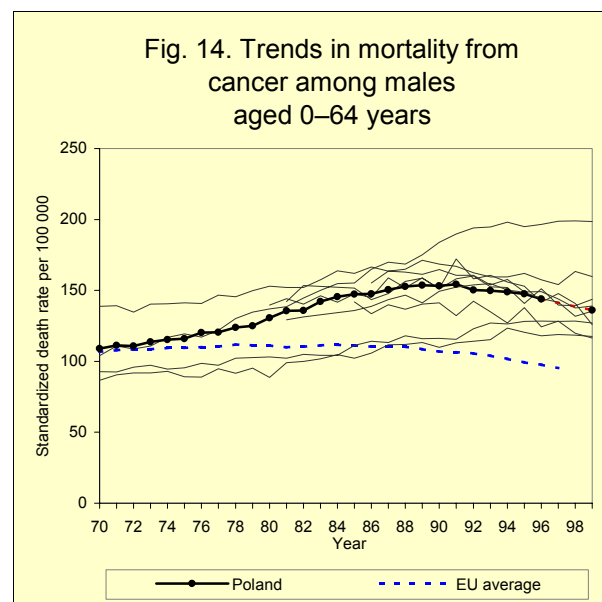
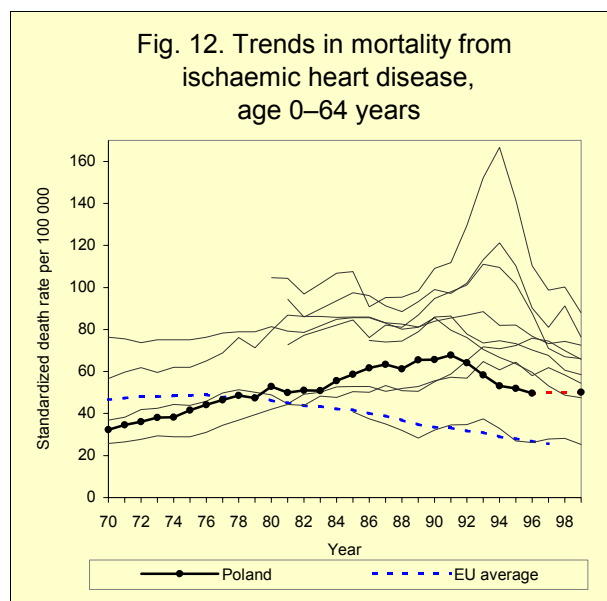
The Polish SDR for cerebrovascular diseases in the age group 0–64 has exceeded the EU rate since the late 1970 (Fig. 13). The male rate increased from 1980 until the early 1990s, remained stable in the mid-1990s, and increased again in the late 1990s. For women, the SDR has changed little since the late 1970s.

Cancer

This section provides comparative data on total cancer mortality. More detailed data on breast cancer and cervical cancer among women are presented in the section on women’s health, whereas that on cancer of the trachea, bronchus and lung is presented in the section on smoking.

The SDR for cancer among Polish males aged 0–64 years equalled the EU rate in the early 1970s. The EU rate has, however, decreased while the rate in Poland increased until the early 1990s. Although the Polish rate started to decrease in the 1990s, it remains more than 40% higher than the EU rate, and Poland’s relative position among the reference countries has deteriorated (Fig. 14, 15).

For women in the same age group, the SDRs for Poland and for the EU were also equal in the early 1970s. Since then, the EU rate has decreased, while the Polish rate has remained at the same level, and the EU rate was almost a fifth lower than the Polish rate in the late



1990s. As for men, Poland's position among the reference countries has not improved (Fig. 16, 17).

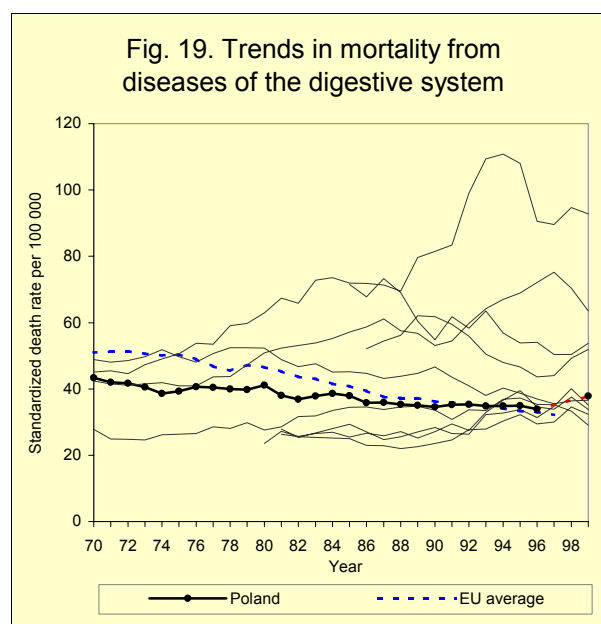
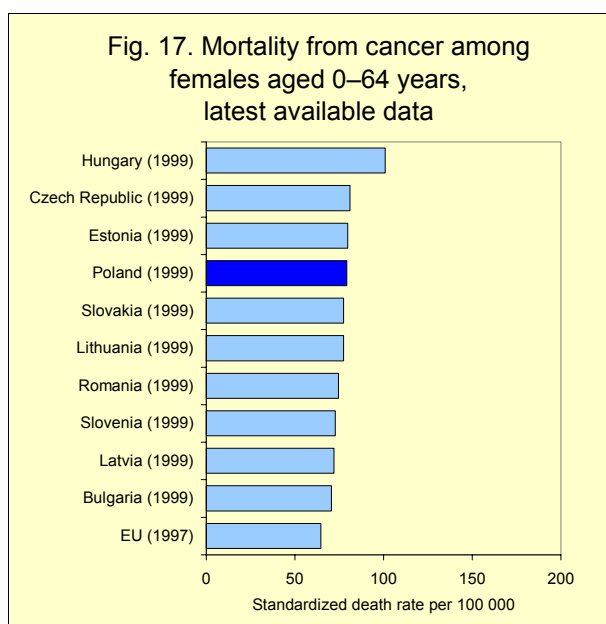
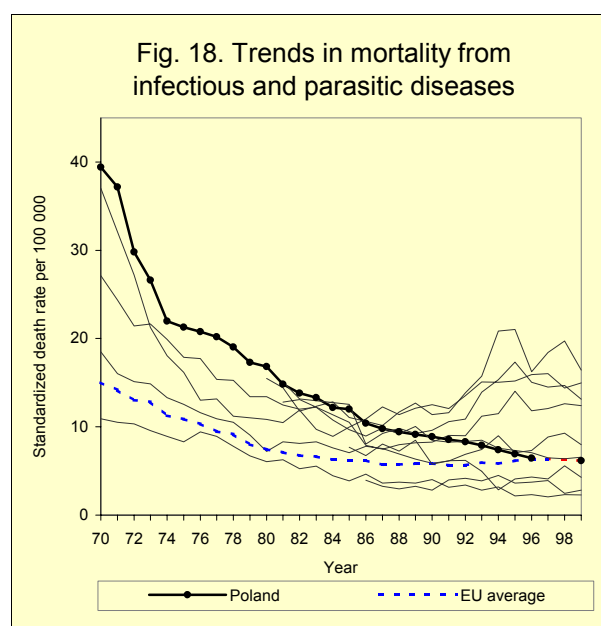
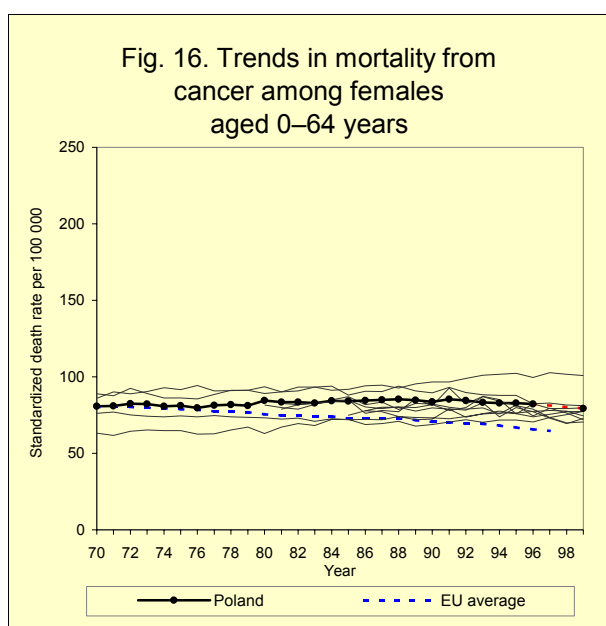
Other natural causes of death

The SDR for infectious and parasitic diseases dropped very sharply both in the reference countries and in the EU during the 1970s and the early 1980s. While this decrease stabilized in most countries, the decline continued in Poland. From having one of the highest SDRs in the 1970s and early 1980s, Poland's rate has declined significantly to reach the average of

the reference countries in the mid-1980s and the EU average in the mid-1990s (Fig. 18).

The Polish SDR for diseases of respiratory system has been one of the lowest among the reference countries. Even though the Polish rate started to increase in the mid 1990s, it is still more than a fifth lower than the EU rate.

The Polish SDR for diseases of the digestive system decreased and remained below the EU average until the mid-1990s. The most recent directly comparable figures (1996) for Poland and the EU were very similar. The recent rise in the Polish rate may indicate that mortality in



Poland now exceeds the EU average. However, the Polish rate is still one of the lowest among the reference countries (Fig. 19).

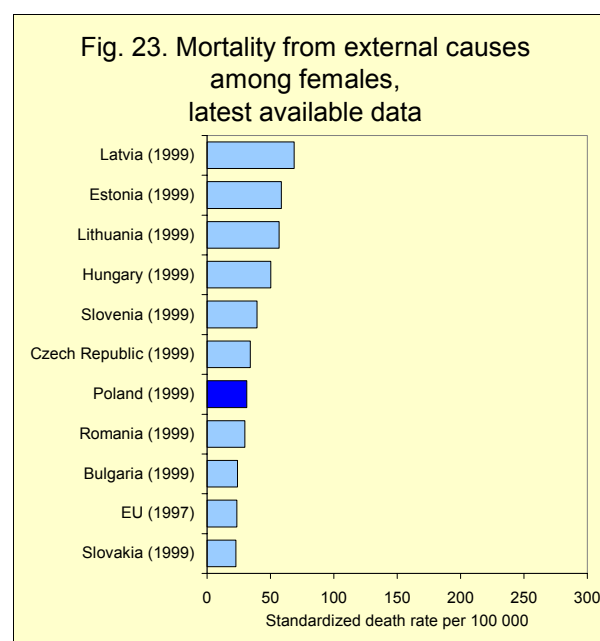
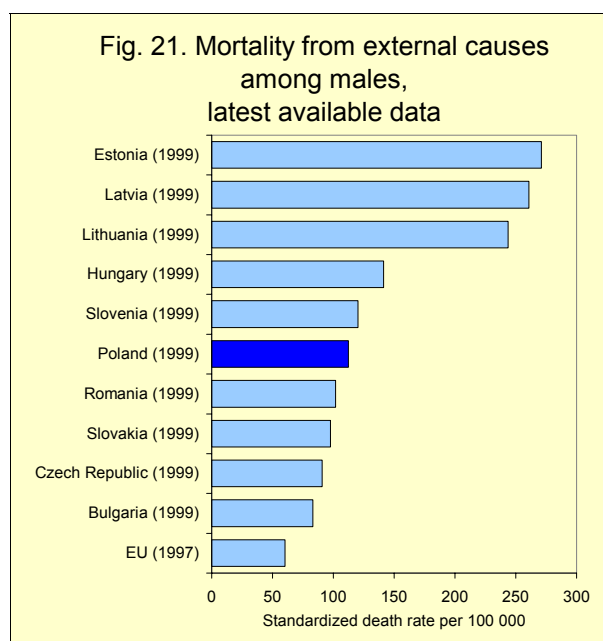
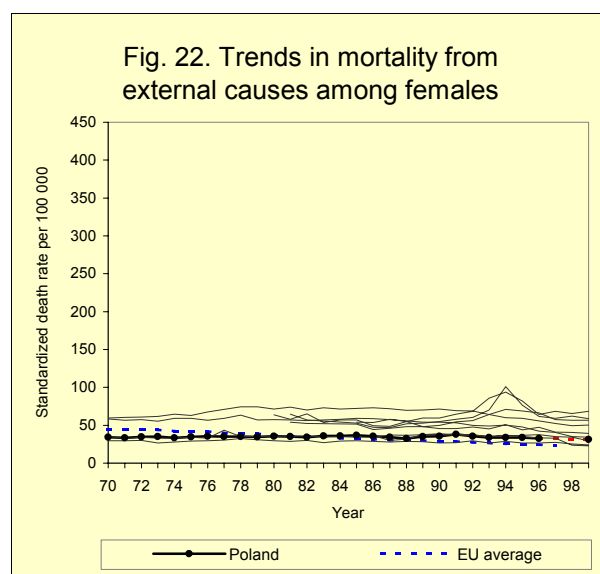
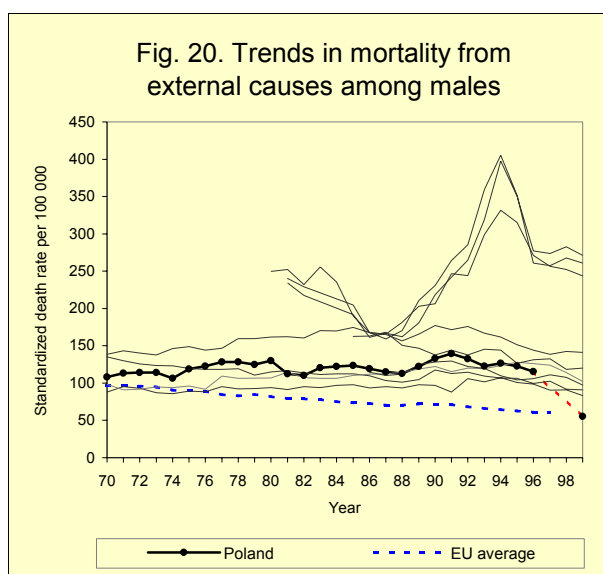
External causes of death and injuries

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.

In the mid-1990s, the Polish rate was 85% higher than the EU average and below the average of the reference countries. The figure for

1999 has shown a dramatic fall of over 50%, making mortality rates similar to the EU average of the mid-1990s. However this drop may be caused by changes of the coding completeness and quality (Fig. 20, 21).

Women have notably lower SDRs for external causes in general. In 1997, Polish men experienced mortality rates for external causes more than three times higher than Polish women. Before the early 1980s, the female SDR for external causes in Poland was below the EU average, but the Polish rate has remained at the same level, while the EU rate has since declined by a third. Even though the Polish



trend has not been as favourable as in the EU, Poland has one of the lowest female mortality rates for external causes among the reference countries (Fig. 22, 23).

The Polish SDR for homicide and purposeful injuries followed the EU rate in the 1970s, but increased in the following decade. The increase accelerated in the late 1980s, especially for males, whose SDR more than doubled in a couple of years. According to the latest figures, the Polish rate is more than double the EU rate, though still below the average of the reference countries.

The SDR for motor vehicle traffic accidents in Poland equalled the EU rate in the 1970s and in the early 1980s, but increased rapidly in the late 1980s and in the early 1990s. Even though the mortality rate has started to decrease again, the Polish rate remains some 50% higher than the EU rate. In 1999, there were 6730 deaths and 68 449 injuries in road traffic accidents. Polish traffic accidents are characterised by considerably higher case-fatality rates (12 deaths per 100 accidents) than in the EU (3.5 per 100) (*Government Population Council, 2000*).

Mental health

Although mental and psychosocial wellbeing are important aspects of health-related quality of life, too little information is usually available to allow these important dimensions

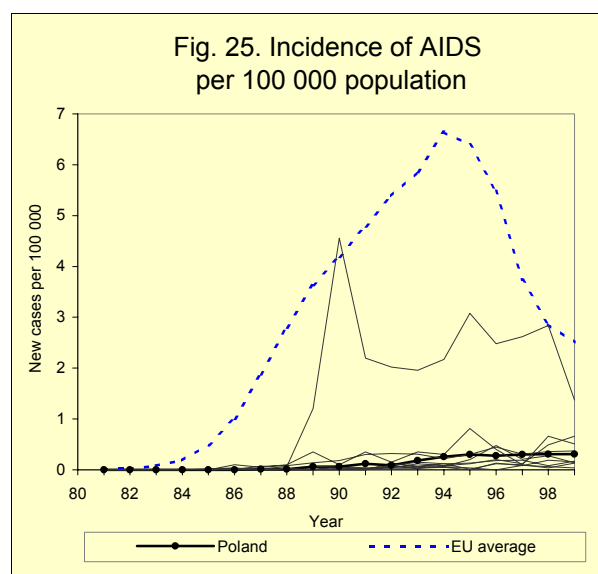
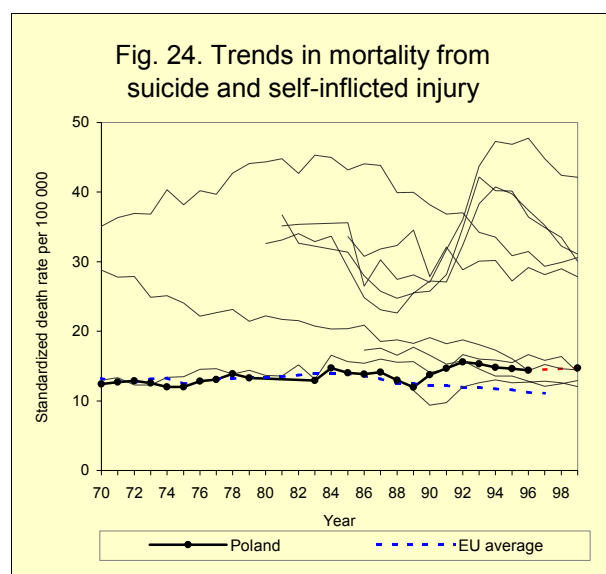
of the population's health to be described reliably. Suicide rates can be used as a surrogate indicator of the overall level of mental health. The Polish SDR for suicide and self-inflicted injury has been one of the lowest among the reference countries for both sexes (Fig. 24). In the late 1990s, the Polish SDR for men was more than 50% greater than the EU average, but the SDR for women 20% below the EU average.

Between 1989 and 1996, especially during the first three years after the collapse of the old regime, the male SDR for suicides and self-inflicted injury increased by 30%, while the female rate was static. This has widened the gender difference, and Polish men had a suicide rate that was 6.1 times the female rate in 1999. This was one of the greatest gender differences among the reference countries.

Since 1975, the hospitalisation rate due to mental disorders has been slowly increasing, but the number of new cases of mental disorders treated in outpatient settings have increased more rapidly, mostly because patients with diagnosed alcohol-induced mental disorders have become more common (*Institute of Psychiatry and Neurology, 2000*).

Infectious diseases

The acquired immune deficiency 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. The number of notified cases of AIDS is rising in central and eastern Europe, although more people have been diagnosed with AIDS in western and northern Europe.

In Poland, the incidence of AIDS was 0.3 per 100 000 population in 1999, which was one of the highest incidences among the reference countries, but significantly lower than in the EU (2.5/100 000) (Fig. 25). The transmission groups for AIDS in Poland differ from those of the other reference countries. Drug users

represented some 50% of all AIDS cases in the period 1986 to 1999 and 60% in 1999, the highest percentage among the reference countries (on average 28%) (Szata, 2001). In total, 26% of cases were transferred by homosexual contact and 14% by heterosexual contact. The former is much lower than the reference country average of 44%, whilst the latter is slightly lower than the reference country average of 18% (both averages exclude Romania). Some cases of transmissions from mother to child or from blood products have been reported (European Centre for the Epidemiological Monitoring of AIDS, 2000).

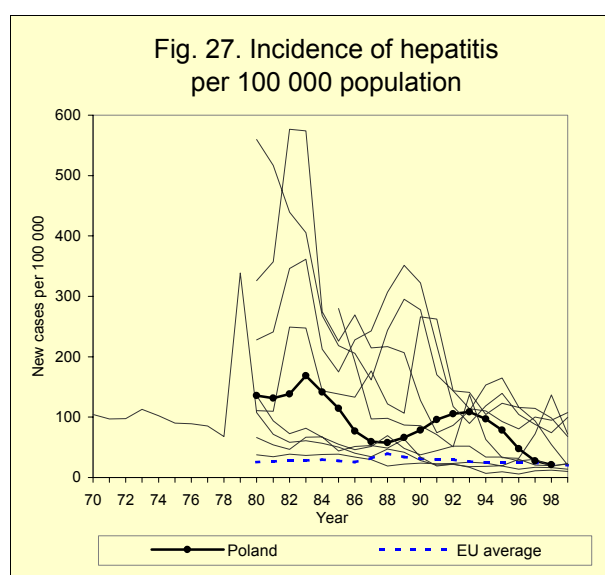
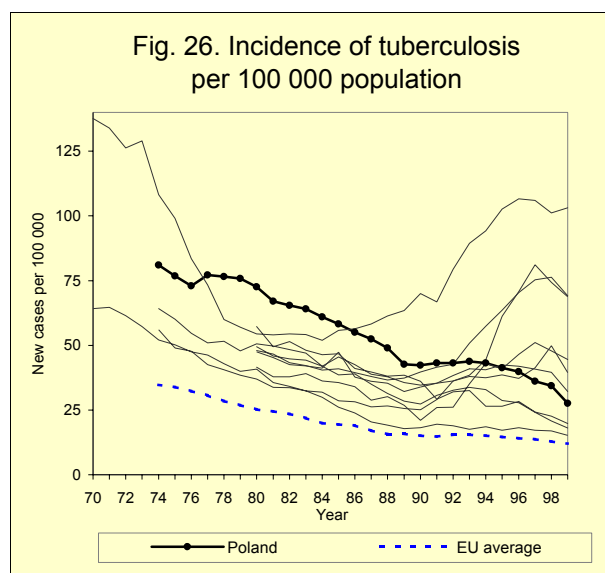
Although relatively high, the Polish incidence of tuberculosis decreased throughout the 1970s and 1980s. In Poland this trend continued in the late 1980s and in the 1990s, while the incidence in several reference countries increased. In conclusion, the incidence rate in Poland declined below the average of the reference countries in the mid-1990s, but remains more than double the EU rate (Fig. 26).

The incidence of viral hepatitis in Poland has varied significantly. The incidence decreased rapidly in the 1980s until 1988, but increased over the next five-years and almost doubled the rate. Since 1993, the Polish rate has declined by more than 80%, and it is now lower than the averages of the reference countries and the EU (Fig. 27).

The Polish incidence of syphilis has declined, and it is one of the lowest among the reference countries. Epidemics of measles (1990), mumps (1994 and 1998), rubella (1992 and 1997) and pertussis (1997–1998) have been reported in Poland, but there has been no epidemics of diphtheria.

Long-term illness and 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. Those countries which do provide data are difficult to compare because of differences in definitions, data collection methods and in national legislation on disease-related social benefits (where disability statistics are based upon those receiving such benefits).



According to estimates based on the National Health Interview Survey of 1996, there are some 4.4 million people (15% of the total population aged 15 or more) with legal confirmation of disability in Poland and another 0.8 million without legal confirmation but experiencing a limitation of activity. Some 53% report at least two causes, with diseases of the musculoskeletal and circulatory systems each causing around 45% of disabilities (*Central Statistical Office, 1997a*).

Self-assessed health

Comparable data are also lacking for the proportion of the population assessing their own health positively. Among the reference countries, seven of the countries have such data with Bulgaria (62%) and Poland (55%) having the largest proportion of adult respondents assessing their health as being good and Latvia (26%) the least. The large observed variation may be caused by the differences in study settings or in data collection or by cultural differences.

In all countries, men assessed their health as being good more often than women did. In Poland, 59% of males and 51% of females assessed their health as good in 1990. In 1996, these figures had fallen to 44% overall, 48% for men and 40% for women (*Central Statistical Office, 1997b*).

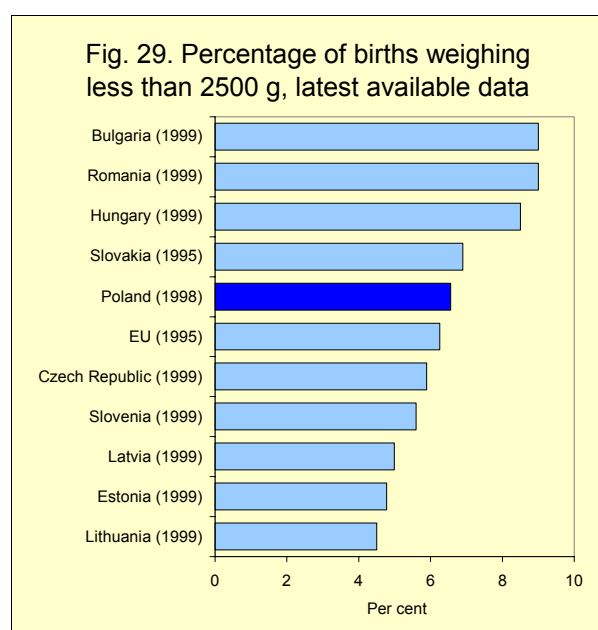
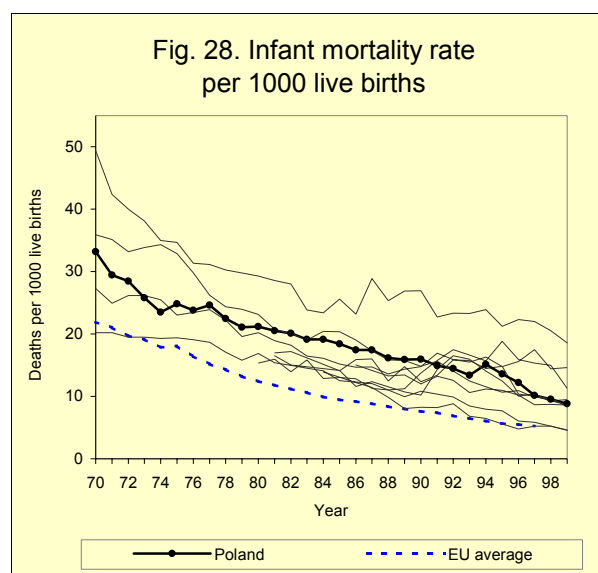
Health of children and adolescents

The infant mortality rate decreased in almost all the reference countries between 1985 and 1999. The Polish infant mortality rate halved from 18.4 to 8.9 per 1000 live births during this period, and is now below the average of the reference countries (Fig. 28).

The main causes of infant mortality in Poland generally follow the pattern in western Europe, with the most frequent cause being malformations and perinatal conditions, which cause 82% of all infant deaths in the EU. The third most common cause is sudden infant death syndrome (11%), whereas external causes, infectious and parasitic diseases and diseases of the respiratory system are responsible for 2–3% of death. The same pattern can be found

in Poland, where the main causes of death are related to perinatal conditions and malformations (86%). Deaths due to external causes and to infectious and parasitic diseases are slightly more common in Poland (3–4%) than in the EU. Sudden infant death syndrome (3%) is diagnosed less often than in the EU, but some cases may be classified under diseases of the respiratory system.

The proportion of children weighing less than 2500 grams at birth has often been used as an indicator of the health of the newborn and the quality of perinatal care. In the EU, 6.0% of all children were of low-birth weight. This proportion is generally higher in Poland (6.6% in



1998) and in the reference countries (7.2% in 1998) (Fig. 29). The newborn of low birth weight have significantly higher mortality than the newborn in general. In Poland the mortality rate for a newborn with a low birth weight is double the corresponding rate in developed European countries. Breast-feeding during the first six months of life is reported to be infrequent in Poland (*Ministry of Health, 2000*).

Children in most of the reference countries have good immunisation coverage. In Poland, immunisation coverage of 96% or more was reported for all relevant diseases.

In general, children's oral health has improved in the reference countries in the 1990s as in the EU. However, this was not observed in Poland. The DMFT-index (the number of decayed, missing or filled teeth) was 4.4 in the mid-1980s, increasing to 5.2 a decade later. A national study reported that advanced caries were found in 60% of children aged 12 years (*Ministry of Health and Social Welfare, 1996*).

Children with disabilities and others who experience difficulty in learning are often marginalized within or even excluded from school systems. In the countries of central and eastern Europe, the dominance of a traditional medicalized approach resulted in such children being educated in separate special institutions. In the 1990s, most of the ten reference countries had moved towards integrating these children in the normal school system, even though progress was slowed by economic problems (*Ainscow & Haile-Giorgis, 1998*).

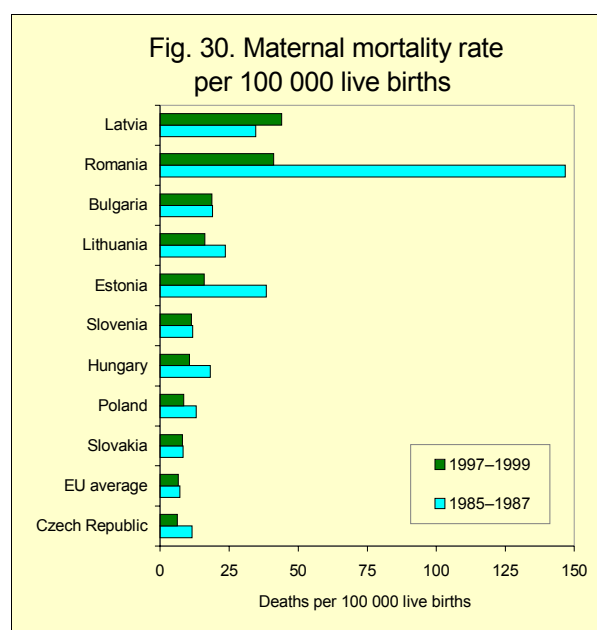
One of the few routinely available indicators for adolescents' sexual health and behaviour is the rate of teenage childbirth, which can reflect social factors as well as access to and use of contraception. In Poland in 1998, the birth rate per 1000 women aged 15–19 years was 19, which was one of the lowest among the reference countries, but still higher than the EU average of 8 per 1000 (*Council of Europe, 2000*). The birth rate in this age group has been declining in all the reference countries since 1980. In Poland, this decrease was 43%.

Women's health

Women as a group live longer than men and have lower mortality rates for all the main causes of death. For example in Poland, the SDR for cancer in the age group 0–64 was 42% lower for women than for men in 1999. The gender difference was even larger for the SDR for diseases of the circulatory system, since the female rate was 68% lower than the male rate. However, women have higher reported rates of morbidity and utilization of health care services (especially around childbirth), and they can be more affected by social welfare policies than men.

Since the 1980s, the maternal mortality rate has declined noticeably in almost all reference countries. In Poland, maternal mortality decreased by a third from 13.1 to 8.6 per 100 000 live births between the mid-1980s and mid-1990s. The Polish rate is among the lowest in the reference countries, but still higher than the EU average of 6.6 per 100 000 live births (Fig. 30).

In the countries of central and eastern Europe and in the newly independent states induced abortion was commonly used as a contraceptive method due to lack of modern contraceptives. Poland was, however, an exception as in 1989 there were some 141 induced abortions



Data for Poland is 1985–1987 and 1994–1996.
Data for EU average is 1985–1987 and 1995–1997.

per 1000 live births, which was one of the lowest rates in the whole of Europe. The current law on abortion that was passed in 1993 allows induced abortion under three circumstances:

- if the mother's life is at risk
- if there is a significant defect of the foetus or high risk of traumatic disease of a foetus
- if there is a strong evidence that the pregnancy is the result of an illegal act.

There are no reliable statistics available on the number of induced abortions following these changes in legislation.

There is only limited information on the use of contraceptive methods. A study performed in 1991 suggested that 40% of Polish women of fertile age did not use any form of contraception and 80% of mothers did not use any contraceptives at all before having their first two children. Oral contraceptives and IUDs were used by 11% of the adult population in 1999; a decline in use of more than 50% from 1992. Sterilisation as a voluntary contraceptive method is illegal (*WHO Regional Office for Europe, 2000a*).

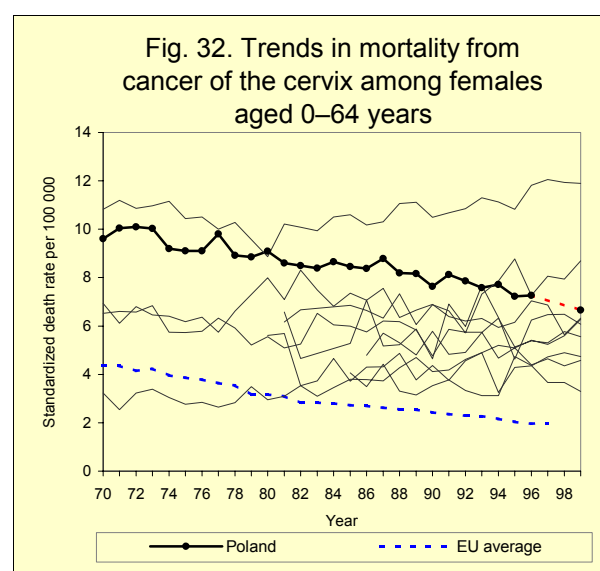
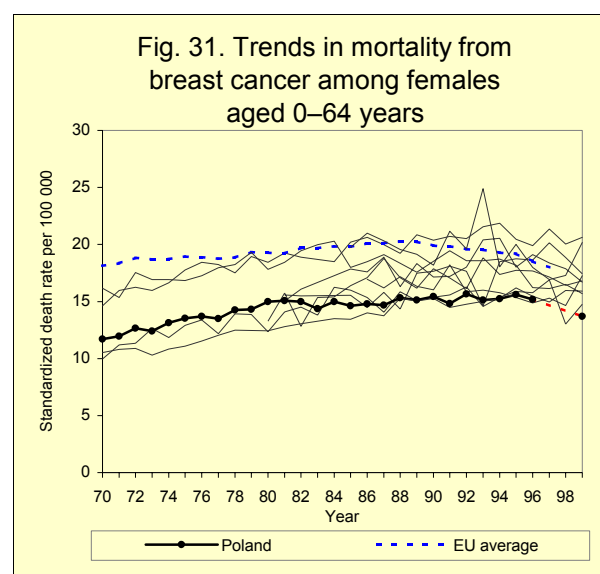
The SDR for cancer of the female breast increased in Poland in the 1970s, but remained constant since the early 1980s. In the mid-1990s, the Polish rate was the lowest among the reference countries, approximately a quarter lower than the corresponding EU rate (Fig. 31).

In contrast, the Polish SDR for cancer of the cervix has been one of the highest among the reference countries. Both the EU and the Polish SDR have decreased, but the Polish rate was still more than three times the EU rate in the late 1990 (Fig. 32).

Violence against women has received limited attention as a public health issue. Data on the incidence and type of such violence are lacking. The SDR for homicide and purposeful

injury for women can be used as a surrogate indicator. The Polish female SDR for homicide was low and equalled the EU rate in the 1970s.

From the mid-1980s, the rate has increased and peaked in 1990. It then declined, but remained higher than in previous decades, although compared to those reference countries with the highest SDRs (of between 5.1 and 10.1 per 100 000 women) the Polish rate of 1.1 per 100 000 women remains low.



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 and 1999b*).

Tobacco consumption

The prevalence of smoking among the population aged 15 years or more in Poland is one of the highest in Europe. Of the reference countries, only Hungary had a prevalence as high as Poland had in the mid-1990s (Fig. 33). In 1996, more than 40% of Polish men and almost 20% of women smoked regularly (*Central Statistical Office, 1999*). Smoking during pregnancy was also common: almost a third of pregnant women smoked regularly. Fewer physicians smoked than the general population (30% for males and 19% for females), but up to 50% of nurses were smokers (*Ministry of Health and Social Welfare, 1996*).

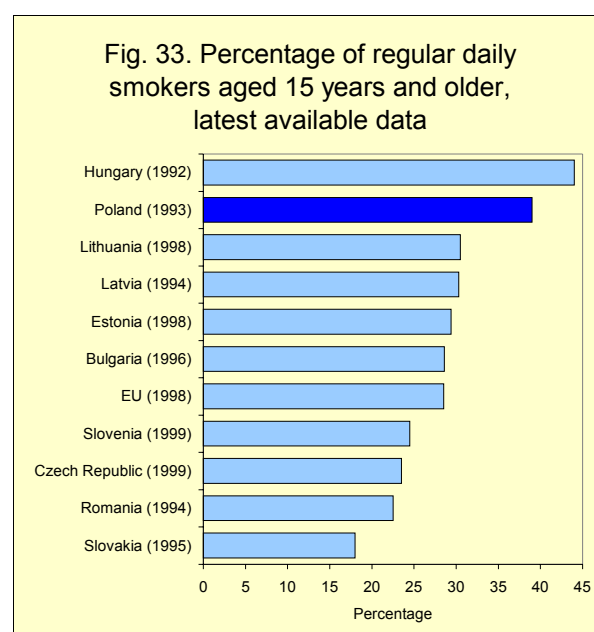
According to a school questionnaire survey performed in 1997–1998, 22% of boys and 14% of girls aged 15 smoked at least once a

week. These prevalences were at the same level as in the previous study four years earlier and higher than in studies performed in the 1980s (*WHO Regional Office for Europe, 1997 and 2000b*).

The annual consumption of cigarettes per person was also high in countries with high prevalences of smoking, especially Poland and Hungary. In the 1990s, Polish consumption decreased by a fifth. Increased black market sale or increased import of tobacco products may, however, explain some of this apparent decline in consumption.

A CINDI (Countrywide Integrated Noncommunicable Disease Intervention) study supports the other sources in suggesting high prevalences of smoking (and other avoidable risk factors), with significantly higher smoking prevalences reported from the large city studied than the medium-sized town (*Sapinski et al, 1999*).

Mortality for trachea, bronchus and lung cancer can be used as an indicator to measure the trends and country positions related to the deaths caused by smoking. In the early 1970s, the Polish SDR for these causes were below the EU rate, but increased constantly until



1991. At that time, the Polish rate was some 70% higher than the EU average. Though the rate in Poland has declined in the 1990s due to the decrease in the male rate, it is still at the same high level as in the mid-1980s and one of the highest rates among the reference countries (Fig. 34).

While the Polish SDR for trachea, bronchus and lung cancer started to decrease for men, the female rate has continued to increase in the 1990s, which has reduced the gender difference in Poland. Polish men still had a SDR for trachea, bronchus and lung cancer five times higher than women.

Alcohol consumption

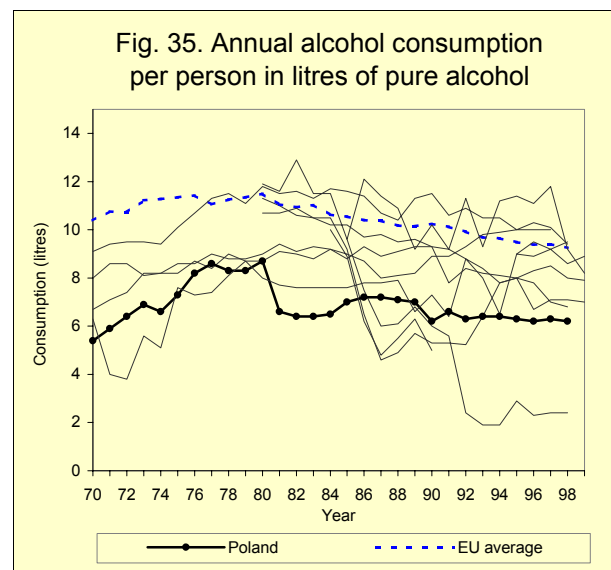
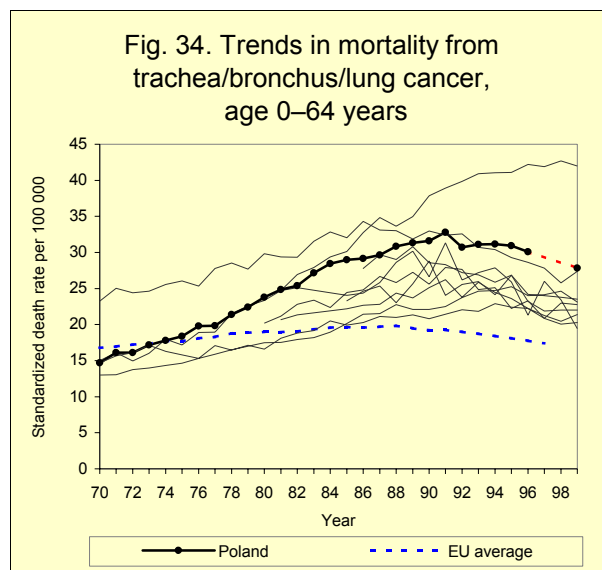
Registered alcohol consumption (according to sales data) in Poland has decreased since the mid-1980s by 10% from 7.0 to 6.3 litres of pure alcohol per person. The decrease in the EU has been as large as in Poland (11%), but the level of consumption in the EU has been some three litres higher since the 1980s. Poland had one of the lowest alcohol consumption levels throughout the 1980s and 1990s (Fig. 35). This can partly be explained by problems to record alcohol consumption in the central and eastern European countries. For example, some Baltic states recorded a remarkable decrease of up to 65% in the 1990s, but local studies reported very high levels of unrecorded consumption as well as

illegal import and production (*WHO Regional Office for Europe, 1997*). Polish authorities have estimated that the true consumption of alcohol was 9–10 litres instead of the 6–7 litres recorded during the 1990s (*Ministry of Health and Social Welfare, 1996*).

The number of alcohol addicts is estimated to be 600 000–800 000, and some 2–3 million additional Polish may damage their health by heavy drinking. One of the major problems related to alcohol consumption in Poland is the high frequency of isolated episodes of binge drinking of spirits (*Ministry of Health and Social Welfare, 1996*).

According to sales data, the registered consumption of spirits in Poland has decreased more than for other alcoholic beverages, from 4.6 litres to 3.5 litres since the mid-1980s. During the same period, the consumption of wine fell from 7.9 litres to 6.0 litres, but the consumption of beer increased from 30 litres to 53 litres (*Produktschap voor Gedistilleerde Dranken, 2000*). However, although overall registered consumption of alcohol per person in Poland has decreased and is among the lowest in the reference countries, this may mask changes in consumption in different population cohorts.

The new drinking pattern has also changed drinking culture during the 1990s. It has become more popular to drink beer in public places or alone and also more likely without a

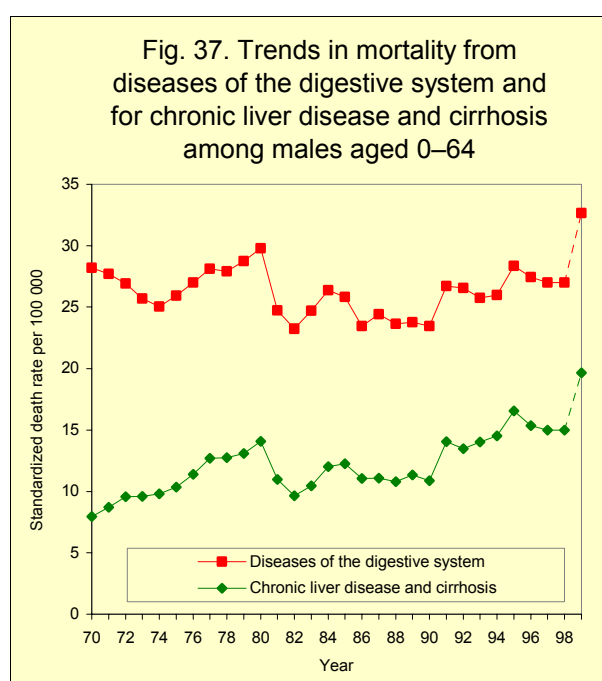
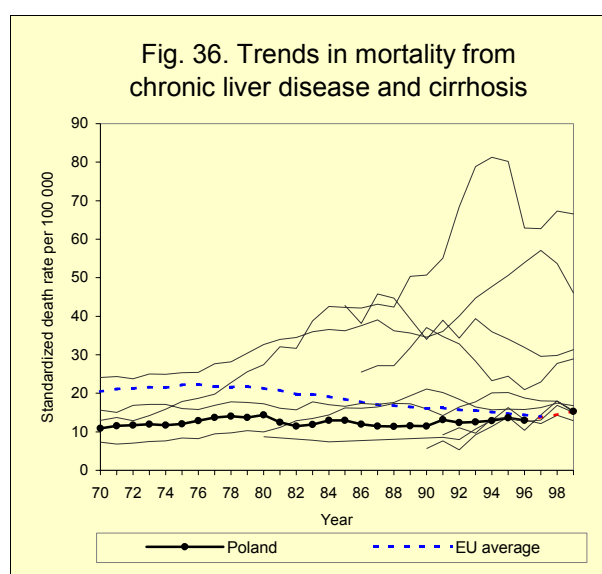


special reason, while spirits and wine have more often been consumed in private homes, often associated with special occasions (*WHO Regional Office for Europe, 1997*).

A local study performed in 1993 reported that 11% of respondents were abstainers (6 % of males and 16% of females). Of the sample, 24% of men, but only 4% of women reported heavy drinking, which was measured by a minimum weekly consumption of 150 grams for men and 115 grams for women. An exceptionally high proportion of heavy drinkers was

observed among the unemployed. According to a school questionnaire survey in 1997–1998, almost one in ten girls, and one in five boys aged 15 years drank alcohol at least once a week. These figures did not change during the 1990s, and they were among the lowest in the reference countries participating in the study (*WHO Regional Office for Europe, 1997 and 2000b*).

The number of deaths due to chronic liver disease and cirrhosis can be used to give an indication of the harmful effect of long-term alcohol consumption. The Polish SDR for chronic liver disease and cirrhosis has been one of the lowest among the reference countries since the 1970s, and the rate remained constantly below the EU rate until the late 1990s. Even though the rate in Poland has been relatively stable since 1970, the difference from the EU has decreased due to the declining EU rate. The EU rate was almost double the Polish rate in 1970, but according to the latest figures the rates are now similar (Fig. 36). The trend was similar for both sexes in all reference countries, but men had a higher mortality risk than women. In Poland, the male SDR was three times the female rate. In the 1990s, however, the male mortality rate for ages 0–64 – especially among men aged 25–54 years – appeared to be increasing, while the female rate was stable. This accounts almost entirely for the recent increase in premature male mortality due to diseases of the digestive system (Fig. 37).



Illicit drug use

Comparable data on drug use are rare. In general, the reference countries have reported increased drug use in the 1990s, even though the level is still lower than in the EU.

Cannabis products are the most popular illicit drug among young people in Poland, and use is reported to be increasing. In 1992, every tenth pupil aged 14–18 had used cannabis products, and almost half of them had used it in the previous month. Another study from the same year found 28% of students at Warsaw University had used cannabis products at least once and a fifth of them had used in the

previous month. According to the 1995 ESPAD-survey (European School Survey Report on alcohol and other drug use among 15 to 16-year-old) 2% of boys and 5% of girls had used cannabis at least once. These proportions were among the lowest in the reference countries (Hibell *et al.*, 1997). By 1999, the percentage of respondents reporting cannabis use had increased to 14%. In addition, 15% of boys and 8% of girls reported use of another drug. This was slightly higher than the average of the reference countries (Hibell *et al.*, 2000).

The Institute of Psychiatry and Neurology estimated that there were between 20 000 and 40 000 heavy users of opiates in 1994. Opiates from local poppies are the preferred drug among heavy users. Cocaine, LSD, amphetamines, tranquillisers and sedatives are other commonly used drugs. Increased use has been reported for psychoactive substances, amphetamines and hallucinogens, but not for cocaine. According to the 1992 surveys, 4.2% of the pupils aged 14–18 had ever used amphetamines and 1.5% hallucinogens, while the same proportion among the students at Warsaw University were 5.6% and 6.6%, respectively. In addition, a fifth of university students had used tranquillisers (Ministry of Health and Social Welfare, 1996 and WHO Regional Office for Europe, 1997).

The number of offences connected with drugs has been relatively low, but is increasing. International trade in illegal drugs is also growing rapidly (Ministry of Health and Social Welfare, 1996 and 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 western Europe between the northern and southern dietary patterns are confirmed by data relating to the amount of food available (national food balance sheets) in each country collected since the 1960s by the Food and Agriculture Organization (FAO) of the United Nations.⁴ Typical of northern Europe is a high availability of saturated fat and a low availability of fruit and vegetables. This pattern is reversed in southern Europe.

FAO data suggest that Poland follows the northern pattern with the exception that the availability of cereals appears to be high and that of animal fat is (since 1990) in between the Northern and Southern European patterns (Fig. 38). The availability of fruits and vegetables may, however, be an underestimation, since home-grown fruits and vegetables may not be recorded in this data, and the actual intake can best be verified by dietary intake surveys.

An international study based on a household budget survey of purchased food confirmed the high consumption of sugar (89 grams per day) and animal fats (16 grams). Large regional and socio-economic differences in the availability of these products were also observed. The rural population and people with low educational attainment used more sugar, and especially more animal fats, than the urban population or people with higher education (European Commission, 1997).

The average proportion of energy derived from fat overall did not, however, confirm the high use of animal fats. This proportion in Poland is estimated to be 30%, which equals the average

⁴ The rapid increase in international trade accelerated in 1994, when food was incorporated into international free trade agreements (the GATT Uruguay Round). This has affected the reliability of national food statistics, making international comparisons more difficult.

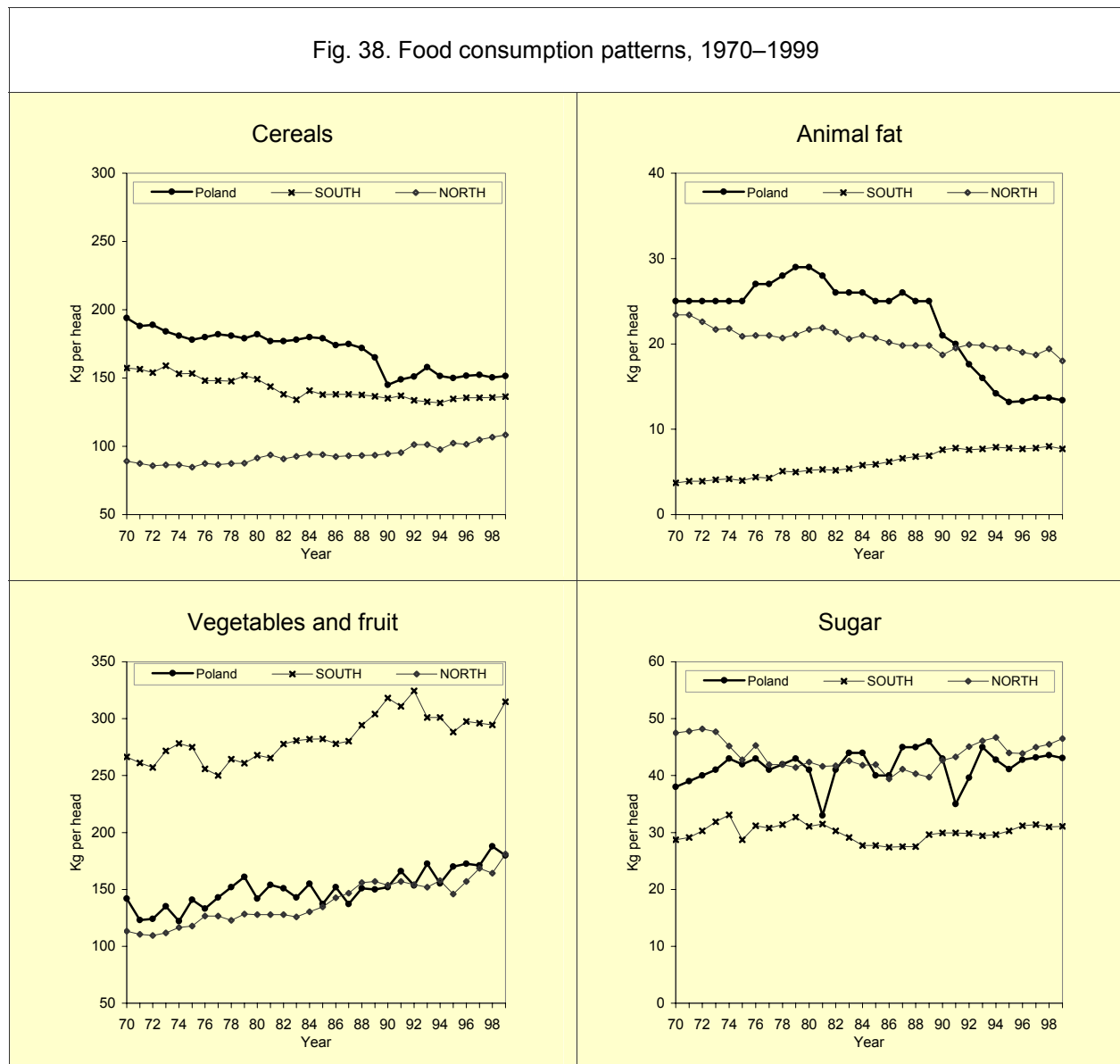
of the reference countries (29%), but is significantly lower than in the EU (39%).

Although nutritional habits are improving there are still other serious problems with Polish nutrition. Examples of these are: excessive intake of salt (over 15 g per day compared to the recommendation of 5–6 g per day), insufficient intake of milk products and irregularly consumed meals (*Ministry of Health and Social Welfare, 1996*).

Physical activity

As physical activity in daily life and at work declines, exercise in leisure time becomes more important in maintaining an activity level beneficial to health. According to the national data from the early 1990s, 70% of children aged 6–7 years, 20–30% of adolescents aged 11–15 years, but only 10% of adults maintain physical fitness by appropriate regular activities (*Ministry of Health and Social Welfare, 1996*).

Fig. 38. Food consumption patterns, 1970–1999



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

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

Overweight

Overweight and obesity are commonly assessed with the body mass index (BMI), calculated as weight in kilograms/(height in metres)². According to the 1992 CINDI-programme the average BMI among the Polish respondents was 25.7 for males aged 25–64 and 25.8 for females in the same age group, while the criteria for normal weight varies between 20 and 25. In total 51.1% of men and 50.7% of women had a body mass index that exceeded 25 indicating overweight (WHO CINDI Programme, unpublished data).

High blood pressure

A systolic blood pressure exceeding 160 mmHg and diastolic pressure exceeding 95 mmHg are considered as levels where treatment is indicated to reduce the risk of cardiovascular disease. According to the 1992

CINDI study, 17% of men and women aged 35–64 years had high blood pressure in Poland. When using lower threshold levels (140 mmHg and 95 mmHg), in total 39% of men and 35% of women in the same age group had high blood pressure. For either definition, Poland had the lowest percentages among the five reference countries with comparable data (WHO CINDI Programme, unpublished data).

High cholesterol

A cholesterol level over 250 mg/dl places the individual at significantly increased risk of cardiovascular diseases. In Poland, 16% of men and 14% of women aged 35–64 years had such a high value. As for high blood pressure, these percentages were the lowest among those reference countries with comparable data (WHO CINDI Programme, unpublished data).

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, and especially to protect the food chain (water, agricultural products) from the effects of harmful substances. Short-term environmental protection means avoiding or at least reducing potentially harmful situations, bearing in mind that people are not exposed equally to adverse environmental conditions and not all people and social groups are equally vulnerable to them. Thus, children, pregnant women, elderly 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 by causing discomfort and stress, or indirectly by giving rise to unhealthy coping behaviour such as the use of drugs or heavy drinking.

The increased recognition of the importance of the effects of the environment on health and the need for intersectoral action at all levels has been demonstrated by the development and implementation by nearly all European countries of national environment and health action plans (NEHAP) (*Ministry of Health and Ministry of Environment, 1998*).

Microbial foodborne diseases

The number of microbial foodborne outbreaks and the number of people who have suffered from these diseases can be used to indicate the quality of food and its production, even though some of the observed variation can be caused by differences in definitions and data-collection methods. According to the most recent data, variation between the reference

countries is large (from less than one person affected by microbial foodborne outbreaks per 100 000 population in Estonia to 585 per 100 000 in the Czech Republic in 1999). Data from Poland showed a noticeable increase above the average of the reference countries in the mid-1980s. However, more recent data show a much lower level (70 per 100 000 in 1999).

Air quality

Poland had higher emissions of nitrogen dioxide, carbon monoxide and carbon dioxide per person than the reference countries, but emissions in the EU was at least as great or even greater than in Poland. For sulphur dioxide and ammonia, Polish emission rates were lower than those in the reference countries, but the EU rates were still lower. The emission of methane in Poland was lower than in both the reference countries and in the EU (*United Nations Economic Commission for Europe, 1999*).

The total amount of generated municipal waste increased by 6% between 1985 and 1995. In the latter year, there were 294 kilograms municipal waste per person, which equalled the average of the five reference countries that provided comparable data (*United Nations Economic Commission for Europe, 1999*).

Table 2. Emission of selected air pollutants in kg per person in Poland, in the reference countries and in the EU in 1995

	Poland	Reference countries	EU countries
Sulphur dioxide	60.6	68.3	31.5
Nitrogen dioxide	29.0	25.3	32.4
Ammonia	9.8	10.7	9.4
Carbon monoxide	117.8	99.1	119.3
Carbon dioxide	8697	7555	8499
Methane	46.5	56.5	61.4

Housing

The average estimated size of dwellings in Poland is 61 m², which is higher than the average of the reference countries (54 m²), but smaller than the EU average (89 m²). In 1995, 56% of the Polish dwellings were owner-occupied, which equalled the average in the reference countries and in the EU (*United Nations Economic Commission for Europe, 1999*).

One aspect of the quality of housing is the proportion of population with connection to water and with access to hygienic sewage disposal. According to latest data from 1992, 91% of Polish people had a water connection. This was among the highest percentage in the reference countries (*United Nations Economic Commission for Europe, 1999*). The quality of tap water is generally classified as good in most cases, but water from wells may be of lower quality (*Ministry of Health and Social Welfare, 1996*). Practically all households, in both urban and rural areas, were reported to have access to hygienic sewage in the late 1980s.

Whereas housing conditions, such as quality, location and infrastructure, affect people's health and wellbeing, lack of housing is even more crucial. Homeless people are more vulnerable to health problems, such as malnutrition, infectious diseases and psychosocial stress caused by solitude and insecurity, than the rest of the population. Whereas data on the quality of housing (albeit not always comparable) are increasingly becoming available, reliable data on homelessness are lacking.

Occupational health and safety

Exposure to health hazards at the workplace is still an important cause of ill health and death. However, information about exposure in terms of the type, frequency and intensity of hazards

and the number of workplaces or people affected is not always available and comparable data are scarce.

The rates of injuries from work-related accidents per 100 000 population varied substantially among the reference countries, which suggests that the figures may describe different phenomena in the countries. Nevertheless, the number of such injuries has declined in all reference countries by an average of 51%, from 592 to 292 per 100 000 population between 1985 and 1999. This decline was 40% in Poland.

The data on deaths from work-related accidents may be more comparable than the data on injuries. The number of deaths has decreased in all reference countries indicating improvements in occupational safety. Between 1985 and 1999, the number of deaths in work-related accidents decreased from 3.8 to 1.8 per 100 000 population in the reference countries (a decrease of 53%). This decline was greater in Poland, and the figure for 1999 (1.4 per 100 000, a decrease of 67% since 1985) was below the average of the reference countries, and of the EU (1.6 per 100 000, a decrease of 28% since 1985).

Even though the number of deaths and injuries in work-related accidents has decreased, the number of occupational diseases has increased from 57 to 131 per 100 000 workers since the mid-1970s. The most frequent occupational diseases, which contribute about 85% of all cases, are hearing impairments, chronic diseases of the voice organ, infectious and invasive diseases, pneumoconiosis, skin diseases, vibration syndrome and poisoning (*Ministry of Health and Social Welfare, 1996*).

HEALTH CARE SYSTEM⁵

During the period 1918 to 1939, health services were expanded, and there was a limited Bismarckian health insurance system covering about 7% of the population.

After the Second World War, health care was declared a public responsibility. The administration of the health care system was strongly centralised. The system was, however, not identical to the Soviet system, e.g. private practice was never formally abolished and some private medical co-operatives and dental services remained. The first health care reforms aimed to develop free and universal public health care. Services were offered to all state employees and occupational health clinics were set up at workplaces since the 1950s. Health care coverage was extended to include agriculture workers in 1972.

Health care reform

The health sector reforms in the 1980s started the decentralisation process, when the position of local governments (called voivodships and gminas) were strengthened. In addition, inte-

grated health care management units, Zespol Opieki Zdrowotnej, (ZOZ) were given greater policy and administrative powers.

The four main principles behind the 1997 Universal Health Insurance Act and its 1998 amendments were 1) universal and mandatory participation, 2) social solidarity, 3) self-government and independence of sickness funds, and 4) the state guarantee of insurance security. The taxation-based system has been phased out and replaced by a health care system, which is financed through 17 autonomous health insurance funds (sickness funds), established at the beginning of 1999. In total 16 of these funds are regional and there is a separate fund for uniformed public employees, e.g. for army and railroad workers.

Privatisation was started with pharmacies, dental practices and private medical practices. Hospitals have remained in the public sector and there are only few non-government hospitals mainly run by voluntary organizations. Private health insurance schemes may become possible in 2002.

Table 3. Health care resources in Poland and in the reference countries (1999 or latest available)				
	Poland	Reference countries	Minimum	Maximum
Hospital beds per 100 000 population	596 ^a	716	555	938
Physicians per 100 000 population	233 ^a	265	191	394
Hospital admissions per 100 population	13.8 ^a	18.1	13.8 ^a	25.4
Average length of hospital stay in days	10.1 ^a	10.3	9.0	11.9
Total health care expenditure as a percentage of GDP	6.3	5.6	2.6 ^a	7.7
^a 1998				

⁵ This section is largely based on *Health care systems in transition. Poland (WHO Regional Office for Europe, 1999a)*.

A National Health Programme for 1996–2005 was introduced in the mid 1990's to protect, improve and recover health. For these purposes, 18 operational targets on promoting healthy lifestyles, health promotion and prevention, and on improving the quality of health care services were set (*Ministry of Health and Social Welfare, 1996*). Since then the Programme has been updated in 2000 (*Ministry of Health, 2000*).

The political and economic changes that started in the early 1990s did not affect health care as much as other sectors. The health care system has been reformed more slowly, and most services have remained in the public sector.

The 1991 Health Care Institutions Act laid down the foundations for reforms providing diversity in the organization and ownership of health care institutions. The Ministry of Health and Social Welfare became responsible for the health policy, training, research and specialized facilities, while regions became responsible for organizing and financing tertiary care and local governments became responsible for primary and secondary care.

The National Health Programme has suffered from poor and slow implementation in preventing cardiovascular diseases, cancer and trauma, as it lacked dedicated funding. In addition, health care services need re-organization to be efficient, and new forms of care, such as day care and home care, need to be developed. The financial management of hospitals and other institutions need to be further rationalized and new sources of funds tapped through health insurance funds. A further challenge in the next few years will be the final implementation of the insurance-based financing of the health care system. Initial experiences with the system suggests that the finance available to the insurance system is insufficient, and the recent percentage of salary to be paid for the health insurance fund may be increased from 7.75% to 10–11% in the future (*Vogler and Habl, 1999*).

Organizational structure

In 1972, integrated health care management units (ZOZ) were established to manage hospitals, outpatient clinics, specialist and primary health care and some social services.

The 1991 Health Care Institution Act laid down the foundation for the future health care system in Poland. It provided for diversity in the organization and ownership of health care institutions: private, voluntary sector, co-operative, local voivodship or public (via central government). In the early 1990s, health care reforms concentrated upon public sector administration and emphasized the importance of primary care.

Health care was delivered by the ZOZs providing primary care, specialist outpatient services and basic hospital care, by the voivodships providing secondary care in specialized hospitals and polyclinics, and by the Ministry of Health and Social Welfare administering some tertiary care. In the late 1990s, primary care was transferred to local authorities (gminas) and district hospitals to district authorities (powiats), while the Ministry of Health retained responsibility for the most specialized facilities.

Health care finance and expenditure

The entire population is covered by the insurance system and costs are ultimately borne by all insured persons. There is a correlation between the contribution rate and insurance income, regardless to insurance risk. Those insured have equal access to services, and health care is free irrespective of risk. Non-standard services may require a co-payment, however, and private medical and dental treatments are paid directly by the patient. Substantial informal gratuities paid to physicians and other health care professionals are illegal, but they have been said to be common since the 1970s.

The health care system will be financed increasingly through health insurance funds. The main aims with the reform are to improve the health status of population, to ensure universal access to high quality services, to increase the effectiveness, to ensure stable funding of

health care and to control expenditures. According to the 1997 General Health Insurance Act and its 1998 amendments, the Polish health care system is universal, mandatory, autonomous, self-governed and state guaranteed.

The new insurance-based social security system consists of three parts: 1) health insurance (including maternity insurance), 2) pension insurance, and 3) insurance for occupational accidents and diseases. Each has its own funds for administration, and they function separately. Their financing is also separated: the health insurance is paid by the employee (maximum 7.5% of salary before taxes), the insurance for occupational accidents and diseases by the employers, and the pension insurance both by employees and by employers (Vogler and Habl, 1999).

Despite these improvements, the system experienced several problems: there was no central register of insured persons, the system did not cover the entire population, there were different payment levels among the population, and the state-run system faced economic problems and a constant deficit (Vogler and Habl, 1999).

International comparisons of health care expenditure are extremely difficult because the definitions underlying health statistics as well as accounting practices vary from one country to another. The following data on health care expenditure should therefore be used with caution, as the boundaries of what constitutes health care can vary substantially between countries.

According to data from 1998, the proportion of health expenditure of total GDP was below the EU average of 8.5% in all the reference countries. The Polish figure (5.2%) was slightly higher than the average of the reference countries (5.1%) (Fig. 39).

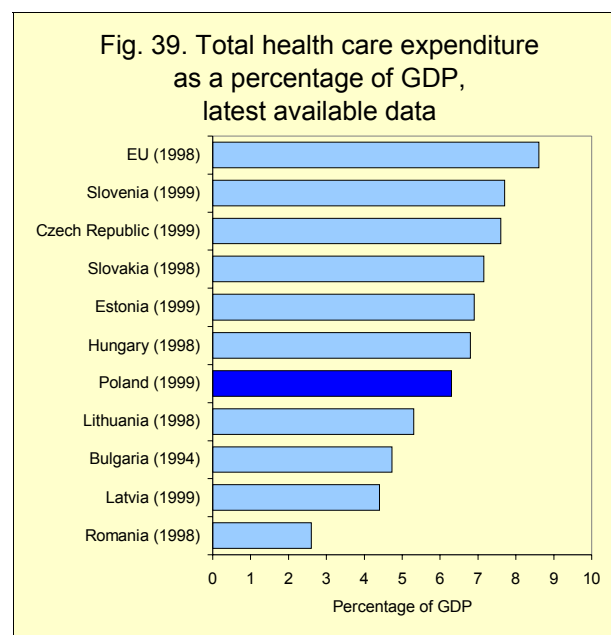
Only four countries provided data on health care expenditure adjusted in purchase power parity (PPP). According to 1996 data, the health expenditure per person was the highest in Slovenia (US \$1 030), and the Czech Republic (US \$917), while Hungary (US \$662

in 1996) and Poland (US \$473 in 1996) had significantly lower figures.

Primary health care

Primary health care is managed by the ZOZs, and is provided near to where people live, work or study. Over half of the 3300 primary health care centres were administered by the provincial voivodships, and at least one third by local governments (gminas) in 1998. In rural areas, primary care is provided through small polyclinics or outpatient centres staffed by an internal medicine specialist, an obstetrician-gynaecologist, a paediatrician, a dentist, a midwife and nursing staff. In urban areas, primary care services are provided in large polyclinics, which also have some specialist services and diagnostic facilities. Emergency care is provided by district ambulance services and in emergency care units.

Primary health physicians, who are mainly specialists in internal medicine, obstetrics, gynaecology or paediatrics, have a role as gatekeeper to specialised care. Patients have a limited choice of physician. Traditionally primary care has been undervalued, and there has been a lack of equipment and training for health professionals. The current strategy is to improve the status of the primary health care by giving greater autonomy to general practitioners. A



family medicine model is being adopted, and it will be organised around individual or group practices.

There are significantly more consultations in the urban area compared to rural areas. This was true for the general population as well as for women, children and dental care (*National Center for Health System Management, 1996*). The quality of health care services is said to vary by region. There are also other problems: the poor organization of primary health care has led to queues and long waiting times, and insufficient medical equipment has led to dissatisfied patients and to low moral among health care personnel. There are also fears that the best-educated physicians may prefer private practice instead of public service (*Vogler and Habl, 1999*).

Secondary and tertiary care

The first level of outpatient secondary care is provided in polyclinics run by the regional health care authorities (ZOZs or the voivodships) or by local authorities in large municipalities (gminas).

In the latest health care reform, hospitals were categorised into acute hospitals, chronic care hospitals, nursing homes and hospices. Each has a catchment area and they have to meet nationally defined accreditation criteria given by the Ministry of Health and Social Welfare. The new accreditation and registration system is expected to result in the closure of some small hospitals, and the number of hospital beds is expected to fall by 10%, even though there are lack of hospital beds (*Vogler and Habl, 1999*). Day care and home care will be developed in the future as well as a move of long-term care out of hospitals. There is no privatisation programme, but some hospitals have restored their original owners, the church or other non-governmental organization. There are few private-for-profit hospitals in the country.

Besides the lack of hospital beds, the hospital system has been criticized for several reasons: there is no central planning of resources, long waiting lists for some types of care encourages 'under-the-table' payments. Financial control

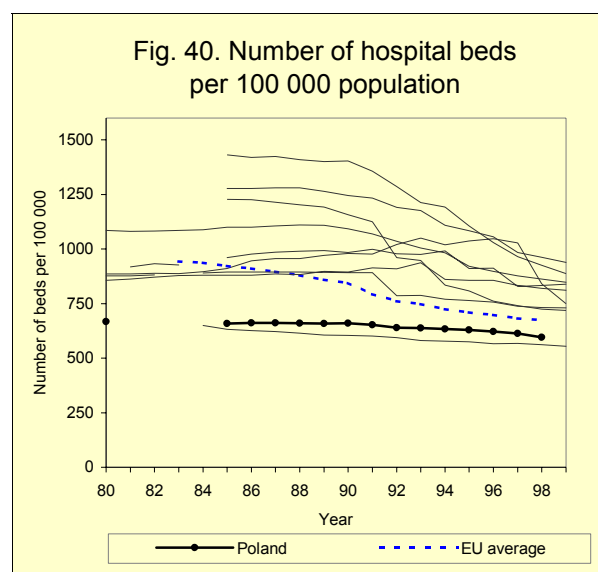
in the hospital care is said to be weak (*Vogler and Habl, 1999*).

The number of hospital beds per 100 000 population has decreased in almost all the reference countries since 1985, but Poland had one of the smallest decreases (-6%). The Polish figure of 1997 (622/100 000) was the second lowest among the reference countries after Slovenia, much below the EU average (687/100 000 in 1997) and the average of the reference countries (736/100 000 in 1998) (Fig. 40).

The number of inpatient admissions also varies significantly among the reference countries, from 13.5 to 24.2 admissions per 100 population in 1998. Although the Polish rate has increased during the last ten years to 13.8 in 1998, it is still significantly lower than the EU average (18.1/100 in 1998) (Fig. 41).

The average length of hospital stay has decreased in all reference countries since the 1980s. In 1985, the average length of stay in the reference countries (13.4 days) was more than 1.5 days shorter than that of the EU (15.1 days). In 1997, Poland had an average length of hospital stay (10.4 days) below the average of the reference countries (10.9 days) and that of the EU (11.1 days in 1996) (Fig. 42). By 1999, it had declined still further to 9.3.

There are large differences in the reported number of outpatient contacts among the reference countries with a variation from 4.6 to 16.4



annual contacts per person in 1998. During the last 12 years, the figure in Poland has decreased by 16% to 5.2 contacts, which was well below the average of the reference countries (8.1 contacts in 1998).

Pharmaceuticals and pharmacies

The pharmaceutical industry is one of the most modern sectors of the Polish economy. Tax incentives have been offered to attract investment and to improve quality. The prices of domestically produced drugs have remained lower than those of equivalent imported drugs. Importation of foreign drugs has risen and more drugs are being prescribed, both increasing health care costs.

Approximately 6 000 of the 20 000 pharmacists are working in the private sector.

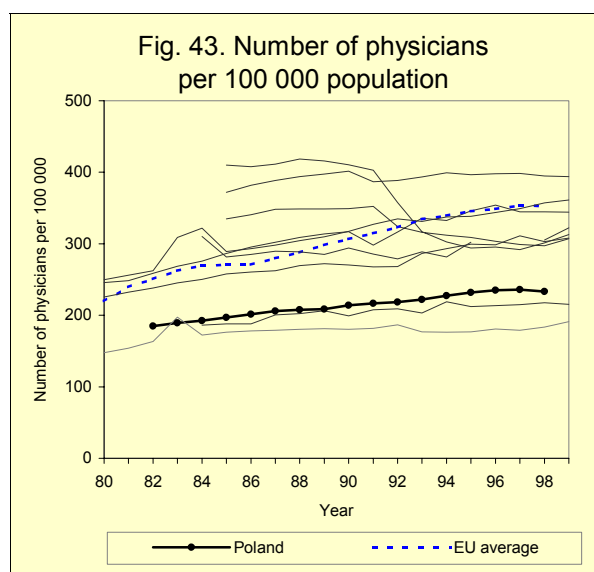
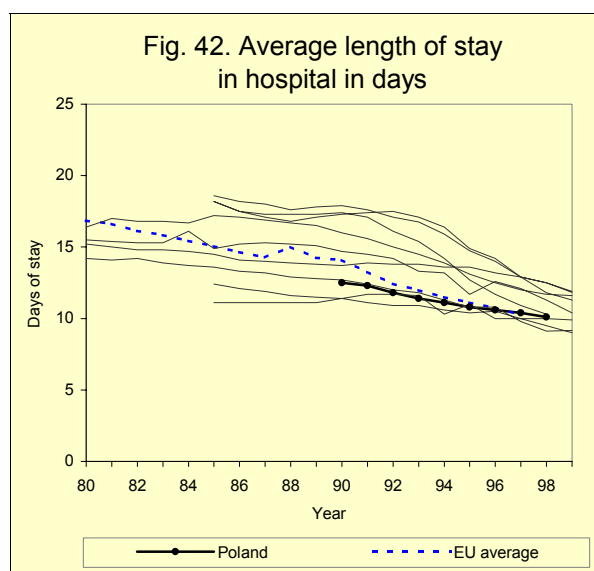
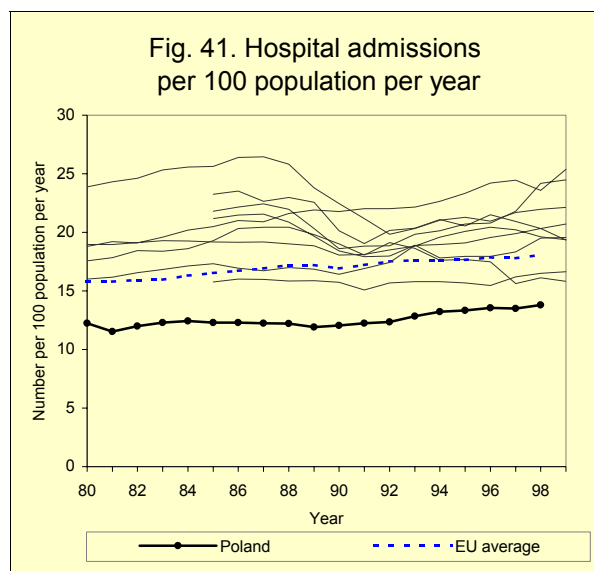
Reimbursement of pharmaceuticals depends upon the type of drug and the type of patient. Drugs on the basic list are available at a flat fee equivalent to 0.05% of the minimum wage, and patients pay a proportion (usually 30–50%) of the cost of drugs on the supplementary list. Patients with chronic disorders or war injuries and war veterans are fully or partly reimbursed. Pharmacists are obliged to issue the cheapest drugs, and the state only reimburses the cost of the cheapest drug.

Human resources

The number of physicians in Poland (236/100 000 population in 1998) was lower than the EU average (349/100 000 in 1997) and one of the lowest among the reference countries, despite an increase of 20% since 1985 (Fig. 43).

In 1998, Poland had 45.6 dentists per 100 000 population, which was near the average of the reference countries (44.5/100 000 in 1998), but a third below the EU average (68.1/100 000 in 1997).

There were 53.4 pharmacists per 100 000 population in Poland in 1998. This was some 40% higher than the average of the reference countries (37.5/100 000 in 1998), though the EU average (80.1/100 000 in 1996) was 50% higher than the Polish rate.



The Polish number of nurses increased very rapidly in the 1970s and 1980s, reaching 527 per 100 000 in 1990. The number of midwives was higher in almost all the reference countries (average 49.5/100 000 in 1998) than in the EU (average 29.6/100 000 in 1996), and Poland had one of the largest numbers (63.2/100 000 in 1998) among the reference countries.

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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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