Health at a Glance: Europe 2014

OECD

European Commission

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Foreword

As we emerge from the economic crisis, the squeeze on health budgets continues in many EU countries, and policy makers face the challenge of maintaining universal access to essential and high-quality care with reduced resources.

The new chapter on "Access to care" in this edition of Health at a Glance Europe shows that the main effort in this constrained budgetary environment has been to maintain universal coverage for a core set of health services and goods. However, the coverage of other health services and goods has been reduced in several countries and direct out-of-pocket payments by patients have increased. Policy makers are now facing challenges in ensuring affordable health care for all. Moreover, the crisis, having huge social impact, has exacerbated the unequal geographic distribution of health services and health professionals in many European countries. This calls for policies to improve access to care, particularly for people living in rural and remote areas and in deprived urban areas (for example by developing e-health tools).

The economic crisis has led to adverse population health outcomes. The number of people suffering from depression has increased in several European countries, as a result of growing unemployment, financial hardship and stress. Although broad measurements of health status such as life expectancy have continued to improve in nearly all EU member states, it will take some additional years to be able to fully assess the impact of the crisis on public health.

Despite the difficult financing conditions, the quality of care has continued to improve in recent years in most European countries. For example, over the past decade mortality rates for people suffering from a heart attack have decreased by 40%, and from strokes by 20%, on average across EU countries. However, large gaps remain in the probability of surviving these life-threatening conditions across the European Union. Efforts are needed to promote healthy lifestyle, protect healthy living standards and to improve the prevention, early diagnosis and treatment of diseases in countries that are lagging behind. Countries across Europe need to ensure that effective strategies are put in place to prevent diseases so as to reduce the disease burden and, as such, to contribute to the sustainability of health systems.

This third edition of Health at a Glance Europe is the result of a long and fruitful collaboration between the OECD and the European Commission in the development and reporting of key health statistics. The European Core Health Indicators on public health and health systems presented in this publication are an important input to public debates on policies to improve public health and health system performance across Europe. This report underlines the need for reliable and sustainable data and information systems to support health policy development in Europe.

Our hope is that this publication will help stimulate further actions so that European citizens of all socio-economic background can enjoy longer, healthier and more active lives.

Angel Gurría
Secretary-General
Organisation for Economic Co-operation and Development

Vytenis Andriukaitis
European Commissioner for Health and Food Safety

Acknowledgements

This publication would not have been possible without the effort of national data correspondents from the 35 countries who have provided most of the data and the metadata presented in this report. The OECD and the European Commission would like to sincerely thank them for their contribution.

This report was prepared by a team from the OECD Health Division under the co-ordination of Gaétan Lafortune. Chapter 1 was prepared by Nelly Biondi and Gaétan Lafortune; Chapter 2 by Nelly Biondi, Marion Devaux, Michele Cecchini and Franco Sassi (Jerome Silva from the OECD Environment Directorate and Joao Matias from the European Monitoring Centre for Drugs and Drug Addiction also provided useful comments); Chapter 3 by Gaétan Lafortune, Gaëlle Balestat, Liliane Moreira, Nelly Biondi, Michael Schoenstein and Marie-Clémence Canaud (Christos Kazassis, a Greek Healthcare Technology Expert, also provided useful comments on the indicator related to medical technologies); Chapter 4 by Caroline Berchet and Nelly Biondi, under the supervision of Ian Forde and Niek Klazinga; Chapter 5 by Marion Devaux, Gaétan Lafortune, Yuki Murakami and Nelly Biondi; and Chapter 6 by Michael Mueller and David Morgan.

A large part of the data presented in this publication come from the two annual data collections on health accounts and non-monetary health care statistics carried out jointly by the OECD, Eurostat and WHO. It is important to recognise the work of colleagues from Eurostat (Giuliano Amerini, Hartmut Buchow, Margarida Domingues de Carvalho and Orestis Tsigkas), WHO Headquarters (Chandika Indikadahena, Veneta Cherilova and Nathalie Van de Maele) and WHO Europe (Ivo Rakovac and Natela Nadareishvili) who have contributed to the collection and validation of the data from these two joint questionnaires, to ensure that they meet the highest standards of quality and comparability. Most of the data in Chapter 1 come from the *Eurostat Statistics Database*; sincere thanks to colleagues from Eurostat (Anke Weber, Hartmut Buchow and Jakub Hrkal) for making sure that the most recent data would be available in time for this publication.

This publication benefited from comments from Valérie Paris and Francesca Colombo in the OECD Health Division. Many useful comments were also received from Stefan Schreck and Fabienne Lefebvre from the European Commission (DG SANCO, Health Information Unit), as well as from several officials from other DG SANCO Units, DG Employment and DG Economic and Financial Affairs.

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Executive summary

European countries have achieved significant gains in population health, but there remain large inequalities in health status both across and within countries. Life expectancy at birth in European Union (EU) member states has increased by more than five years on average since 1990, although the gap between those countries with the highest and lowest life expectancies remains around eight years. There are also persistently large inequalities within countries among people from different socio-economic groups, with individuals with higher levels of education and income enjoying better health and living several years longer than those more disadvantaged. These disparities are linked to many factors, including some outside health care systems, such as the environment in which people live, individual lifestyles and behaviours, and differences in access to and quality of care.

Health at a Glance: Europe 2014 presents the most recent data on health status, risk factors to health, and access to high-quality care in all 28 EU member states, candidate countries (with the exception of Albania due to limited data availability) and European Free Trade Association (EFTA) countries. The selection of indicators is based mainly on the European Core Health Indicators (ECHI), developed by the European Commission. This edition includes a new chapter on access to care, assessing where possible the impact of the economic crisis on financial barriers, geographic barriers and waiting times.

Life expectancy has continued to increase, but inequalities persist

Life expectancy at birth in EU member states increased by over five years between 1990 and 2012 to 79.2 years. However, the gap between the highest life expectancies (Spain, Italy and France) and the lowest (Lithuania, Latvia, Bulgaria and Romania) has not fallen since 1990.

Life expectancy at age 65 has also increased substantially, averaging 20.4 years for women and 16.8 years for men in the European Union in 2012. Life expectancy at age 65 varies by about five years between those countries with the highest life expectancies and those with the lowest.

Highly educated men and women are likely to live several years longer and to be in better health. For example, in some central and eastern European countries, 65-year-old men with a high level of education can expect to live four to seven years longer than those with a low education level.

On average across EU countries, women live six years longer than men. This gender gap is one year only for healthy life years (defined as the number of years of life free of activity limitation).

Assessing the impact of the economic crisis on health

The crisis has had a mixed impact on population health and mortality. While suicide rates increased slightly at the start of the crisis, they seem to have returned to pre-crisis levels. Mortality from transport accidents declined more rapidly in the years following the crisis than in prior years. The exposure of the population to air pollution also fell following the crisis, although some air pollutants seem to have risen since then.

The economic crisis might also have contributed to the long-term rise in obesity. One in six adults on average across EU member states was obese around 2012, up from one in eight around 2002. Evidence from some countries shows a link between financial distress and obesity: regardless of their income or wealth, people who experience periods of financial hardship are at increased risk. Obesity also tends to be more common among disadvantaged groups.

Health spending has fallen or slowed following the economic crisis

Between 2009 and 2012, expenditure on health in real terms (adjusted for inflation) fell in half of the EU countries and significantly slowed in the rest. On average, health spending decreased by 0.6% each year, compared with annual growth of 4.7% between 2000 and 2009. This was due to cuts in health workforce and salaries, reductions in fees paid to health providers, lower pharmaceutical prices, and increased patient co-payments.

While health spending has grown at a modest rate in 2012 in several countries (including Austria, Germany and Poland), it has continued to fall in Greece, Italy, Portugal and Spain, as well as in the Czech Republic and Hungary.

Universal health coverage has protected access to health care

Most EU countries have maintained universal (or near-universal) coverage for a core set of health services, with the exception of Bulgaria, Greece and Cyprus where a significant proportion of the population is uninsured. Still, even in these countries, measures have been taken to provide coverage for the uninsured.

Ensuring effective access to health care requires the right number, mix and distribution of health care providers. The number of doctors and nurses per capita has continued to grow in nearly all European countries, although there are concerns about shortages of certain categories of doctors, such as general practitioners in rural and remote regions.

On average across EU countries, the number of doctors per capita increased from 2.9 doctors per 1 000 population in 2000 to 3.4 in 2012. This growth was particularly rapid in Greece (mostly before the economic crisis) and in the United Kingdom (an increase of 50% between 2000 and 2012).

In all countries, the density of doctors is greater in urban regions. Many European countries provide financial incentives to attract and retain doctors in underserved areas.

Long waiting times for health services is an important policy issue in many European countries. There are wide variations in waiting times for non-emergency surgical interventions.

Quality of care has improved in most countries, but disparities persist

Progress in the treatment of life-threatening conditions such as heart attack, stroke and cancer has led to higher survival rates in most European countries. On average, mortality rates following hospital admissions for heart attack fell by 40% between 2000 and 2011 and for stroke by over 20%. Lower mortality rates reflect better acute care and greater access to dedicated stroke units in some countries.

Cancer survival has improved in most countries, including cervical cancer, breast cancer and colorectal cancer. But cervical cancer survival was over 20% lower in Poland compared with Austria and Sweden, while breast cancer survival was almost 20% lower in Poland than in Sweden.

The quality of primary care has also improved in most countries, as shown by the reduction in avoidable hospital admissions for chronic diseases such as asthma and diabetes. Still, there is room to improve primary care to further reduce costly hospital admissions.

Population ageing will continue to increase demands on health and long-term care systems in the years ahead. The DG for Economic and Financial Affairs projected in 2012 that public spending on health care would increase by 1% to 2% of GDP on average across EU countries between 2010 and 2060, and there would be a similar growth in public spending on long-term care. Amid tight budget constraints, the challenge will be to preserve access to high-quality care for the whole population at an affordable cost.

Reader's guide

Health at a Glance: Europe 2014 presents key indicators of health and health systems in 35 European countries, including the 28 European Union member states, four candidate countries* and three European Free Trade Association countries. This third edition builds on the two previous in 2010 and 2012 and presents a greater number of indicators included in the list of European Core Health Indicators (ECHI, *www.echim.org/*), reflecting progress in data availability and comparability. Complemeting the chapter on quality of care which was added in 2012, this 2014 edition includes a new chapter on access to care, based mainly on ECHI indicators, complemented with some additional indicators related to financial access and geographic access.

The data presented in this publication are mostly official national statistics and have in many cases been collected through questionnaires administered by the OECD, Eurostat and WHO. Some data have also been collected through European surveys co-ordinated by Eurostat, notably the European Union Statistics on Income and Living Conditions Survey (EU-SILC) and the first wave of the European Health Interview Survey (EHIS). The data have been validated by the three organisations to ensure that they meet standards of data quality and comparability. All indicators are presented in the form of easy-to-read figures and explanatory text, based on a two-page format per indicator.

Structure of the publication

This publication is structured around six chapters:

Chapter 1 on *Health Status* highlights the variations across countries in life expectancy and healthy life expectancy, and also presents more specific indicators on different causes of mortality and morbidity, including both communicable and non-communicable diseases.

Chapter 2 on *Determinants of Health* focuses mainly on non-medical determinants of health related to modifiable lifestyles and behaviours, such as smoking and alcohol drinking, the consumption of illegal drugs, nutrition habits, and overweight and obesity. It also includes an indicator on air pollution, as another important factor affecting health.

Chapter 3 on *Health Care Resources and Activities* reviews some of the inputs and outputs of health care systems, including the supply of doctors and nurses, the availability of different types of equipment used for diagnosis or treatment, and the provision of a range of services to treat various health problems.

Chapter 4 on *Quality of Care* provides comparisons on care for chronic and acute conditions, cancers and communicable diseases. The chapter also includes some indicators related to patient safety, building on the data developmental work carried out under the OECD Health Care Quality Indicators project.

Chapter 5 is a new chapter on *Access to Care* in this European edition, which presents a small set of indicators related to financial access to care, geographic access, and timely access (waiting times), as well as unmet care needs for medical care and dental care.

* Albania has become a EU candidate country on 27 June 2014, but is not included in this publication due to limited data availability when this report was prepared.

Chapter 6 on *Health Expenditure and Financing* examines trends in health spending across European countries, both overall and for different types of health services and goods, including pharmaceuticals. It also looks at how these health services and goods are paid for and the mix between public funding, private health insurance, and direct out-of-pocket payments by households.

An annex provides some additional tables on the demographic and economic context within which different health systems operate, as well as additional data on health expenditure trends.

Presentation of indicators

Each of the topics covered in this publication is presented over two pages. The first provides a brief commentary highlighting the key findings conveyed by the data, defines the indicator(s) and discusses any significant national variations from that definition which might affect data comparability. On the facing page is a set of figures. These typically show current levels of the indicator and, where possible, trends over time. In some cases, an additional figure relating the indicator to another variable is included.

The average in the figures includes only European Union (EU) member states, and is calculated as the *unweighted average* of the EU member states presented (up to 28, if there is full data coverage). Some weighted averages are also presented in the tables on health expenditure and GDP in the annex.

Data and limitations

Limitations in data comparability are indicated both in the text (in the box related to "Definition and comparability") as well as in footnotes to charts.

Readers interested in using the data presented in this publication for further analysis and research are encouraged to consult the full documentation of definitions, sources and methods contained in *OECD Health Statistics 2014* for all OECD member countries, including 21 EU member states and 4 additional countries (Iceland, Norway, Switzerland and Turkey). This information is available on OECD.Stat (*http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT*). For the ten other countries (Bulgaria, Croatia, Cyprus, Former Yugoslav Republic of Macedonia, Latvia, Lithuania, Malta, Montenegro, Romania and Serbia), readers should consult the *Eurostat Database* for more information on sources and methods: *http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database*.

Readers interested in an interactive presentation of the ECHI indicators can also consult DG SANCO's ECHI data tool at *http://ec.europa.eu/health/indicators/indicators/index_en.htm*.

Population figures

The population figures for all EU member states and candidate countries presented in the annex and which are used to calculate rates per capita in this publication come from the *Eurostat Demographics Database*. The data were extracted in June 2014, and relate to mid-year estimates (calculated as the average between the beginning and end of the year population figures). Population estimates are subject to revision, so they may differ from the latest population figures released by Eurostat or national statistical offices.

Some member states such as France and the United Kingdom have overseas colonies, protectorates and territories. These populations are generally excluded. However, the calculation of GDP per capita and other economic measures may be based on a different population in these countries, depending on the data coverage.

Country ISO codes

Austria	AUT	Lithuania	LTU
Belgium	BEL	Luxembourg	LUX
Bulgaria	BGR	Malta	MLT
Croatia	HRV	Montenegro	MNE
Cyprus[1, 2]	CYP	Netherlands	NLD
Czech Republic	CZE	Norway	NOR
Denmark	DNK	Poland	POL
Estonia	EST	Portugal	PRT
Finland	FIN	Romania	ROU
France	FRA	Serbia	SRB
FYR of Macedonia	MKD	Slovak Republic	SVK
Germany	DEU	Slovenia	SVN
Greece	GRC	Spain	ESP
Hungary	HUN	Sweden	SWE
Iceland	ISL	Switzerland	CHE
Ireland	IRL	Turkey	TUR
Italy	ITA	United Kingdom	GBR
Latvia	LVA		

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Chapter 1

Health status

Life expectancy at birth continues to increase in European countries, reflecting reductions in mortality rates at all ages. These gains in longevity can be attributed to a number of factors, including improved lifestyle and better education, as well as greater access to quality health services.

Life expectancy at birth across the 28 EU member states reached 79.2 years on average in 2012, an increase of 5.1 years since 1990 (Figure 1.1.1). Spain, Italy and France lead a large group of about two-thirds of EU countries in which life expectancy at birth now exceeds 80 years. Life expectancy remained below 80 years in central and eastern European countries as well as in the three Baltic countries. Since 1990, there have been significant increases in life expectancy in all EU member states, due mainly to a marked reduction in mortality from cardiovascular diseases, particularly among people aged 50 to 65. Estonia is the country that has achieved the largest gains since 1990 (around seven years), followed by the Czech Republic (6.6 years), while Lithuania and Bulgaria have achieved much smaller gains (around three years).

Life expectancy for women on average across EU member states reached 82.2 years in 2012, compared with 76.1 years for men (Figure 1.1.2). For women, life expectancy was highest in Spain (85.5 years), while it was highest in Sweden for men (79.9 years). The gap between the EU member states with the highest and lowest life expectancies was 7.6 years for women and 11.5 years for men.

The gender gap in life expectancy has decreased since 1990, coming down from 7.2 to 6.1 years in 2012. The narrowing of this gender gap in most countries can be attributed at least partly to the narrowing of differences in risk-increasing behaviours between men and women, such as smoking, accompanied by sharp reductions in mortality rates from cardiovascular diseases among men. However, there remain large variations in the gender gap in life expectancy across countries, with the smallest gap in the Nordic countries (Sweden, Denmark, Norway and Iceland), the Netherlands and the United Kingdom (about four years only), with the largest gap being in the Baltic countries where life expectancy for men continues to be over ten years shorter than for women.

In a context of increasing life expectancy and population ageing, healthy life years (HLY) has been endorsed as an important European indicator to monitor whether the extra years of life are lived in good health. The current main indicator of HLY is a measure of disability-free life expectancy which indicates how long people can expect to live without disability. On average across EU member states, HLY at birth in 2012 was 62.3 years for women and 61.3 years for men (Figure 1.1.2). It was highest in Malta and Sweden for both men and women (above 70 years). The shortest HLY at birth was in Estonia, the Slovak Republic and Latvia for men, and in the Slovak Republic and Portugal for women. In Malta and Sweden, women can expect to live more than 85% of their life expectancy without limitations in their usual activities. For men, the proportion of life in good health was even higher at around 90%.

In contrast to the 6.1 year gap in life expectancy at birth on average in EU member states, the gender gap in HLY was only one year in 2012. In seven countries, the healthy life years for men was in fact greater than for women, with the greatest gap favouring men in the Netherlands (4.6 more HLY for men). The European Innovation Partnership on Active and Healthy Ageing, which is part of the Europe 2020 initiative, has set an objective of increasing the average number of healthy life years by two years by 2020 (European Commission, 2011).

Definition and comparability

Life expectancy at birth measures how long, on average, people would live based on a given set of age-specific death rates. However, the actual age-specific death rates of any particular birth cohort cannot be known in advance. If age-specific death rates are falling (as has been the case over the past decades), actual life spans will, on average, be higher than life expectancy calculated with current death rates.

Healthy life years (HLY) are the number of years spent free of long-term activity limitation, being equivalent to disability-free life expectancy. HLY are calculated annually by Eurostat using the Sullivan method which is based on life table data and age-specific period prevalence data on long-term activity limitations. The underlying health measure is the Global Activity Limitation Indicator (GALI), which measures limitation in usual activities, and comes from the EU-SILC survey.

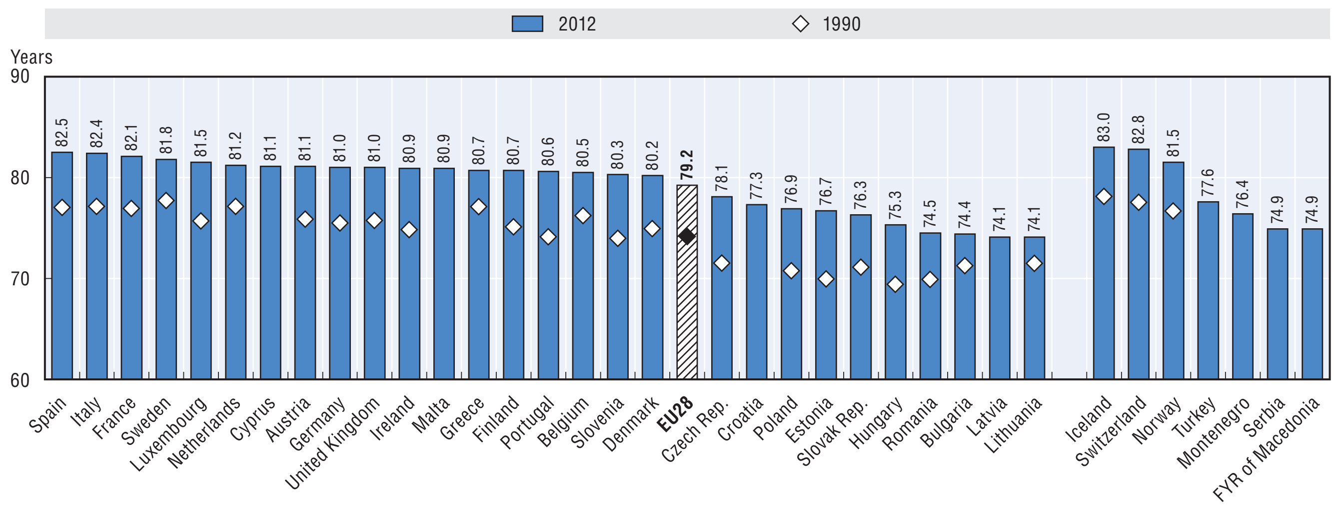
Comparing trends in HLY and life expectancy can show whether extra years of life are healthy years. However, valid comparisons depend on the underlying health measure being truly comparable. While HLY is the most comparable indicator to date, there are still problems with translation of the GALI question, although it does appear to satisfactorily reflect other health and disability measures (Jagger et al., 2010).

References

European Commission (2011), *Europe 2020 Flagship Initiative Innovation Union*, Directorate-General for Research and Innovation, European Commission, Brussels.

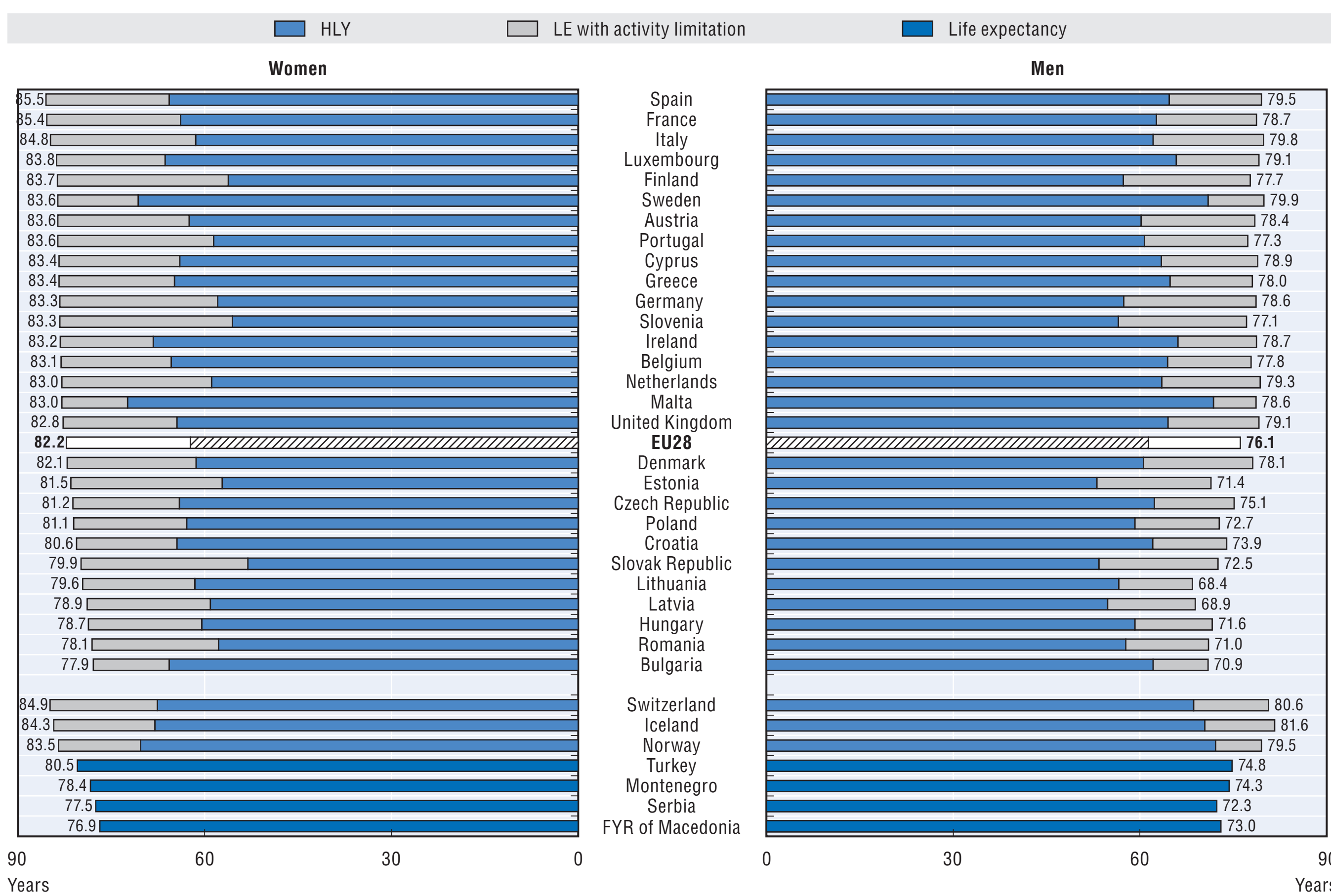
Jagger, C. et al. (2010), "The Global Activity Limitation Indicator (GALI) Measured Function and Disability Similarly across European Countries", *Journal of Clinical Epidemiology*, Vol. 63, pp. 892-899.

1.1.1. Life expectancy at birth, 1990 and 2012



Source: *Eurostat Statistics Database* completed with data from *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*.

1.1.2. Life expectancy (LE) and healthy life years (HLY) at birth, by gender, 2012



Source: *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155343

Life expectancy at age 65 has increased significantly among both women and men over the past several decades in all EU member states. Some of the factors explaining the gains in life expectancy at age 65 include advances in medical care, greater access to health care, healthier lifestyles and improved living conditions before and after people reach age 65.

In 2012, the life expectancy at age 65 on average in EU member states was 18.9 years: 16.8 years for men and 20.4 years for women (Figure 1.2.1). As for life expectancy at birth, France had the highest life expectancy at age 65 for women (23.4 years), but also for men (19.1 years). Life expectancy at age 65 was lowest in Bulgaria for women (17.3 years) and Latvia for men (13.6 years).

The gender gap in life expectancy at age 65 on average across EU countries was 3.6 years in 2012, unchanged since 1990. Cyprus had the smallest gender gap (2.5 years), while the three Baltic countries (Estonia, Latvia and Lithuania) had the largest gap (around five years).

Since 1990, there have been significant gains in life expectancy at age 65 in all EU member states. Ireland achieved the largest gains (4.4 years), while the gains in Lithuania and Bulgaria were smaller (less than two years).

Looking ahead, Eurostat projects that life expectancy at age 65 will continue to increase in the coming decades to reach 22.4 years for men and 25.6 for women on average in 2060 (European Commission, 2012). This increase combined with the trend reduction in fertility rates will pose considerable challenges associated with an ageing society, possibly reducing labour market participation rates and increasing pressures on pensions and health and long-term care systems. Whether longer life expectancy is accompanied by good health and functional status among ageing populations has therefore important implications on possibilities to extend working lives and the demands for health and long-term care.

Healthy life years (HLY) at age 65 in 2012 on average in EU member states was similar for men and women, being 8.5 years for men and 8.7 years for women. It was greatest in the Nordic countries (Sweden, Denmark, Norway and Iceland) and in Malta, and shortest in the Slovak Republic for both men and women (Figure 1.2.1). Men and women at age 65 in Sweden can expect to live about three-quarter of their remaining years of life without limitations in their usual activities, while in the Slovak Republic this proportion is less than a quarter.

There is almost no gender gap in HLY compared with the gap of 3.6 years in life expectancy. This reflects the fact that a greater proportion of women report some activity limitations. In nine EU countries, the number of healthy life years for men at age 65 was in fact greater than for women.

Life expectancy at age 65 years also varies by educational status (Figure 1.2.2). For both men and women, highly educated people are likely to live longer (Corsini, 2010). Differences in life expectancy by education level are particularly large in central and eastern European countries, especially for men. In the Czech Republic, 65-year-old men with a high level of education can expect to live seven years longer than those with a low education level. By contrast, differences in life expectancy by education level are narrow in the Nordic countries, Malta and Portugal.

The relationship between life expectancy and HLY at age 65 is not clear-cut (Figure 1.2.3). Higher life expectancy at age 65 is generally associated with higher HLY, although longer life expectancy at age 65 does not necessarily imply more HLY. Two country groupings are apparent, with central and eastern European countries and Baltic countries having both lower life expectancy and HLY than other countries.

Definition and comparability

Life expectancy measures how long, on average, people would live based on a given set of age-specific death rates. However, the actual age-specific death rates of any particular birth cohort cannot be known in advance. If age-specific death rates are falling (as has been the case over the past decades), actual life spans will, on average, be higher than life expectancy calculated with current death rates.

Healthy life years (HLY) are the number of years spent free of long-term activity limitation, being equivalent to disability-free life expectancy. HLY are calculated annually by Eurostat for each EU country based on life table data and age-specific prevalence data on long-term activity limitations. The underlying health measure is the Global Activity Limitation Indicator (GALI), which measures limitation in usual activities and comes from the European Union Statistics on Income and Living Conditions (EU-SILC) survey.

Comparing trends in HLY and life expectancy can show whether extra years of life are healthy years. However, valid comparisons depend on the underlying health measure being truly comparable. While HLY is the most comparable indicator to date, there are still problems with translation of the GALI question, although it does appear to satisfactorily reflect other health and disability measures (Jagger et al., 2010).

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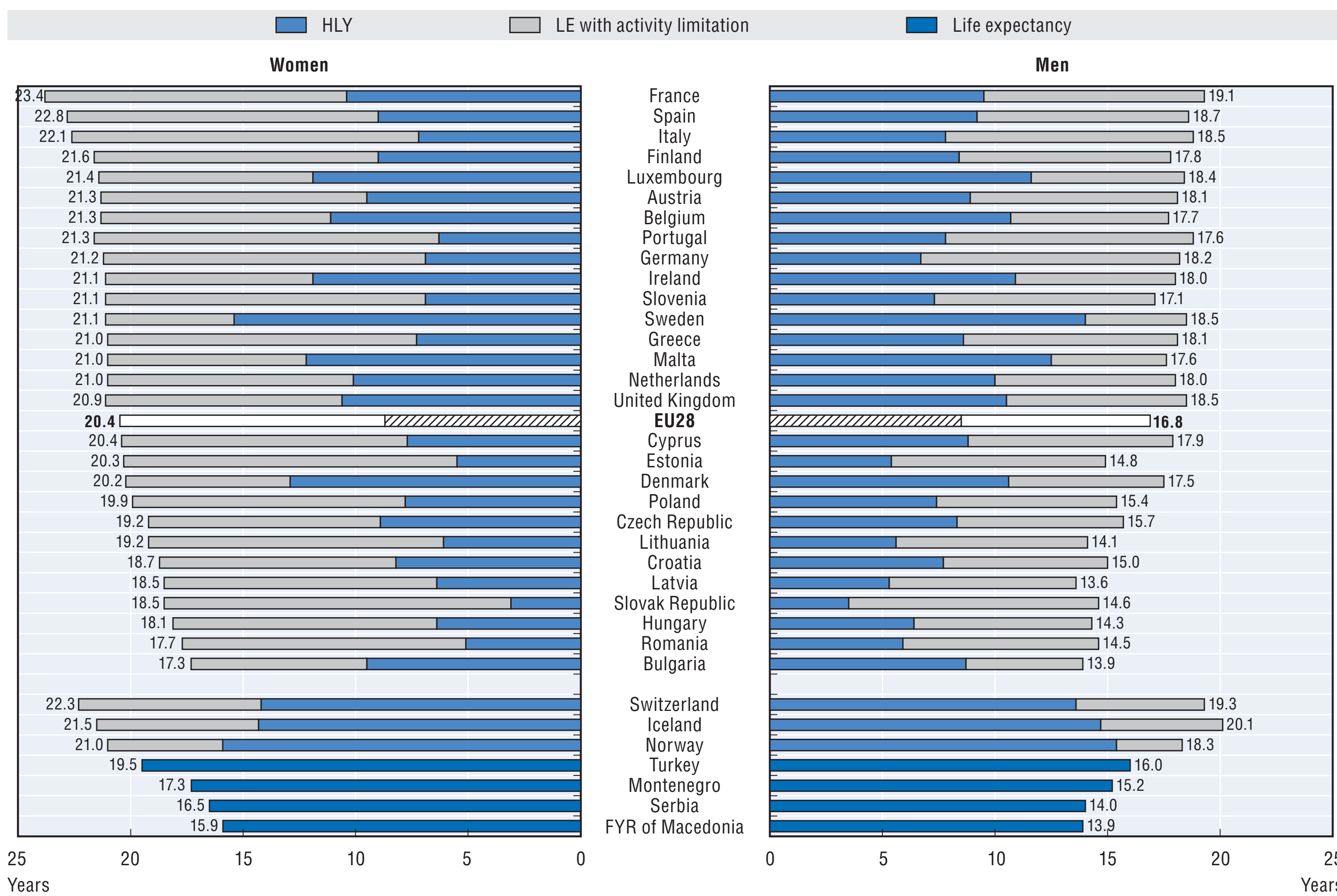
European Commission (2012), *The 2012 Ageing Report: Economic and Budgetary Projections for the 27 EU Member States (2010-2060)*, European Commission, Brussels.

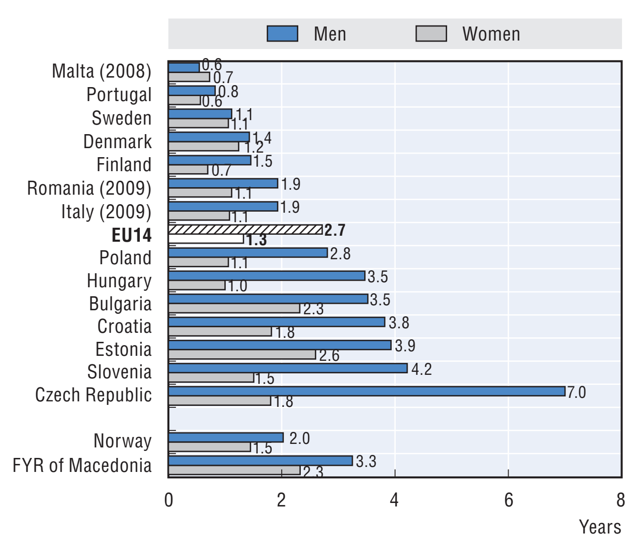
Jagger, C. et al. (2010), “The Global Activity Limitation Indicator (GALI) Measured Function and Disability Similarly across European Countries”, *Journal of Clinical Epidemiology*, Vol. 63, pp. 892-899.

1.2.1. Life expectancy (LE) and healthy life years (HLY) at 65, by gender, 2012



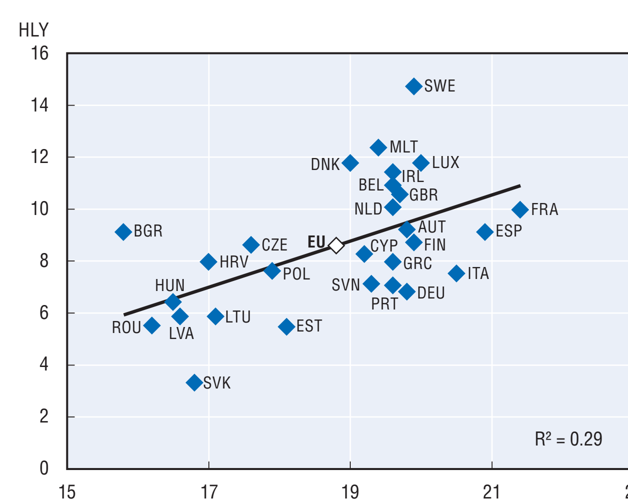
Source: Eurostat Statistics Database.

1.2.2. Life expectancy gaps between people with high and low level of education at 65, 2010



Source: Eurostat Statistics Database.

1.2.3. Relationship between life expectancy (LE) and healthy life years (HLY) at 65, 2012



Source: Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155356

Statistics on deaths remain one of the most widely available and comparable sources of information on health. Registering deaths is compulsory in all European countries, and the data collected through the process of registration can be used to monitor diseases and health status, and to plan health services. In order to compare levels of mortality across countries and over time, the data need to be standardised to remove the effect of differences in age structure.

In 2011, there were large variations in age-standardised mortality rates for all causes of death across European countries. Death rates were lowest in northern, western and southern European countries, especially in France, Spain, Italy as well as Switzerland at around 900 deaths or less per 100 000 population (Figure 1.3.1). Rates were highest in Baltic and central and eastern European countries: Bulgaria, Romania, Latvia, Lithuania, Hungary and the Slovak Republic had age-standardised rates almost twice those of the lowest countries at around 1 500 deaths or more per 100 000 population.

A significant gender gap exists in mortality rates in all countries (Figure 1.3.1). Across all EU member states, the male mortality rate was, on average, nearly 60% higher than the female rate in 2011. But larger differences exist in some countries: in Estonia, Lithuania and Latvia, mortality rates among men were almost two times greater than among women. The gender gap is smaller but still significant in Cyprus and the United Kingdom (a gap of less than 40%).

Lower mortality rates translate into higher life expectancies (see Indicator 1.1 "Life expectancy and healthy life expectancy at birth"). Differences in life expectancy among countries with the lowest and highest mortality rates are 7.5 years for women (between France and Bulgaria) and around 11 years for men (between Italy/Sweden on the one hand and Latvia/Lithuania on the other hand).

Although mortality rates in Baltic and central and eastern European countries are still relatively high, significant reductions have occurred in a number of these countries since 2000 (Figure 1.3.2). Mortality rates in Estonia have fallen by 27%, a decline that is greater than the EU average of 18%. In Bulgaria, mortality rates have declined at about the same pace as the reduction in EU countries, so the gap has remained constant. By contrast, in Lithuania, the reduction in overall mortality rates have been more modest (only 8% reduction) since 2000; most of this reduction has been achieved since 2007.

Mortality rates have also come down in France and Germany, but at a slightly faster pace in France, thereby widening the gap slightly between these two countries. In 2011, the gap in mortality rates between France and Germany was particularly large for cardiovascular diseases.

Cardiovascular diseases (including ischaemic heart diseases, stroke and other diseases of the circulatory system) were the leading cause of death in Europe in 2011, accounting for almost 40% of all deaths in EU countries (see Indicator 1.4).

Cancer was the second leading cause of death, accounting for 26% of all deaths in EU countries in 2011, with lung cancer, colon cancer and prostate cancer being the main causes of cancer death among men, while breast cancer, colon cancer and lung cancer were the main three causes of cancer death among women (see Indicator 1.5).

External causes of death (which include accidents, suicides and other causes of death) were responsible for around 7% of all deaths in EU countries in 2011 (see Indicators 1.6 and 1.7).

Most deaths (80%) in EU countries occur after the age of 65, but still one-in-five deaths are premature deaths occurring before age 65. While the main cause of death among men aged under 65 years is cardiovascular diseases, women below 65 are two times more likely to die from some types of cancer than from cardiovascular diseases (Buchow et al., 2012).

Definition and comparability

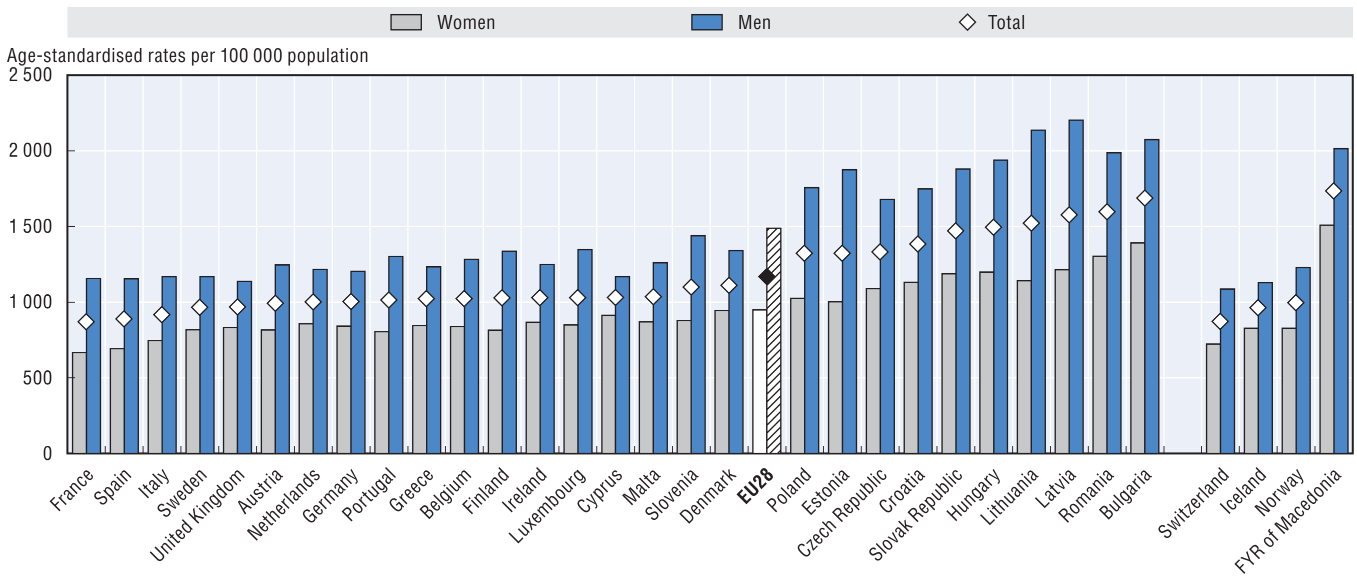
Mortality rates are based on numbers of deaths registered in a country in a year divided by the size of the corresponding population. The rates have been age-standardised to the revised European standard population adopted by Eurostat in 2012, to remove variations arising from differences in age structures across countries and over time. The change in the population structure in this edition of *Health at a Glance Europe* compared with previous editions has led to a general increase in the standardised rates for all countries.

Deaths from all causes include ICD-10 codes A00-Y89, excluding S00-T98.

Reference

Buchow, H. et al. (2012), "Circulatory Diseases – Main Causes of Death for Persons Aged 65 and More in Europe, 2009", *Eurostat Statistics in Focus 7/2012*, European Commission, Luxembourg.

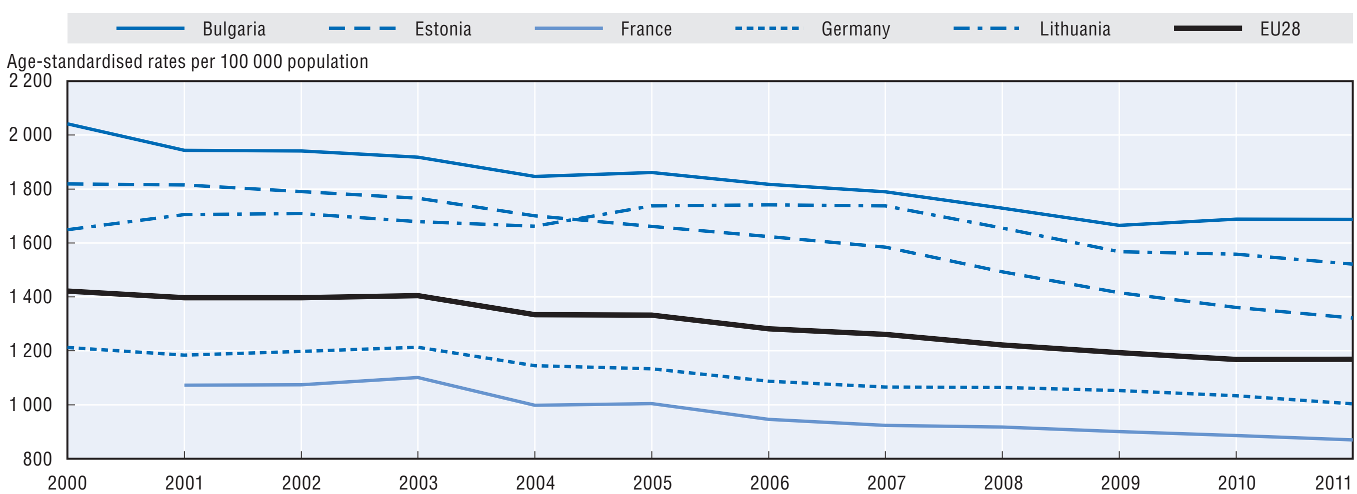
1.3.1. Mortality rates from all causes of death, 2011



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155362

1.3.2. Trends in mortality rates from all causes of death, selected EU member states, 2000-11



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155362

Cardiovascular diseases are the main cause of mortality in nearly all EU member states, accounting for almost 40% of all deaths in the region in 2011. They cover a range of diseases related to the circulatory system, including ischemic heart disease (known as IHD, or heart attack) and cerebro-vascular disease (or stroke). Together, IHD and stroke comprise around 60% of all cardiovascular deaths, and caused more than one quarter of all deaths in EU member states in 2011.

Ischemic heart disease is caused by the accumulation of fatty deposits lining the inner wall of a coronary artery, restricting blood flow to the heart. IHD alone was responsible for around 18% of all deaths in EU member states in 2011. Mortality from IHD varies considerably however: Baltic countries and central and eastern European countries have the highest IHD mortality rates, with Lithuania, Latvia, the Slovak Republic, Hungary, the Czech Republic and Estonia reporting over 350 deaths per 100 000 population (Figure 1.4.1). Besides the Netherlands, Belgium, Luxembourg and Denmark, the countries with the lowest IHD mortality rates were located in southern Europe with France, Portugal, Spain, Greece and Italy having rates lower than 115 deaths per 100 000 population. This supports the view that some underlying risk factors, such as diet, explain differences in IHD mortality across countries.

Death rates for IHD are much higher for men than for women in all countries (Figure 1.4.1). On average across EU member states, IHD mortality rates in 2011 were 70% higher in men than in women. The disparity was greatest in France, Greece, Spain, the Netherlands, Belgium, Finland, the United Kingdom and Luxembourg, with male rates more than two times higher. The gap was lowest in the Slovak Republic and Croatia, with a gap of less than 40%.

Since 2000, IHD mortality rates have declined in all countries (Figure 1.4.3). The decline has been particularly strong in countries such as the Netherlands and the United Kingdom. Declining tobacco consumption contributed significantly to reducing the incidence of IHD, and consequently to reducing mortality rates (see Indicator 2.1). Improvements in medical care have also played a role (OECD, forthcoming; see also Indicator 3.8 "Cardiac procedures" and Indicator 4.3 "In-hospital mortality following acute myocardial infarction"). A small number of countries, however, have seen little or no decline since 2000. For example, declines in Lithuania and Hungary have been very modest.

Stroke was the underlying cause for about 11% of all deaths in EU countries in 2011. Stroke is caused by the disruption of the blood supply to the brain. In addition to being an important cause of mortality, the disability burden from stroke is substantial. As with IHD, there are large variations in stroke mortality rates across countries (Figure 1.4.2). Again, the rates are highest in Baltic countries and central and eastern European countries, including Bulgaria, Romania, Latvia, Lithuania, and Croatia, with more than 200 deaths per 100 000 population. They were the lowest in France, the Netherlands, Austria, Spain, Belgium as well as Switzerland.

Since 2000, stroke mortality has decreased in nearly all EU member states. Rates have declined by 50% or more in Estonia and Austria (Figure 1.4.4). However, the decline has been very moderate in other countries such as Lithuania and Bulgaria. As with IHD, the reduction in stroke mortality can be attributed at least partly to a reduction in risk factors. Tobacco smoking and hypertension are the main modifiable risk factors for stroke. Improvements in medical treatment for stroke have also increased survival rates (OECD, forthcoming; see also Indicator 4.4 "In-hospital mortality following stroke").

Definition and comparability

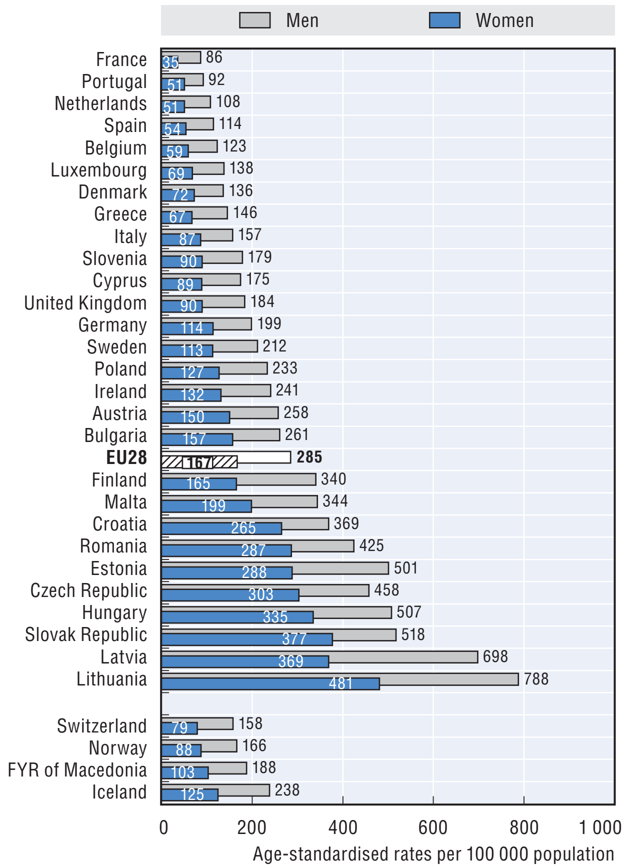
Mortality rates are based on numbers of deaths registered in a country in a year divided by the size of the corresponding population. The rates have been age-standardised to the revised European standard population adopted by Eurostat in 2012, to remove variations arising from differences in age structures across countries and over time. The change in the population structure in this edition of *Health at a Glance Europe* compared with previous editions has led to a general increase in the standardised rates for all countries.

Deaths from ischemic heart disease relate to ICD-10 codes I20-I25, and cerebro-vascular disease to I60-I69.

References

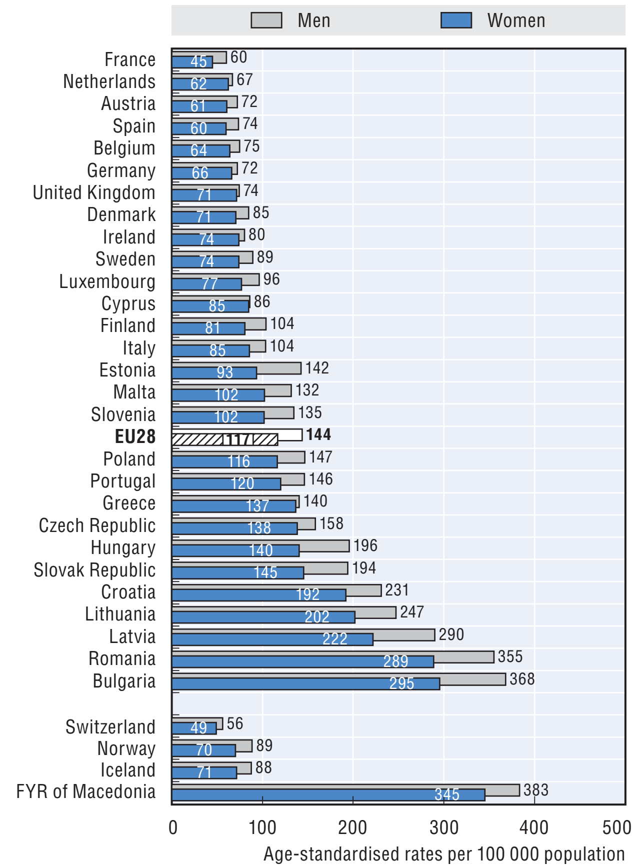
OECD (forthcoming), "Cardiovascular Disease and Diabetes: Policies for Better Health and Quality of Care", OECD Publishing, Paris.

1.4.1. Ischemic heart disease, mortality rates, 2011



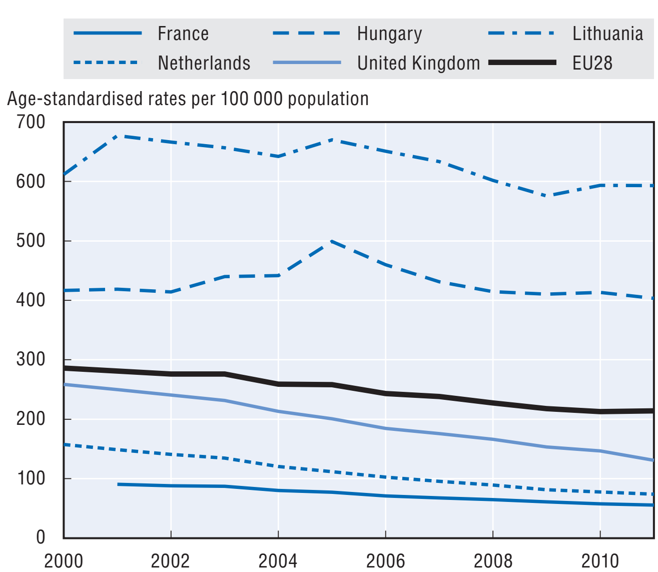
Source: *Eurostat Statistics Database.*

1.4.2. Stroke, mortality rates, 2011



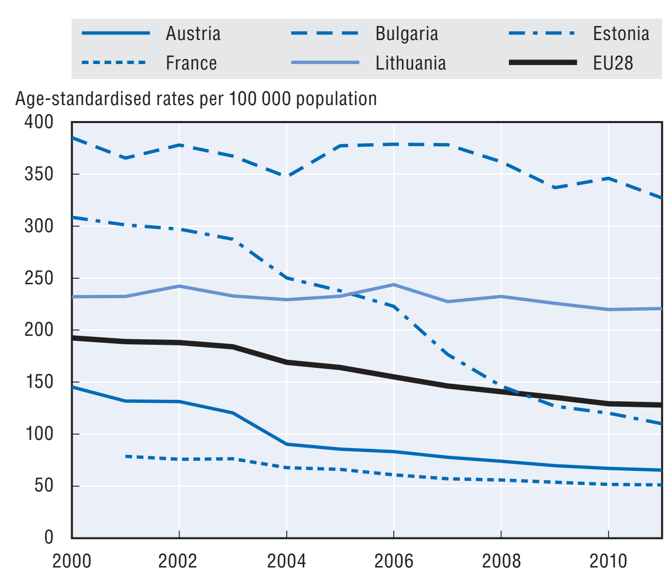
Source: *Eurostat Statistics Database.*

1.4.3. Trends in ischemic heart disease mortality rates, selected EU member states, 2000-11



Source: *Eurostat Statistics Database.*

1.4.4. Trends in stroke mortality rates, selected EU member states, 2000-11



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155375

Cancer is the second leading cause of mortality in EU member states after diseases of the circulatory system, accounting for 24% of all deaths in 2011. In 2011, cancer mortality rates were lowest in Cyprus, Finland, Bulgaria, Sweden and Switzerland, with rates at least 15% lower than the EU average. They were highest in some central and eastern European countries, including Hungary, Croatia, the Slovak Republic, Slovenia and Denmark, with rates at least 15% higher than the EU average (Figure 1.5.1).

Cancer mortality rates are higher for men than for women in all countries. In 2011, the gender gap was particularly wide in Lithuania, Spain, Latvia, Estonia, the Slovak Republic, Portugal and Croatia, with mortality rates among men more than twice those for women. This gap can be explained partly by the greater prevalence of risk factors among men, as well as the lesser availability or use of screening programmes for cancers affecting men, leading to lower survival rates after diagnosis.

Lung cancer is still by far the most common cause of death from cancer among men (26.0%), followed by colorectal cancer (11.5%) and prostate cancer (10.2%). Breast cancer was the leading cause of death among women (16.3%), followed by lung cancer (14.2%) and colorectal cancer (12.3%) (Figure 1.5.2).

Lung cancer accounts for the greatest number of cancer deaths among men in all EU member states, except in Sweden (where prostate cancer is now the main cause of cancer death among men). Smoking is the main risk factor for lung cancer. In 2011, death rates from lung cancer among men were highest in Hungary, Poland and Croatia, with a rate more than 20% higher than the EU average (Figure 1.5.3). These are all countries where smoking rates among men are relatively high (see Indicator 2.1 "Smoking among adults"). Death rates from lung cancer among men were lowest in Portugal, Cyprus and in Nordic countries (Sweden, Finland, Iceland and Norway), with the exception of Denmark.

Breast cancer is the most common form of cancer among women in all European countries (Ferlay et al., 2013; see Indicator 1.13). While there has been an increase in incidence rates of breast cancer over the past decade, death rates have declined or remained stable, indicating increases in survival rates due to earlier diagnosis and better treatment. In 2011, mortality from breast cancer was lowest in Spain, Portugal, Sweden, Finland and Poland, while it was highest in Denmark, Malta, Ireland and Belgium (see Indicator 4.7 in Chapter 4).

Colorectal cancer is an important cause of cancer death among both men and women. There are several risk factors for colorectal cancer, including age, a diet high in fat, and genetic background. In 2011, colorectal cancer mortality was lowest in Cyprus, Greece and Finland, while it was highest in Hungary, the Slovak Republic and Croatia (see Indicator 4.8 in Chapter 4).

Prostate cancer has become the most common cancer among men in many European countries, particularly among men aged 65 years and over, although death rates from prostate cancer remain lower than for lung cancer in all countries except Sweden. The rise in the reported incidence of prostate cancer in many countries during the 1990s and 2000s was largely due to the greater use of prostate-specific antigen (PSA) diagnostic tests. Death rates from prostate cancer in 2011 were lowest in Malta, Italy and Romania, and highest in several central and eastern European countries as well as in Nordic countries.

Death rates from all types of cancer among men and women have declined at least slightly in most EU member states since 2000, although the decline has been more modest than for cardiovascular diseases, explaining why cancer now accounts for a larger share of all deaths. The exceptions to this declining pattern are in Baltic countries (Latvia, Lithuania, Estonia) and central and eastern European countries (Bulgaria, Croatia, Romania and the Former Yugoslav Republic of Macedonia), where cancer mortality has remained stable or increased.

Definition and comparability

Mortality rates are based on numbers of deaths registered in a country in a year divided by the size of the corresponding population. The rates have been age-standardised to the revised European standard population adopted by Eurostat in 2012, to remove variations arising from differences in age structures across countries and over time. The change in the population structure in this edition of *Health at a Glance Europe* compared with previous editions has led to a general increase in the standardised rates for all countries.

Deaths from all cancers relate to ICD-10 codes C00-C97, lung cancer to C33-C34. The international comparability of cancer mortality data can be affected by differences in medical training and practices as well as in death certification procedures across countries.

References

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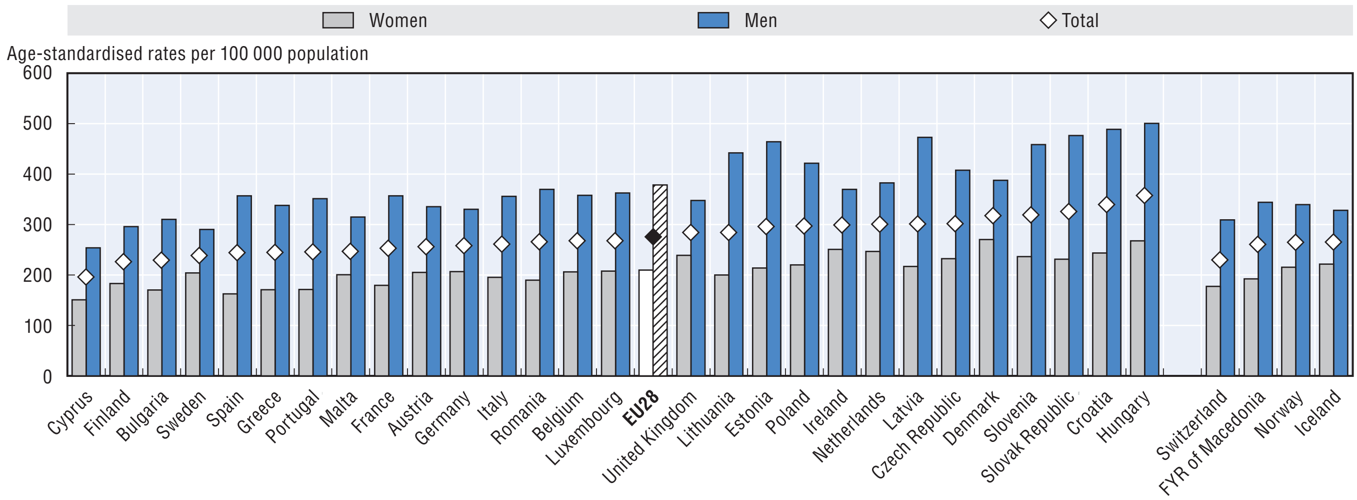
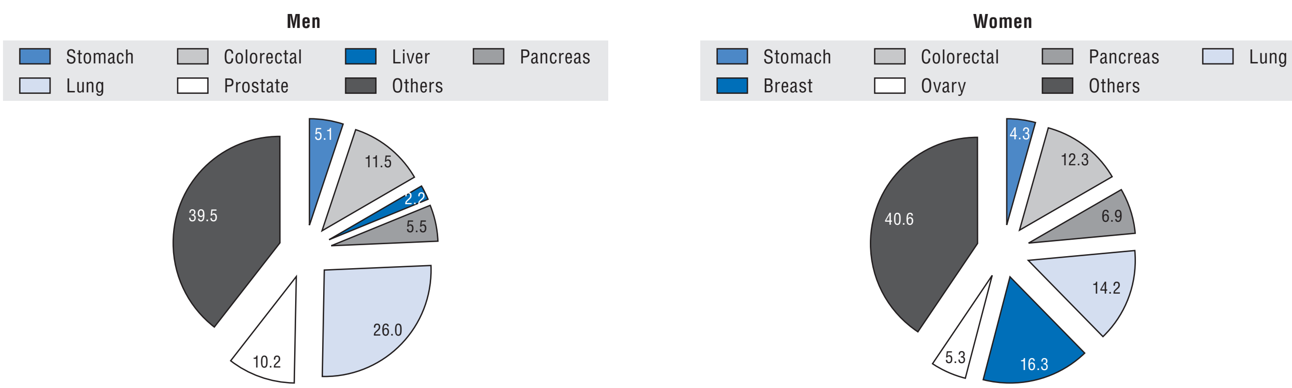
1.5.1. All cancers mortality rates, men and women, 2011



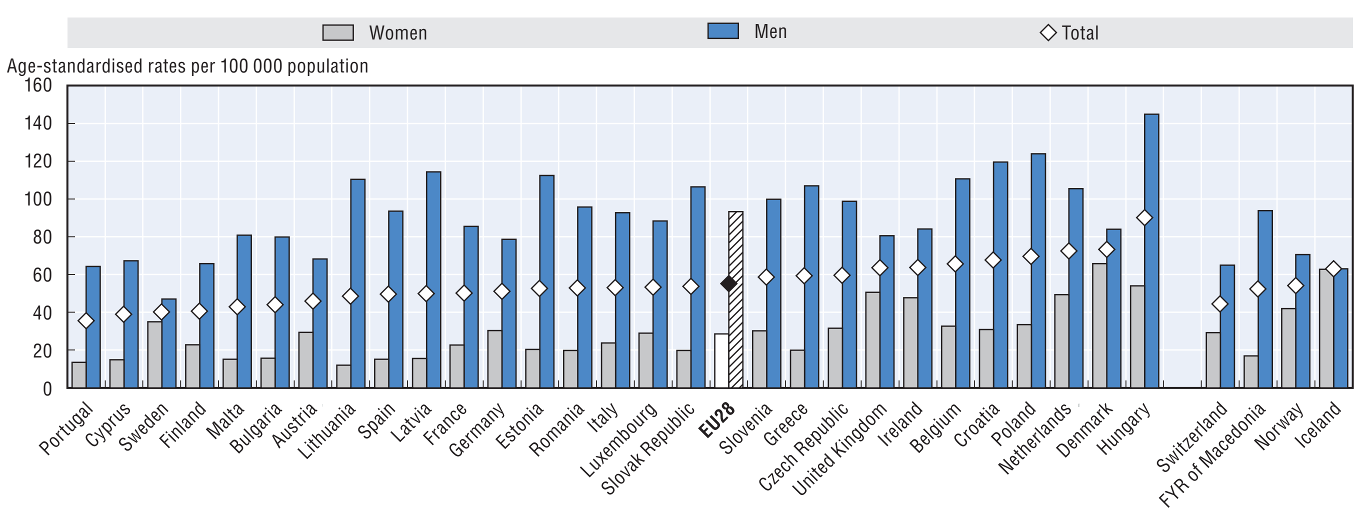
Source: *Eurostat Statistics Database.*

1.5.2. Main causes of cancer deaths among men and women in EU countries, 2011



Source: *Eurostat Statistics Database.*

1.5.3. Lung cancer mortality rates



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155381

Injuries from transport accidents – most of which are due to road traffic – are a major public health problem in the European Union, causing the premature deaths of around 35 000 people in 2011. In addition to these deaths, about 250 000 people were seriously injured in road accidents. The direct and indirect financial costs of transport accidents are substantial: estimations range from 1 to 3% of GDP annually (OECD/ITF, 2014).

The largest number of transport accidents occurs among younger age groups with the risk of dying peaking at ages 15-24, especially for men. Most fatal traffic injuries occur in passenger vehicles, although other road users such as motor cycles and scooters also face substantial risks. In Greece, Italy and France, motorcyclists account for over 20% of road transport accident deaths (OECD/ITF, 2014).

The average EU mortality rate due to transport accidents was 7.7 per 100 000 population in 2011 (Figure 1.6.1). There is great variation between EU countries with transport accidents claiming more than four times as many lives per 100 000 population in Romania compared to the United Kingdom. Fatalities were the highest in Romania, Poland, Lithuania and Croatia in 2011, while they were the lowest in the United Kingdom, Sweden and Ireland. In Sweden, the most recent data indicate a further reduction between 2011 and 2013. The sharp reduction in mortality rates from road traffic accidents in Sweden can be attributed to safer vehicles, better road infrastructure and lower average speed (OECD/ITF, 2014).

In all EU member states, death rates from transport accidents are much higher for males than for females. In most countries, three to four times more men than women die in transport accidents (Figure 1.6.1).

Much transport accident injury and mortality is preventable. Road security has increased greatly over the past decades in many countries through improvements of road systems, education and prevention campaigns as well as vehicle design. In addition, the adoption of new laws and regulations and the enforcement of these laws to improve compliance with speed limits, seatbelt use and drink-driving rules, have had a major impact on reducing the burden of road transport accidents. As a result, death rates due to transport accidents have decreased by more than 45% across the European Union since 2000 (Figure 1.6.2). Spain, Luxembourg, Ireland, Estonia and Latvia have reduced their mortality rates by 60% or more over this ten-year period. An important breakthrough was also achieved in 2008 in Lithuania, with a growing awareness among the citizens of road safety issues and the leading role of the European Union in setting a target to reduce by 50% the number of fatalities, between 2001 and 2011 (OECD/ITF, 2014). Death rates have also declined in Malta, Romania, Croatia and Bulgaria, but at a slower pace (less than 25% reduction). However, less success has been achieved in saving lives among vulnerable road users than amongst car occupants: reduction in deaths among pedestrians, cyclists and motorcyclists have levelled-off and some increases have been recorded.

In some countries hard-hit by the economic recession, the downward trend has accelerated since 2008. For example, in Greece, the number of death from transport accidents fell from 1 722 in 2008 to 1 191 in 2012, a reduction of 30% in four years (Hellenic Statistical Authority, 2014). One possible explanation is that the economic crisis has reduced reliance on motor vehicle use. However, this impact is likely to be short-lived and over the longer term, effective road safety policies will remain the primary contributor to reduced mortality.

Definition and comparability

Mortality rates are based on numbers of deaths registered in a country in a year divided by the size of the corresponding population. The rates have been age-standardised to the revised European standard population adopted by Eurostat in 2012, to remove variations arising from differences in age structures across countries and over time. The change in the population structure in this edition of *Health at a Glance Europe* compared with previous editions has led to a general increase in the standardised rates for all countries.

Deaths from transport accidents relate to ICD-10 codes V01-V99 and Y85. The majority of deaths from transport accidents are due to road traffic accidents. Mortality rates from transport accidents in Luxembourg are biased upward because of the large volume of traffic in transit, resulting in a significant proportion of *non-residents* killed.

References

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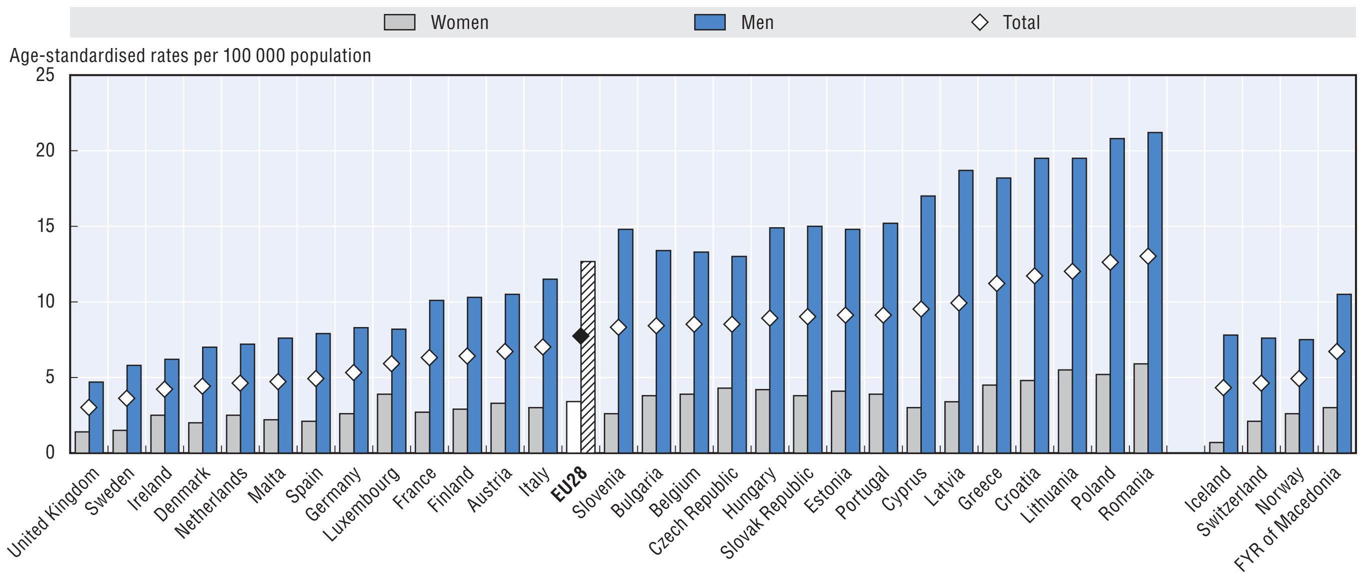
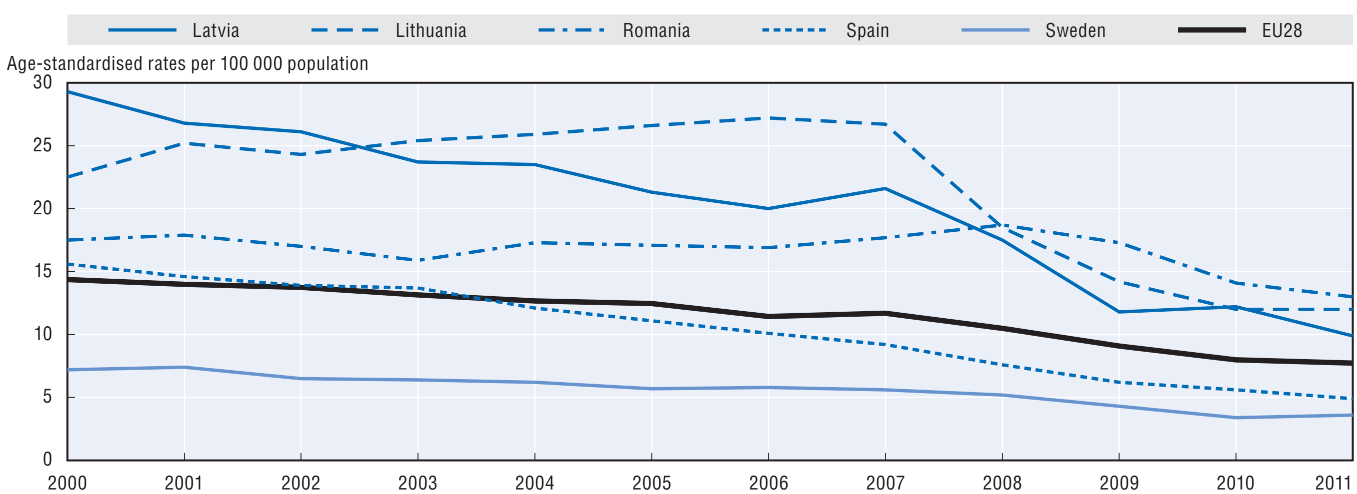
OECD/ITF (2014), *IRTAD Road Safety 2014 Annual Report*, OECD/ITF, Paris.

1.6.1. Transport accident mortality rates, 2011



Source: *Eurostat Statistics Database.*

1.6.2. Trends in transport accident mortality rates, selected EU member states, 2000-11



Source: *Eurostat Statistics Database.*

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Suicide is a significant cause of death in many EU member states, with approximately 60 000 such deaths in 2011. Suicide rates vary widely across European countries, with the lowest rates in southern European countries – Cyprus, Greece, Malta, Italy and Spain – as well as in the United Kingdom, and the highest rates in Lithuania, Hungary, Slovenia and Latvia (where suicide rates are more than 50% higher than the EU average). There is an eight-fold difference between Lithuania and Cyprus, the countries with the highest and lowest death rates. The high suicide rates in Lithuania have been associated with a range of factors, including rapid socioeconomic transition, increasing psychological and social insecurity, and the absence of a national suicide prevention strategy.

Death rates from suicide are around four times greater for men than for women across the European Union (Figure 1.7.1). The gender gap is narrower for attempted suicides, reflecting the fact that women tend to use less fatal methods than men. Suicide risk also generally increases with age.

Between 2000 and 2011, suicide rates have decreased by 20% across European countries, with pronounced declines of over 35% in some countries such as Estonia and Latvia, although suicide rates in these two countries remain above the EU average (Figure 1.7.2). On the other hand, death rates from suicides have increased in a few countries. In Portugal, suicide rates increased mainly between 2000 and 2002, and have remained fairly stable since then.

Previous studies have shown a strong link between adverse economic conditions, higher levels of stress, anxiety and depression, and higher levels of suicide (e.g. Ceccherini-Nelli and Priebe, 2011; van Gool and Pearson, 2014). Suicide rates rose at the start of the economic crisis in a number of European countries, mainly among men (Chang et al., 2013), but in many countries this trend did not persist. In Greece, the absolute number of deaths due to suicides increased substantially in recent years, from 328 in 2007 to 477 in 2011 and 508 in 2012 (Hellenic Statistical Authority, 2014). This amounts to an increase of over 50% during this five-year period. Nonetheless, the suicide rate in Greece remains relatively low compared with other countries, although this can be explained at least partly by under-reporting.

The European Pact for Mental Health and Well-being, launched in 2008, recognised the prevention of depression and suicide as one of five priority areas. It called for action through improved training of mental health professionals, restricted access to potential means for suicide, measures to raise mental health awareness, measures to reduce risk factors for suicide such as excessive drinking, drug abuse and social exclusion, and provision of support mechanisms after suicide attempts and for those bereaved by suicide, such as emotional support helplines (European Commission, 2009).

Suicide rates can play an important role in signalling weaknesses of mental health systems, in particular unmet needs for care (OECD, 2014).

Definition and comparability

The World Health Organization defines suicide as an act deliberately initiated and performed by a person in the full knowledge or expectation of its fatal outcome. The number of suicides in certain countries may be under-reported because of the stigma associated with the act (for religious, cultural or other reasons). The comparability of suicide data between countries is also affected by a number of reporting criteria, including how a person's intention of killing themselves is ascertained, who is responsible for completing the death certificate, whether a forensic investigation is carried out, and the provisions for confidentiality of the cause of death. Caution is required therefore in interpreting variations across countries.

Mortality rates have been age-standardised to the revised European standard population adopted by Eurostat in 2012, to remove variations arising from differences in age structures across countries and over time. The change in the population structure in this edition of *Health at a Glance Europe* compared with previous editions has led to a general increase in the standardised rates for all countries.

Deaths from suicide relate to ICD-10 codes X60-X84 and Y870.

References

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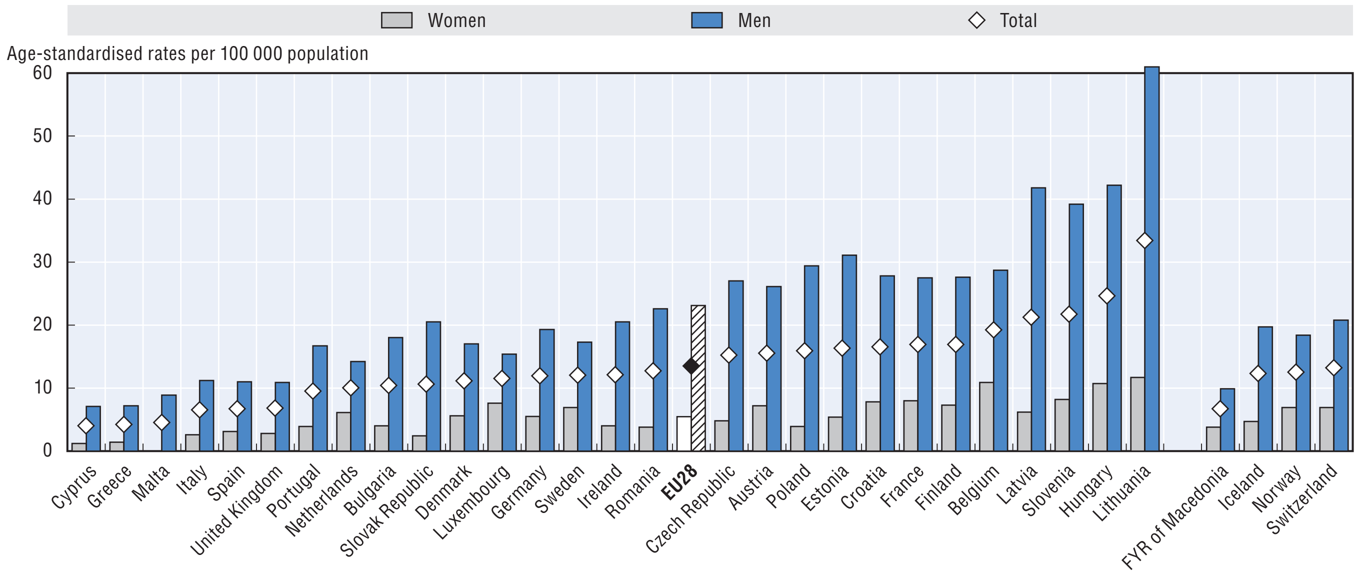
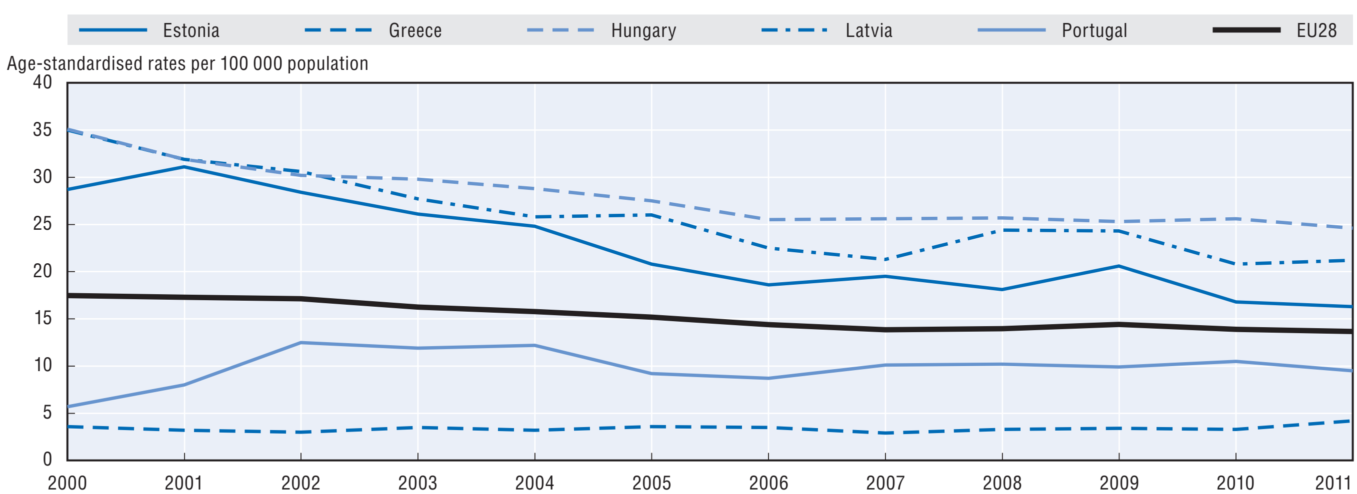
van Gool, K. and M. Pearson (2014), "Health, Austerity and Economic Crisis: Assessing the Short-term Impact in OECD Countries", *OECD Health Working Papers*, No. 76, OECD Publishing, *http://dx.doi.org/10.1787/5jxx71lt1zg6-en*.

1.7.1. Suicide mortality rates, 2011



Source: Eurostat Statistics Database.

1.7.2. Trends in suicide rates, selected European countries, 2000-11



Source: Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155405

Infant mortality, the rate at which babies and children of less than one year of age die, reflects the effect of economic and social conditions on the health of mothers and newborns, as well as the effectiveness of health systems.

In most European countries, infant mortality is low and there is little difference in rates (Figure 1.8.1). A small group of countries, however, have infant mortality rates above five deaths per 1 000 live births. In 2012, rates ranged from a low of less than three deaths per 1 000 live births in Nordic countries (with the exception of Denmark), Slovenia, Luxembourg, the Czech Republic, Italy and Greece, up to a high of nine in Romania and about eight in Bulgaria. Infant mortality rates were also high in Turkey and the Former Yugoslav Republic of Macedonia. The average across the 28 EU member states in 2012 was four deaths per 1 000 live births.

Around two-thirds of the deaths that occur during the first year of life are neonatal deaths (i.e., during the first four weeks). Birth defects, prematurity and other conditions arising during pregnancy are the principal factors contributing to neonatal mortality in European countries. With an increasing number of women deferring childbearing and the rise in multiple births linked with fertility treatments, the number of pre-term births has increased in many countries (see Indicator 1.9 "Infant health: low birth weight"). In a number of higher-income countries, this has contributed to a leveling-off of the downward trend in infant mortality rates over the past few years. For deaths beyond one month (post neonatal mortality), there tends to be a greater range of causes – the most common being Sudden Infant Death Syndrome (SIDS), birth defects, infections and accidents.

All European countries have achieved remarkable progress in reducing infant mortality rates from the levels of 1970, when the average was around 25 deaths per 1 000 live births, to the current average of 4 (Figure 1.8.2). This equates to a cumulative reduction of over 80% since 1970. Large reductions in infant mortality rates have occurred in Slovenia, Italy, Greece and Portugal. The rates have also come down in Romania and Bulgaria, but still remain well above average. Between 2000 and 2010, inequalities in infant mortality between EU member states was reduced by 26% (European Union, 2013).

Numerous studies have used infant mortality rates as a health outcome to examine the effect of a variety of medical and non-medical determinants of health (OECD, 2010). Although most analyses show an overall negative relationship between infant mortality and health spending, the fact that some countries with a high level of health expenditure do not exhibit low levels of infant mortality suggests that other factors also play an important role. A body of research suggests that factors such as income inequality and poverty, the social environment, and individual lifestyles also influence infant mortality rates (Schell et al., 2007).

Some research has suggested that the economic crisis might have increased infant mortality rates in some of the countries that were particularly hard-hit by the crisis, either through its effect in deteriorating the socioeconomic conditions of some mothers and their newborns, or because of a reduction in pre-natal and post-natal care. While the aggregate data presented here does not allow a precise assessment of individual circumstances, there is no evidence of an overall increase in infant mortality rates after the crisis in countries such as Greece, Italy, Portugal and Spain, although the share of low birth weight babies has increased in Greece (see Indicator 1.9).

Definition and comparability

The infant mortality rate is the number of deaths of children under one year of age in a given year, expressed per 1 000 live births. Some of the international variation in infant and neonatal mortality rates may be due to variations among countries in registering practices of very premature infants. While some countries have no gestational age or weight limits for mortality registration, several countries apply a minimum gestational age of 22 weeks (or a birth weight threshold of 500 grams) for babies to be registered as live births (Euro-Peristat, 2013).

References

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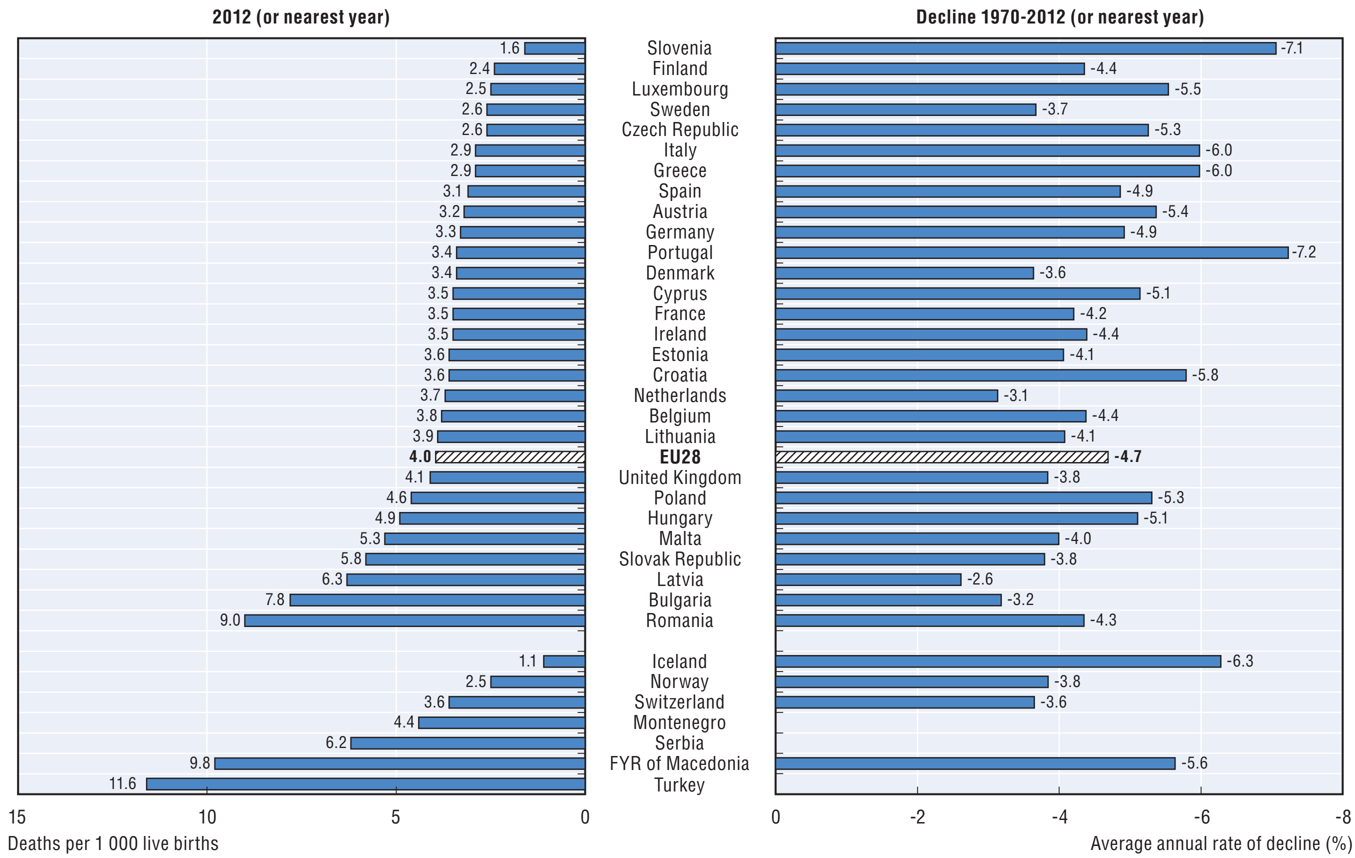
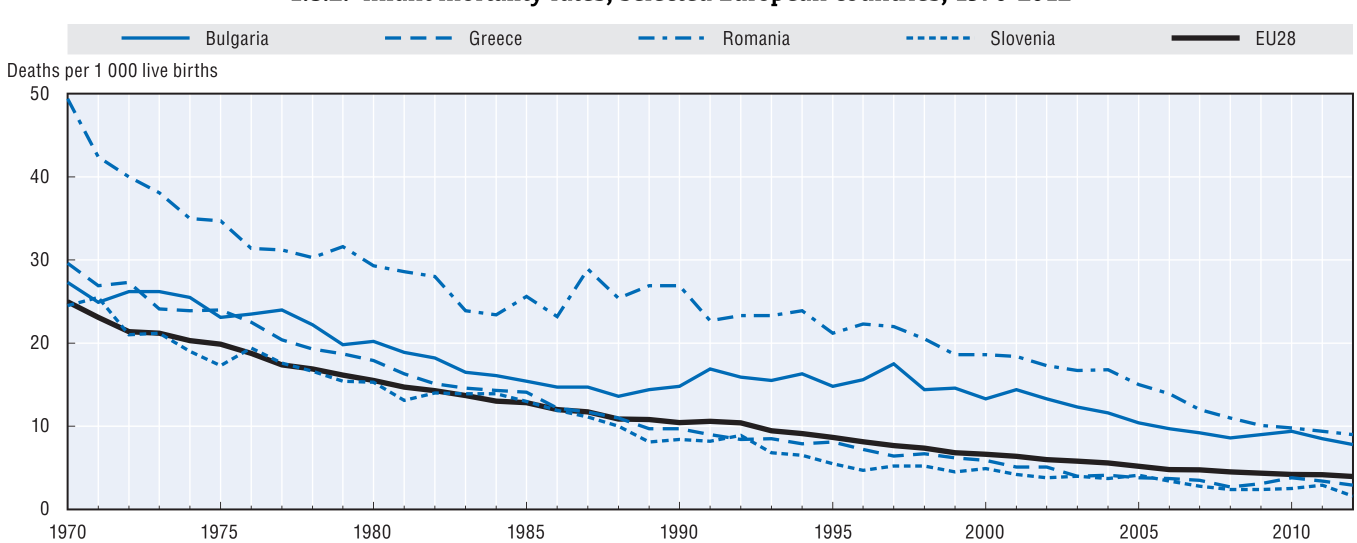
1.8.1. Infant mortality rates, 2012 and decline 1970-2012



Source: *Eurostat Statistics Database.*

1.8.2. Infant mortality rates, selected European countries, 1970-2012



Source: *Eurostat Statistics Database.*

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Low birth weight – defined as a newborn weighing less than 2 500 grams – is an important indicator of infant health because of the close relationship between birth weight and infant morbidity and mortality. There are two categories of low birth weight babies: those occurring as a result of restricted foetal growth and those resulting from pre-term birth. Low birth weight infants have a greater risk of poor health or death, require a longer period of hospitalisation after birth, and are more likely to develop significant disabilities (UNICEF and WHO, 2004). Babies with a birth weight under 1500 grams are termed very low birth weight babies and are at the highest risk.

Risk factors for low birth weight include adolescent motherhood, a previous history of low weight births, engaging in harmful behaviours such as smoking and excessive alcohol consumption, having poor nutrition, a background of low parental socio-economic status, and having had in-vitro fertilisation treatment.

Around one in 15 babies born in EU countries in 2012 – or 6.8% of all births – weighted less than 2 500 grams at birth (Figure 1.9.1). A north-south gradient is evident for low birth weight in Europe, in that the Nordic and Baltic countries – including Finland, Sweden, Iceland, Norway, Estonia, Latvia and Lithuania – reported the smallest proportions of low weight births, with less than 5% of live births so defined. Countries from southern and eastern Europe including Cyprus, Greece, Hungary, Portugal, Romania and Bulgaria, are at the other end of the scale with rates of low birth weight infants above 8%. The proportion of low birth weight among European countries varies by a factor of almost three.

Since 1980, and particularly after 1995, the prevalence of low birth weight infants has increased in most European countries (Figures 1.9.1 and 1.9.2). Portugal, Malta and Greece have seen particularly large increases over the past three decades. As a result, the proportion of low birth weight babies in these countries is now above the European average. These increases may be due to a number of factors, including a rise in the number of multiple births with increased risks of pre-term births and low birth weight (partly linked to the rise in fertility treatments), older age of mother at childbearing, and increases in the use of delivery management techniques such as induction of labour and caesarean delivery which have increased the survival rates of low birth weight babies. In Greece, the rise in the proportion of low birth weight babies started well before the crisis, in the mid-1990s, but has reached a peak in recent years. Some researchers have suggested that the marked increase in the number of low birth weight babies since 2008 may be linked to the economic crisis which has resulted in higher unemployment rates and lower family incomes (Kentikelenis, 2014).

By contrast, the proportion of low birth weight babies in Poland and Hungary has declined since 1980, although it remains relatively high and above the EU average in Hungary.

Despite the widespread use of a 2 500 gram limit for low birth weight, physiological variations in size occur among different countries and population groups, and these need to be taken into account when interpreting differences (Euro-Peristat, 2013). Some populations may have lower than average birth weights than others because of genetic differences.

Comparisons of different population groups within countries show that the proportion of low birth weight infants is also influenced by non-medical factors. In England and Wales, mothers' marital status at birth, being a mother from non-White ethnic group and living in a deprived area were associated with low birth weight (Bakeo and Clarke, 2006). A recent study (Pedersen et al., 2013) has also shown that exposure to ambient air pollutants during pregnancy is associated with restricted fetal growth and that a substantial proportion of cases of low birth weight may be prevented in Europe if urban air pollution was reduced (see Indicator 2.6 "Air pollution").

Definition and comparability

Low birth weight is defined by the World Health Organization as the weight of an infant at birth of less than 2 500 grams (5.5 pounds), irrespective of the gestational age of the infant. This is based on epidemiological observations regarding the increased risk of death to the infant and serves for international comparative health statistics. The number of low weight births is expressed as a percentage of total live births.

The majority of the data comes from birth registers. A small number of countries supply data for selected regions or from surveys.

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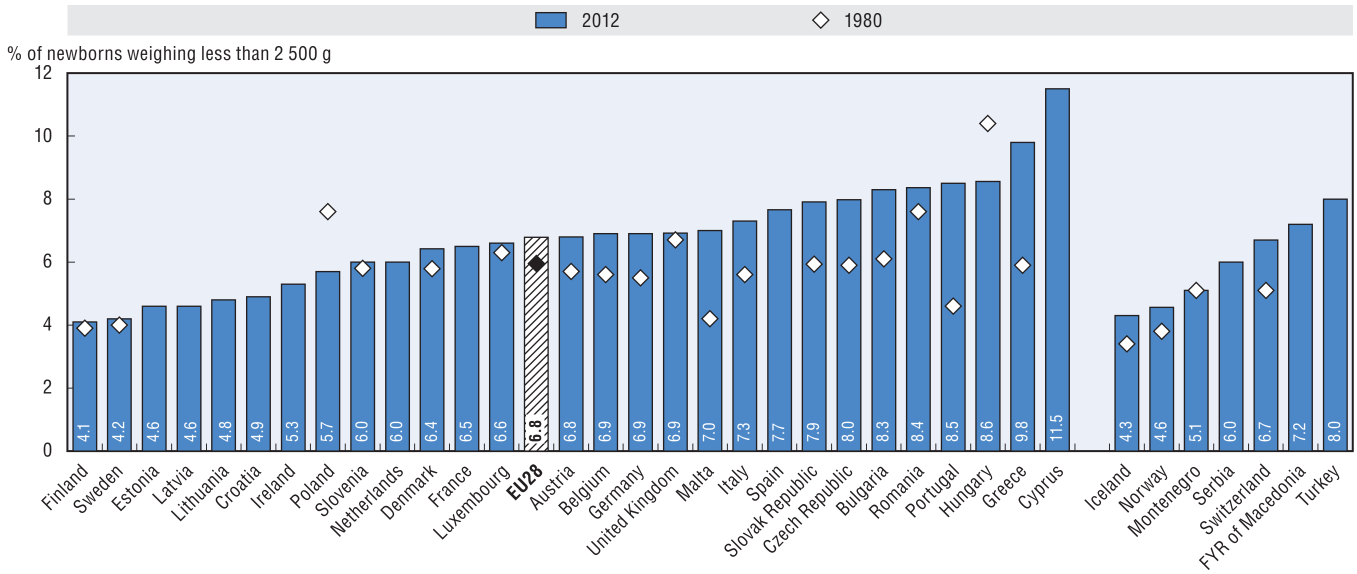
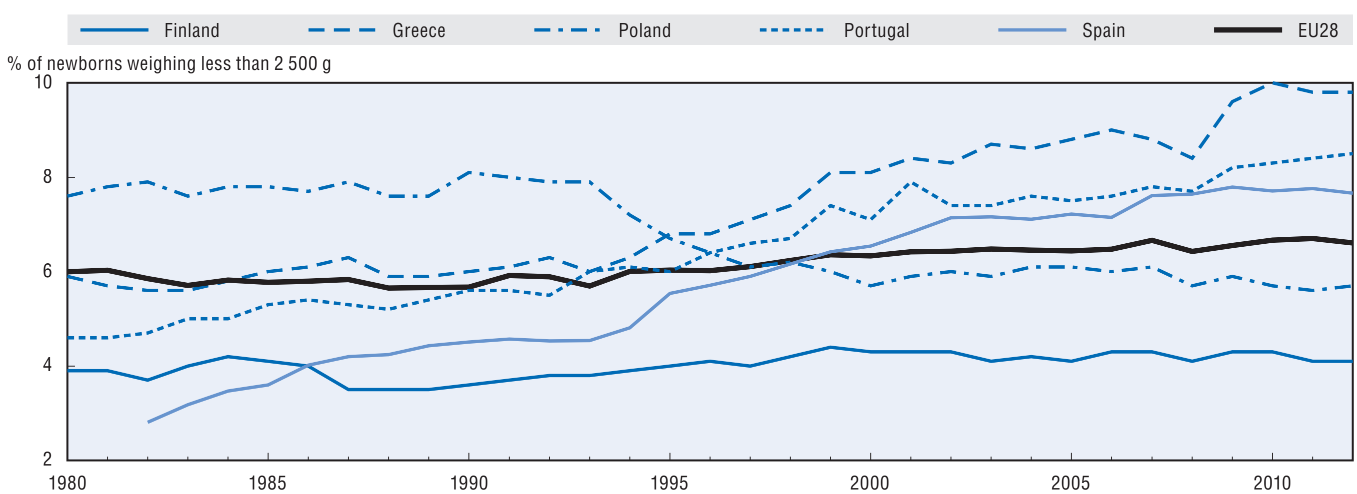
1.9.1. Low birth weight infants, 1980 and 2012



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*, WHO Europe Health for All Database.

1.9.2. Trends in low birth weight infants, selected European countries, 1980-2012



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*, WHO Europe Health for All Database.

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The health module in the EU Statistics on Income and Living Conditions survey (EU-SILC) allows respondents to report on their general health status, whether they have a chronic illness and whether they are limited in usual activities because of a health problem. Despite the subjective nature of these questions, indicators of perceived general health have been found to be a good predictor of people's future health care use and mortality (DeSalvo et al., 2005; Bond et al., 2006).

For the purpose of international comparisons, cross-country differences in perceived health status can be difficult to interpret because responses may be affected by social and cultural factors. Since they rely on the subjective views of respondents, self-reported health status may reflect cultural biases or other influences. Also, since older people report poor health more often than younger people, countries with a larger proportion of elderly people will also have a lower proportion of people reporting good or very good health.

With these limitations in mind, adults in the European Union are generally rating their health quite positively: only 11% on average reported to be in bad or very bad health in 2012 (Figure 1.10.1). Ireland and Sweden, as well as Switzerland have the highest proportion of adults rating their health as good or very good, with more than 80% doing so. By contrast, less than 50% of adults in Lithuania, Croatia, Latvia and Portugal reported to be in good or very good health.

In all European countries, men are more likely than women to rate their health as good, with the largest gender gap in Portugal and the Slovak Republic. As expected, people's rating of their own health tends to decline with age. In many countries, there is a particularly marked decline in a positive rating of one's own health after age 45 and a further decline after age 65. People with a lower level of education or income also do not rate their health as positively as people with higher levels (OECD, 2014).

EU-SILC also asks whether respondents had any long-standing illnesses or health problems. Three-in-ten adults in EU member states reported having such chronic illnesses or health problems in 2012 (Figure 1.10.2). Adults in Finland and Estonia were more likely to report having some long-standing illnesses or health problems, while these conditions were less commonly reported in Romania and Bulgaria. Women reported some long-standing illnesses or health problems more often than men (an average of 34% versus 29% across EU member states), with the gender gap greatest in Finland and Latvia. As expected, reporting of chronic illnesses also increases with age, from an average of 7% of young people aged 16-24 years, to 61% among people aged 65 years and over.

When adults were asked whether they were limited in usual daily activities because of a health problem – which is one definition of disability – one-quarter on average across EU member states answered that they were, with 7.6% of respondents reporting to be "severely limited" and 17.3% "limited to some extent" (Figure 1.10.3). Adults most commonly reported such activity limitations in Finland, Germany, Slovenia, the Slovak Republic and Estonia (30% or more of respondents), and less so in Malta, Sweden and Norway (less than 16%).

Adults with activity limitations were more likely to report some long-standing illnesses ($R^2 = 0.28$). There was, however, a moderate association between adults reporting to be in bad health and those reporting activity limitations ($R^2 = 0.16$). Those countries with the lowest rates of adults reporting to be in bad health also had the lowest rates of adults reporting limitations in usual activities (e.g. Ireland, Sweden and Malta), while those reporting the highest rates of adults in bad health were not necessarily those reporting the highest rates of adults with activity limitations (e.g. Croatia and Lithuania).

Definition and comparability

The three questions used in the EU-SILC survey to measure health and the prevalence of chronic illnesses and disability are: i) "How is your health in general? Is it very good, good, fair, bad, very bad", ii) "Do you have any longstanding illness or health problem which has lasted, or is expected to last for 6 months or more?", and iii) "For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been severely limited, limited but not severely, or not limited at all?".

Persons in institutions are not surveyed. Caution is required in making cross-country comparisons of perceived general health, since people's assessment of their health is subjective and can be affected by their social and cultural backgrounds.

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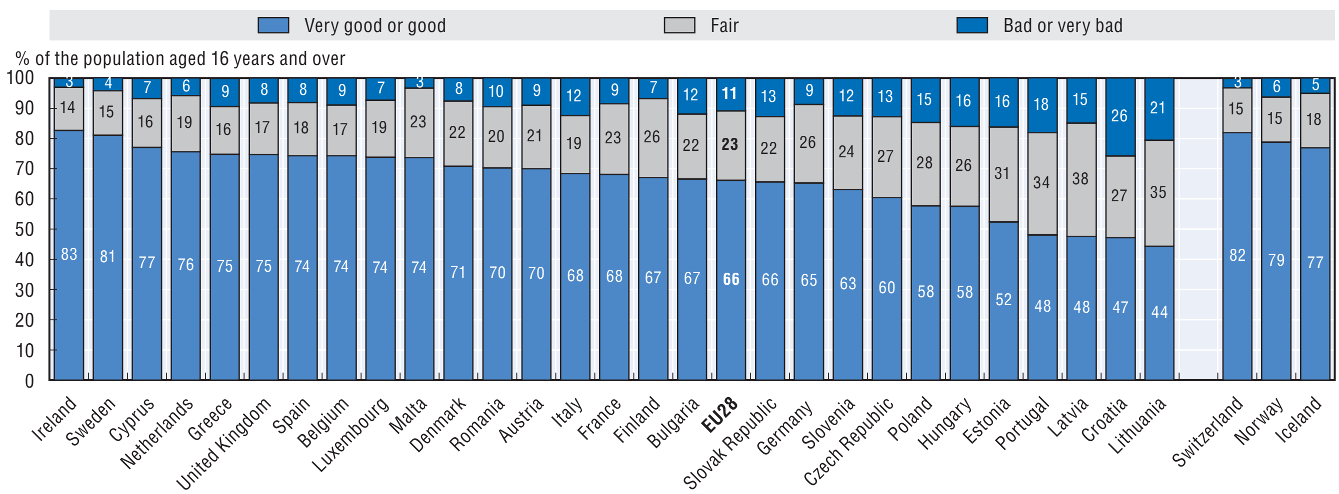
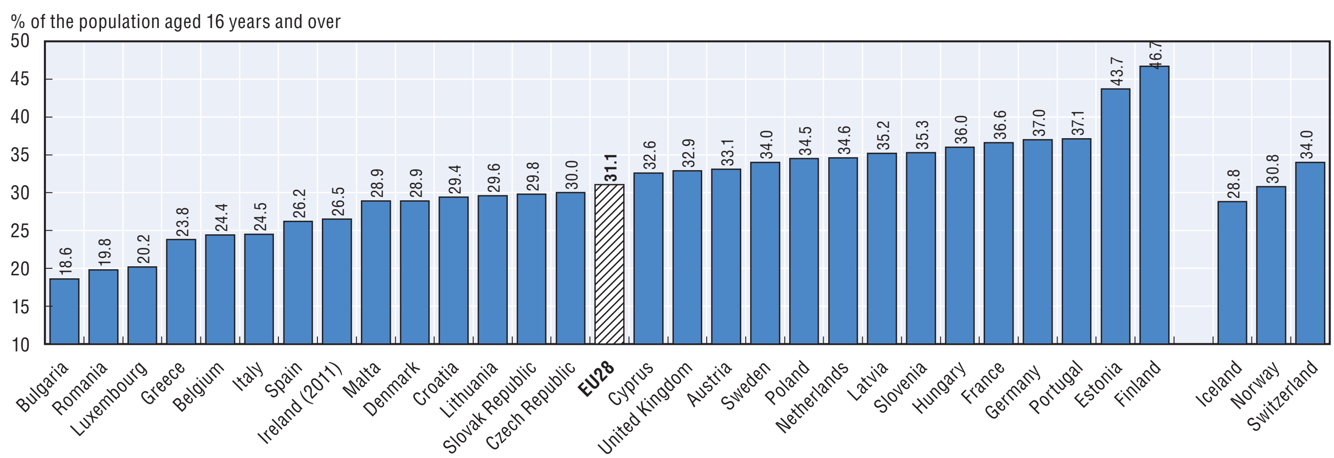
1.10.1. Self-reported health status, 2012



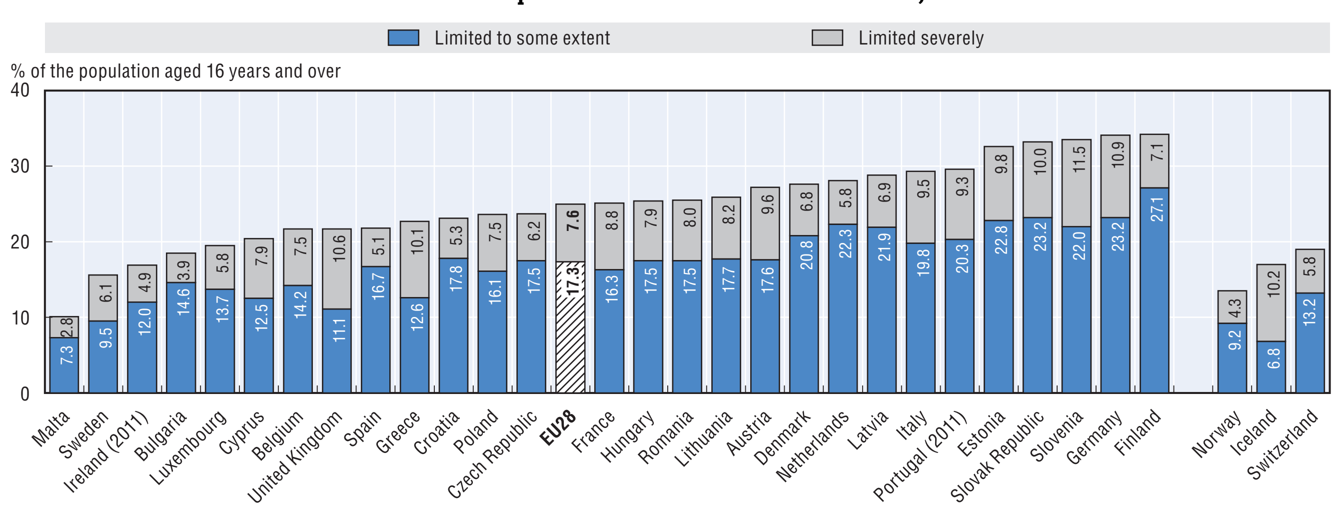
Source: EU-Statistics on Income and Living Conditions survey.

1.10.2. Self-reported long-standing illness or health problem, 2012



Source: EU-Statistics on Income and Living Conditions survey.

1.10.3. Self-reported limitation in usual activities, 2012



Source: EU-Statistics on Income and Living Conditions survey.

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Communicable diseases such as measles, pertussis and hepatitis B still pose major threats to the health of European citizens. Measles, a highly infectious disease of the respiratory system, is caused by a virus. Symptoms include fever, cough, runny nose, red eyes and skin rash. It can lead to severe health complications, including pneumonia, encephalitis, diarrhoea and blindness. Pertussis (or whooping cough) is highly infectious, and is caused by a bacteria. The disease derives its name from the sound made from the intake of air after a cough. Hepatitis B is an infection of the liver caused by the hepatitis B virus. The virus is transmitted by contact with blood or body fluids of an infected person. A small proportion of infections become chronic, and these people are at high risk of death from cancer or cirrhosis of the liver. Protection against measles, pertussis and hepatitis B is available through vaccination (see Indicator 4.9, "Childhood vaccination programmes").

A total of 13 797 confirmed measles cases were reported in the European Union in 2011, with an overall rate of 6.4 cases per 100 000 population, almost unchanged compared to 2010. Twenty countries reported rates below one case per 100 000 population which is the target for the elimination of the disease (Figure 1.11.1). France was the most affected country with a notification rate of 23 cases per 100 000 population in 2011. Several other countries reported outbreaks, including Romania, Italy, Spain, Belgium and Ireland. The most affected age group were children aged 0-4 year-olds, followed by 5-14 year-olds. Most infections occurred in late winter and early spring (ECDC, 2013). In September 2010, all European countries renewed their commitment to the elimination of indigenous transmission of measles by 2015. To achieve this goal, all efforts must be directed towards reaching a vaccination coverage of at least 95%, with at least one dose of measles-containing vaccine. This dose is generally administrated to children around the age of one year with a second dose before starting school (4/5 years old). In France, the estimated percentage of children aged around 1 year old who had received the first dose was only 89% in 2011, and this proportion remained unchanged in 2012 (see Figure 4.9.2 in Chapter 4).

In 2011, 12 529 confirmed pertussis cases were reported in EU member states. The overall incidence rate was 4.4 per 100 000 population, an increase of 25% compared with 2010, but comparable with the rates observed in previous years. Within EU countries, the highest incidence rates were reported in Estonia (36 cases per 100 000 population), the Netherlands (33 cases), the Slovak Republic (17 cases) and Slovenia (14 cases) (Figure 1.11.2). But the incidence rate was much greater in Norway, due to more extensive testing. Young children and adolescents were the most affected age groups, although increases were seen across all age groups (ECDC, 2013). Pertussis is no longer solely a paediatric infection and immunisation that is given at around one year of age as part of national childhood immunisation programmes does not confer lifelong immunity. ECDC recommends that vaccine strategies should be revisited and boosters given to adolescents and adults, to provide greater protection. Some countries have already added an adolescent pertussis booster vaccine to their vaccination schedule (e.g., Austria, Belgium, Finland, France, Germany and Italy).

A total of 16 488 hepatitis B cases were reported in EU member states in 2011, a rate of 3.4 per 100 000 population. Sweden, the United Kingdom, Latvia and Ireland had the highest incidence rates among EU countries, with more than ten cases per 100 000 population (Figure 1.11.3). The incidence rate was even higher in Norway, due to more extensive testing (including the testing of all immigrants coming from countries with high number of cases). The incidence of hepatitis B is higher in men than in women. Around one third of all reported hepatitis B cases occurs among people aged 25-34. Heterosexual transmission is the most common route of transmission, followed by nosocomial transmission for acute cases, while mother-to-child transmission was the most common route for chronic cases.

Definition and comparability

Mandatory notification systems for communicable diseases, including measles, pertussis and hepatitis B, exist in most European countries, although case definitions, laboratory confirmation requirements and reporting systems may differ. Measles, hepatitis B and pertussis notification is mandatory in all EU member states, but only the data collected by the sentinel surveillance system in France and Belgium is reported at the international level.

Caution is required in interpreting the data because of the diversity in surveillance systems, case definitions and reporting practices (for example, several countries only collect data on acute cases, not chronic cases). Variation between countries also likely reflects differences in testing as well as differences in immunisation and screening programmes (ECDC, 2013).

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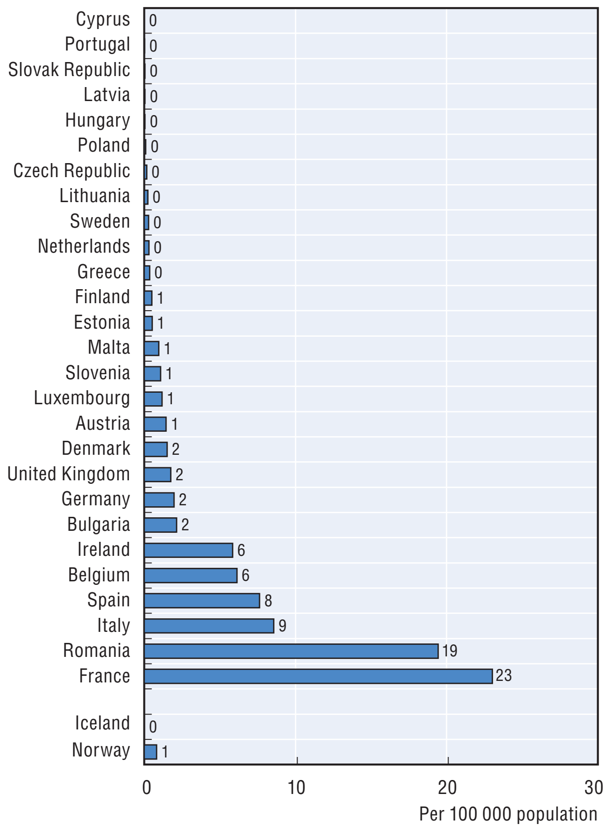
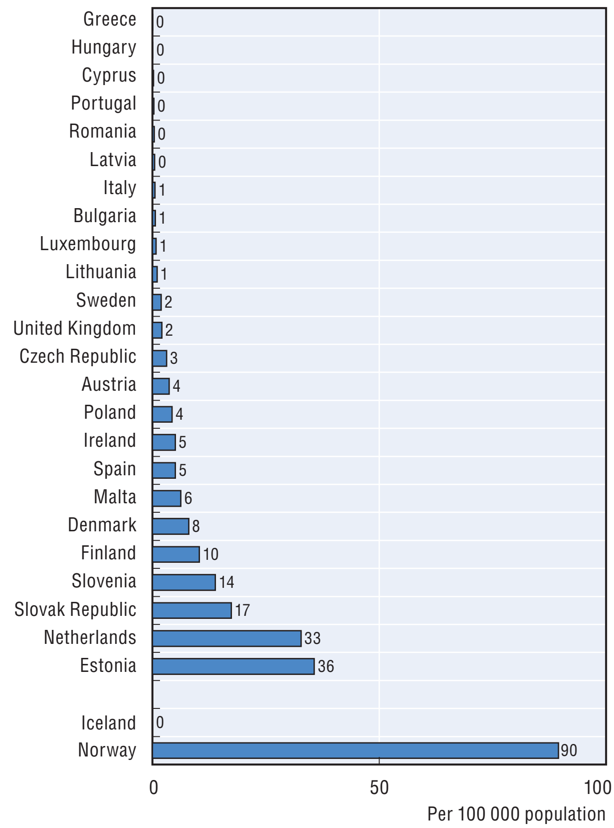
1.11.1. Notification rate of measles, 2011



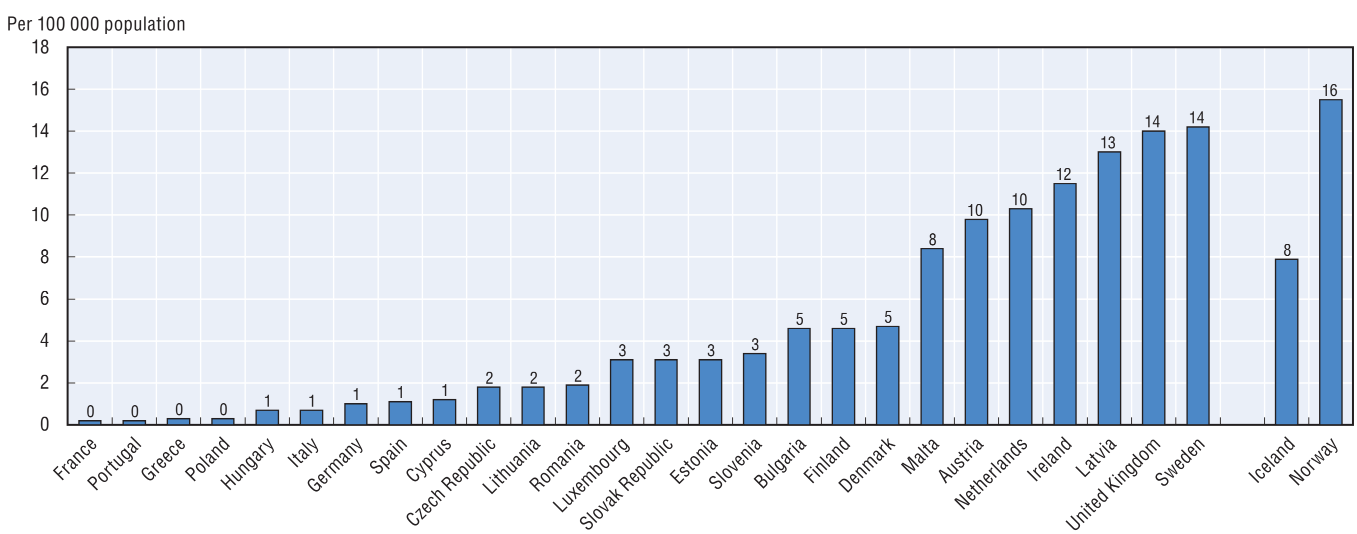
Source: ECDC (2013), *Annual Epidemiological Report 2013*.

1.11.2. Notification rate of pertussis, 2011



Source: ECDC (2013), *Annual Epidemiological Report 2013*.

1.11.3. Notification rate of hepatitis B, 2011



Source: ECDC (2013), *Annual Epidemiological Report 2013*.

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The onset of AIDS is caused by HIV (human immunodeficiency virus) infection and can manifest itself through many different diseases, such as pneumonia and tuberculosis, as the immune system is no longer able to defend the body, leaving it susceptible to different infections and tumors. There is a time lag between HIV infection, AIDS diagnosis and death, which can be any number of years depending on the treatment administered. Despite worldwide research, there is no cure or vaccine currently available. HIV remains a major public health issue in Europe, with approximately 800 000 people living with HIV infection in the European Union in 2012 and continued transmission increasing this number.

In 2012, more than 29 000 cases of newly-diagnosed HIV infection were reported in EU member states. Estonia had the highest rate of new cases (23.5 per 100 000 population), followed by Latvia, Belgium, Luxembourg and the United Kingdom. Since 2000, the main transmission route in Estonia has been the sharing of contaminated needles among drug users, along with increases in sexual transmission (WHO Regional Office for Europe, 2011). The lowest rates were in the Slovak Republic, Croatia and the Czech Republic (Figure 1.12.1). On average across EU member states, 6.3 new cases of HIV infection were diagnosed per 100 000 population in 2012. More than two-thirds of these cases were among men. The predominant mode of transmission of HIV was through men having sex with men (40%), followed by heterosexual contact (34%). In certain countries, drug use through injections is also a common mode.

The rate of newly-diagnosed HIV cases has been fairly stable on average in EU countries over the past decade, but this hides diverging trends across countries. Between 2002 and 2012, the rate of newly-diagnosed HIV has more than doubled in Greece and is now well above the EU average. This is partly due to the dramatic rise in the number of new HIV cases among injecting drug users in Athens since 2010, following reduction in funding for opioid substitution and needle exchange programmes in previous years. On the other hand, the rates have dropped sharply in Estonia and Portugal, although they remain above the EU average (Figure 1.12.2). Trends by transmission mode show that the number of HIV diagnoses among homosexual males has increased by around 11% since 2006. By contrast, the number of cases among drug users has decreased by around 7%. The numbers of HIV diagnoses due to heterosexual transmission, mother-to-child transmission and blood transfusion have also decreased between 2006 and 2012 (ECDC and WHO Regional Office for Europe, 2013).

The number of newly-reported cases of AIDS in EU member states in 2012 was 4 287, representing an average incidence rate of 1.1 per 100 000 population (Figure 1.12.1; right panel). Following the first reporting of AIDS in the early 1980s, the number of cases rose rapidly to reach an average of almost four new cases per 100 000 population across EU member states at its peak in the middle of the 1990s. Public awareness campaigns contributed to steady declines in new cases of HIV/AIDS in the second half of the 1990s. The development and greater availability of antiretroviral drugs, which reduce or slow down the development of the disease, also led to a sharp decrease in incidence since the mid-1990s.

Latvia had the highest AIDS incidence rates among EU member states in 2012, followed by Estonia, Portugal and Spain (Figure 1.12.1). While Spain had the highest incidence rate in the first decade following the outbreak, the rate has declined sharply since the mid-1990s. The incidence rate in Portugal peaked somewhat later, towards the end of the 1990s, but has also declined sharply since then. In Latvia, the number of newly-reported cases of AIDS has continued to increase rapidly in recent years (Figure 1.12.3). The low rates in some countries may be due to incomplete reporting (ECDC and WHO Regional Office for Europe, 2013).

While the number of new AIDS cases has decreased in most EU countries, continued transmission of HIV and the rising number of newly-diagnosed cases in some countries calls for effective interventions to prevent the spread of this virus. There is a need to reduce new HIV infections across all European countries through effective prevention, and to improve access to treatment for people infected (ECDC and WHO Regional Office for Europe, 2013).

Definition and comparability

The incidence rates of HIV (human immunodeficiency virus) and AIDS (acquired immunodeficiency syndrome) are the number of new cases per 100 000 population at year of diagnosis. However, since newly reported HIV diagnoses may also include persons infected several years ago, the data do not represent real incidence. Under-reporting and under-diagnosis also affect incidence rates, and could represent as much as 40% of cases in some countries (ECDC and WHO Regional Office for Europe, 2013). Note that data for recent years are provisional due to reporting delays, which can sometimes be for several years.

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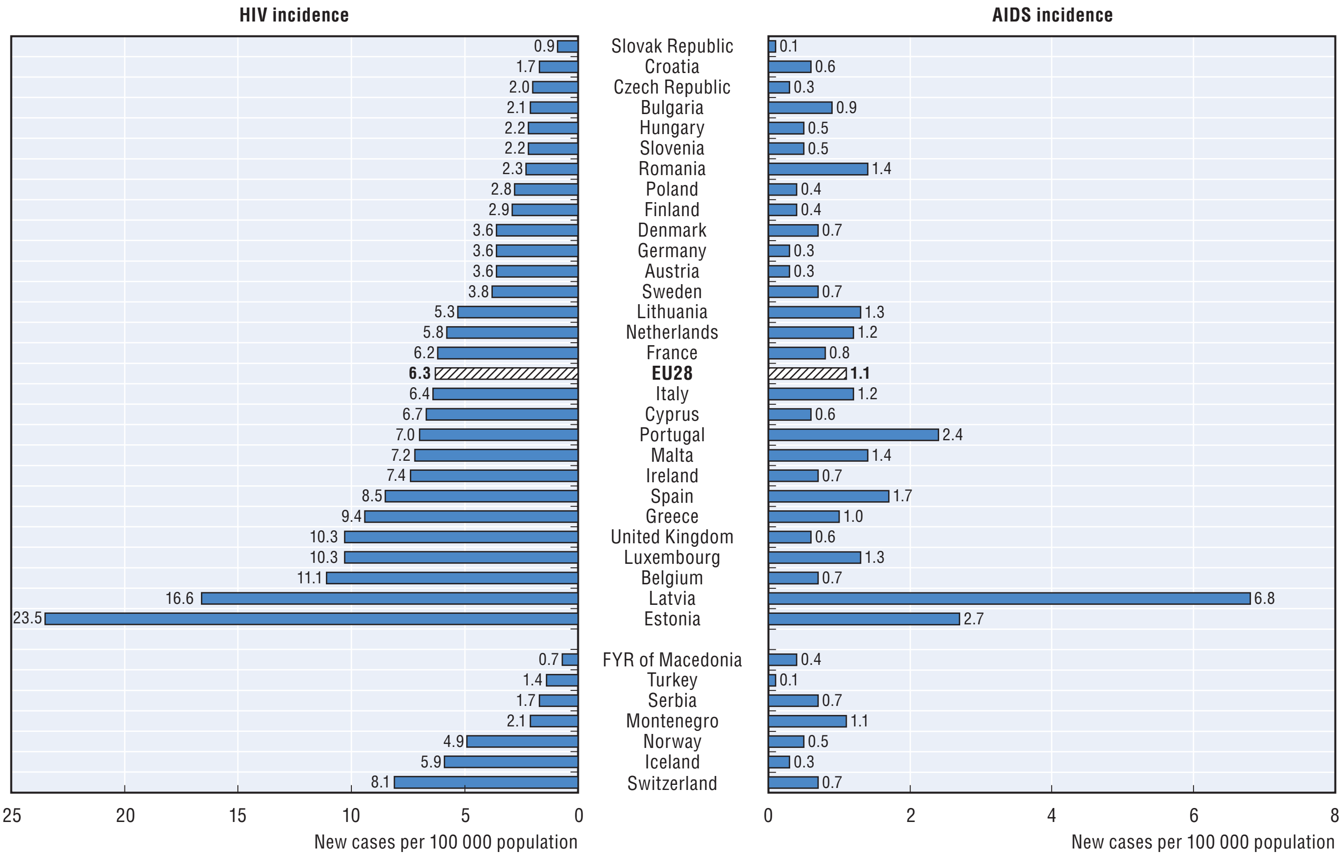
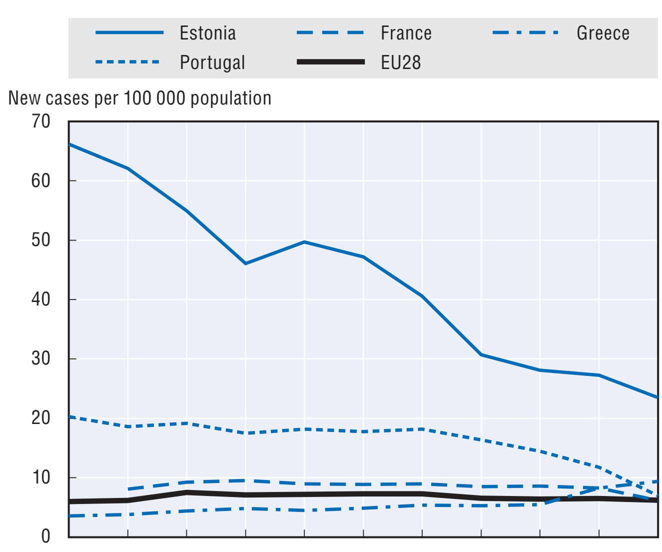
1.12.1. HIV and AIDS incidence rates in 2012



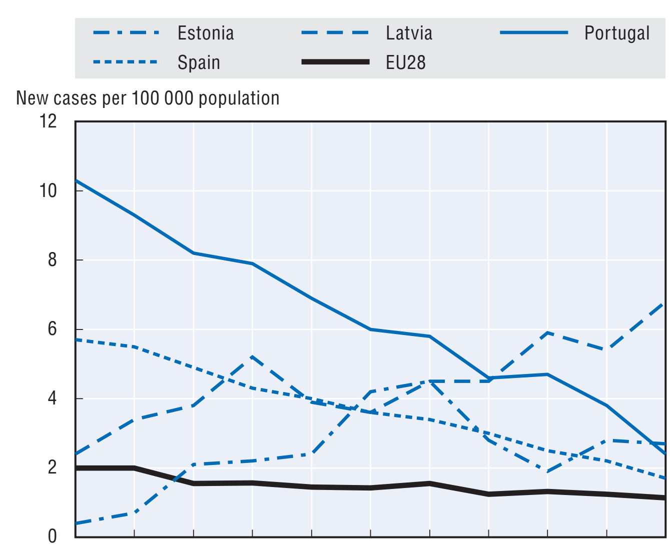
Source: ECDC and WHO Regional Office for Europe (2013), *HIV/AIDS Surveillance in Europe 2012*.

1.12.2. Trends in HIV incidence rates, selected EU member states, 2002-12



Source: ECDC and WHO Regional Office for Europe (2013), *HIV/AIDS Surveillance in Europe 2012*.

1.12.3. Trends in AIDS incidence rates, selected EU member states, 2002-12



Source: ECDC and WHO Regional Office for Europe (2013), *HIV/AIDS Surveillance in Europe 2012*.

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In 2012, an estimated 2.7 million new cases of cancer were diagnosed in EU member states, 54% (around 1.5 million) occurring in men and 46% (around 1.2 million) in women. The most common cancer site was breast cancer (13.8% of all new cancer cases), followed by prostate cancer (13.6%), colorectal cancer (13%) and lung cancer (11.8%). These four cancers represented more than half of the estimated overall burden of cancer in the European Union (Ferlay et al., 2013). The risk of getting cancer before the age of 75 years was 27% (31% for men and 24% for women) and the risk of dying from cancer also before the age of 75 was 12% (14% for men and 9% for women).

Large variations exist in cancer incidence across European countries. Cancer incidence is highest in northern and western European countries, with Denmark, France, Belgium and Norway registering more than 300 new cancer cases per 100 000 population in 2012 (Figure 1.13.1). The lowest rates were reported in some Mediterranean countries such as Greece, Cyprus, and Turkey, at around 200 new cases per 100 000 population. These variations reflect not only variations in the prevalence of risk factors for cancer, but also national policies regarding cancer screening and differences in quality of reporting.

Cancer incidence rates were higher for men in all EU member states in 2012, although the gender gap varies widely across countries. In Turkey, Estonia, Spain and Latvia, incidence rates among men were around 60% higher than among women, whereas in the United Kingdom, Denmark, Iceland and Cyprus, the gap was less than 10%.

Breast was by far the most common primary sites in women (30% on average), followed by colorectal (13%), lung (8%), and cervical (5%). The causes of breast cancer are not fully understood, but the risk factors include age, family history, breast density, exposure to oestrogen, being overweight or obese, alcohol, radiation and hormone replacement therapy. Incidence rates were highest in western Europe (Belgium, France, the Netherlands and Germany), Denmark, the United Kingdom and Ireland, with rates 25% or more than the EU average (Figure 1.13.2). Greece had the lowest rate, followed by Baltic countries (Lithuania, Estonia and Latvia), Romania and Poland. The variation in breast cancer incidence across EU member states may be at least partly attributed to variation in the extent and type of screening activities (Ferlay et al., 2013). Although mortality rates for breast cancer have declined in most EU countries since the 1990s due to earlier detection and improvements in treatments, breast cancer continues to be the leading cause of death from cancer among women (see Indicator 1.5 "Mortality from cancer" and 4.7 "Screening, survival and mortality from breast cancer").

Prostate cancer has become the most commonly diagnosed cancer among men in almost all EU countries, except in some central and eastern European countries where lung cancer is still predominant. It accounted for one quarter (25%) of all new cancer diagnoses in men in 2012, followed by lung (15%), colorectal (13%) and bladder cancer (7%). As for breast cancer, the causes of prostate cancer are not well-understood but age, ethnic origin, family history, obesity, lack of exercise and nutrition habits are the main risk factors. Incidence rates were highest in western European countries such as France, Ireland and Switzerland as well as in the Nordic countries (Sweden, Norway, Iceland and Finland) (Figure 1.13.3). Greece had the lowest rates, followed by central and eastern European countries (Bulgaria, Romania, Poland and Hungary). Prostate incidence rates have increased in most European countries since the late 1990s, particularly in northern and western Europe where the greater use of prostate specific antigen (PSA) tests led to greater detection. Part of the difference between countries can be attributed to difference in the use of PSA testing. Mortality rates from prostate cancer have decreased in some European countries as a consequence of early detection and improvements in treatments.

Definition and comparability

Cancer incidence rates are based on numbers of new cases of cancer registered in a country in a year divided by the population. The rates have been directly age-standardised based on Segi's world population to remove variations arising from differences in age structures across countries and over time. The data come from the International Agency for Research on Cancer (IARC), GLOBOCAN 2012, available at *globocan.iarc.fr*. GLOBOCAN estimates for 2012 may differ from national estimates due to differences in methods.

Cancer registration is well established in most EU member states, although the quality and completeness of cancer registry data may vary. In some countries, cancer registries only cover subnational areas. The international comparability of cancer incidence data can also be affected by differences in medical training and practice.

The incidence of all cancers is classified to ICD-10 codes C00-C97 (excluding non-melanoma skin cancer C44). Breast cancer corresponds to C50, and prostate cancer to C61.

References

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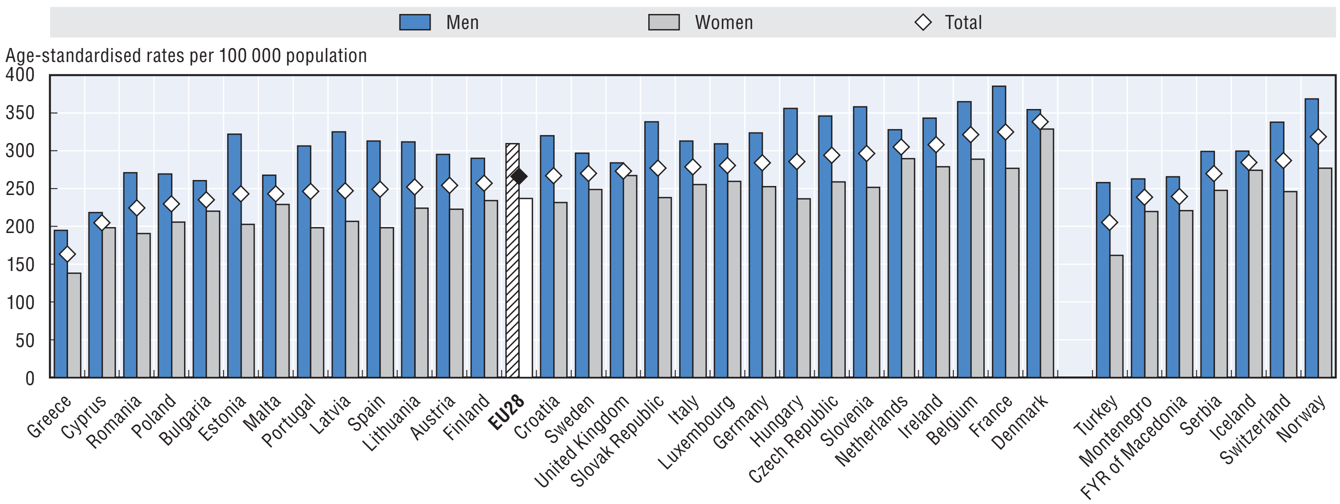
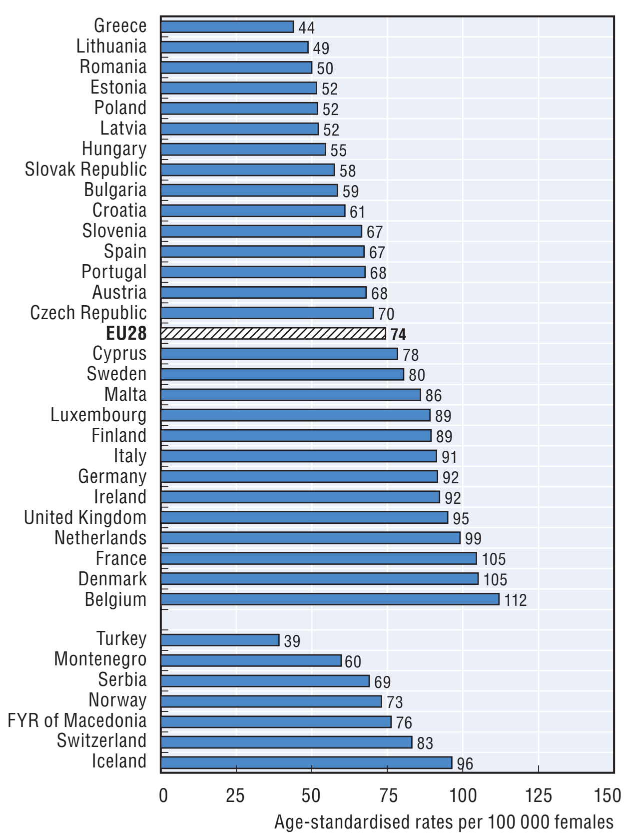
1.13.1. All cancers incidence rates, men and women, 2012



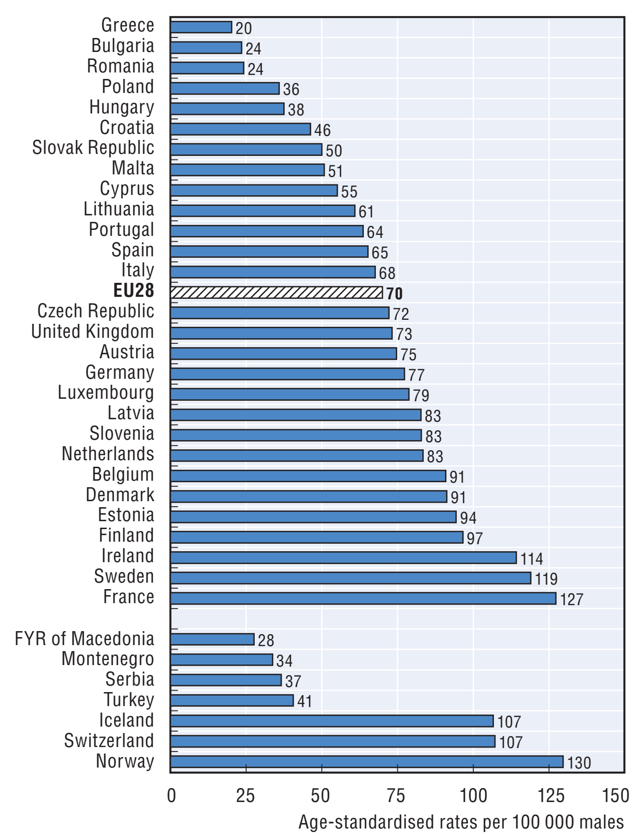
Source: International Agency for Research on Cancer (IARC), GLOBOCAN 2012.

1.13.2. Breast cancer incidence rates, women, 2012



Source: International Agency for Research on Cancer (IARC), GLOBOCAN 2012.

1.13.3. Prostate cancer incidence rates, men, 2012



Source: International Agency for Research on Cancer (IARC), GLOBOCAN 2012.

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Diabetes is a chronic disease characterised by high levels of glucose in the blood. It occurs either because the pancreas stops producing the hormone insulin (type-1 diabetes), or through a combination of the pancreas having reduced ability to produce insulin alongside the body being resistant to its action (type-2 diabetes). People with diabetes are at greater risk of developing cardiovascular diseases such as heart attack and stroke if the disease is left undiagnosed or poorly controlled. They also have elevated risks for sight loss, foot and leg amputation due to damage to the nerves and blood vessels, and renal failure requiring dialysis or transplantation.

In 2013, an estimated 32 million adults aged 20-79 years old had diabetes in the European Union, according to the International Diabetes Federation. This represents 6% of the population in this age group (IDF, 2013). If left unchecked, the number of people with diabetes in EU member states is projected to reach around 38 million by 2035. Portugal, Cyprus, Germany and Spain had the highest estimated prevalence of diabetes in 2013, with over 8% of the population in this age group (Figure 1.14.1).

Type-1 diabetes accounts for only 10-15% of all diabetes cases. However, it is the predominant form of the disease in younger age groups in European countries. Based on disease registers and recent studies, the annual number of new cases of type-1 diabetes in children aged under 15 was highest in 2013 in Nordic countries (Finland, Sweden and, to a lesser extent, in Denmark and Norway) (Figure 1.14.2) and in the United Kingdom. Alarmingly, there is evidence in several countries that type-1 diabetes is developing at an earlier age.

In 2013, around 271 300 people were estimated to have died from diabetes-related diseases, making diabetes the 4th leading cause of death in Europe. However, only a minority of persons with diabetes die from diseases uniquely related to the condition. Of all people with diabetes, 50% die of cardiovascular disease and another 10-20% die of kidney failure (IDF, 2013).

The economic burden of diabetes is also substantial. Health expenditure in EU member states allocated to prevent and treat diabetes and its complications was estimated to be in the order of EUR 100 billions in 2013 (IDF, 2013). Over one-quarter of these health expenditure is spent on controlling elevated blood glucose, another quarter on treating long-term complication of diabetes, and the remainder on additional general medical care. The growing costs related to diabetes reinforce the need for effective preventive actions and the provision of quality care to manage effectively diabetes and its complications.

In March 2014, the European Diabetes Leadership Forum brought together a wide range of stakeholders to discuss good practice on secondary prevention of diabetes in Europe, as well as greater patient empowerment in diabetes management (European Diabetes Leadership Forum, 2014).

Type-2 diabetes is largely preventable. A number of risk factors, such as overweight and obesity and physical inactivity are modifiable, and can also help reduce the complications associated with diabetes. But in most countries, the prevalence of overweight and obesity continues to increase (see Indicator 2.5 “Overweight and obesity among adults”).

Definition and comparability

The sources and methods used by the International Diabetes Federation to estimate the national prevalence of diabetes are outlined in the *Diabetes Atlas, 6th edition* (IDF, 2013; Guariguata et al., 2013).

Studies from several European countries only provided self-reported data on diabetes. Studies only reporting known diabetes were adjusted to account for undiagnosed diabetes, based on other sources with available data.

Prevalence rates were adjusted to the World Standard Population to remove the effect of differences in population structures across countries.

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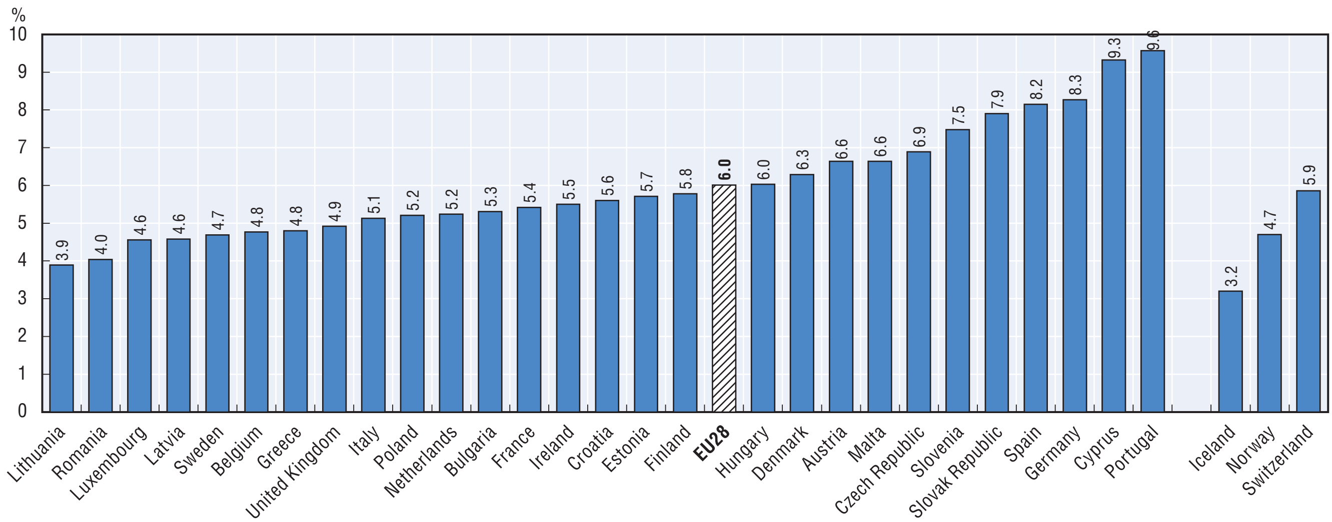
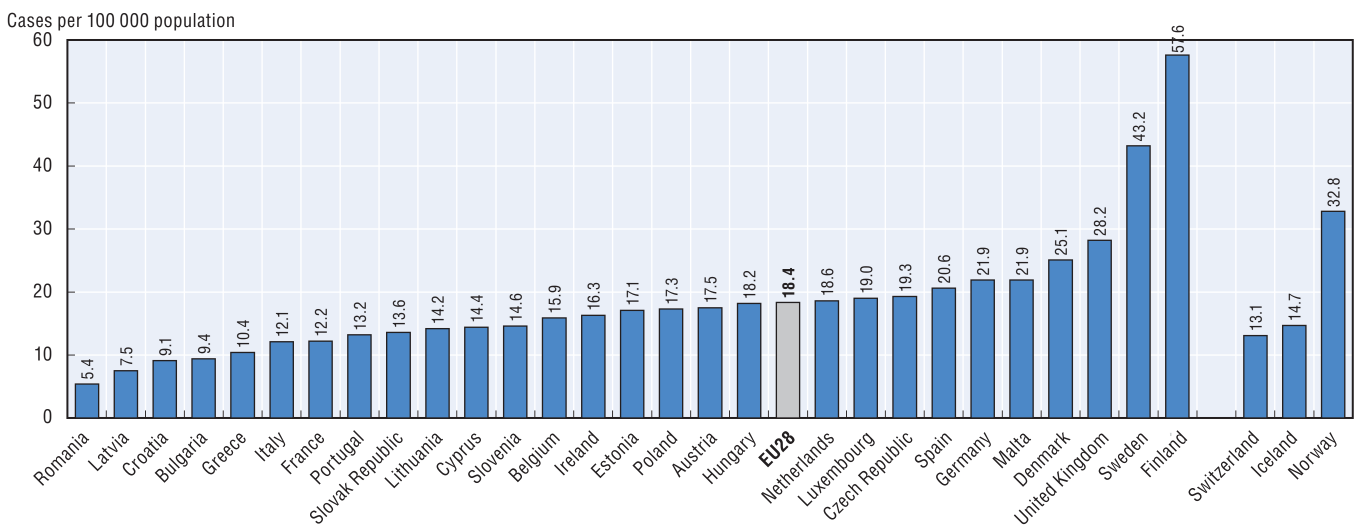
1.14.1. Prevalence estimates of diabetes, adults aged 20-79 years, 2013



Note: The data are age-standardised to the World Standard Population.
Source: IDF (2013), *Diabetes Atlas*, 6th edition.

1.14.2. Incidence estimates of type-1 diabetes, children aged 0-14 years, 2013



Source: IDF (2013), *Diabetes Atlas*, 6th edition.

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Dementia describes a variety of brain disorders which progressively lead to brain damage, and cause a gradual deterioration of the individual's functional capacity and social relations. It is one of the most important causes of disability among the elderly, placing a large burden not only on sufferers, but also on carers. Alzheimer's disease is the most common form of dementia, representing about 60% to 80% of cases. Successive strokes that lead to multi-infarct dementia are another common cause. Currently, there is no treatment that can halt dementia, but pharmaceutical drugs and other interventions can slow the progression of the disease.

In 2012, an estimated 8.4 million people aged 60 years and over were suffering from dementia in EU member states, accounting for 7% of the population in that age group, according to estimates of Alzheimer Europe (Figure 1.15.1). Italy, Spain and France had the highest prevalence rates, with more than 7.5% of the population aged 60 years or older.

Clinical symptoms of dementia usually begin after the age of 60, and the prevalence increases markedly with age (Figure 1.15.2). The disease affects more women than men. In Europe, 14% of men and 16% of women aged 80-84 years were estimated to suffer from dementia in 2012, compared to less than 4% among those under 75 years of age (Alzheimer Europe, 2013). Among people aged 90 years and over, the figures rise to 30% of men and 47% of women. Early-onset dementia among people aged younger than 65 years is rare; they comprise less than 1% of the total number of people with dementia.

The direct costs of dementia account for a significant share of total health expenditure in European countries, greater than the direct costs related to depression and other mental disorders such as schizophrenia (Figure 1.15.3). In the Netherlands, dementia accounted for nearly 5.5% of overall health spending in 2011, with this share slightly rising over time. Most of these costs were related to caring for people with dementia in nursing homes, but part of the costs was also related to home-based care and a smaller proportion for hospital-based care. In Germany, dementia accounted for 3.7% of total health expenditure in 2008, slightly up from 3.5% in 2004, with most of the costs also allocated for care in nursing homes.

The European Commission launched in 2009 a European Initiative on Alzheimer's disease and other dementias (European Commission, 2014). Several EU member states such as France, the United Kingdom and Germany have dementia strategy plans or created special benefits for dementia (OECD, 2013). National policies typically involve measures to encourage diagnosis without stigma, promote quality of care for people with dementia, and support informal caregivers (OECD, forthcoming). The World Dementia Council was formed following the UK-led G8 summit on Dementia in December 2013, with the objective to promote innovation and development of life-enhancing drugs, treatments and care for people with dementia.

Definition and comparability

Dementia prevalence rates are based on estimates of the total number of persons aged 60 years and over living with dementia divided by the size of the corresponding population. Given the divergence in scale and accuracy of the sources used across countries, the estimates should be used with caution.

References

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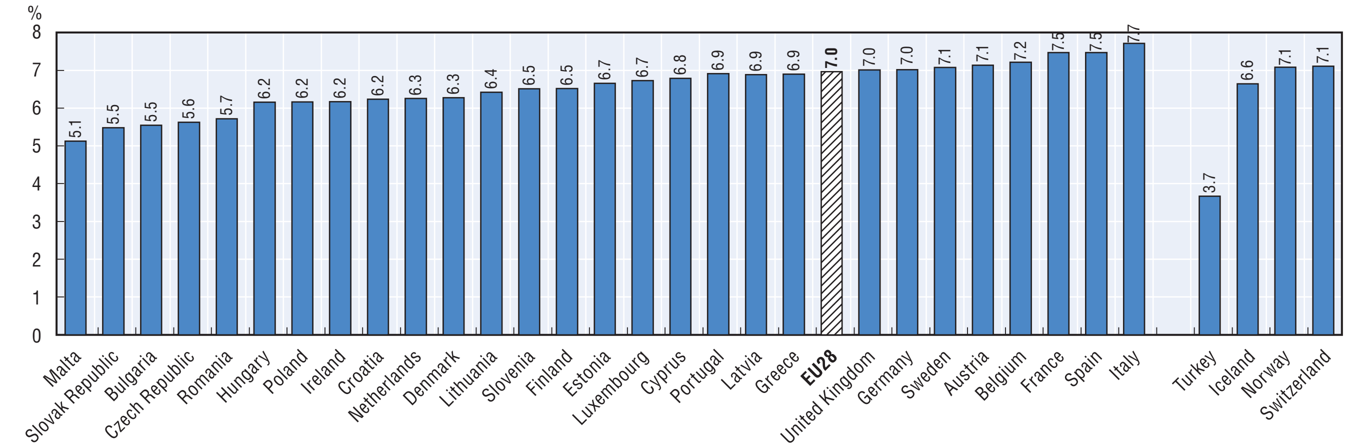
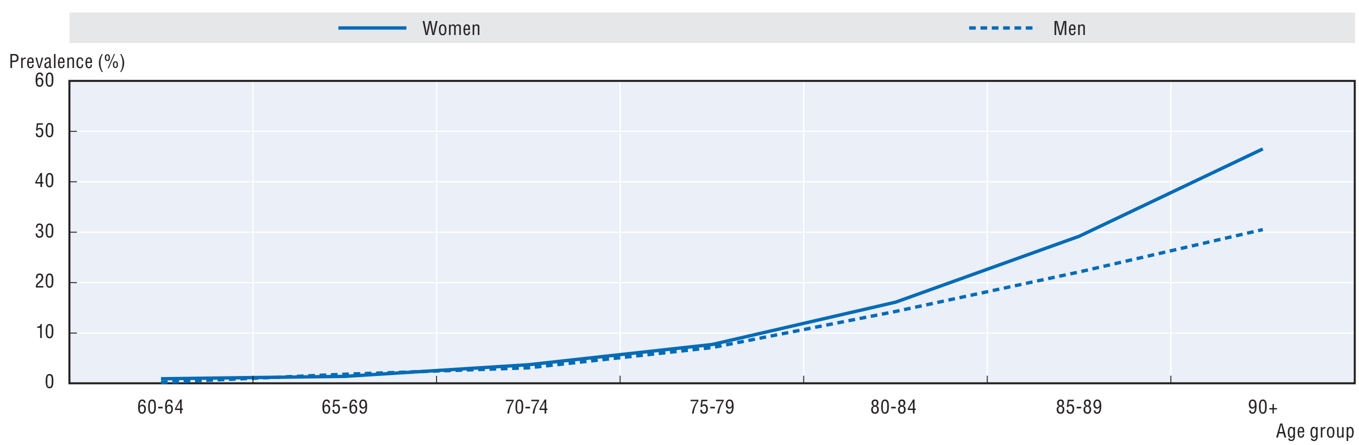
1.15.1. Prevalence of dementia, population aged 60 years and over, 2012



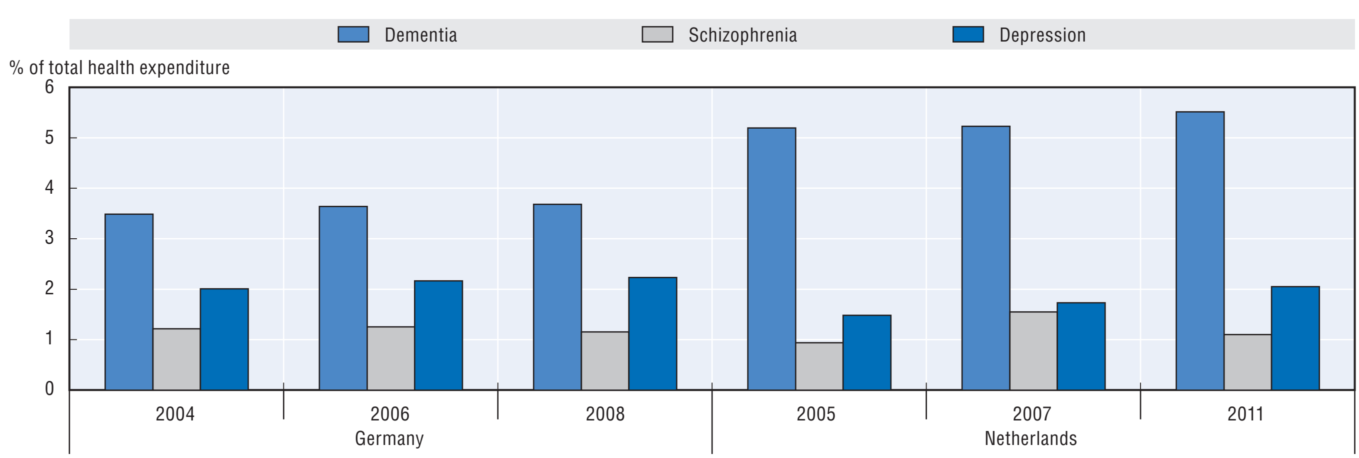
Source: Alzheimer Europe (2013), "Prevalence of Dementia in Europe".

1.15.2. Age- and sex-specific prevalence of dementia in EU member states, 2012



Source: Alzheimer Europe (2013), "Prevalence of Dementia in Europe".

1.15.3. Trends in share of health expenditure allocated to dementia and other mental disorders, Germany and the Netherlands



Source: OECD *Expenditure by Disease, Age and Gender*, 2014.

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Chapter 2

Determinants of health

Tobacco kills nearly 6 million people each year worldwide, of whom more than 5 million are from direct tobacco use and more than 600 000 are non-smokers exposed to second-hand smoke (WHO, 2014). It is a major risk factor for at least two of the leading causes of premature mortality – circulatory disease and cancer – increasing the risk of heart attack, stroke, lung cancer, cancers of the larynx and mouth, and pancreatic cancer. Smoking is also an important contributory factor for respiratory diseases such as chronic obstructive pulmonary disease (COPD), while smoking among pregnant women can lead to low birth weight and illnesses among infants. It remains the largest avoidable risk to health in European countries.

The proportion of daily smokers among adults varies greatly across European countries (Figure 2.1.1). One-third of EU countries had less than 20% of the adult population smoking daily in 2012. Rates were lowest in Nordic countries (Sweden, Denmark, Finland, as well as in Iceland and Norway), followed by Luxembourg, the Netherlands and Portugal. Although large disparities remain, smoking rates across most EU member states have shown a marked decline. On average, smoking rates have decreased by 12% since 2002, with a higher decline among men than women. Large declines occurred in Denmark (28% to 17% in 2013), Luxembourg (26% to 17% in 2012), the Netherlands (28% to 18% in 2012) as well as in Norway (29% to 16% in 2012) and in Iceland (21% to 14% in 2012). Greece, Croatia and Bulgaria had the highest level of smoking around 2012, with 30% to 40% of adults reporting to smoking daily respectively.

In the post-war period, most European countries tended to follow a general pattern marked by very high smoking rates among men (50% or more) through to the 1960s and 1970s, while the 1980s and the 1990s were characterised by a downturn in tobacco consumption. Much of this decline can be attributed to policies aimed at reducing tobacco consumption through public awareness campaigns, advertising bans and increased taxation, in response to rising rates of tobacco-related diseases (European Commission, 2014a). In addition to government policies, actions by anti-smoking interest groups were very effective in reducing smoking rates by changing beliefs about the health effects of smoking.

Smoking prevalence among men is higher than women in all European countries, except in Sweden and Norway where the rate is equal for men and women (Figure 2.1.2). The gender gap is also small in other Nordic countries (Denmark and Iceland), and in Luxembourg and the United Kingdom. On the other hand, it is particularly large in Latvia, Romania, Cyprus, Bulgaria, as well as in Turkey.

In several European countries (such as Belgium, Germany, Hungary and Poland), people in low-income groups have a greater prevalence of smoking. But the reverse is true in other countries (such as Bulgaria, Cyprus, Greece and Romania), where people in high-income groups are more likely to smoke (*Eurostat Statistics Database*).

A new Tobacco Products Directive (2014/40/EU), adopted in February 2014, lays down rules governing the manufacture, presentation and sale of tobacco and related products. The Directive notably requires that health warnings appear on packages of tobacco and related products, bans all promotional and misleading elements on tobacco products, and sets out safety and quality requirements for electronic cigarettes (European Commission, 2014b).

Definition and comparability

The proportion of daily smokers is defined as the percentage of the population aged 15 years and over who report smoking every day.

The comparability of data is limited to some extent due to the lack of standardisation in the measurement of smoking habits in health interview surveys across EU member states. Variations remain in the age groups surveyed, wording of questions, response categories and survey methodologies, e.g. in some countries, respondents are asked if they smoke regularly, rather than daily. No recent data is available for Croatia.

References

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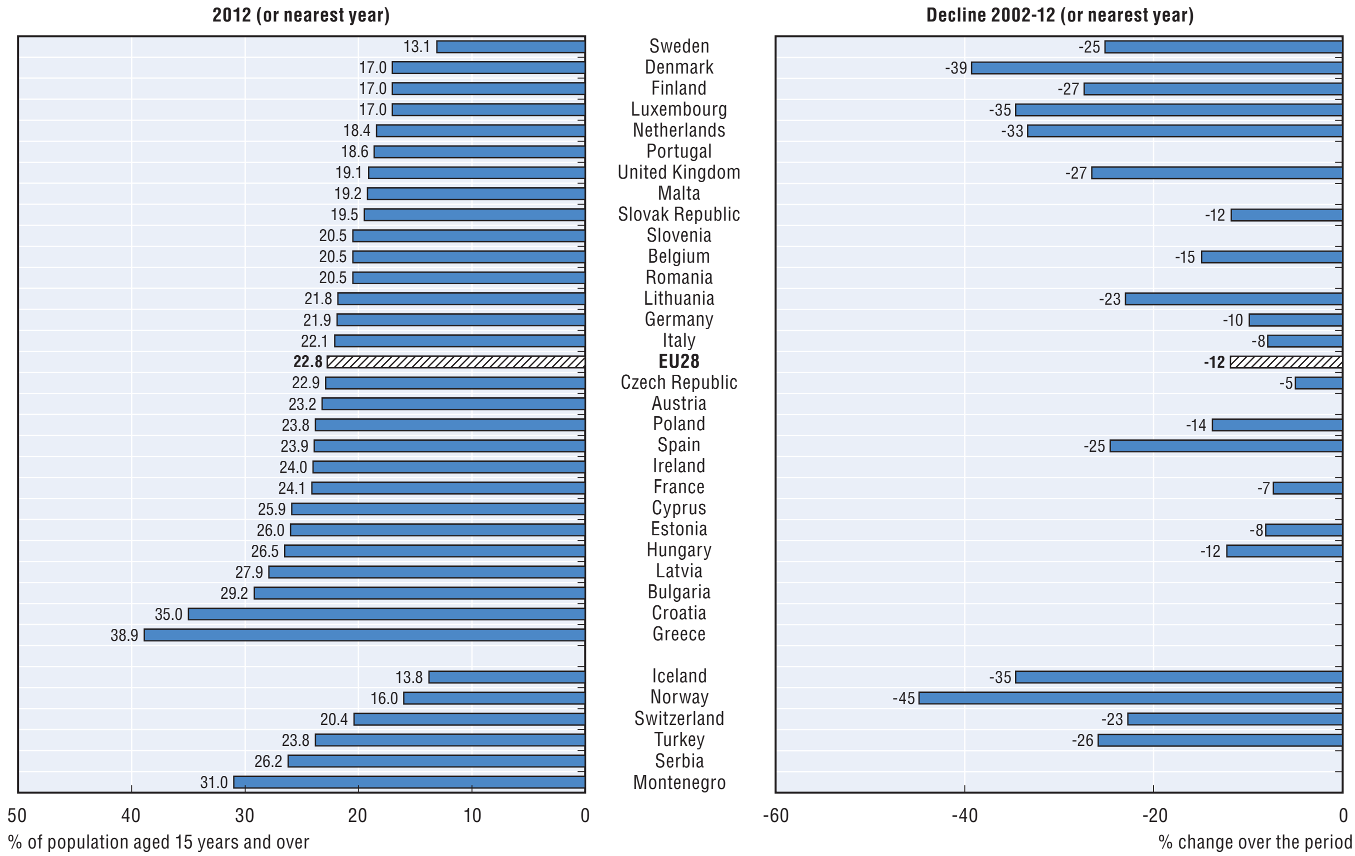
European Commission (2014b), *Tobacco Products Directive*, European Commission, Brussels, available at: *http://ec.europa.eu/health/tobacco/products/index_en.htm*.

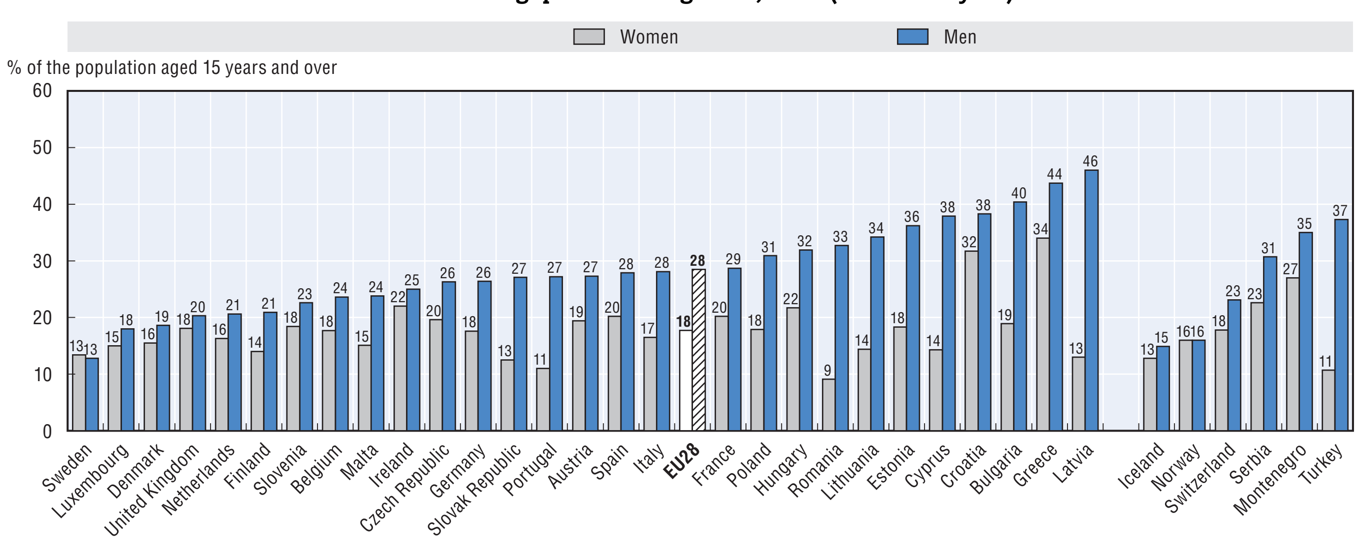
WHO (2014), "Tobacco", *Fact Sheet No. 339*, WHO, Geneva, available at: *www.who.int/mediacentre/factsheets/fs339/en/index.html*.

2.1.1. Daily smoking rates among adults, 2012 and change 2002-12 (or nearest years)



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Database* (EHIS) and *WHO Europe Health for All Database.*

2.1.2. Gender gap in smoking rates, 2012 (or nearest year)



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Database* (EHIS) and *WHO Europe Health for All Database.*

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Alcohol related harm is a major public health concern in the European Union, both in terms of morbidity and mortality (Rehm et al., 2009; WHO Europe, 2012). Alcohol was the third leading risk factor for disease and mortality after tobacco and high blood pressure in Europe in 2012 and accounted for an estimated 7.6% of all men's deaths and 4.0% of all women's deaths, though there is evidence that women may be more vulnerable to some alcohol-related health conditions compared to men (WHO, 2014). High alcohol intake is associated with increased risk of heart, stroke and vascular diseases, as well as liver cirrhosis and certain cancers, but even moderate alcohol consumption increases the long term risk of developing such diseases. Foetal exposure to alcohol increases the risk of birth defects and intellectual impairments. Alcohol also contributes to death and disability through accidents and injuries, assault, violence, homicide and suicide, particularly among young people.

The EU region has the highest alcohol consumption in the world. Measured through monitoring annual sales data, it stands at slightly over 10 litres of pure alcohol per adult on average across EU member states in 2012 (Figure 2.2.1). Lithuania, Estonia and Austria reported the highest consumption of alcohol, with 12 litres or more per adult. At the other end of the scale, southern European countries (Italy, Malta, Greece, Cyprus) along with Nordic countries (Norway, Iceland, and Sweden) have relatively low levels of consumption, with 6 to 8 litres of pure alcohol per adult.

Although average alcohol consumption has gradually fallen in many European countries over the past three decades, it has risen in some others. There has been a degree of convergence in drinking habits across the European Union, with wine consumption increasing in many traditionally beer-drinking countries and vice versa. Major wine-producing countries such as Italy and France have seen their alcohol consumption per capita fall substantially since 1980 (Figure 2.2.2). On the other hand, alcohol consumption per capita has increased at least slightly in some Nordic countries (e.g., Sweden and Finland), although it still remains below the EU average. Alcohol consumption remained unchanged since 1980 in the United Kingdom, the Czech Republic and Turkey.

Variations in alcohol consumption across countries and over time reflect not only changing drinking habits but also the policy responses in place to control alcohol use. Interventions in primary health care for heavy drinkers, regulation of advertising and sales, enforcement of drink-driving legislation and measures affecting prices have all proven effective in reducing alcohol consumption (WHO, 2014; OECD, forthcoming).

Although adult alcohol consumption per capita is a useful measure to assess long-term trends, it does not identify sub-populations at risk from harmful drinking patterns. Heavy drinking and alcohol dependence account for an important share of the burden of diseases associated with alcohol. The consumption of large quantities of alcohol in a single session, or "binge drinking", is on the rise in some countries, especially in young people. However, a large share of the burden of diseases also occurs in moderate drinkers, whose individual risk is smaller but who are in much larger numbers than heavy and dependent drinkers, and in people who may be the victims of traffic accidents and violence. Men generally drink much more than women, and engage more often in heavy episodic drinking (WHO, 2014; OECD, forthcoming). Unrecorded alcohol consumption and low quality of alcohol consumed (beverages produced informally or illegally) remain a problem, especially when estimating alcohol-related burden of disease among low income groups.

In 2010, the World Health Organization endorsed a global strategy to combat the harmful use of alcohol, through health care services for alcohol-related health problems, restriction in the availability and marketing of alcohol, and other measures. This initiative was boosted in 2011 by the adoption of a new European Action Plan by the WHO Regional Office for Europe. In addition, the European Commission continues its efforts to reduce alcohol related harm in line with the objectives and tools of the EU Alcohol Strategy (European Commission, 2009). The Commission is currently working with the Committee on National Alcohol Policy and Action on an Action Plan on Youth Drinking and on Heavy Episodic Drinking. The Action Plan is expected to be endorsed by the end of 2014.

Definition and comparability

Alcohol consumption is defined as annual sales of pure alcohol in litres per person aged 15 years and over. The methodology to convert alcohol drinks to pure alcohol may differ across countries. Official statistics do not include unrecorded alcohol consumption, such as home production.

References

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WHO (2014), *Global Status Report on Alcohol and Health 2014*, WHO, Geneva.

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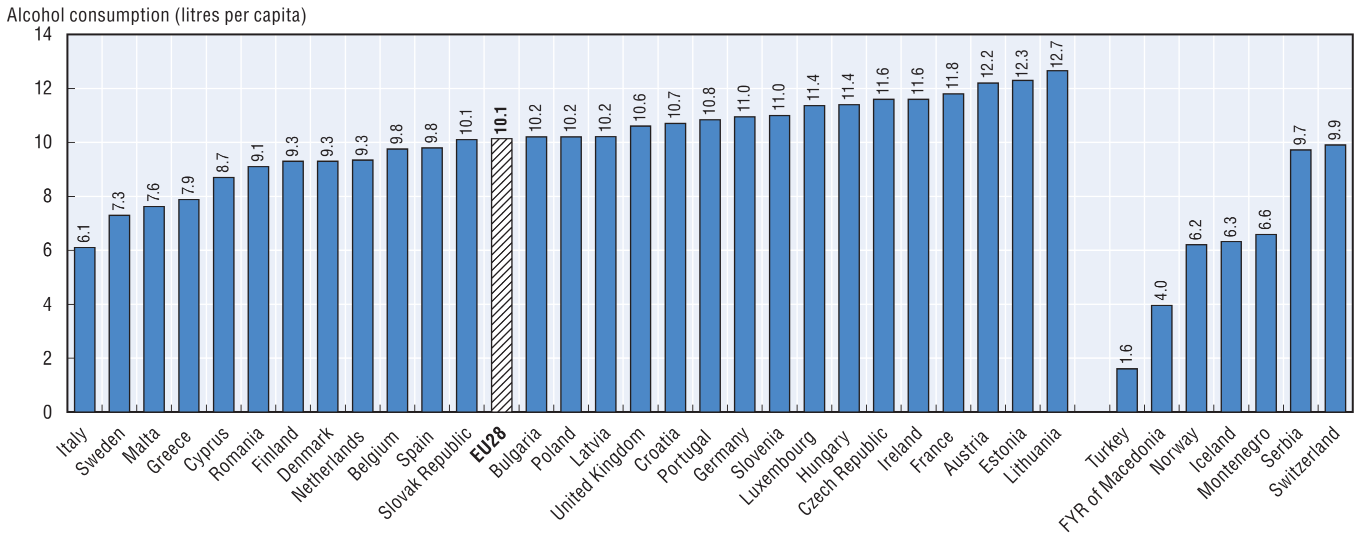
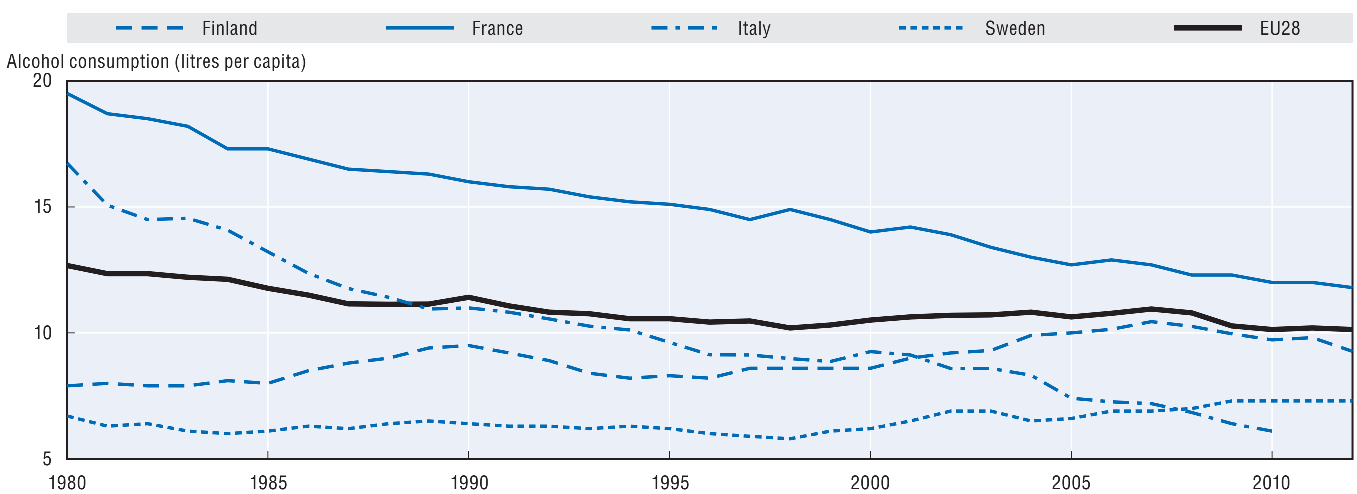
2.2.1. Alcohol consumption among population aged 15 years and over, 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; WHO Global Information System on Alcohol and Health.

2.2.2. Trends in alcohol consumption, selected EU countries, 1980-2012



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; WHO Global Information System on Alcohol and Health.

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The use of illicit drugs is an important public health issue in Europe. Almost a quarter of adults in the European Union, or over 73 million people, have used illicit drugs at some points in their lives. In most cases, they have used cannabis, but some have also used cocaine, amphetamines, ecstasy and other drugs (EMCDDA, 2014). The use of illicit drugs, particularly among people who use them regularly, is associated with higher risks of cardiovascular diseases, mental health problems, accidents, as well as infectious diseases such as HIV when the drug is injected. Illicit drug use is a major cause of mortality among young people in Europe, both directly through overdose and indirectly through drug-related diseases, accidents, violence and suicide. More than 6 000 overdose deaths and 1 700 HIV/AIDS deaths were attributed to drug use in Europe in 2010 (EMCDDA, 2014).

Cannabis is the illicit drug most used among young adults in Europe, especially among young men. Nearly 10% of people aged 15 to 34 on average in EU countries (unweighted average) reported having consumed cannabis in the last year (Figure 2.3.1). Cannabis use is highest in the Czech Republic, Denmark, France and Spain, with 17% or more people aged 15 to 34 reporting to have consumed cannabis in the last year. Cannabis use has increased over the past decade in some Nordic countries from low levels (Denmark, Finland and Sweden), while it has been stable or has come down in Germany, France and the United Kingdom.

Cocaine is the most commonly used illicit stimulant in Europe: 1.2% young adults aged 15-34, reported having used it on average in the last year (Figure 2.3.2). The percentage of young adults consuming cocaine is highest in Spain, the United Kingdom, Ireland, the Netherlands and Denmark with 2.4 % or more young adults having used cocaine at least once in the last year. However, following a peak in 2008, a significant reduction in cocaine use has occurred in many of these countries (Denmark, Spain and the United Kingdom), while the proportion was stable in others.

The use of amphetamines and ecstasy is slightly lower than cocaine, with about 1% of young adults in EU countries reporting to have consumed amphetamines or ecstasy in the last year. The consumption of amphetamines tends to be higher in some Nordic and Baltic countries (Estonia, Finland, Sweden and Denmark) and in Germany, Croatia and Poland. The use of ecstasy is highest in the Netherlands, Bulgaria, the United Kingdom and Estonia (Figures 2.3.3 and 2.3.4). Between 2007 and 2013, the use of amphetamines has remained relatively stable in most European countries, while the use of ecstasy remained stable or declined in most countries, with the exception of Bulgaria where it went up.

The consumption of opioids (i.e., heroin and other drugs) is responsible for the majority of drug overdose deaths (reported in about three-quarters of fatal overdoses). The main opioid used in Europe is heroin, but there are concerns in several countries about the increasing use of other synthetic opioids (such as buprenorphine, methadone and fentanyl). Opioid use is highest in the United Kingdom, Latvia and Luxembourg. Although trends have varied across countries, the percentage of adults consuming opioids generally appears to have declined over the last decade in most countries.

A growing concern in many European countries relates to the increased availability of unregulated psychoactive substances ("legal highs") which have emerged in recent years, and some of which have been associated with deaths. The EU "Early Warning System", established in 1997, monitors more than 375 new psychoactive substances, which have been detected on the market. The European Union also has a mechanism in place to assess the risks related to new drugs, and to control those that pose substantial health and social risks across the European Union. The Early Warning System is coming under increasing pressure given the growing number and variety of new psychoactive substances appearing on the market. EU countries and the European Commission have agreed to increase their efforts to manage effectively the emergence of these new substances (EMCDDA-Europol, 2014).

Definition and comparability

Data on drug use prevalence come from national population surveys, as gathered by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The data presented in this section focusses on the percentage of young adults aged 15 to 34 years old reporting to have used different types of illicit drugs in the last year. Such estimates of recent drug use produce lower figures than "lifetime experience", but reflect better the current situation. The information is based on the last survey available for each country. The study year ranges from 2004 to 2013. To obtain estimates of the overall number of users in Europe, the EU average is applied to countries without prevalence data.

For more information, please see: *www.emcdda.europa.eu/data/2014.*

References

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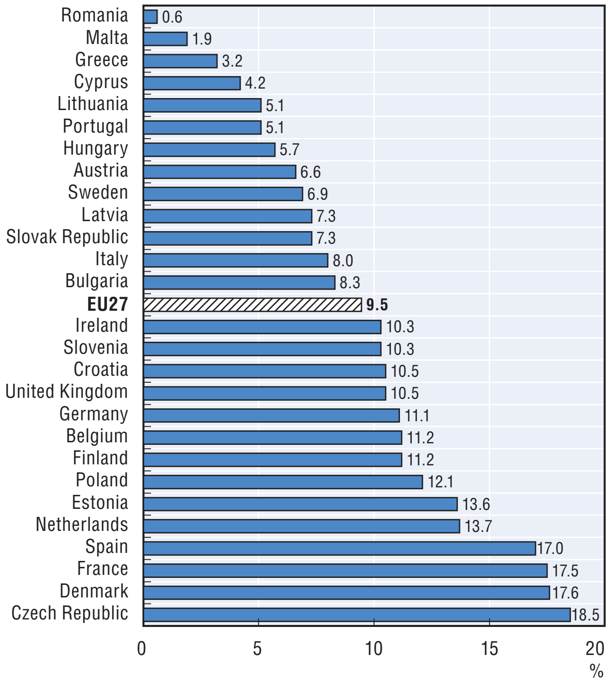
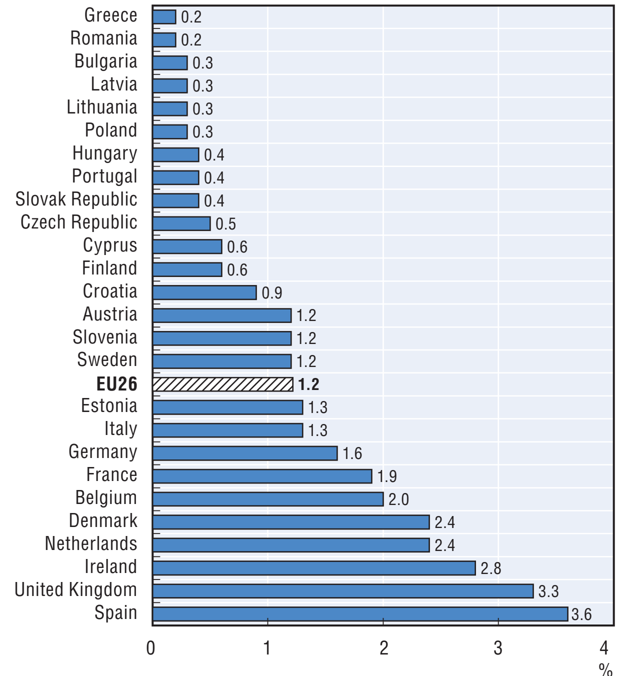
2.3.1. Cannabis use over the last 12 months among people aged 15 to 34, 2013 (or nearest year)



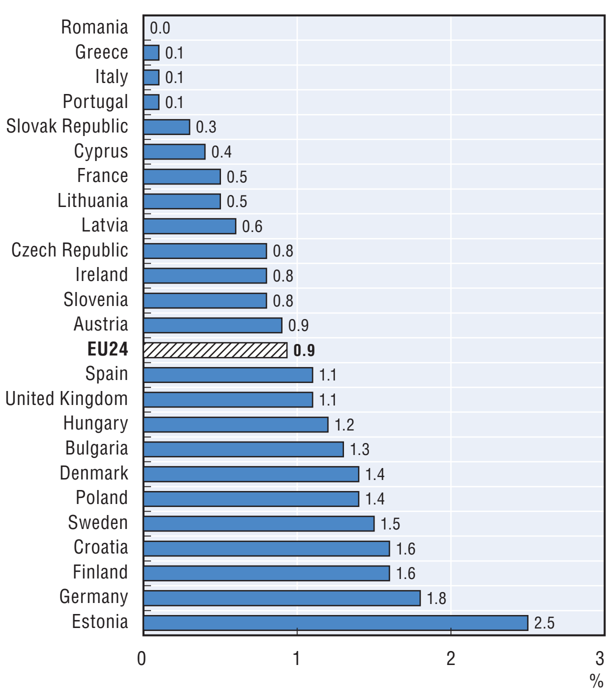
Source: European Monitoring Centre for Drugs and Drug Addiction, *European Drug Report 2014: Trends and developments.*

2.3.2. Cocaine use over the last 12 months among people aged 15 to 34, 2013 (or nearest year)



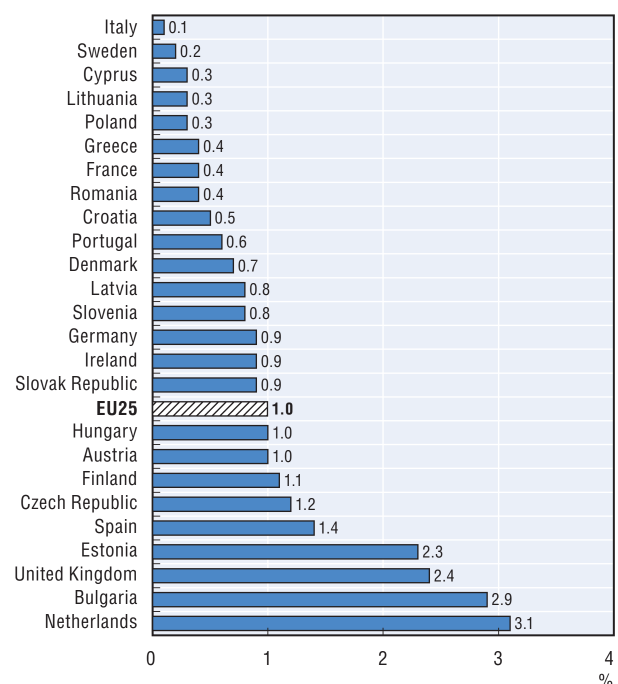
Source: European Monitoring Centre for Drugs and Drug Addiction, *European Drug Report 2014: Trends and developments.*

2.3.3. Amphetamine use over the last 12 months among people aged 15 to 34, 2013 (or nearest year)



Source: European Monitoring Centre for Drugs and Drug Addiction, *European Drug Report 2014: Trends and developments.*

2.3.4. Ecstasy use over the last 12 months among people aged 15 to 34, 2013 (or nearest year)



Source: European Monitoring Centre for Drugs and Drug Addiction, *European Drug Report 2014: Trends and developments.*

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Nutrition is an important determinant of health. Inadequate consumption of fruit and vegetables is one factor that can play a role in increased morbidity. Proper nutrition assists in preventing a number of chronic conditions, including hypertension, cardiovascular disease, stroke, diabetes, certain cancers and musculoskeletal disorders. The 2007 EU Strategy on Nutrition, Overweight and Obesity-related Health Issues promotes a balanced diet and active lifestyle among all the population. The European Commission is monitoring progress in the consumption of fruit and vegetables as one of a number of ways to offset a worsening trend of poor diets and low physical activity (European Commission, 2013a).

The percentage of adults reporting to consume fruit daily varied from about 50% in Finland, Bulgaria and Romania, to more than 70% in Italy, Malta, Ireland and the United Kingdom (Figure 2.4.1). On average across EU member states, 61% of adults reported to eat fruit daily. Women are eating fruit more often than men in all countries (except in Switzerland), with the largest gender gap in Iceland, Slovenia, Germany and the Slovak Republic (a difference of at least 20 percentage points). In many Mediterranean countries and countries with high level of consumption (Turkey, Greece, Cyprus, the United Kingdom, Italy, Romania, Spain, Ireland and Malta), the gender gap is much smaller (under 10 percentage points).

In most countries, people aged 65 and over are more likely to eat fruit, with consumption lowest among young people aged 15-24 years, although this is not the case in Bulgaria and Romania where young people eat more fruit than older people. Fruit consumption also varies by socioeconomic status, generally being highest among persons with higher educational levels, especially in Bulgaria, Latvia and Romania. However, this is not the case in some southern European countries (Cyprus, Greece, Malta), where lower educated people eat fruit more often.

Daily vegetable consumption ranged from less than 50% in Germany, Slovenia, Finland, Spain, Denmark, Iceland and Hungary to more than 70% in Ireland, Belgium and the United Kingdom. The average across 21 EU countries was 58%. Again, more women reported eating vegetables daily. The only exception is Bulgaria where rates are similar. The gender gap is greatest in Germany, Finland, Switzerland, Slovenia, Norway and Denmark, exceeding 15 percentage points.

Patterns of vegetable consumption among age groups and educational groups are similar to those for fruit. Older people more commonly eat vegetables daily, but this is not the case in Bulgaria and Romania. Highly educated persons also tend to eat vegetables more often, although the difference between educational groups is fairly small in countries such as Belgium, Cyprus, Greece and the Slovak Republic.

The availability of fruit and vegetables is the major determinant of consumption. According to FAO data, vegetable and especially fruit availability is higher in southern European countries, with cereals and potatoes more available in central and eastern European countries. Fruit and vegetable availability also tends to be higher in families where household heads have a higher level of education (Elmadfa, 2009).

The promotion of fruit and vegetable consumption, especially in schools and at the workplace, is a policy objective of the European Union. It features in the EU platform for action on diet, physical activity and health, a forum for European-level organisations including the food industry, consumer protection NGOs and other stakeholders committed to improving trends in diet and physical activity (European Commission, 2013b).

Definition and comparability

Estimates of daily fruit and vegetable consumption are derived from national and European Health Interview Survey questions, conducted in many EU member states between 2007 and 2012. Typically, respondents were asked "How often do you eat fruit (excluding juice)?" and "How often do you eat vegetables or salad (excluding juice and potatoes)?" Response categories included: Twice or more a day/Once a day/Less than once a day but at least four times a week/Less than four times a week, but at least once a week/Less than once a week/Never.

The definition of fruit and vegetables varies between countries. Vegetable consumption data for the United Kingdom and Greece include potatoes. Data for Switzerland, Germany and Greece include juices for both fruit and vegetable consumption. Data for Belgium include juice for fruit consumption. Data rely on self-report, and are subject to errors in recall.

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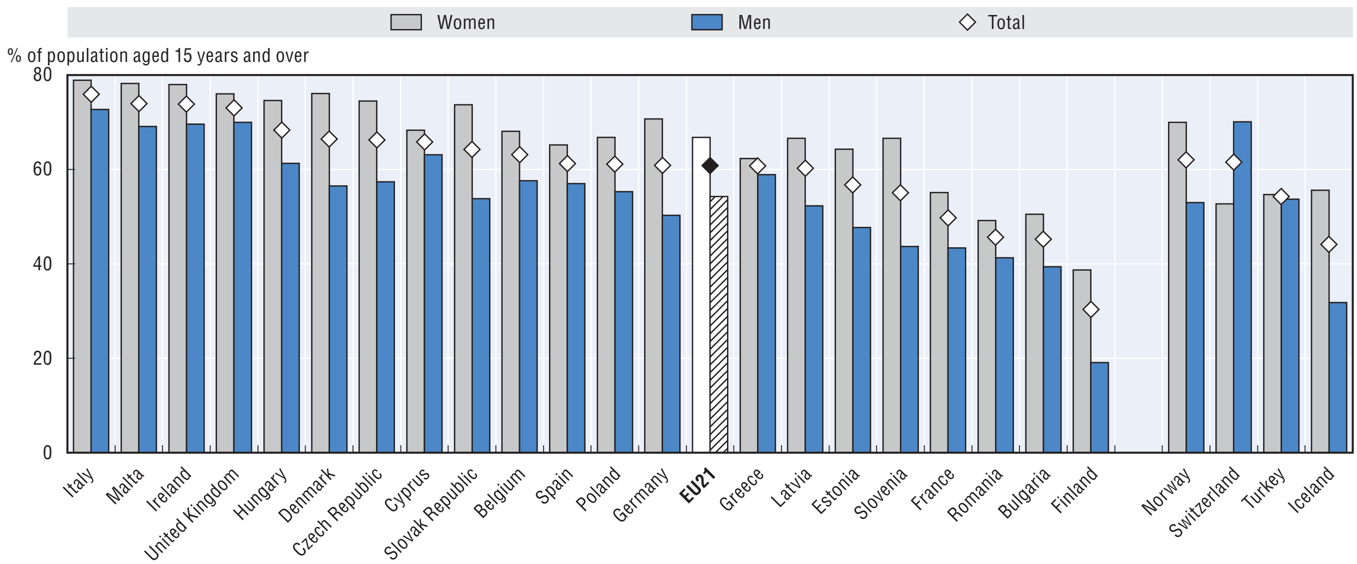
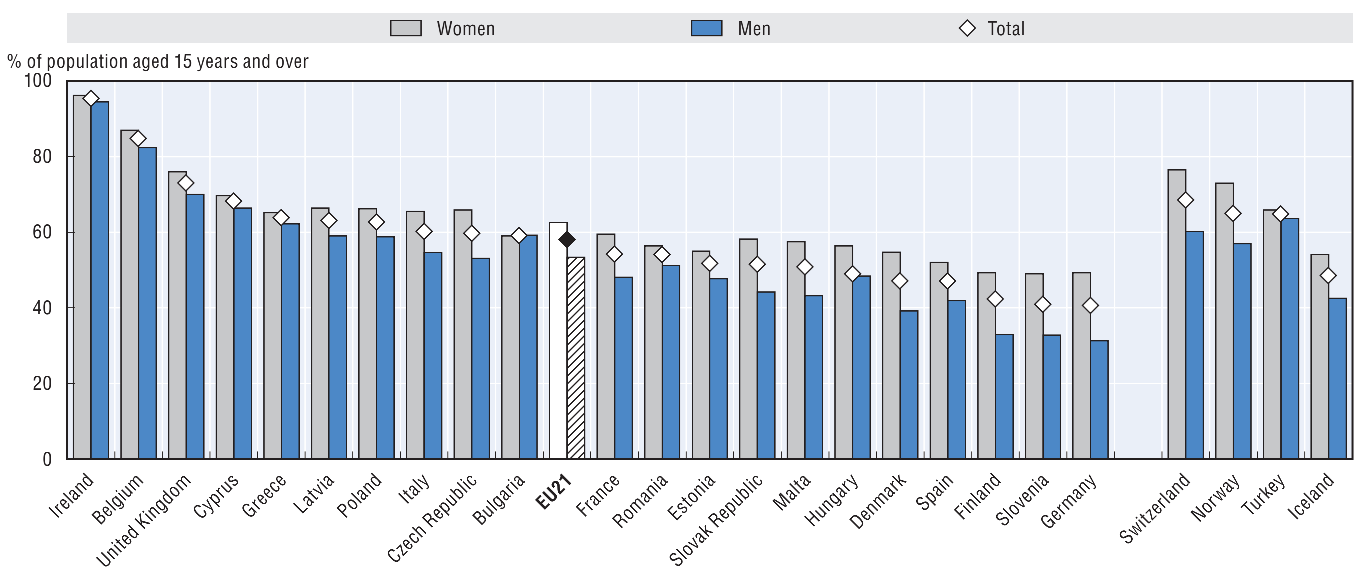
2.4.1. Daily fruit eating among adults, 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*, and *Eurostat Statistics Database* for non-OECD countries.

2.4.2. Daily vegetable eating among adults, 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en* and *Eurostat Statistics Database* for non-OECD countries.

StatLink http://dx.doi.org/10.1787/888933155528

The growth in overweight and obesity rates among adults is a major public health concern. Obesity is a known risk factor for numerous health problems, including hypertension, high cholesterol, diabetes, cardiovascular diseases, and some forms of cancer. Because obesity is associated with higher risks of chronic illnesses, it is linked to significant additional health care costs.

Based on the latest available data, the majority of adults (53%) are overweight or obese in EU countries. The prevalence of overweight and obesity among adults exceeds 50% in no less than 17 of EU member states. Obesity – which presents even greater health risks than overweight – varies threefold among countries, from a low of around 8% in Romania to 25% or over in Hungary and the United Kingdom, although some of the variations across countries are due to different methodologies in data collection (see box on "Definitions and comparability"). On average across EU member states, one in six adult (16.7%) was obese around the year 2012, an increase from one in eight a decade ago (Figure 2.5.1).

Obesity has grown fairly quickly over the past ten years in countries like France, Luxembourg, some Nordic countries (Denmark, Finland, as well as Iceland), and the Czech Republic. It has grown more moderately in other countries such as Italy, Sweden, Belgium, Norway and Switzerland. In the United Kingdom also, the obesity rate has increased moderately over the past decade, although it remains the second highest among EU countries.

There is little difference in obesity rate among men and women on average across EU countries (Figure 2.5.2). However, there are notable differences in certain countries. Obesity among men is much greater in countries such as Slovenia, Luxembourg and Malta, whereas the opposite is true in Latvia, Hungary and Turkey where the obesity rate is much higher among women.

The rise in obesity has affected all population groups, but to different extents. Evidence from a range of OECD countries indicates that obesity tends to be more common in disadvantaged socio-economic groups, especially among women (Sassi, 2010). There is also a relationship between the number of years of education and obesity, with the most educated people having lower rates. Again, the gradient in obesity is stronger in women than in men (Devaux et al., 2011).

A number of behavioural and environmental factors have contributed to the long-term rise in overweight and obesity rates in industrialised countries, including the widespread availability of energy dense foods and more time spent being physically inactive. The economic crisis is also likely to have contributed to further growth in obesity. Evidence from Germany, Finland and the United Kingdom shows a link between financial distress and obesity. Regardless of their income or wealth, people who experience periods of financial hardship are at an increased risk of obesity, and the increase is greater for more severe and recurrent hardship (OECD, 2014).

A growing number of countries have adopted policies to prevent obesity from spreading further. The policy mix includes, for instance, public awareness campaigns, health professionals training, advertising limits or bans, restrictions on sales of certain types of food and beverages, taxation, and labelling. Better informed consumers, making healthy food options available, encouraging physical activity and focussing on vulnerable groups are some of the fields for action which have seen progress (European Commission, 2013).

At EU level, the 2007 Strategy for Europe on Nutrition, Overweight and Obesity-related Health Issues promotes a balanced diet and active lifestyles. It also encourages action by member states and civil society. A 2013 Council Recommendation on Health-Enhancing Physical Activity promotes sport and physical activity and the 2014 Action Plan on Childhood Obesity aims to halt the rise in childhood obesity by 2020 via voluntary initiatives.

Definition and comparability

Overweight and obesity are defined as excessive weight presenting health risks because of the high proportion of body fat. The most frequently used measure is based on the body mass index (BMI), which is a single number that evaluates an individual's weight in relation to height (weight/height^2, with weight in kilograms and height in metres). Based on the WHO classification, adults over age 18 with a BMI greater than or equal to 25 are defined as overweight, and those with a BMI greater than or equal to 30 as obese.

For most countries, overweight and obesity rates are self-reported through estimates of height and weight from population-based health interview surveys. The exceptions are the Czech and Slovak Republics, Hungary, Ireland, Luxembourg and the United Kingdom, where estimates are derived from health examinations. Estimates from health examinations are generally higher and more reliable than from health interviews.

References

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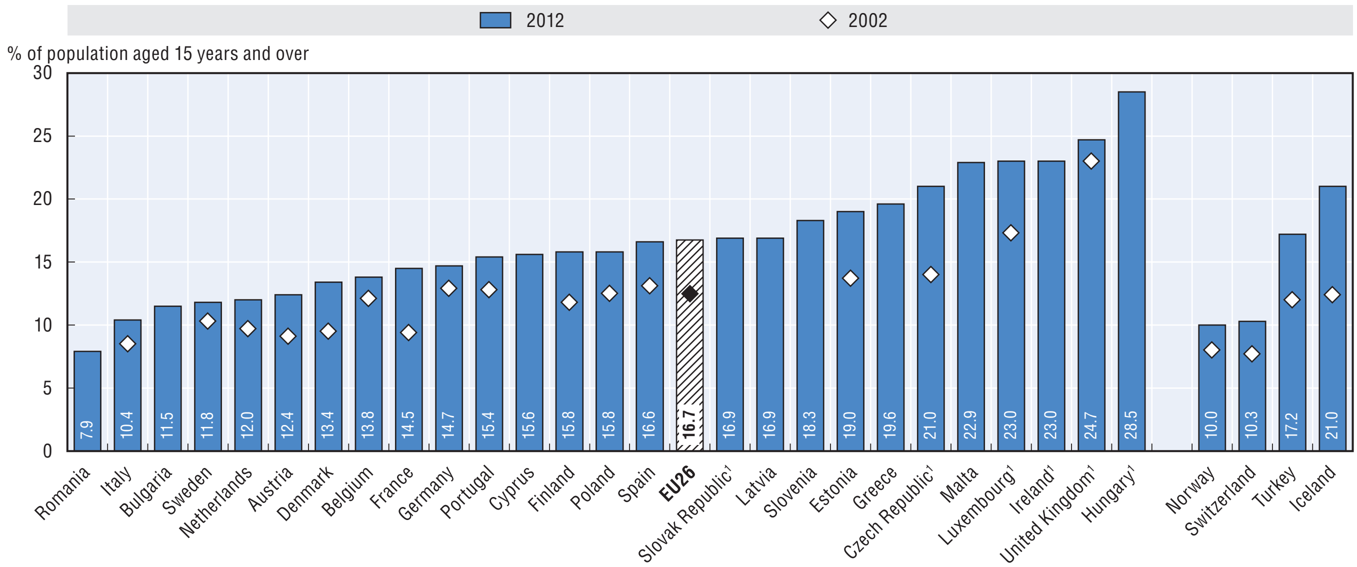
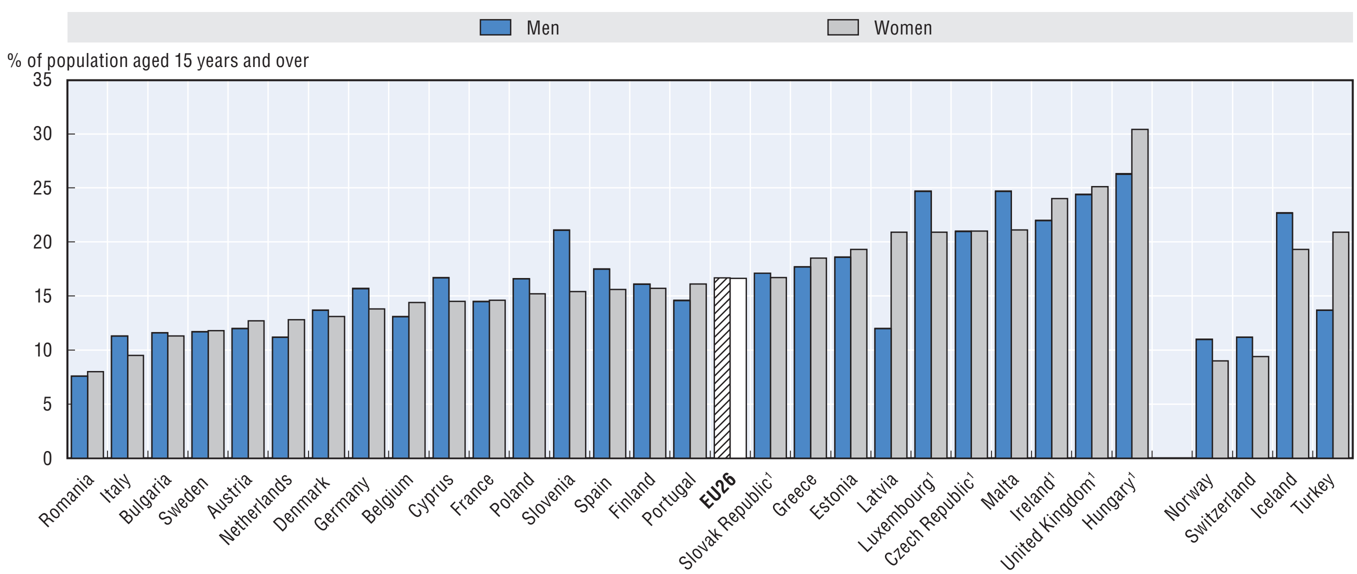
2.5.1. Prevalence of obesity among adults, 2002 and 2012 (or nearest years)



1. Data are based on measured rather than self-reported height and weight.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Statistics Database*.

2.5.2. Prevalence of obesity among men and women, 2012 (or nearest year)



1. Data are based on measured rather than self-reported height and weight.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155531

Air pollution increases the risk of various health problems (including of course respiratory diseases, but also lung cancer and cardiovascular diseases), with children and older people being particularly vulnerable. According to WHO estimates, nearly 500 000 deaths in Europe in 2012 were linked to exposure to outdoor air pollution (WHO, 2014).

Air pollution concentrations are greater in urban areas in all countries. Of all air pollutants, fine particulate matter (PM) has the greatest effect on human health. Most fine particulate matter comes from fuel combustion, including from vehicles, power plants, industries and households.

Despite a reduction in the emission of PM_{10} over the past decade, a large percentage of the urban population in EU countries continued to live in 2011 in areas where PM_{10} levels exceeded the EU and WHO threshold. The emission of PM_{10} across EU countries decreased by 14% between 2002 and 2011, and the exposure of the urban population to PM_{10} also fell in most countries (Figure 2.6.1). However, this was not the case in some central and eastern European countries (such as Bulgaria, Poland and the Slovak Republic) where urban population exposure to PM_{10} increased sometimes dramatically over the past decade. Population exposure to PM_{10} is also high in Turkey and Serbia.

In the European Union as a whole, one-third of the population lived in areas where the EU air quality limits for particulate matter was exceeded in 2011. This share varied from 20 to 44% between 2001 and 2011, reaching a peak in 2003 and 2006, and rising again in 2011 (Figure 2.6.2). The proportion of the EU urban population exposed to PM_{10} levels exceeding the WHO air quality guidelines, which are stricter than the threshold set by EU legislation, was much higher, reaching 88% of the total urban population in 2011 (European Environment Agency, 2013).

A large percentage of people living in urban areas in EU countries are also exposed to other air pollutants which concentrations exceed the thresholds set in the EU legislation and the WHO air quality guidelines. In the period from 2001 to 2011, between 14 and 65 % of the urban population in EU countries was exposed to ozone (O_3) concentrations exceeding the EU target value set for the protection of human health. This proportion reached a peak in 2003 and another peak in 2006, but has declined since then. Similarly, in the period 2001-11, between 5% and 23% of the urban population in EU countries was exposed to nitrogen dioxide (NO_2) concentrations above the EU limit for the protection of human health. This proportion also peaked in 2003 and has come down since then.

While there have been improvements in reducing emissions of a number of air pollutants in the past decade, further efforts are needed to reduce air pollution, notably by reducing emissions from transports due to motor vehicles, but also from power stations which produce more pollution than any other industry. Better dispersion of pollutants emitted by tall chimneys can promote better dilution in the air and lowers local concentrations of pollutants. However, this leads to wider dispersion of pollution and trans-boundary air pollution. Stricter operating practices and the use of modern techniques have resulted in a sizeable reduction in the amount of pollutants emitted from power stations.

Definition and comparability

The indicators presented here refer to population exposure to particulate matter 10 (PM_{10}) and other pollutants in cities with more than 100 000 population. The estimates represent the average annual exposure level of the average urban resident.

PM_{10} refers to suspended particulates less than ten microns in diameter that are capable of penetrating deep into the respiratory tract and causing significant health damage. Fine particulates smaller than 2.5 microns in diameter ($PM_{2.5}$) cause even more severe health effects because they penetrate deeper into the respiratory tract and are potentially more toxic as they may include heavy metals and toxic organic substances (OECD, 2013).

Ozone is a secondary pollutant (meaning that it is not emitted directly by any emission source), formed in the lower part of the atmosphere from complex chemical reactions following emissions of precursor gases such as nitrogen dioxides (which are emitted during fuel combustion).

Data on exposure to air pollution are available for most but not all European countries. Further efforts are needed to monitor or estimate overall population exposure.

References

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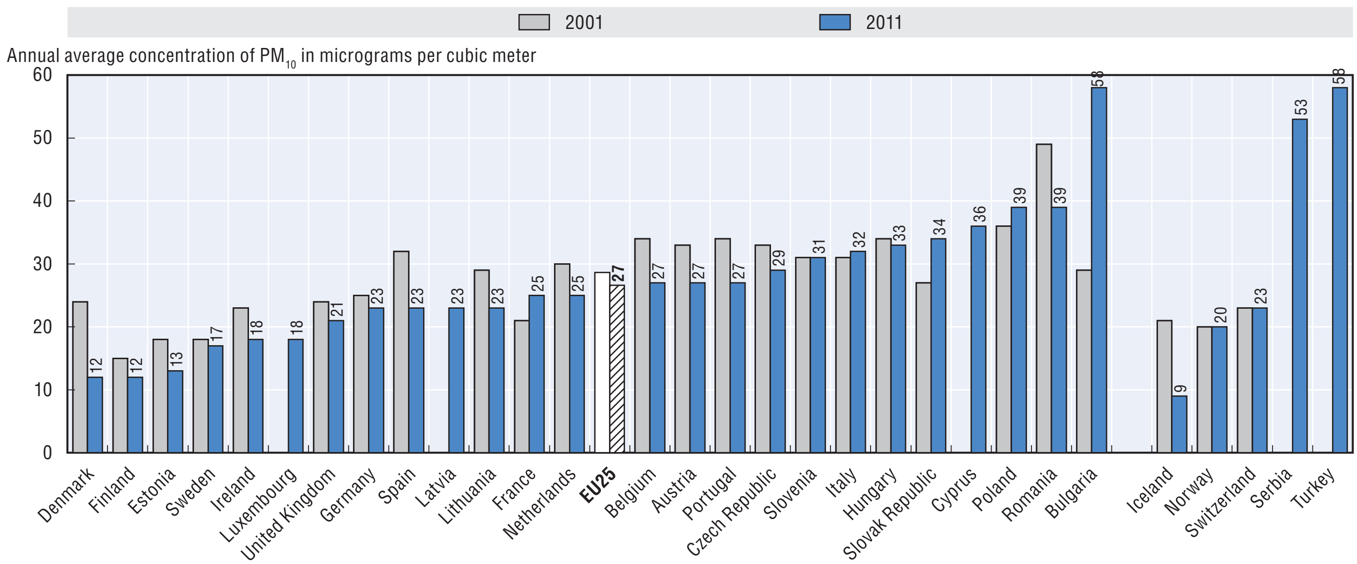
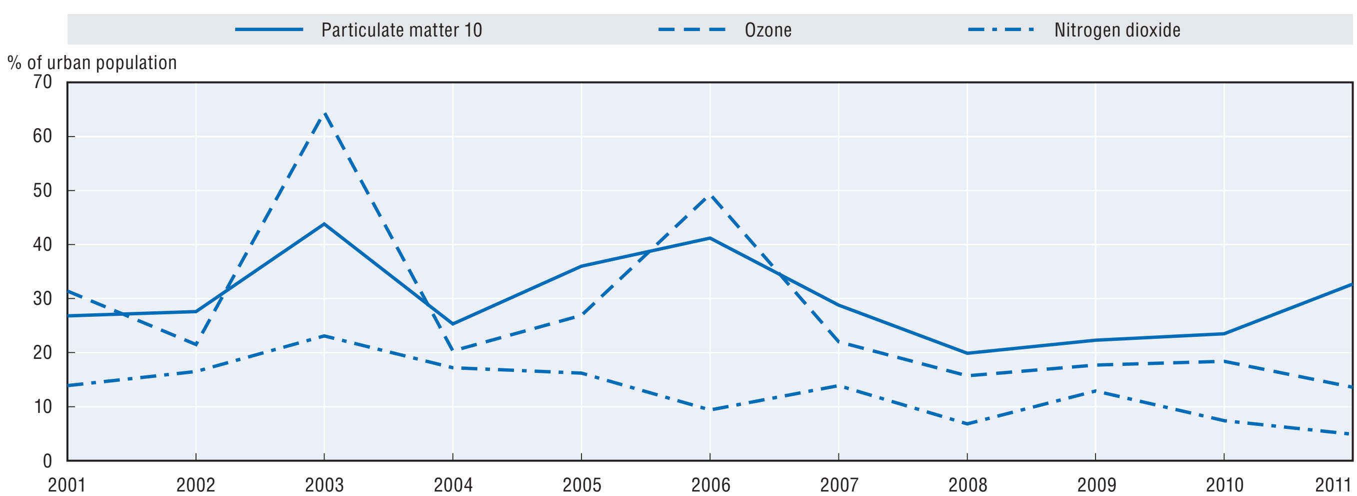
2.6.1. Urban population exposure to air pollution by particulate matter (PM_{10}), 2001 and 2011 (or nearest years)



Source: European Environment Agency (EEA), *Air quality in Europe – 2013 Report.*

2.6.2. EU urban population exposed to air pollution exceeding EU air quality standards, 2001-11



Source: European Environment Agency (EEA), *Air quality in Europe – 2013 Report.*

StatLink http://dx.doi.org/10.1787/888933155540

Chapter 3

Health care resources and activities

The number of doctors per capita varies widely across European countries. In 2012, Greece had, by far, the highest number, with 6.2 doctors per 1 000 population, nearly twice the EU average of 3.4. Following Greece was Austria, with 4.9 doctors per 1 000 population. The number of doctors per capita was also relatively high in Lithuania and Portugal (although the number reported in Portugal is an overestimation as it comprises all doctors licensed to practice, including some who may not be practising). The number of doctors per capita was lowest in Poland, Romania and Slovenia among EU member states (Figure 3.1.1).

Since 2000, the number of physicians per capita has increased in all European countries, except in France where it has remained stable. On average across EU member states, physician density increased from 2.9 doctors per 1 000 population in 2000 to 3.4 in 2012. The rise in the number of doctors per capita was particularly rapid in Greece, but most of the growth occurred before the economic crisis started in 2008. The growth rate has also been very strong in the United Kingdom, which started from the second lowest level in 2000, thereby narrowing the gap with other EU countries (Figure 3.1.1).

In most European countries, the absolute number of doctors has increased both before and after the 2008-09 economic crisis, although the number has stabilised in some countries hard hit by the recession such as Greece. In the United Kingdom, there were over 10% more employed doctors in 2012 compared with 2008 (Figure 3.1.2). Looking at the entire period from 2000 to 2012, there were 50% more doctors in the United Kingdom in 2012 compared with 2000. In the Netherlands also, the number of doctor has increased steadily since 2000, and there were over one-third more doctors in 2011 (latest year available) compared with 2000. In Germany, the number of doctors has increased slightly more rapidly since 2008 than between 2000 and 2008; overall, there were about 20% more doctors in 2012 compared with 2000.

There continues to be concerns in many European countries about current or future possible shortages of doctors, notably for certain categories of doctors (e.g., primary care doctors) or in rural areas (see Indicator 5.3). These concerns are linked to a large extent to the ageing of the medical workforce. In 2012, on average across EU countries, one-in-three doctor (33%) was over 55 years of age, up from one-in-six (17%) in 2000. While many of these doctors may be expected to retire over the coming decade, one noticeable trend observed in many countries in recent years is that a larger number of doctors continue to practice after age 65. In France, the continued increase in the absolute number of doctors since 2008 has been driven mainly by a growing number of doctors remaining in activity beyond age 65 (DREES, 2014).

Many countries have also anticipated the upcoming retirement of a significant number of doctors by increasing their education and training efforts to make sure that there would be enough new doctors to replace those who will be retiring. In some countries (e.g., the United Kingdom and the Netherlands), there are even concerns now that there might be surpluses of certain categories of doctors in the years ahead. This has led to recommendations to reduce slightly student intakes in medical schools or post-graduate training for certain specialties (e.g., CfWI, 2012; ACMMP, 2014).

In most countries, concerns about growing shortages of primary care doctors reflect the growing imbalance in the number of generalists versus specialists. In response to these concerns, many countries have taken steps to improve the number of post-graduate training places (internship and residency posts) and the attractiveness of general practice by improving working conditions and remuneration levels. A number of countries have also introduced or extended the roles of other health care providers, such as advanced practice nurses, to respond to growing demands for primary care (Delamaire and Lafortune, 2010).

The European Joint Action on Health Workforce Planning and Forecasting, launched in 2012, aims to promote collaboration and exchange between member states to better prepare the future health workforce.

Definition and comparability

Practising physicians are defined as doctors who are providing care directly to patients. In some countries, the numbers also include doctors working in administration, management, academic and research positions ("professionally active" physicians), adding another 5-10% of doctors. Portugal reports all physicians entitled to practice, resulting in an even greater overestimation.

References

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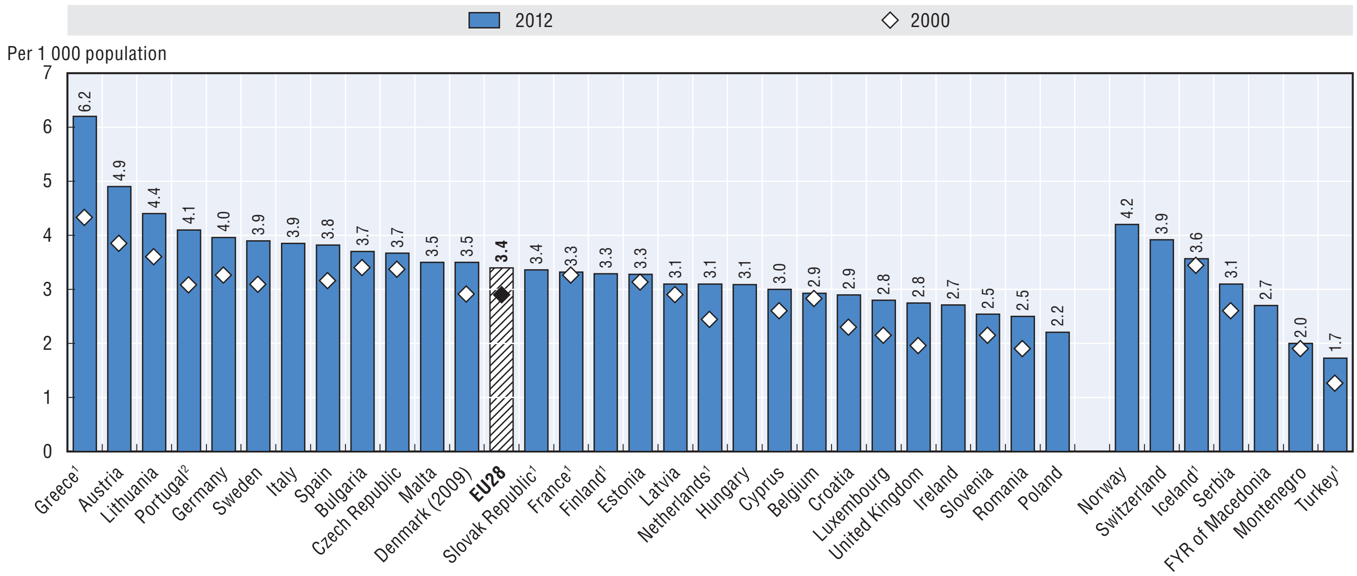
DREES – Direction de la recherche, des études, de l'évaluation et des statistiques (2014), *La démographie des médecins* (Medical demography), Paris, April.

European Joint Action on Health Workforce Planning and Forecasting (2014), *Newsletter*, March 2014, available at *http://euhwforce.weebly.com*.

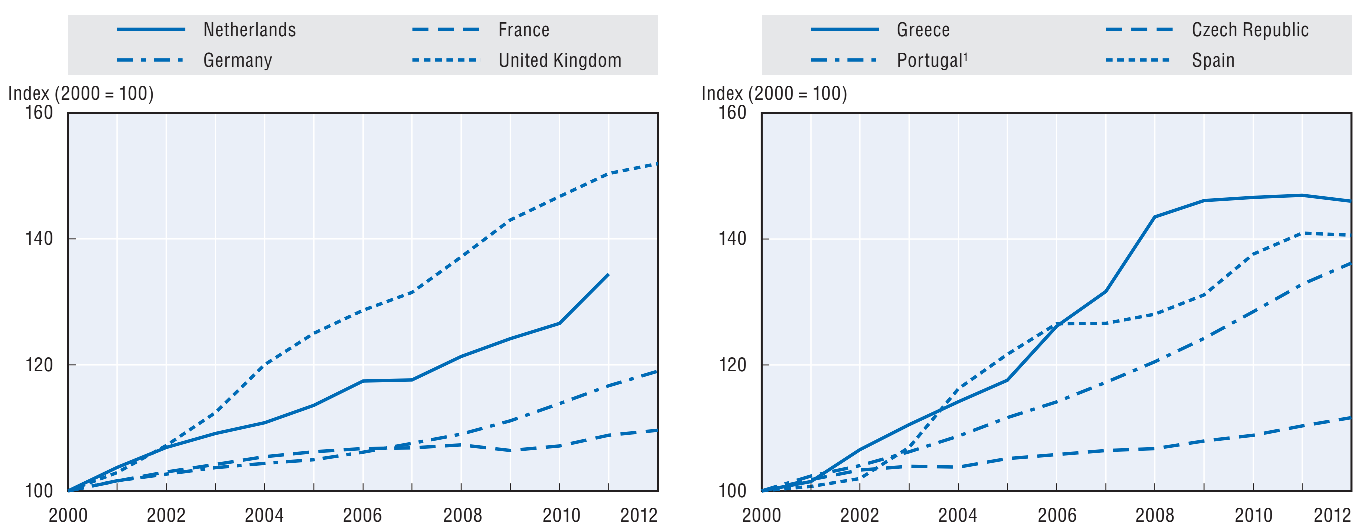
3.1.1. Practising doctors per 1 000 population, 2000 and 2012 (or nearest year)



1. Data include not only doctors providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc. (adding another 5-10% of doctors).
2. Data refer to all physicians who are licensed to practice.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Europe Health for All Database.*

3.1.2. Evolution in the number of doctors, selected EU countries, 2000 to 2012 (or nearest year)



1. Data refer to doctors licensed to practice.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.*

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Consultations with doctors can take place in doctors' offices or clinics, in hospital outpatient departments or, in some cases, in patients' own homes. In many European countries (e.g., Denmark, Italy, the Netherlands, Portugal, the Slovak Republic, Spain and the United Kingdom), patients are required or given incentives to consult a general practitioner (GP) about any new episode of illness. The GP may then refer them to a specialist, if indicated. In other countries (e.g., Austria, the Czech Republic, Iceland and Luxembourg), patients may approach specialists directly.

The number of doctor consultations per person per year is highest in Hungary, the Slovak Republic and the Czech Republic, and the lowest in Cyprus, Finland and Sweden (Figure 3.2.1). The EU average is 6.3 consultations per person per year, with most member states reporting four to seven visits per person per year. Cultural factors appear to play a role in explaining some of the variations across countries, although certain health system characteristics may also play a role. Some countries which pay their doctors mainly by fee-for-service tend to have above-average consultation rates (e.g., Belgium and Germany), while other countries that have mostly salaried doctors tend to have below-average rates (e.g., Finland and Sweden).

In Finland and Sweden, the low number of doctor consultations may also be explained partly by the fact that nurses and other health professionals play an important role in primary care centres, lessening the need for consultations with doctors (Delamaire and Lafortune, 2010).

In many European countries, the average number of doctor consultations per person has increased since 2000. This is consistent with the increase in the number of doctors per capita in most countries over the past decade (see Indicator 3.1). In the Czech Republic and the Slovak Republic, there has been a substantial reduction in the number of doctor consultations per capita over the past decade, although the number remains well above the EU average. In Spain also, there has been a marked decline in the number of doctor consultations per person since 2000.

The number of doctor consultations varies not only across countries, but also among different population groups in each country. A 2012 OECD study, using the first wave of the European health interview survey and other national surveys carried out between 2006 and 2009, provided evidence on inequality in doctor consultations by income group in a number of European countries, particularly for consultations with medical specialists (Devaux and de Looper, 2012).

The information on doctor consultations can also be used to estimate the number of consultations per doctor. This indicator should not be taken as a measure of doctors' productivity, since consultations can vary in length and effectiveness, and because it excludes the work doctors do on hospital inpatients, administration and research. There are other comparability limitations reported in the box below on "Definition and comparability". Keeping these reservations in mind, the estimated number of consultations per doctor is highest in central and eastern European countries (Hungary, the Slovak Republic, Poland and the Czech Republic) and in Turkey, and is the lowest in Sweden (Figure 3.2.2).

Definition and comparability

Consultations with doctors refer to the number of contacts with physicians, including both generalists and specialists. There are variations across countries in the coverage of different types of consultations, notably in outpatient departments of hospitals. The data come mainly from administrative sources, although in some countries (Ireland, Italy, the Netherlands, Spain, Switzerland and the United Kingdom) the data come from health interview surveys. Estimates from administrative sources tend to be higher than those from surveys because of problems with recall and non-response rates.

In Hungary, the figures include consultations for diagnostic exams, such as CT and MRI scans (resulting in an over-estimation). The figures for the Netherlands exclude contacts for maternal and child care. The data for Portugal exclude visits to private practitioners, while those for the United Kingdom exclude consultations with specialists outside hospital outpatient departments (resulting in an under-estimation). In Germany, the data include only the number of cases of physicians' treatment according to reimbursement regulations under the Social Health Insurance Scheme (a case only counts the first contact over a three-month period, even if the patient consults a doctor more often, leading to an under-estimation of consultations with doctors). Telephone contacts are included in some countries (e.g. Ireland, Spain and the United Kingdom). In Turkey, a majority of consultations with doctors occur in outpatient departments in hospitals.

References

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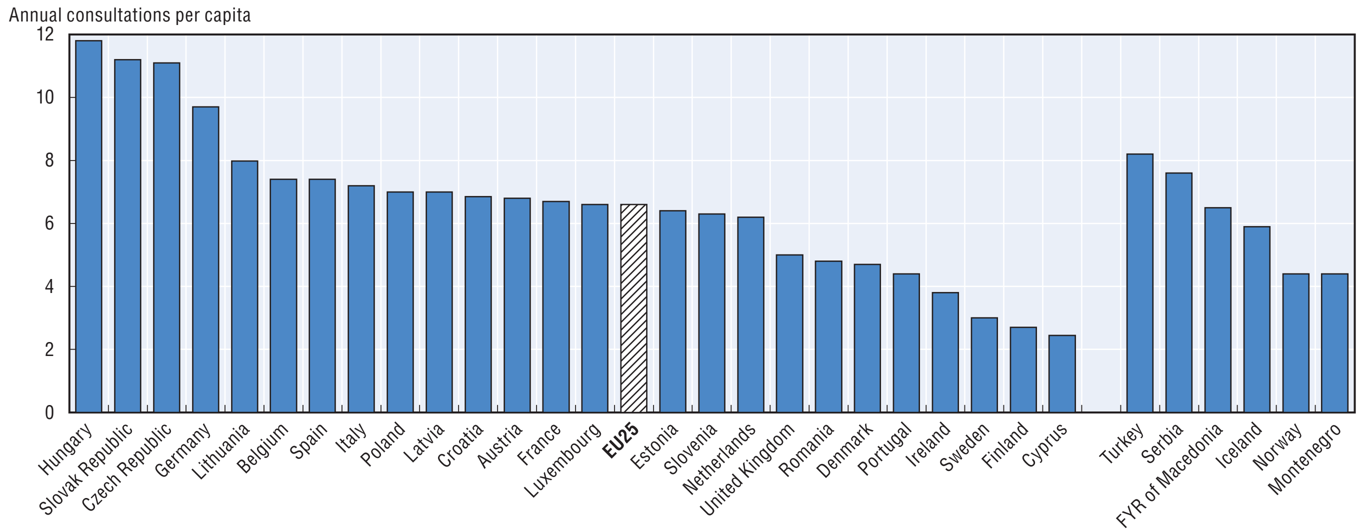
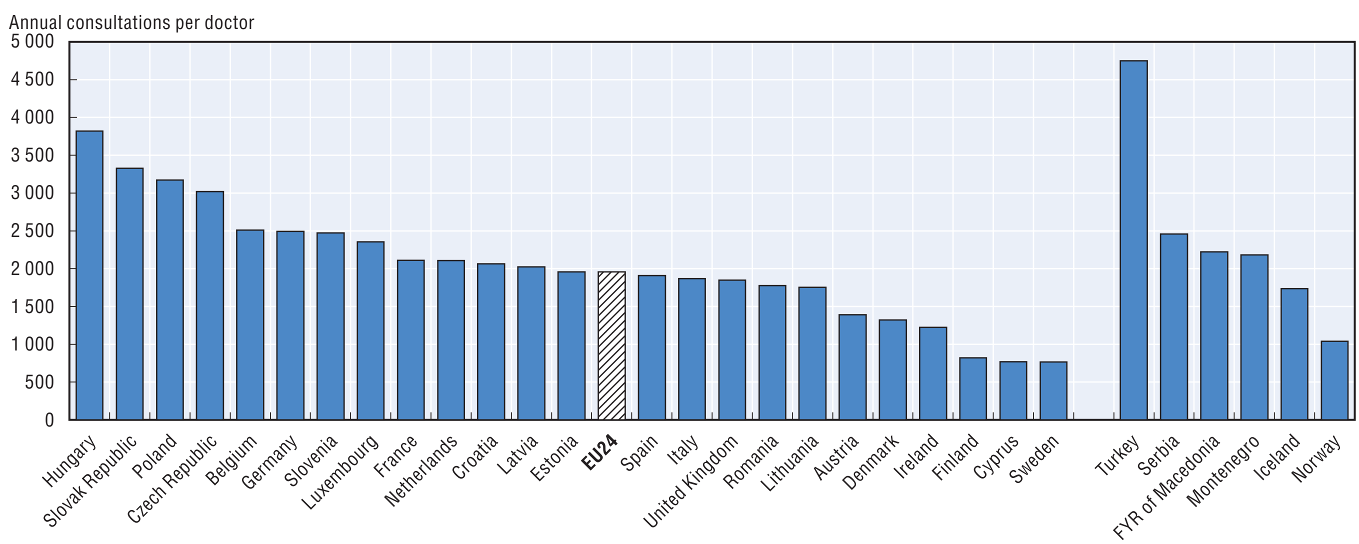
3.2.1. Number of doctor consultations per capita, 2012 (or nearest year)



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Europe Health for All Database.*

3.2.2. Estimated number of consultations per doctor, 2012 (or nearest year)



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Europe Health for All Database.*

StatLink http://dx.doi.org/10.1787/888933155568

Nurses play a critical role in providing health care not only in traditional settings such as hospitals and long-term care institutions, but increasingly in primary care (especially in offering care to the chronically ill) and in home care settings. However, there are concerns in many countries about shortages of nurses, and these concerns may well intensify in the future as the demand for nurses continues to increase and the ageing of the "baby-boom" generation precipitates a wave of retirements among nurses. These concerns have prompted many countries to increase the training of new nurses combined with efforts to increase retention rates in the profession, even as the economic crisis has squeezed health budgets.

This section presents data on the number of nurses, distinguishing where applicable "professional" (or "qualified") nurses from "associate professional" (or "qualified auxiliary") nurses (who are trained at a lower level and perform lower tasks). These data do not include nursing aids or health care assistants, who are not recognised as nurses, but may nonetheless provide a lot of assistance in patient care.

On average across EU countries, there were about eight nurses per 1 000 population in 2012. The number of nurses per capita was highest in Switzerland, Norway, Denmark, Finland, Ireland, Luxembourg and the Netherlands. In Switzerland and Denmark, around two-thirds of nurses are "professional" (or "qualified") nurses while the other one-third are "associate professional" (or "qualified auxiliary") nurses. In other countries such as Belgium, France, Italy and Spain, there are no "associate professional" nurses as such, but a large number of nursing aids (or health care assistants) provide assistance to nurses. Greece had the fewest number of nurses among EU countries (including both professional and associate professional), followed by Bulgaria and Cyprus.

Since 2000, the number of nurses per capita has increased in all European countries, except in Lithuania and the Slovak Republic. The increase was particularly large in Malta, Portugal and Spain. In Estonia, the absolute number of nurses and density per capita increased up to 2008, but decreased slightly after the economic crisis, from 6.4 nurses per 1 000 population in 2008 to 6.2 in 2011 and 2012, although it remained higher than in 2000 (5.8 per 1 000 population).

In 2012, the number of nurses per doctor ranged from four or more in Denmark, Finland, Luxembourg and Ireland, to less than one nurse per doctor in Greece (Figure 3.3.2). The average across EU member states was about two-and-a-half nurses per doctor, with many countries reporting between two to four nurses per doctor. In Greece, there is evidence of an oversupply of doctors and undersupply of nurses, resulting in an inefficient allocation of resources.

Promoting a greater retention of nurses in the profession is an important issue in many European countries to reduce any current or future shortages. A 2009-10 survey of nurses working in hospitals in 12 European countries found large variations in rates of job dissatisfaction among nurses, ranging from 11% in the Netherlands up to 56% in Greece, and in their intention to leave their positions, with rates varying from 19% in the Netherlands up to almost 50% in Finland and Greece. Nurses in Greece also reported a particularly high level of burnout, and nearly half described their hospital wards as providing poor or fair quality of care only. In all countries, higher nurse staffing levels and better work environments in hospital were significantly associated with better quality and safety of care for patients, and higher job satisfaction for nurses (Aiken et al., 2012).

In response to shortages of general practitioners, some countries have taken the initiative to develop more advanced roles for nurses to ensure proper access to primary care. Evaluations of the experience with (advanced) nurse practitioners in Finland and the United Kingdom, as well as in Canada and the United States, show that they can improve access to care and reduce waiting times, while providing the same quality of care as doctors for patients with minor illnesses or those requiring routine follow-up (Delamaire and Lafortune, 2010).

Definition and comparability

The number of nurses includes those providing services directly to patients ("practising"), but in some countries it also includes those working as managers, educators or researchers ("professionally active"). In countries where there are different levels of nurses, the data include both "professional" (or "qualified") nurses who have a higher level of education and perform higher level tasks and "associate professional" (or "qualified auxiliary") nurses who have a lower level of education but are nonetheless recognised and registered as nurses. Nursing aids (or health care assistants) who are not recognised as nurses are excluded.

Midwives are also not included, except in some countries where they are considered specialist nurses.

Austria reports only nurses working in hospitals (resulting in an underestimation). Data for Germany does not include about 277 500 nurses (representing an additional 30% of nurses) who have three years of education and are providing services for the elderly.

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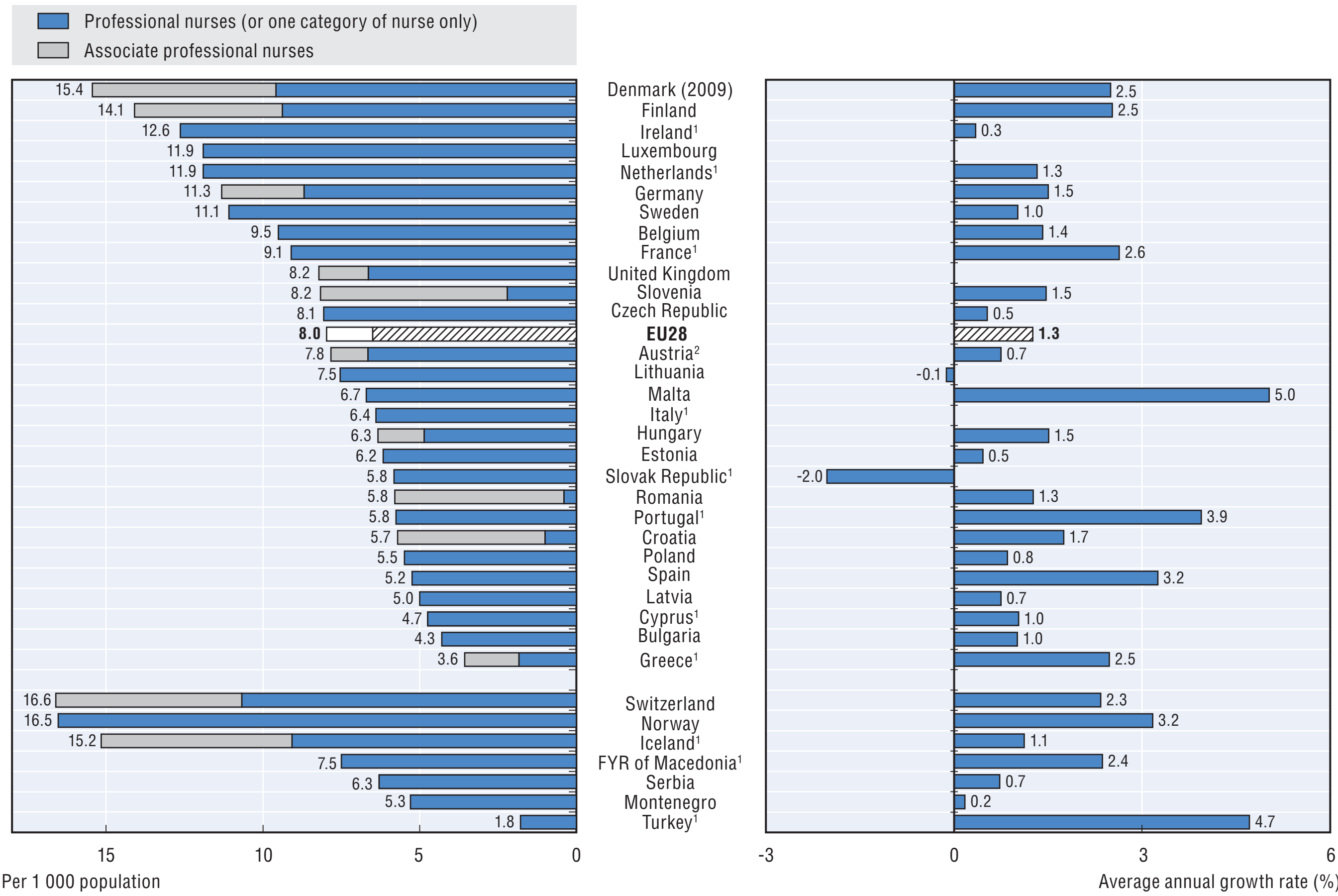
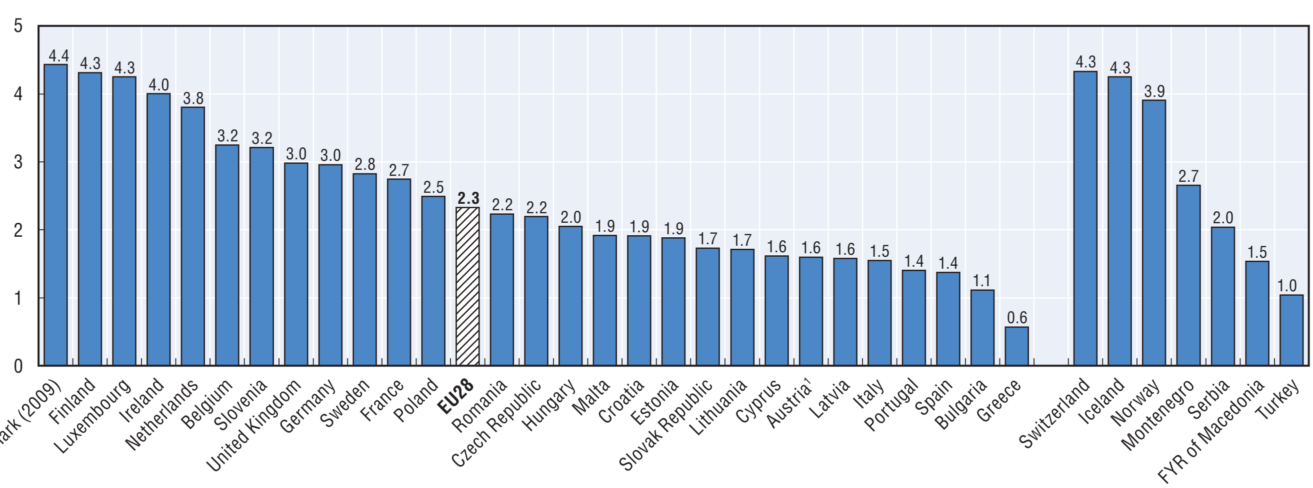
3.3.1. Practising nurses per 1 000 population, 2012 and change between 2000 and 2012 (or nearest year)



1. Data include not only nurses providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc.
2. Austria reports only nurses employed in hospital.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*; *WHO Europe Health for All Database*.

3.3.2. Ratio of nurses to physicians, 2012 (or nearest year)



Note: For those countries which have not provided data for practising nurses and/or practising physicians, the numbers relate to the same concept ("professionally active" or "licensed to practice") for both nurses and physicians, for the sake of consistency.
1. Austria reports only nurses employed in hospital.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*; *WHO Europe Health for All Database*.

StatLink http://dx.doi.org/10.1787/888933155579

Recent advances in medical imaging technologies are improving diagnosis and treatment of diseases, but they are also increasing health spending. This section presents data on the availability and use of two diagnostic imaging technologies: computed tomography (CT) scanners and magnetic resonance imaging (MRI) units. CT scanners and MRI units help physicians diagnose a range of conditions by producing images of internal organs and structures of the body. Unlike conventional radiography and CT scanning, MRI exams do not expose patients to ionising radiation.

The availability of CT scanners and MRI units has increased rapidly in most European countries over the past two decades. In 2012, Italy, Greece, Finland and Cyprus had the highest number of MRI units per capita among EU member states, while Greece, Italy, Latvia and Cyprus had the highest number of CT scanners per capita. Iceland and Switzerland also have a large number of both MRI and CT scanners on a per capita basis (Figures 3.4.1 and 3.4.2). The numbers of MRI units and CT scanners per population were the lowest in Hungary and Romania.

There is no general guideline or benchmark regarding the ideal number of CT scanners or MRI units per population. However, if there are too few units, this may lead to access problems in terms of geographic proximity or waiting times. If there are too many, this may result in an overuse of these costly diagnostic procedures, with little if any benefits for patients.

Data on the use of these diagnostic equipment show that the number of MRI exams per capita in 2012 (or nearest year) in EU countries was highest in Germany, France, Luxembourg, Belgium and Greece. The number of CT exams per capita was highest in the same group of countries, with the exception of Germany.

In Greece, most CT and MRI scanners are installed in privately-owned diagnostic centres and clinics and only a minority are found in public hospitals. While there are clinical guidelines issued by the Hellenic Radiology Society regarding the use of CT and MRI scanners, these are not used for patient referrals. The Ministry of Health, in order to control the diffusion of CT and MRI scanners, issued a ministerial decree in 2010, setting out certain criteria concerning the purchase of imaging equipment in the private sector. One of the main criteria was based on a minimum threshold of population density (30 000 population for CT scanners and 40 000 for MRIs). However, this criterion has been withdrawn by a new ministerial decree in October 2013, which will probably lead to an increase in the number of CT and MRI scanners in Greece.

There are large variations in the use of CT and MRI scanners not only across countries, but also within countries. For example, in Belgium, there was almost a two-fold variation in the use of MRI and CT exams between those provinces with the highest and lowest rates in 2010. In the United Kingdom (England) where the utilisation rate of both types of diagnostic exams is generally much lower, the variation across regions was even greater, with almost a four-fold difference between those Primary Care Trusts (PCTs) that had the highest rates and lowest rates of MRI and CT exams in 2010/11 (OECD, 2014).

Clinical guidelines have been developed in some European countries to promote a rational use of these diagnostic technologies. In the United Kingdom, since the creation of the Diagnostic Advisory Committee by the National Institute for Health and Clinical Excellence (NICE), a number of guidelines have been issued on the appropriate use of MRI and CT exams for different purposes (NICE, 2012).

A 2013 Council Directive (2013/59/EURATOM), which is to be implemented by EU member states in 2018, establishes legal requirements and an appropriate regime of regulatory control designed to provide basic safety standards for protection against the dangers from exposure to ionising radiation, based on the principles of justification, optimisation and dose limitation.

Definition and comparability

While the data in most countries cover CT scanners and MRI units installed both in hospitals and the ambulatory sector, the data coverage is more limited in some countries. CT scanners and MRI units outside hospitals are not included in some countries (e.g., Belgium, Finland, Germany and Portugal, as well as Switzerland for MRI units). For the United Kingdom, the data only include scanners in the public sector. No data is available for Sweden.

Similarly, MRI and CT exams performed outside hospitals are not included in some countries (e.g., Austria, Cyprus, Ireland, Portugal and the United Kingdom). Furthermore, MRI and CT exams for Ireland only cover public hospitals. The Netherlands only report data on publicly-financed exams.

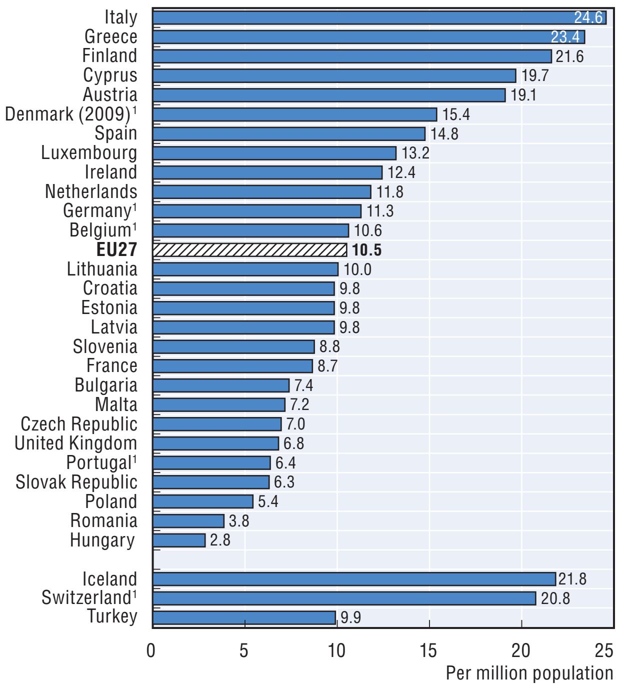
References

European Union (2013), “Council Directive 2013/59/EURATOM Laying Down Basic Safety Standards Against the Dangers Arising from Exposure to Ionising Radiation”, *Official Journal of the European Union*, L13/1, 17-1-2014.

NICE – National Institute for Health and Clinical Excellence (2012), *Published Diagnostics Guidance*, London and Manchester, available at *guidance.nice.org.uk/DT/Published*.

OECD (2014), *Geographic Variations in Health Care Use: What Do We Know and What Can Be Done to Improve Health System Performance?*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264216594-en*.

3.4.1. MRI units, 2012 (or nearest year)

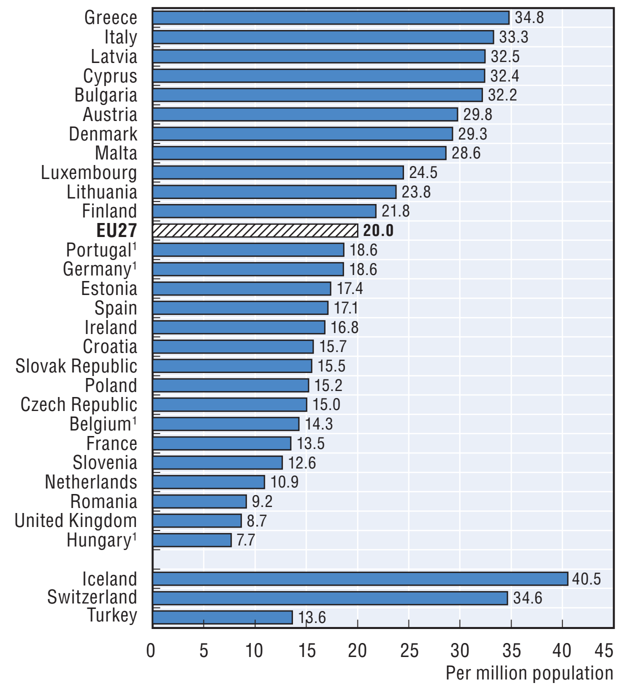


Note: The EU average does not include countries which only report equipment in hospital.

1. Equipment outside hospital is not included.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

3.4.2. CT scanners, 2012 (or nearest year)

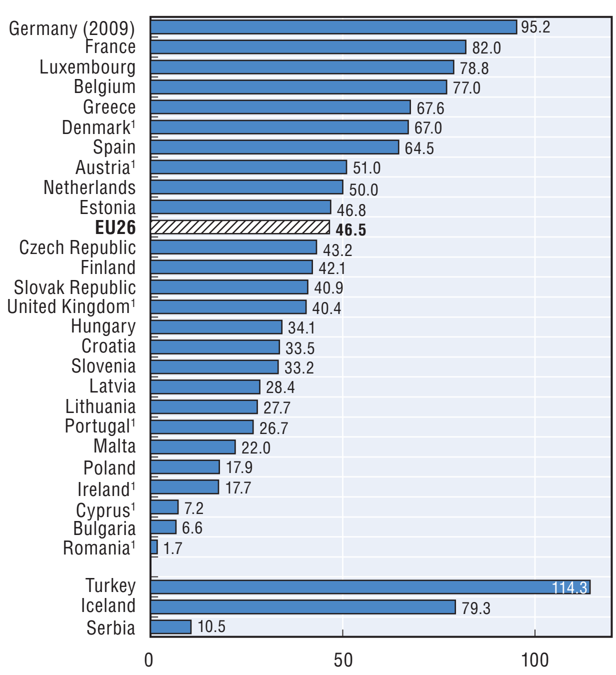


Note: The EU average does not include countries which only report equipment in hospital.

1. Equipment outside hospital is not included.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

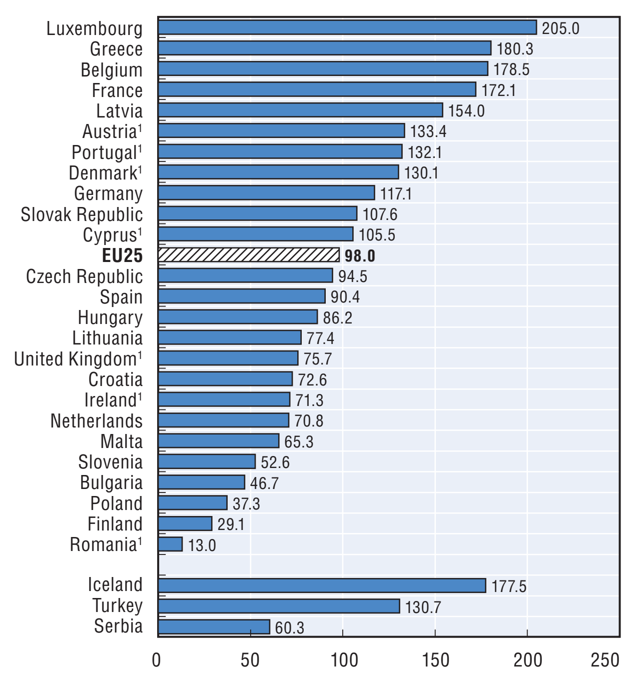
3.4.3. MRI exams, 2012 (or nearest year)



1. Exams outside hospital are not included.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

3.4.4. CT exams, 2012 (or nearest year)



1. Exams outside hospital are not included.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155582

The number of hospital beds provides an indication of the resources available for delivering services to inpatients in hospitals. This section presents data on the total number of hospital beds, including those allocated for curative care, psychiatric care, long-term care and other types of care. It does not capture the capacity of hospitals to provide same-day emergency or elective interventions.

Since 2000, the number of hospital beds per population has decreased in all EU countries, except Greece where it increased slightly although the number has started to come down since 2010. On average across EU member states, the number fell by close to 2% per year, coming down from 6.4 beds per 1 000 population in 2000 to 5.2 in 2012 (Figure 3.5.1). This reduction in the number of hospital beds has been accompanied by a reduction in average length of stays (Indicator 3.7) and, in some countries, a reduction in hospital admissions and discharges (Indicator 3.6). The reduction in the number of hospital beds has been particularly pronounced in Latvia, the Slovak Republic, Estonia and Finland.

In all countries, progress in medical technologies has enabled a move to same-day surgery and a reduced need for long hospitalisation. In many countries, the financial and economic crisis which started in 2008 also provided a further stimulus to reduce hospital capacity as part of policies to reduce public spending on health (European Observatory on Health Systems and Policies, 2012).

In 2012, Germany and Austria had the highest number of hospital beds per capita, with around eight beds per 1 000 population (Figure 3.5.1). The high supply of hospital beds in these two countries is associated with a large number of hospital admissions/discharges, as well as long average length of stays in Germany. Sweden, the United Kingdom and Ireland had a relatively low number of hospital beds (although the data in the United Kingdom and Ireland do not include beds in private hospitals). Turkey also had a relatively low number of beds per capita in 2012, although their number increased markedly since 2000.

More than two-thirds (69%) of hospital beds are allocated for curative care on average across EU member states (Figure 3.5.2). The rest of the beds are allocated for psychiatric care (15%), long-term care (8%) and other types of care (8%). However, in some countries, the share of beds allocated for psychiatric care and long-term care is much greater than the average. In Finland, almost 30% of hospital beds are allocated for long-term care, because local governments (municipalities) use beds in health care centres (which are defined as hospitals) for at least some of the needed institution-based long-term care. In Belgium and the Netherlands, close to 30% of hospital beds are devoted to psychiatric care.

The share of beds in private for-profit hospitals has increased in some countries over the past decade. In Germany, the share increased from 23% of all beds in 2002 to 30% in 2012, accompanied by a decrease in the share of beds in public hospitals from 45% to 40%. The remaining beds were in private not-for-profit hospitals (whose share also declined slightly). In France, the share of beds in private for-profit hospitals also increased during the past decade but to a lesser extent, from 20% in 2000 to 24% in 2012, while the proportion of beds in public hospitals decreased from 66% in 2000 to 62% in 2012 (OECD, 2014).

In some countries, the reduction in the overall number of hospital beds has been accompanied by an increase in their occupancy rates. Since 2000, the occupancy rate of curative care beds increased significantly in Ireland (from 85% in 2000 to 93% in 2012). In the United Kingdom, the occupancy rate of curative care beds has remained relatively stable, at 84% between 2000 and 2010 (latest year available) (OECD, 2014).

Definition and comparability

Hospital beds are defined as all beds that are regularly maintained and staffed and are immediately available for use. They include beds in general hospitals, mental health and substance abuse hospitals, and other specialty hospitals. Beds in nursing and residential care facilities are excluded.

Curative care beds are beds accommodating patients where the principal intent is to do one or more of the following: cure physical illness or provide definitive treatment of injury, perform surgery, relieve symptoms of physical illness or injury (excluding palliative care), reduce severity of physical illness or injury, protect against exacerbation and/or complication of physical illness and/or injury which could threaten life or normal functions, perform diagnostic or therapeutic procedures, manage labour (obstetric).

Psychiatric care beds are beds accommodating patients with mental health problems. They include beds in psychiatric departments of general hospitals, and all beds in mental health and substance abuse hospitals.

Long-term care beds are hospital beds accommodating patients requiring long-term care due to chronic impairments and a reduced degree of independence in activities of daily living. They include beds in long-term care departments of general hospitals, beds for long-term care in specialty hospitals, and beds for palliative care.

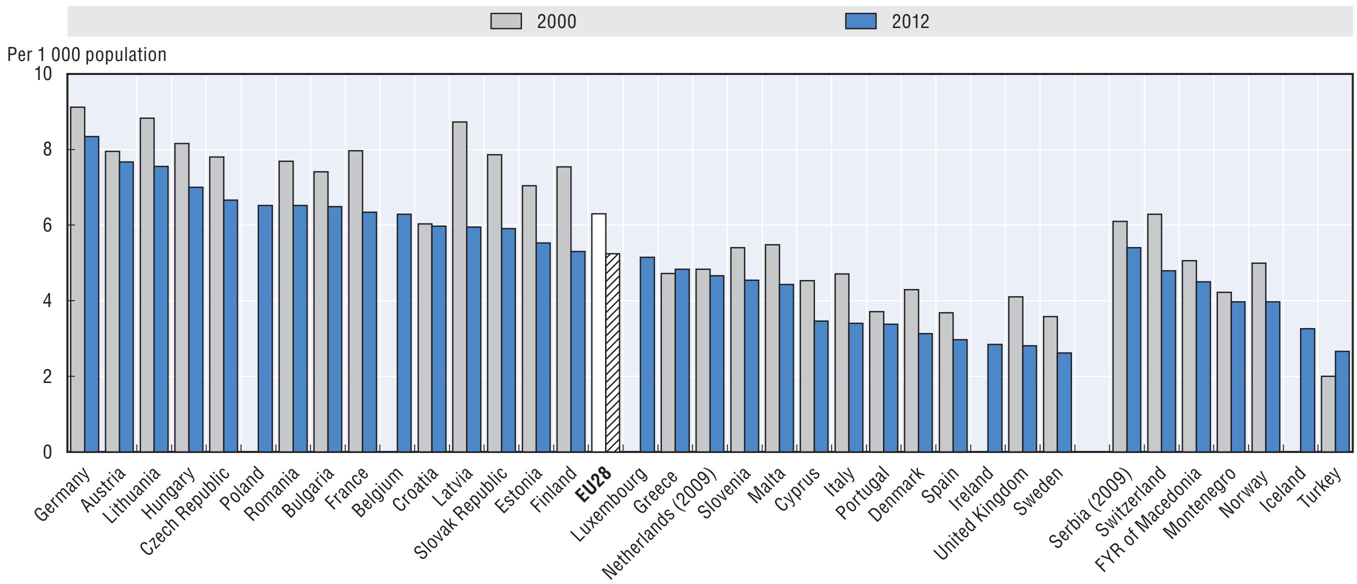
Data for some countries do not cover all hospitals. In Ireland and the United Kingdom, data are restricted to public or publicly-funded hospitals only.

References

European Observatory on Health Systems and Policies (2012), *Eurohealth – Health Systems and the Financial Crisis*, Vol. 18, No. 1.

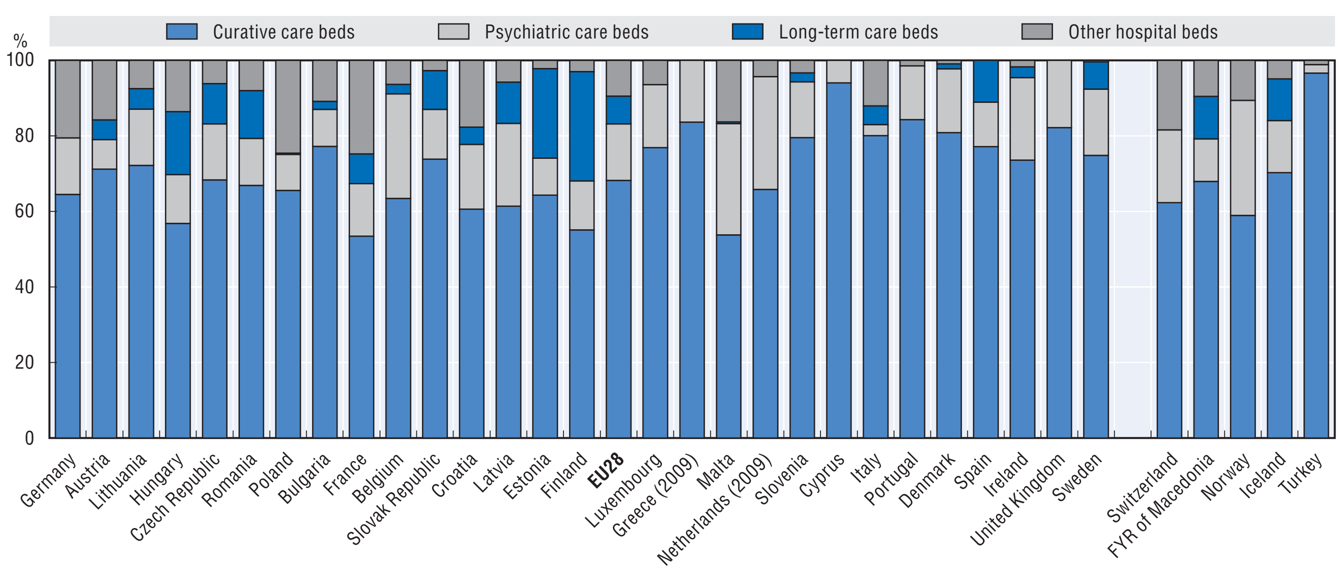
OECD (2014), *OECD Health Statistics 2014*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/health-data-en.*

3.5.1. Hospital beds per 1 000 population, 2000 and 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*; *WHO Europe Health for All Database*.

3.5.2. Hospital beds by function of health care, 2012 (or nearest year)



Note: Countries ranked from highest to lowest total number of hospital beds per capita.
Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155597

Hospital discharge rates measure the number of patients who leave a hospital after staying at least one night. Together with the average length of stay, they are important indicators of hospital activities. Hospital activities are affected by a number of factors, including the demand for hospital services, the capacity of hospitals to treat patients, the ability of the primary care sector to prevent avoidable hospital admissions, and the availability of post-acute care settings to provide rehabilitative and long-term care services.

In 2012, hospital discharge rates were the highest in Austria, Bulgaria, Germany and Lithuania (Figure 3.6.1). They were the lowest in Cyprus, Spain and Portugal. In general, countries that have a greater number of hospital beds also tend to have higher discharge rates. For example, the number of hospital beds per capita in Austria and Germany is more than two-times greater than in Portugal and Spain, and discharge rates are also more than two-times greater (see Indicator 3.5).

Trends in hospital discharge rates over the past decade vary widely across EU member states. In about one-third of EU member states (including Austria, Bulgaria, Germany, Romania, Greece and Poland), discharge rates have increased between 2000 and 2012. In a second group of countries (including the Czech Republic, Denmark, Sweden, the United Kingdom and Ireland), they have remained stable, while in the third group (including Hungary, Finland, Estonia, France, Luxembourg and Italy), discharge rates fell between 2000 and 2012.

Trends in hospital discharges reflect the interaction of several factors. Demand for hospitalisation may grow as populations age, given that older population groups account for a disproportionately high percentage of hospital discharges. For example, in Austria and Germany, over 40% of all hospital discharges in 2011 were for people aged 65 and over, more than twice their share of the population. However, population ageing alone may be a less important factor in explaining trends in hospitalisation rates than changes in medical technologies and clinical practices. The diffusion of new medical interventions often gradually extends to older population groups, as interventions become safer and more effective for people at older ages. But the diffusion of new medical technologies may also involve a reduction in hospitalisation if it involves a shift from procedures requiring overnight stays in hospitals to same-day procedures. In the group of countries where discharge rates have decreased since 2000, there has been a strong rise in the number of day surgeries (Kumar and Schoenstein, 2013; see also Indicator 3.9 for evidence on the rise in day surgeries for cataracts).

Hospital discharge rates vary not only across countries, but also within countries. In several European countries (e.g., Finland, Germany, Italy, Portugal, Spain and the United Kingdom), hospital medical admissions (excluding admissions for surgical interventions) vary by more than two-fold across different regions in the country (OECD, 2014).

In general across EU countries, the main conditions leading to hospitalisation in 2012 were circulatory diseases, pregnancy and childbirth, injuries and other external causes, diseases of the digestive system, respiratory diseases and cancers.

Lithuania had the highest discharge rate for circulatory diseases in 2012, followed by Bulgaria, Germany and Austria (Figure 3.6.2). The high rates in Bulgaria and Lithuania are associated with many people having heart attack and other circulatory diseases (see Indicator 1.4). This is not the case in Germany and Austria.

Austria and Germany have the highest discharge rates for cancer, followed by Hungary (Figure 3.6.3). In Austria, this high rate is associated with a high rate of hospital readmissions for further investigation and treatment of cancer patients (European Commission, 2008).

Definition and comparability

Discharge is defined as the release of a patient who has stayed at least one night in hospital. It includes deaths in hospital following inpatient care. Same-day separations are usually excluded, with the exception of Norway, Poland, the Slovak Republic and Turkey which include some same-day separations.

Healthy babies born in hospitals are excluded completely (or almost completely) from hospital discharge rates in several countries (e.g., Austria, Cyprus, Estonia, Finland, Greece, Ireland, Latvia, Luxembourg, Spain). These comprise between 3% and 10% of all discharges.

Data for some countries do not cover all hospitals. In Denmark, Ireland and the United Kingdom, data are restricted to public or publicly-funded hospitals only. Data for Portugal relate only to public hospitals on the mainland. Data for Austria, Estonia, Ireland and the Netherlands include only acute care/short-stay hospitals.

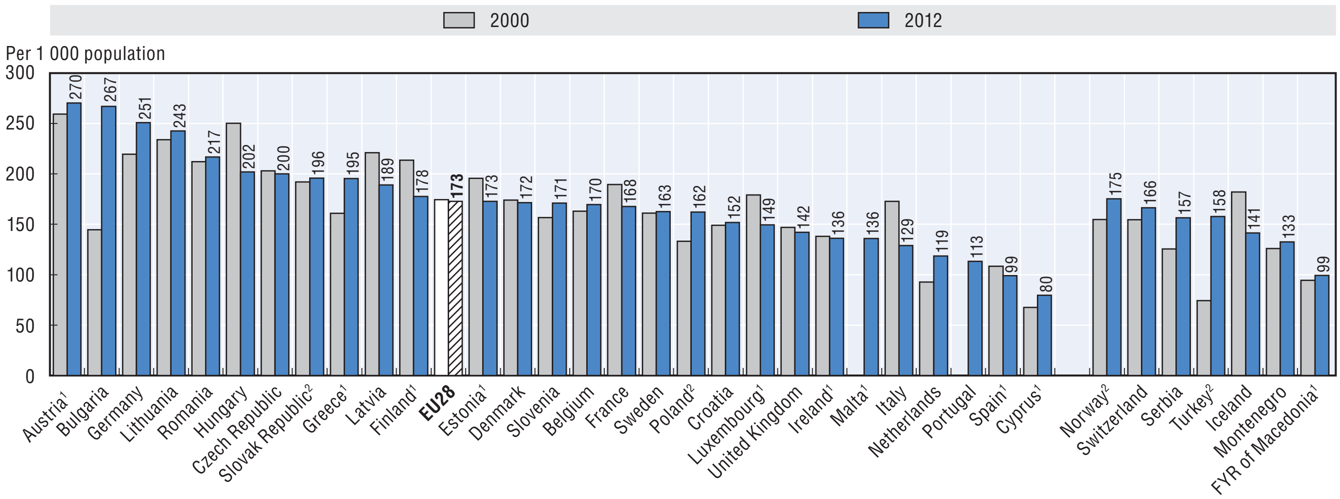
References

European Commission (2008), *Hospital Data Project Phase 2, Final Report*, European Commission, Luxembourg.

Kumar, A. and M. Schoenstein (2013), "Managing Hospital Volumes: Germany and Experiences from OECD Countries", *OECD Health Working Papers* No. 64, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k3xwtg2szzr-en*.

OECD (2014), *Geographic Variations in Health Care Use: What Do We Know and What Can Be done to Improve Health System Performance?*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264216594-en*.

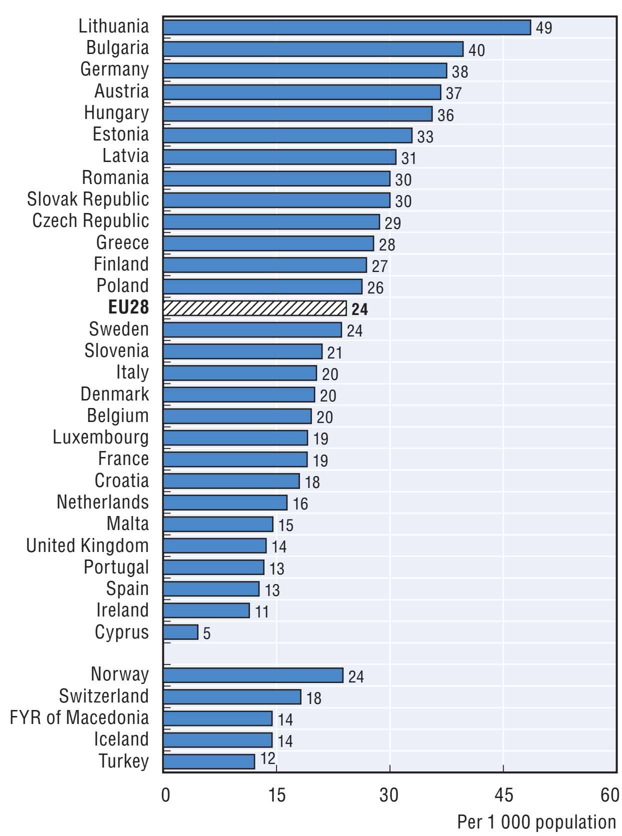
3.6.1. Hospital discharges per 1 000 population, 2000 and 2012 (or nearest year)



1. Excludes discharges of healthy babies born in hospital (between 3-10% of all discharges).
2. Includes same-day discharges.

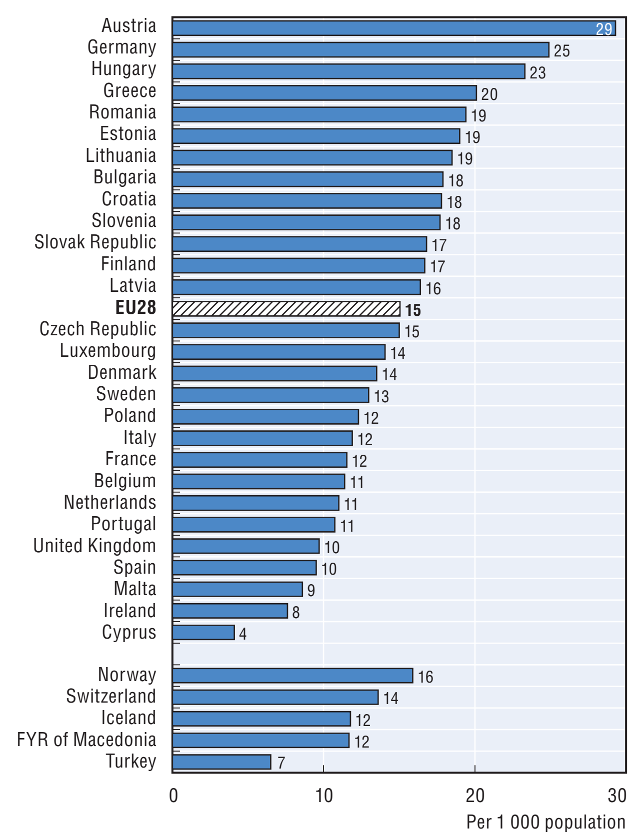
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database, WHO Europe Health for All Database.

3.6.2. Hospital discharges for circulatory diseases per 1 000 population, 2012 (or nearest year)



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

3.6.3. Hospital discharges for cancers per 1 000 population, 2012 (or nearest year)



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155604

The average length of stay in hospitals is often regarded as an indicator of efficiency. All other things being equal, a shorter stay will reduce the cost per discharge and shift care from inpatient to less expensive post-acute settings. However, shorter stays tend to be more service intensive and more costly per day. Too short a length of stay could also cause adverse effects on health outcomes, or reduce the comfort and recovery of the patient. If this leads to a greater readmission rate, costs per episode of illness may fall only slightly, or even rise.

In 2012, the average length of stay in hospitals for all causes among EU countries was the lowest in Denmark and Sweden (Figure 3.7.1). It was highest in Finland, the Czech Republic, Hungary and Germany. The high average length of stay in Finland is due to a large proportion of beds allocated for convalescent patients and long-term care (see Indicator 3.5). Focusing only on stays in acute care units, the average length of stay in Finland is not greater, indeed is even lower than in most other European countries.

The average length of stay in hospitals has decreased over the past decade in most EU countries, falling from 9.6 days in 2000 to 7.8 days in 2012 on average across EU member states (Figure 3.7.1). It fell particularly quickly in some countries that had relatively long stays in 2000 (e.g., in Bulgaria, the Slovak Republic, the United Kingdom and Switzerland).

Focusing on average length of stay for specific diseases or conditions can remove some of the effect of different case mix and severity. Figure 3.7.2 shows that the average length of stay for a normal delivery in EU countries ranges from less than two days in the United Kingdom and the Netherlands, to five days or more in the Slovak Republic, Romania and Hungary. The length of stay for a normal delivery has become shorter in nearly all countries over the past decade, dropping from five days in 2000 to about three-and-a-half days in 2012 on average in EU member states.

The average length of stay following acute myocardial infarction (AMI or heart attack) was around seven days on average in EU countries in 2012 (Figure 3.7.3). It was lowest in Denmark, Bulgaria and Sweden (less than five days), and highest in Germany (over ten days).

Several factors can explain these cross-country variations. Differences in the clinical need of patients may obviously play a role, but these variations also likely reflect differences in clinical practices and payment systems. The combination of an abundant supply of beds with the structure of hospital payments may provide hospitals with incentives to keep patients longer. A growing number of countries (e.g., France, Germany, Poland) have moved to prospective payment methods often based on diagnosis-related groups (DRGs) to set payments based on the estimated cost of hospital care for different patient groups in advance of service provision. These payment methods have the advantage of encouraging providers to reduce the cost of each episode of care. In Switzerland, the move from per diem payments to DRG-based payments has contributed to the reduction in length of stay in those cantons that have modified their payment system (OECD and WHO, 2011). In the Netherlands, the introduction of a new DRG-based system in 2006 is also credited with contributing to the reduction in average length of stay (Westert and Klazinga, 2011).

Most countries are seeking to reduce ALOS whilst maintaining or improving the quality of care. A diverse set of policy options are available to achieve these twin aims. Strategic reductions in hospital bed numbers alongside the development of community care services can shorten ALOS, such as seen in Denmark's quality-driven reforms of the hospital sector (OECD, 2013). Other options include promoting the take-up of less invasive surgical procedures, changes in hospital payment methods, the expansion of early discharge programmes which enable patients to return to their home to receive follow-up care, and support for hospitals to improve the co-ordination of care across diagnostic and treatment pathways.

Definition and comparability

Average length of stay (ALOS) refers to the average number of days that patients spend in hospital. It is generally measured by dividing the total number of days stayed by all inpatients during a year by the number of admissions or discharges. Day cases are excluded.

Compared with the 2012 edition of *Health at a Glance Europe*, the data cover all inpatient cases (including not only curative/acute care cases) for most countries, with the exception of the Netherlands where the data still refer to curative/acute care only (resulting in an under-estimation).

Discharges and average length of stay of healthy babies born in hospitals are excluded in several countries (e.g., Austria, Cyprus, Estonia, Finland, Greece, Ireland, Latvia, Luxembourg, Spain), resulting in a slight over-estimation of average length of stay compared with other countries.

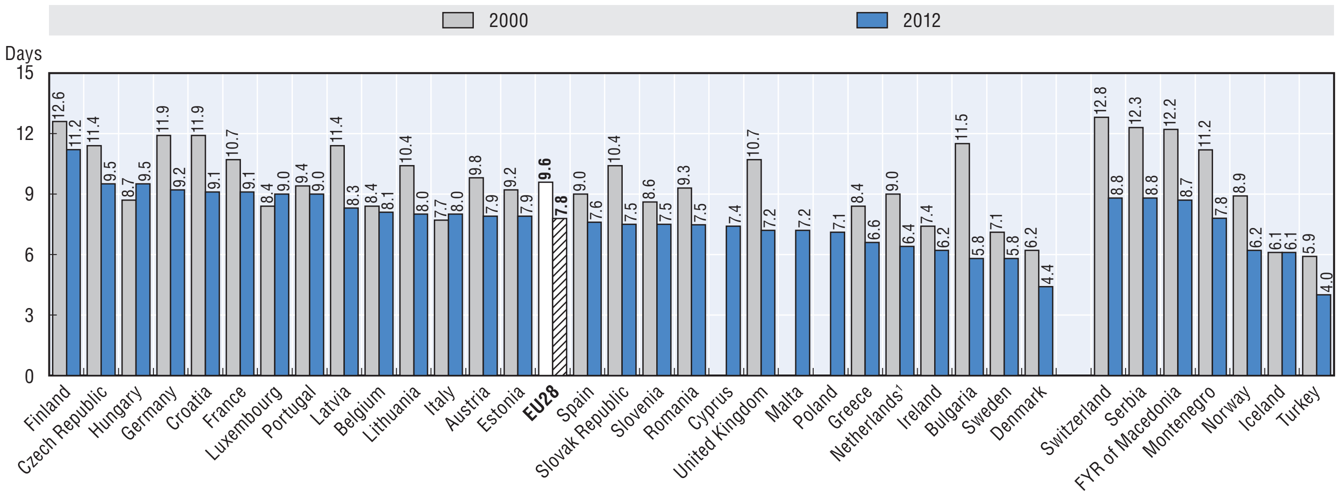
References

OECD (2013), *OECD Reviews of Health Care Quality: Denmark 2013 – Raising Standards*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191136-en*.

OECD and WHO (2011), *OECD Reviews of Health Systems: Switzerland 2011*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264120914-en*.

Westert, G. and N. Klazinga (2011), *The Dutch Health Care System, 2011*, Report prepared for the Commonwealth Fund, New York.

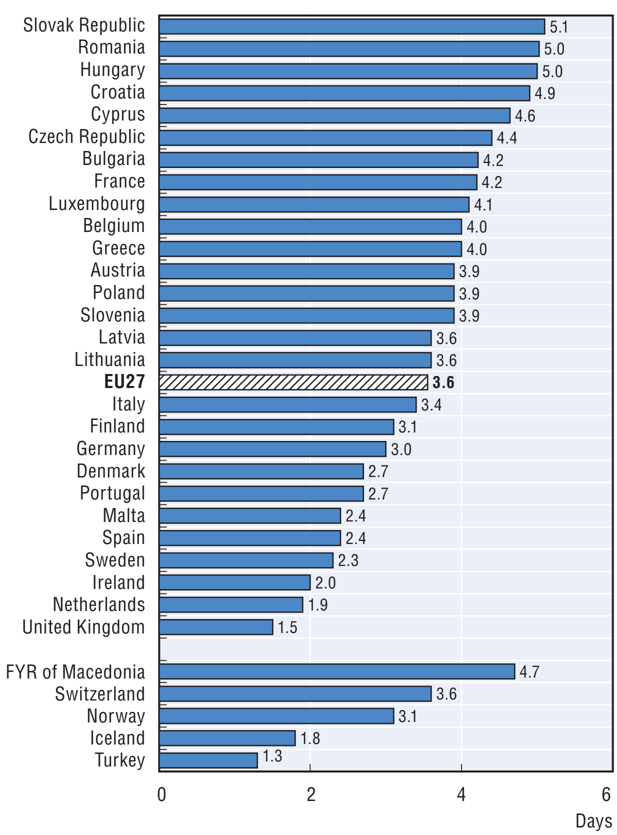
3.7.1. Average length of stay in hospital for all causes, 2000 and 2012 (or nearest year)



1. Data refer to average length of stay for curative (acute) care only (resulting in an under-estimation).

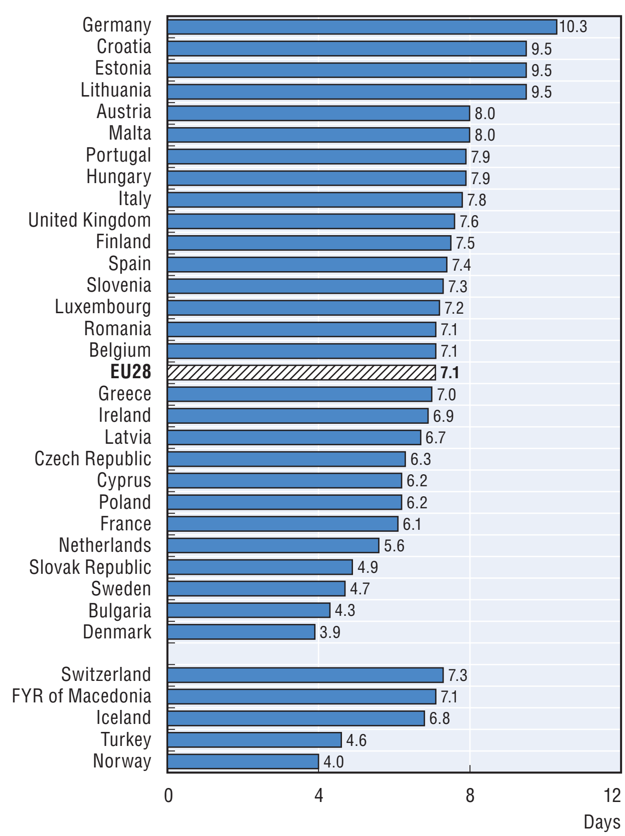
Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*, *WHO Europe Health for All Database*.

3.7.2. Average length of stay for normal delivery, 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

3.7.3. Average length of stay for acute myocardial infarction (AMI), 2012 (or nearest year)



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155611

Heart diseases are a leading cause of hospitalisation and death in European countries (see Indicator 1.4). Coronary artery bypass graft and angioplasty have revolutionised the treatment of ischemic heart diseases in the past few decades. A coronary bypass is an open-chest surgery involving the grafting of veins and/or arteries to bypass one or multiple obstructed arteries. A coronary angioplasty is a much less invasive procedure involving the threading of a catheter with a balloon attached to the tip through the arterial system to distend the coronary artery at the point of obstruction; the placement of a stent to keep the artery open accompanies the majority of angioplasties.

In 2012, Germany, Hungary, the Netherlands, Belgium and Austria had the highest rates of revascularisation procedures overall and coronary angioplasty more specifically (Figure 3.8.1).

A number of reasons can explain cross-country variations in the rate of coronary bypass and angioplasty, including: i) differences in the capacity to deliver and pay for these procedures; ii) differences in clinical treatment guidelines and practices; and iii) differences in coding and reporting practices.

However, the large variations in the number of revascularisation procedures across countries do not seem to be closely related to the incidence of ischemic heart disease (IHD), as measured by IHD mortality (see Indicator 1.3). For example, IHD mortality in Germany is *below* the EU average, but Germany has the highest rate of revascularisation procedures.

National averages can hide important variations in utilisation rates within countries. For example, in Germany, the rate of coronary bypass surgery and angioplasty is nearly three times higher in certain regions compared with others. There are also wide variations in the use of these revascularisation procedures across regions in other countries such as Finland, France and Italy (OECD, 2014).

The use of angioplasty has increased rapidly over the past 20 years in most European countries, overtaking coronary bypass surgery as the preferred method of revascularisation around the mid-1990s – about the same time that the first published trials of the efficacy of coronary stenting began to appear. On average across EU countries, angioplasty now accounts for 80% of all revascularisation procedures (Figure 4.6.2), and exceeds 85% in Estonia, France and Spain. In Denmark, the share of angioplasty increased quickly between 2000 and 2006, but has fallen slightly since then. This slight reduction may be due partly to the fact that the data reported by Denmark does not cover the growing number of angioplasties that are performed as day cases (without any overnight stay in hospital). In addition, in Denmark as in other countries, the greater use of drug-eluting stents reduces the likelihood that the same patient will need another angioplasty.

Coronary angioplasty is an expensive intervention, but it is much less costly than a coronary bypass surgery because it is less invasive. The estimated price of an angioplasty on average across European countries was about EUR 5 600 in 2011 compared with EUR 13 800 for a coronary bypass (Koechlin et al., 2014). Hence, for patients who would otherwise have received bypass surgery, the introduction of angioplasty has not only improved outcomes but has also decreased costs. However, because of the expansion of surgical interventions, overall costs have risen.

Definition and comparability

The data for most countries cover both inpatient and day cases, with the exception of Denmark, Iceland, Norway, Portugal and Switzerland, where they only include inpatient cases (resulting in some under-estimation in the number of coronary angioplasties; this limitation in data coverage does not affect the number of coronary bypasses since nearly all patients are staying at least one night in hospital after such an operation). Some of the variations across countries may also be due to the use of different classification systems and different codes for reporting these two procedures.

In Ireland and the United Kingdom, the data only include activities in publicly-funded hospitals, resulting in an under-estimation (it is estimated that approximately 15% of all hospital activity in Ireland is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland. Data for Spain only partially include activities in private hospitals.

References

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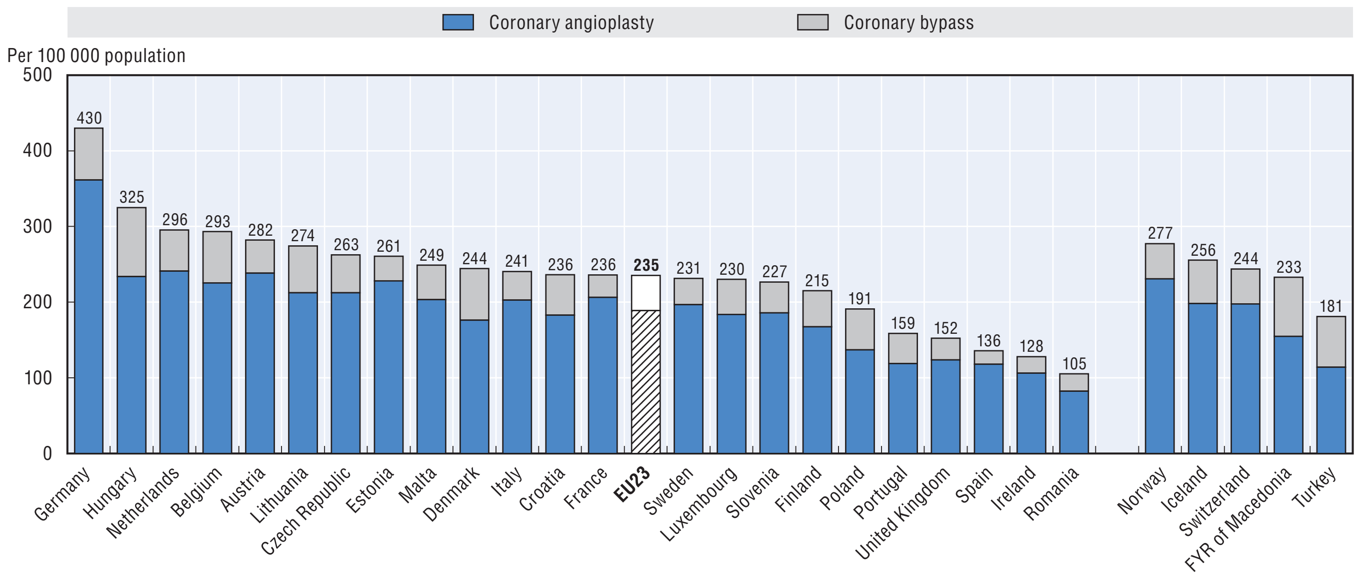
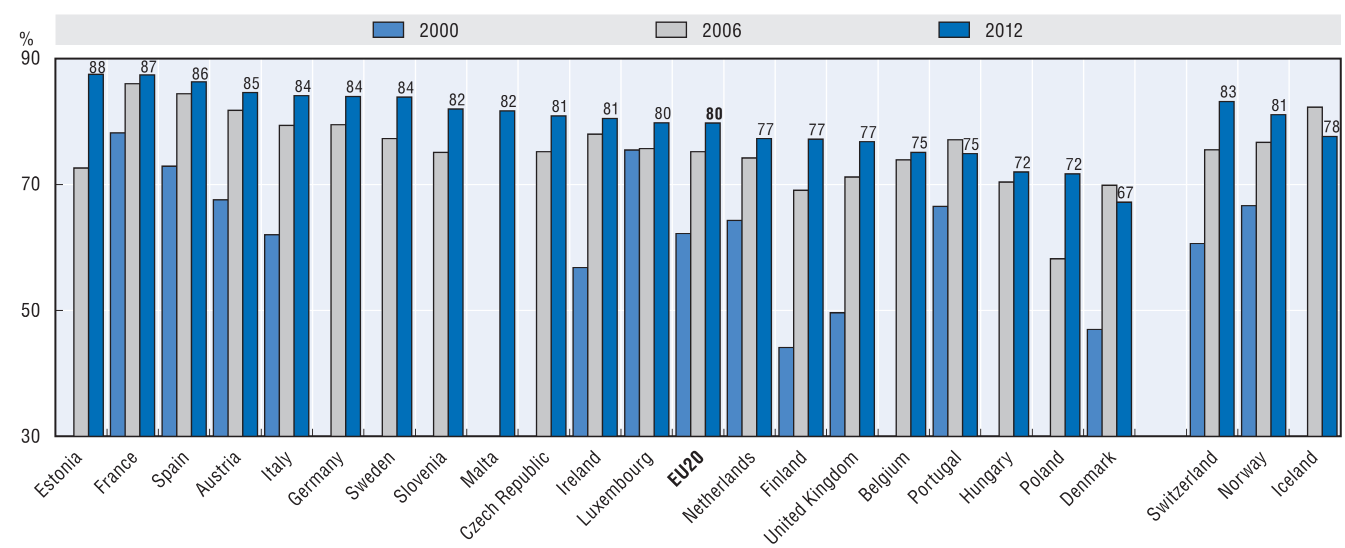
OECD (2014), *Geographic Variations in Health Care Use: What Do We Know and What Can Be done to Improve Health System Performance?*, OECD Health Policy Studies, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264216594-en*.

3.8.1. Coronary revascularisation procedures, 2012 (or nearest year)



Note: Some of the variations across countries are due to different classification systems and recording practices.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.*

3.8.2. Coronary angioplasty as a share of total revascularisation procedures, 2000 to 2012 (or nearest year)



Note: Revascularisation procedures include coronary bypass and angioplasty.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933155625

In the past two decades, the number of surgical procedures carried out on a same-day basis, without any need for hospitalisation, has grown in European countries. Advances in medical technologies, particularly the diffusion of less invasive surgical interventions, and better anaesthetics have made this development possible. These innovations have also improved patient safety and health outcomes for patients, and have in many cases reduced the unit cost per intervention by shortening the length of stay in hospitals. However, the impact of the rise in same-day surgeries on health spending depends not only on changes in their unit cost, but also on the growth in the volume of procedures performed. There is also a need to take into account any additional cost related to post-acute care and community health services following the interventions.

Cataract surgery provides a good example of a high volume surgery which is now carried out predominantly on a same-day basis in most European countries. The operation began to change from an inpatient to a same-day surgery in the 1980s in some Nordic countries, with the movement then spreading to other European countries at different speed. From a medical point of view, a cataract surgery using modern techniques should not normally require an hospitalisation, although there may be some exceptions (e.g., people requiring general anesthesia or with severe comorbidities) (Lundström et al., 2012).

Day surgery now accounts for over 90% of all cataract surgeries in many countries (Figure 3.9.1). However, the use of day surgery is still relatively low in some countries, such as Lithuania, Poland, Hungary and the Slovak Republic. This may be explained by more advantageous reimbursement for inpatient stays, national regulations, obstacles to changing individual practices of surgeons and anaesthetists, and tradition (Castoro et al., 2007). These low rates may also reflect limitations in data coverage of outpatient activities in hospitals or outside hospitals.

The number of cataract surgeries performed on a same-day basis has grown very rapidly in some countries since 2000, such as in Portugal and Austria (Figure 3.9.2), catching up to the high rates already observed in 2000 in Nordic countries, the Netherlands and Spain. In Portugal, the strong rise in the number of cataract surgeries performed as day cases rather than as inpatients has led to a sharp increase in the share of same-day surgery, rising from less than 10% in 2000 to over 90% in 2012 (Figure 3.9.1). In France, this share also increased from 32% in 2000 to 85% in 2012. In Luxembourg, the number of cataract surgeries carried out as day cases and outpatient cases (in or outside hospitals) has also risen rapidly, although they still account for only about two-thirds of all cataract surgeries.

Cataract surgery has now become the most frequent surgical procedure in many European countries. The operation is performed more often in women than men (around 60% versus 40%), because it is related to age and women live longer (Lundström et al., 2012).

In Sweden, there is evidence that cataract surgeries are now being performed on patients suffering from less severe vision problems compared to a decade ago. This raises the issue of how the needs of these patients should be prioritised relative to other patient groups (Swedish Association of Local Authorities and Regions and National Board of Health and Welfare, 2010). The European Registry of Quality Outcomes for Cataract and Refractive Surgery recently developed evidence-based guidelines to improve treatment and standards of care for cataract surgery (Lundström et al., 2012).

Definition and comparability

Cataract surgeries consist of removing the lens of the eye because of the presence of cataracts which are partially or completely clouding the lens, and replacing it with an artificial lens. The surgery may involve in certain cases an overnight stay in hospital (in-patient cases), but in many countries it is now performed mainly as day cases (defined as a patient admitted to the hospital and discharged the same day) or outpatient cases in hospitals or outside hospitals (without any formal admission and discharge). However, the data for many countries do not include such outpatient cases in hospitals or outside hospitals, with the exception of the Czech Republic, Estonia, Finland, France, Luxembourg, the United Kingdom where these cases are included. Caution is therefore required in making cross-country comparisons, given the incomplete coverage of same-day surgeries in several countries.

In Ireland and the United Kingdom, the data only include cataract surgeries carried out in public hospitals, excluding any procedures performed in private hospitals and in the ambulatory sector (in Ireland, it is estimated that approximately 15% of all hospital activity is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland. Data for Spain only partially include activities in private hospitals.

References

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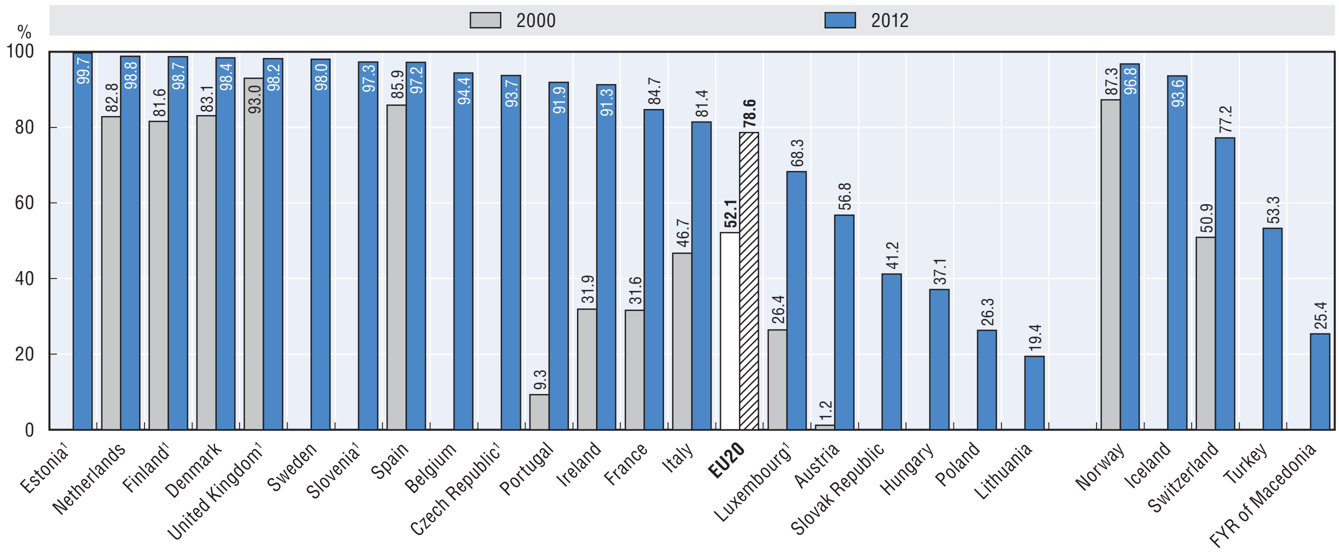
Lundström, M. et al. (2012), "Evidence-based Guidelines for Cataract Surgery: Guidelines Based on Data in the European Registry of Quality Outcomes for Cataract and Refractive Surgery Database", *Journal of Cataract and Refractive Surgery*, Vol. 38, No. 6, pp. 1086-1093, June.

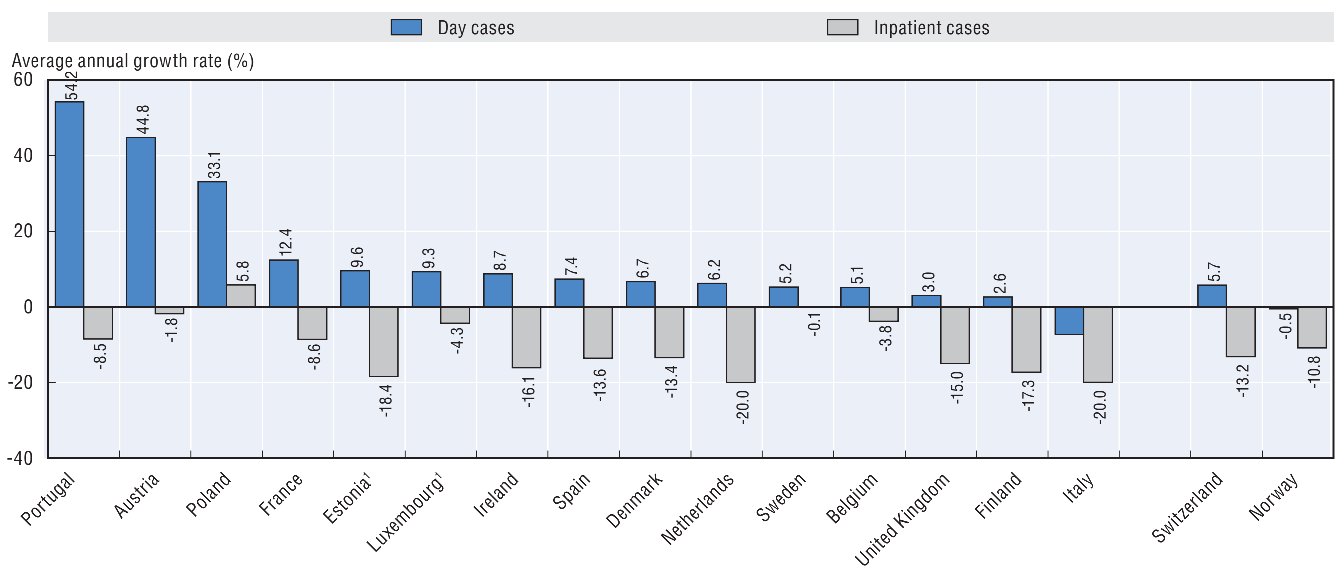
Swedish Association of Local Authorities and Regions and National Board of Health and Welfare (2010), *Quality and Efficiency in Swedish Health Care – Regional Comparisons 2009*, Stockholm.

3.9.1. Share of cataract surgeries carried out as day cases, 2000 and 2012 (or nearest year)



1. Data include outpatient cases in hospitals and outside hospitals.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; Eurostat Statistics Database.

3.9.2. Growth in cataract surgeries per capita, day cases and inpatient cases, 2000 to 2012 (or nearest year)



1. Data include outpatient cases in hospitals and outside hospitals.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; Eurostat Statistics Database.

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Significant advances in surgical treatment have provided effective options to reduce the pain and disability associated with certain musculoskeletal conditions. Joint replacement surgery (hip and knee replacement) is considered the most effective intervention for severe osteoarthritis, reducing pain and disability and restoring some patients to near normal function.

Ostheoarthritis is one of the ten most disabling diseases in developed countries. Worldwide estimates are that 10% of men and 18% of women aged over 60 years have symptomatic osteoarthritis, including moderate and severe forms (WHO, 2014). Age is the strongest predictor of the development and progression of osteoarthritis. It is more common in women, increasing after the age of 50 especially in the hand and knee. Other risk factors include obesity, physical inactivity, smoking, excess alcohol and injuries (European Commission, 2008). While joint replacement surgery is mainly carried out among people aged 60 and over, it can also be performed among people at younger ages.

In 2012, Germany, Austria, Sweden, Finland and Belgium had the highest rates of hip replacement among EU countries. Hip replacement rates were also very high in Switzerland (Figure 3.10.1). These countries were also those that had the highest rates of knee replacement (Figure 3.10.2). Differences in population structure may explain part of these variations across countries, and age-standardisation reduces to some extent the variations across countries. But still, large differences remain and the country ranking does not change significantly after age standardisation (McPherson et al., 2013; OECD, 2014).

National averages can mask important variations in hip and knee replacement rates within countries. In Germany, France and Italy, the rate of knee replacement is more than two times higher in certain regions compared with others, even after age-standardisation (OECD, 2014).

The number of hip and knee replacements has increased in recent years in most European countries, with knee replacements generally growing more rapidly, although the volume of knee replacements still remains below that of hip replacements (Figures 3.10.3 and 3.10.4). In Denmark, the number of hip replacement per 100 000 population increased by 40% between 2000 and 2012, while the knee replacement rate more than tripled, although the rates have been stable or declined slightly in recent years. The growth rate for both interventions was lower in France, but still the hip replacement rate increased by more than 10% while the knee replacement rate rose by 80% between 2000 and 2012.

The growing volume of hip and knee replacement is contributing to health expenditure growth since these are expensive interventions. In 2011, the estimated price of a hip replacement on average across European countries was about EUR 6 800, while the price of a knee replacement was EUR 6 300 (Koechlin et al., 2014).

Definition and comparability

Hip replacement is a surgical procedure in which the hip joint is replaced by a prosthetic implant. It is generally conducted to relieve arthritis pain or treat severe physical joint damage following hip fracture.

Knee replacement is a surgical procedure to replace the weight-bearing surfaces of the knee joint to relieve the pain and disability of osteoarthritis. It may also be performed for other knee diseases such as rheumatoid arthritis.

Classification systems and registration practices vary across countries which may affect the comparability of the data. Some countries only include total hip replacement (e.g., Estonia) while most also include partial replacement. In Ireland and the United Kingdom, the data only include activities in publicly-funded hospitals (it is estimated that approximately 15% of all hospital activity is undertaken in private hospitals). The data for Portugal relate only to public hospitals on the mainland. The data for Spain only partially include activities in private hospitals.

References

European Commission (2008), *Major and Chronic Diseases – Report 2007*, EC Directorate-General for Health and Consumers, Luxembourg.

Koechlin, F. et al. (2014), "Comparing Hospital and Health Prices and Volumes Internationally: Results of a Eurostat/OECD Project", *OECD Health Working Papers,* No. 75, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5jxznwrj32mp-en*.

McPherson, K., G. Gon and M. Scott (2013), "International Variations in a Selected Number of Surgical Procedures", *OECD Health Working Papers*, No. 61, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k49h4p5g9mw-en*.

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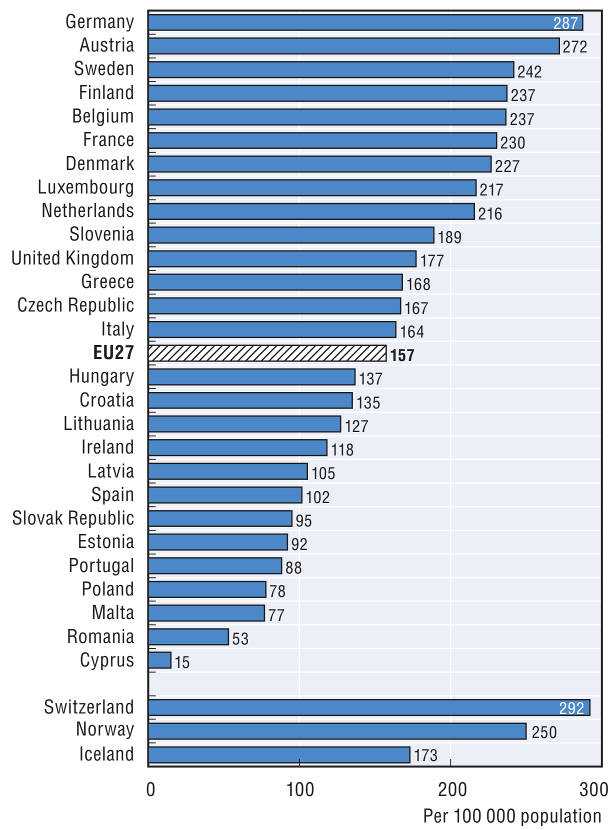
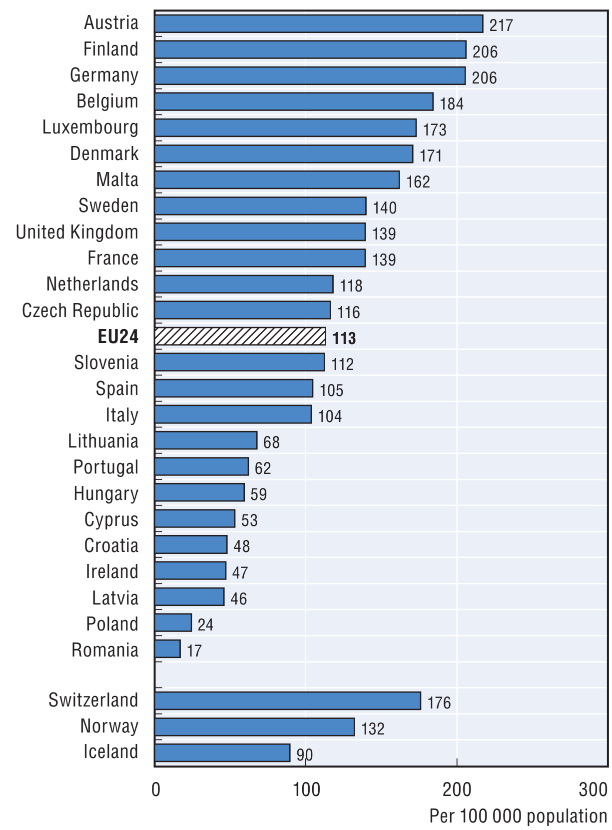
3.10.1. Hip replacement surgery, per 100 000 population, 2012 (or nearest year)



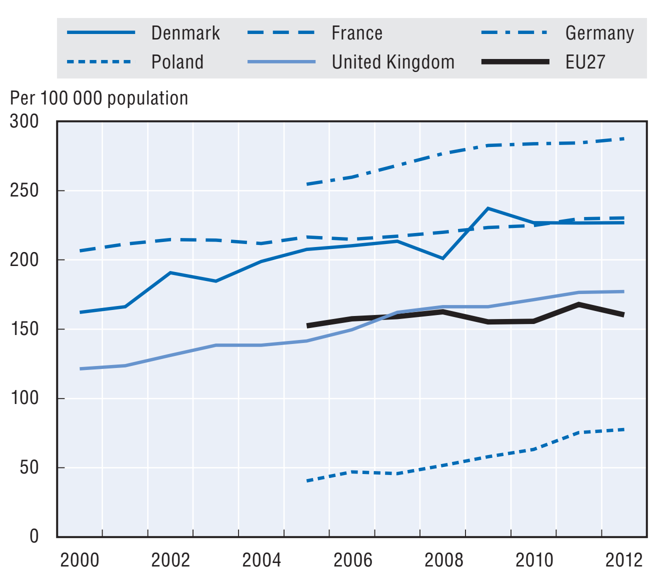
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

3.10.2. Knee replacement surgery, per 100 000 population, 2012 (or nearest year)



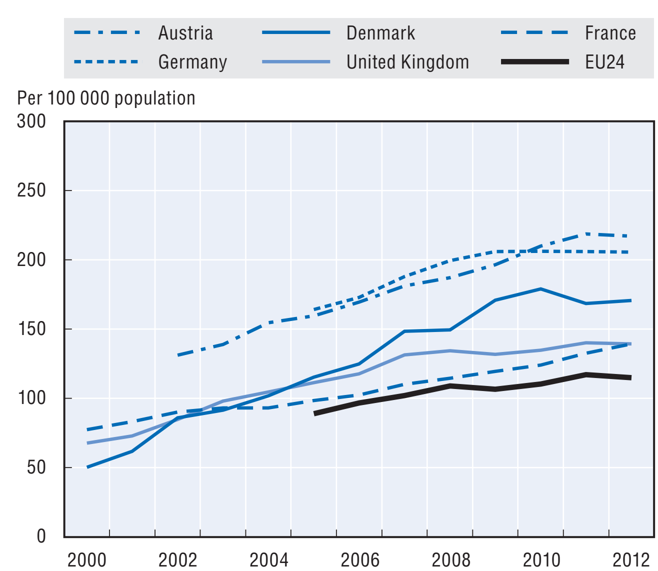
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

3.10.3. Trend in hip replacement surgery, 2000-12, selected countries



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

3.10.4. Trend in knee replacement surgery, 2000-12, selected countries



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155643

Growth in pharmaceutical spending slowed down or was negative in many European countries in recent years, due mainly to price reductions and a growing share of the generic market (see Indicator 6.4 "Pharmaceutical expenditure"). However, the overall quantities of pharmaceuticals consumed have often continued to increase, partly driven by growing demand for drugs to treat ageing-related and chronic diseases.

This section discusses the volume of consumption of four categories of pharmaceuticals: drugs against hypertension, cholesterol-lowering drugs, antidiabetics and antidepressants. Consumption of these drugs is measured through the defined daily dose (DDD) unit (see the box on "Definition and comparability").

Hypertension is an important public health problem. It has been estimated that one in three adults worldwide is affected by hypertension, and 13% of mortality is associated with high blood pressure (WHO, 2012). The consumption of antihypertensive medications has nearly doubled on average in EU countries between 2000 and 2012 (Figure 3.11.1). In 2012, consumption per capita was the highest in Germany, Hungary and the Czech Republic.

The use of cholesterol-lowering drugs has more than tripled across EU countries from fewer than 29 DDDs per 1 000 people per day in 2000 to nearly 100 DDDs in 2012 (Figure 3.11.2). Both the epidemiological context – for instance, growing obesity – and increased screening and treatment explain the very rapid growth in the consumption of cholesterol-lowering medications. The United Kingdom, the Slovak Republic and Belgium had the highest consumption per capita in 2012, with levels that were at least 30% higher than the EU average. While these cross-country differences may partly reflect differences in the prevalence of cholesterol levels in the population, differences in clinical guidelines for the control of bad cholesterol also play a role.

The use of drugs against diabetes has nearly doubled on average across EU countries between 2000 and 2012 (Figure 3.11.3). This growth can be explained by a rising prevalence of diabetes, largely linked to increases in the prevalence of obesity. In 2012, the consumption of antidiabetics was highest in Finland, Germany and the United Kingdom. While the consumption of antidiabetics in Finland and Germany was about the same as in France in 2000, it has increased much more rapidly since then. In 2012, more than 20% of men aged 65 and over in Finland took at least one drug against diabetes, compared with 14% in Denmark and 15% in Sweden (NOMESCO, 2013).

The consumption of antidepressants has also nearly doubled in EU countries since 2000 (Figure 3.11.4). Guidelines for the pharmaceutical treatment of depression vary across countries, and there is also great variation in prescribing behaviors among general practitioners and psychiatrists across and within countries. Iceland had the highest level of consumption of antidepressants in 2012, almost two-times greater than in Norway. Nearly 30% of women aged 65 and over took at least one type of antidepressants in Iceland in 2012, compared with less than 15% in Norway (NOMESCO, 2013). Among EU countries, antidepressants consumption in 2012 was highest in Portugal, Denmark and Sweden.

Greater intensity and duration of treatments are some of the factors explaining the general increase in antidepressant consumption. In addition, rising consumption can also be explained by the extension of the indications of some antidepressants to milder forms of depression, generalised anxiety disorders or social phobia. These extensions have raised concerns about appropriateness. Changes in the social acceptability and willingness to seek treatment during episodes of depression have also contributed to increased consumption.

Some researchers have suggested that the growing use of antidepressants may also be linked to the insecurity created by the economic crisis. In Spain, the consumption of antidepressants per capita increased by 23% between 2007 and 2012, although this increase was lower than in the preceding five years (44% between 2002 and 2007). In Portugal, antidepressant consumption went up by 30% between 2007 and 2012, but this was also slower than the 60% growth rate between 2002 and 2007. The consumption of antidepressants in recent years rose even more quickly in countries such as Germany (a rise of over 50% between 2007 and 2012) which were less affected by the economic crisis.

Definition and comparability

Defined daily dose (DDD) is the assumed average maintenance dose per day for a drug used for its main indication in adults. DDDs are assigned to each active ingredient(s) in a given therapeutic class by international expert consensus. For instance, the DDD for oral aspirin equals 3 grams, which is the assumed maintenance daily dose to treat pain in adults. DDDs do not necessarily reflect the average daily dose actually used in a given country. DDDs can be aggregated within and across therapeutic classes of the Anatomic-Therapeutic Classification (ATC). For more detail, see *www.whocc.no/atcddd*.

The volume of hypertension drugs consumption presented in Figure 3.11.1 refers to the sum of five ATC2 categories which can all be prescribed against hypertension (antihypertensives, diuretics, beta-blocking agents, calcium channel blockers and agents acting on the renin-angiotensin system).

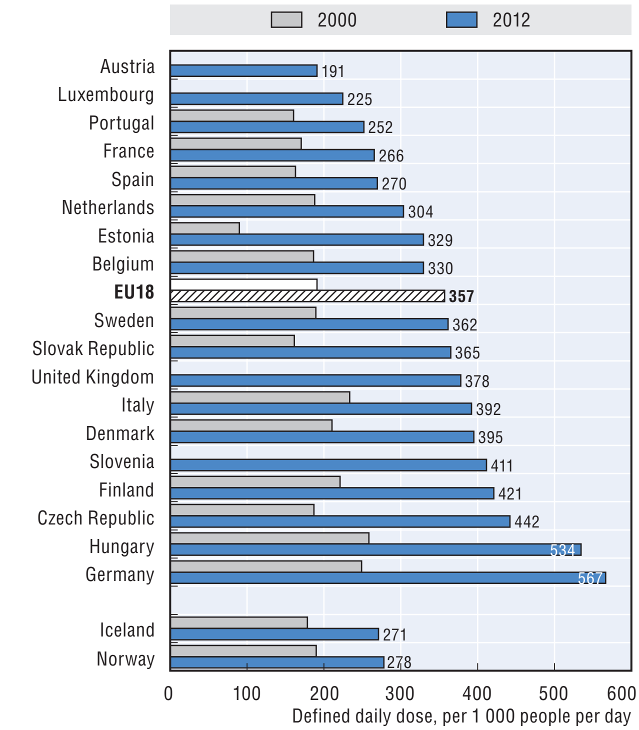
Data generally refer to outpatient consumption only, except for the Czech Republic, Estonia, Italy and Sweden where data also include hospital consumption. The data for Spain refer to outpatient consumption for prescribed drugs covered by the National Health System (public insurance).

References

NOMESCO – Nordic Medico-Statistical Committee (2013), *Health Statistics for the Nordic Countries*, NOMESCO, Copenhagen.

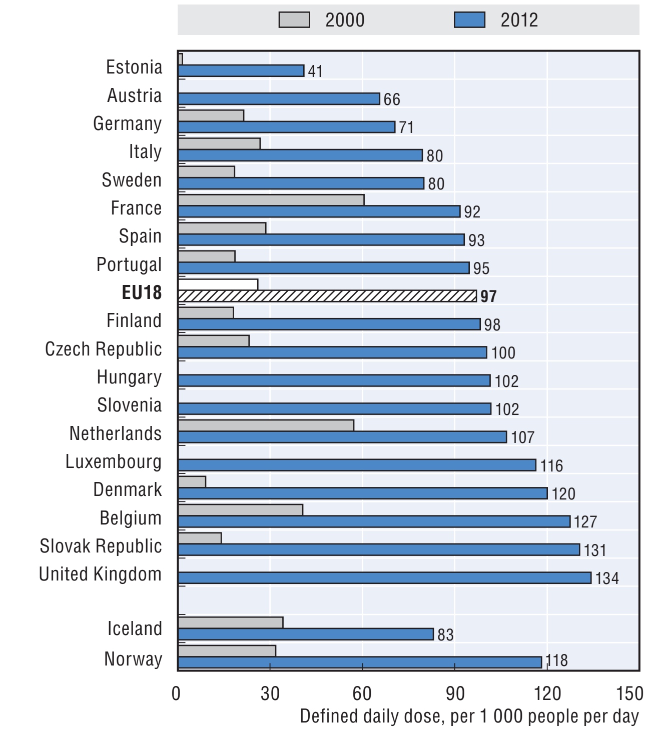
WHO – World Health Organization (2012), *World Health Statistics 2012*, WHO, Geneva.

3.11.1. Hypertension drugs consumption, 2000 and 2012 (or nearest year)



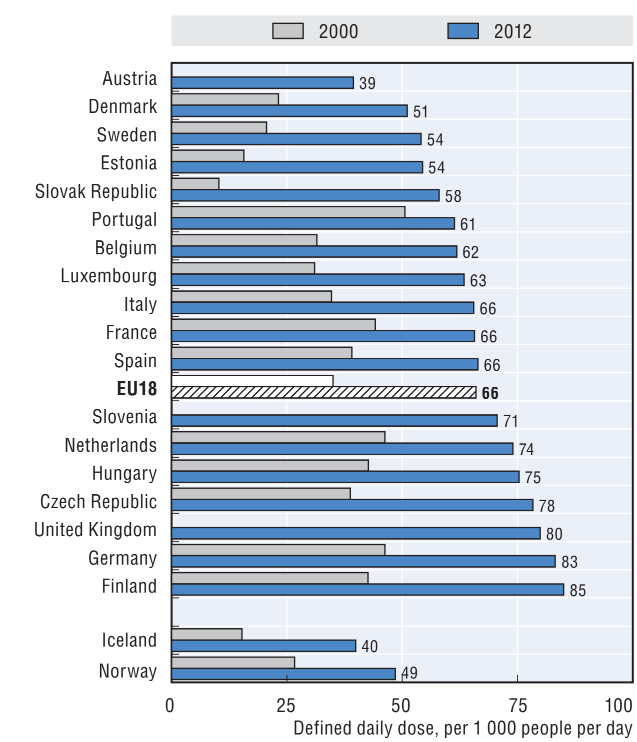
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*.

3.11.2. Anticholesterols consumption, 2000 and 2012 (or nearest year)



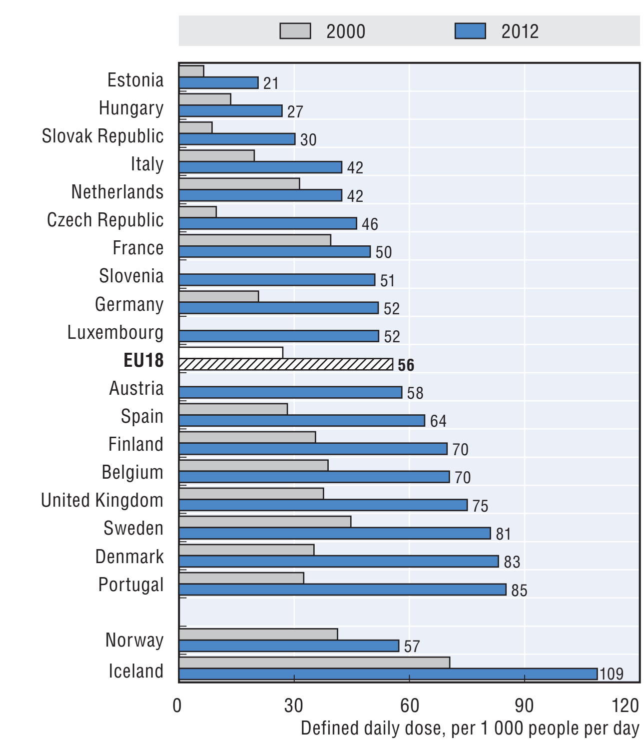
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*.

3.11.3. Antidiabetics consumption, 2000 and 2012 (or nearest year)



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*.

3.11.4. Antidepressants consumption, 2000 and 2012 (or nearest year)



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*.

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Chapter 4

Quality of care

Most health systems have developed a "primary level" of care whose functions include managing new health complaints that pose no immediate threat to life, managing long term conditions and supporting the patient in deciding when referral to hospital-based services are necessary. A key aim is to keep people well, by providing a consistent point of care over the longer term, tailoring and co-ordinating care for those with multiple health care needs and supporting the patient in self-education and self-management.

Asthma, chronic obstructive pulmonary disease (COPD) and diabetes are three widely prevalent long term conditions. Both asthma and COPD limit the ability to breathe: asthma symptoms are usually intermittent and reversible with treatment, whilst COPD is a progressive disease that almost exclusively affects current or prior smokers. A recent survey conducted in 70 countries showed that the global prevalence of clinically treated asthma in adults was estimated to be 4.5%. However, asthma prevalence in some European countries was amongst the highest in the world, with the Netherlands, Sweden and the United Kingdom having prevalence rates of 15% or higher (To et al., 2012). COPD affects around 64 million worldwide and currently is the fourth leading cause of death worldwide. In 2010, COPD accounted for around 3% of total deaths in the European Union (WHO, 2013). Diabetes is a condition in which the body's ability to regulate excessive glucose levels in the blood is lost. This can lead to many complications over the longer term such as kidney failure or loss of sight; in the shorter term, loss of consciousness or coma can occur. Globally, around 382 million people have diabetes worldwide and this prevalence is projected to increase by 55% by 2035. In 2011, the condition is estimated to have been responsible for 10% of total adult deaths in Europe (IDF, 2013).

Common to all three conditions is the fact that the evidence base for effective treatment is well established and much of it can be delivered at a primary care level. A high performing primary care system can to a significant extent, therefore, avoid acute deterioration in people living with asthma, COPD or diabetes and prevent their admission to hospital.

Figure 4.1.1 shows that among the EU member states, asthma accounted for an average of 51 hospital admissions per 100 000 population in 2011. Asthma-related admissions in the Slovak Republic and Latvia were more than double the EU average, whereas Italy, Portugal, Germany, Sweden and Luxembourg report rates that were less than half the EU average. As shown in Figure 4.1.2, the average COPD-related admission rate was 199 per 100 000 population in EU member states in 2011, nearly four times greater than for asthma. Ireland and Hungary have the highest admission rates for COPD. Portugal, Italy, Switzerland and France have rates that are less than half the EU average. Whilst some of the variation undoubtedly reflects differences in smoking rates, there is evidence that differences in the quality of care also play an important role. Hospital admission rates for uncontrolled diabetes vary 8-fold, as shown in Figure 4.1.3. Italy, United Kingdom and Spain have the lowest rates, while Austria and Hungary report rates nearly double the OECD average.

Examining trends, the majority of countries report a reduction in admission rates for each of the three conditions over recent years, which may represent an improvement in the quality of primary care. Other factors may also be relevant though, including structural factors such as the accessibility of primary care. The background prevalence of disease is not necessarily strongly related to admission rates. The influence of these factors in determining primary care quality is described in a series of country reviews currently being undertaken by OECD, highlighting, for example, the critical role played by quality indicators to improve the quality of primary care.

Definitions and comparability

The asthma and COPD indicators are defined as the number of hospital discharges of people aged 15 years and over per 100 000 population. The indicator for diabetes is based on the sum of three indicators: admissions for short-term and long-term complications; and for uncontrolled diabetes without complications.

Rates were age-sex standardised to the 2010 OECD population aged 15 and over. Differences in coding practices among countries and the definition of an admission may affect the comparability of data. Differences in disease classification systems, for example between ICD-9-CM and ICD-10-AM, may also affect data comparability.

References

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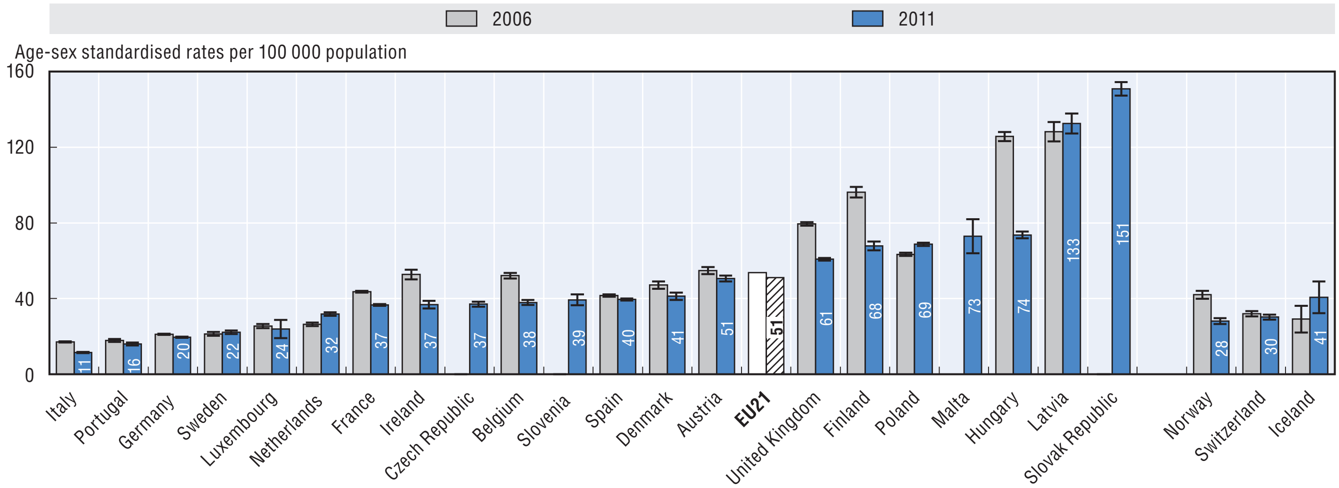
To, T. et al. (2012), "Global Asthma Prevalence in Adults: Findings from the Cross-Sectional World Health Survey", *BMC Public Health*, Vol. 12, pp. 204-211.

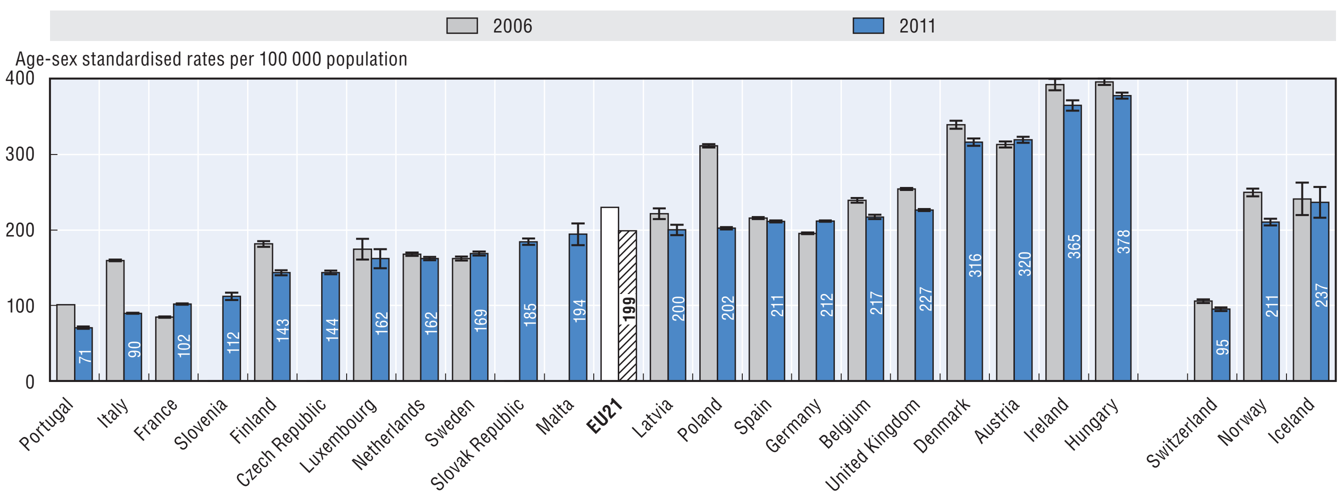
WHO – World Health Organization (2013), "Chronic Obstructive Pulmonary Disease (COPD)", *Background Paper 6.13*, WHO, Geneva, available at *www.who.int/medicines/areas/priority_medicines/BP6_13COPD.pdf*.

4.1.1. Asthma hospital admission in adults, 2006 and 2011 (or nearest year)



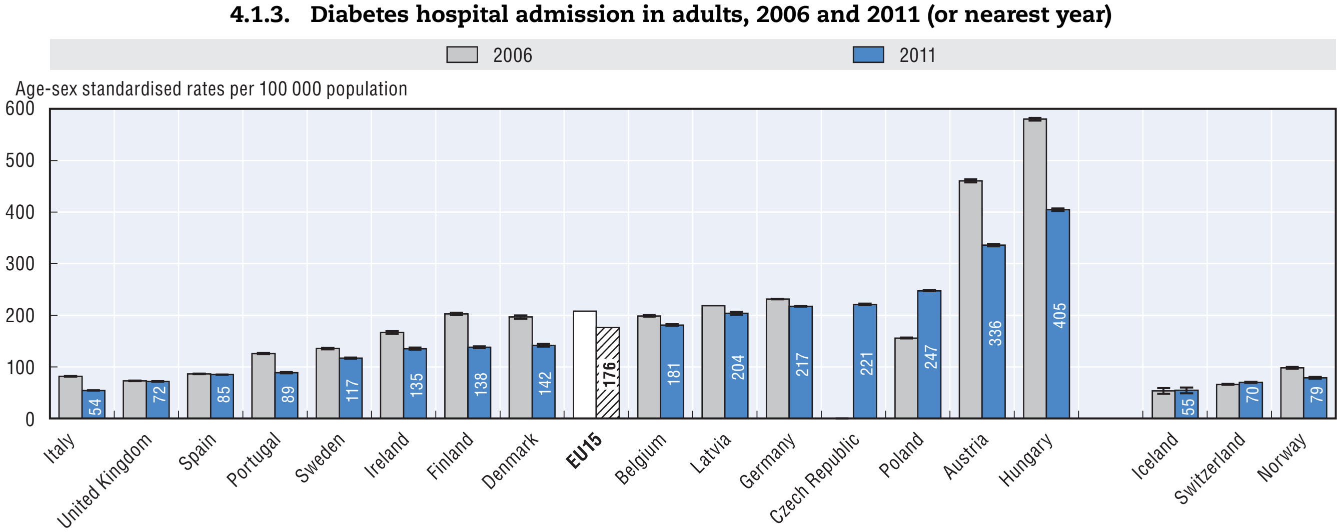
Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.1.2. COPD hospital admission in adults, 2006 and 2011 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.1.3. Diabetes hospital admission in adults, 2006 and 2011 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

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Beyond consumption and expenditure (see Indicators 3.11 "Pharmaceutical consumption" and 6.4 "Pharmaceutical expenditure"), information on prescribing can be used as an indicator of health care quality. This section includes an indicator on prescribing in primary care, in order to develop a more comprehensive picture of quality in the sector. Two related indicators are shown: the total volume of antibiotics and the volume of quinolones and cephalosporins as a proportion of all antibiotics, prescribed in primary care.

There is a clear correlation between the volume of antibiotics prescribed at community level and prevalence of resistant bacterial strains. Infections caused by resistant microorganisms often fail to respond to conventional treatment, resulting in prolonged illness, greater risk of death, and higher costs. Reduced prescribing in primary care has been associated with reductions in antibiotic resistance. Hence antibiotics should be prescribed only where there is an evidence-based need, avoiding use in mild throat infections, for example, which are nearly always viral (Cochrane Collaboration, 2013). Whilst an optimal level of prescribing is difficult to establish, variations in prescribing volume have been validated as a marker of health care quality in the primary care setting.

Quinolones and cephalosporins are considered second-line antibiotics in most prescribing guidelines. Their use should be restricted to ensure availability of effective second-line therapy should first-line antibiotics fail. Again, although an optimal level of prescribing of these antibiotics is difficult to establish, there is widespread evidence that these antibiotics are prescribed unnecessarily where no antibiotics or a more standard antibiotic would suffice. Their volume as a proportion of the total volume of antibiotics prescribed has also been validated as a marker of quality in the primary care setting (Adriaenssens et al., 2011).

Figure 4.2.1 shows volumes of antibiotics prescribed in primary care at national level. Volumes vary more than three-fold across countries, with the Netherlands and Estonia reporting the lowest volumes and Greece, Cyprus and Belgium reporting volumes around 1.5 times the European Union average. Variation is likely to be explained, on the supply side, by differences in the regulation, guidelines and incentives that primary care prescribers are exposed to and, on the demand side, by cultural differences in attitudes and expectations regarding the natural history and optimal treatment of infective illness.

Figure 4.2.2 shows the volume of quinolones and cephalosporins as a proportion of all antibiotics prescribed in primary care. The ten-fold variation across countries is much greater than that seen for total antibiotic prescribing volume; Denmark, Norway, the United Kingdom and Sweden report the lowest proportions, whilst Romania, Malta, Cyprus, Germany and Greece report volumes more than 1.5 times the European Union average. There is modest association in countries' ranking across these two indicators: Greece and Cyprus report high volumes and the Nordic countries relatively low volumes, for example. Germany, Romania and Hungary, however, report low total prescribing volumes but relatively high proportions of quinolone and cephalosporin use.

Total use may well exceed the volumes reported here given that, in some countries, self-medication is common (Grigoryan et al., 2006). Reducing use is a pressing, yet complex problem, likely to require multiple co-ordinated initiatives including surveillance, regulation and education of professionals and patients. Many such programmes are underway, including a European Union Joint Programming Initiative on Antimicrobial Resistance launched in 2008 as well as a initiatives at national level, such as Belgium's Antibiotic Policy Coordination Committee, which reported decreases in antibiotic use and resistance as a result of its work over the last ten years.

Definition and comparability

See Indicator 3.11 for a description of the defined daily dose (DDD). Data generally refer to outpatient consumption only, except for Iceland, Lithuania, the Slovak Republic and Cyprus where data also include use in the hospital sector.

References

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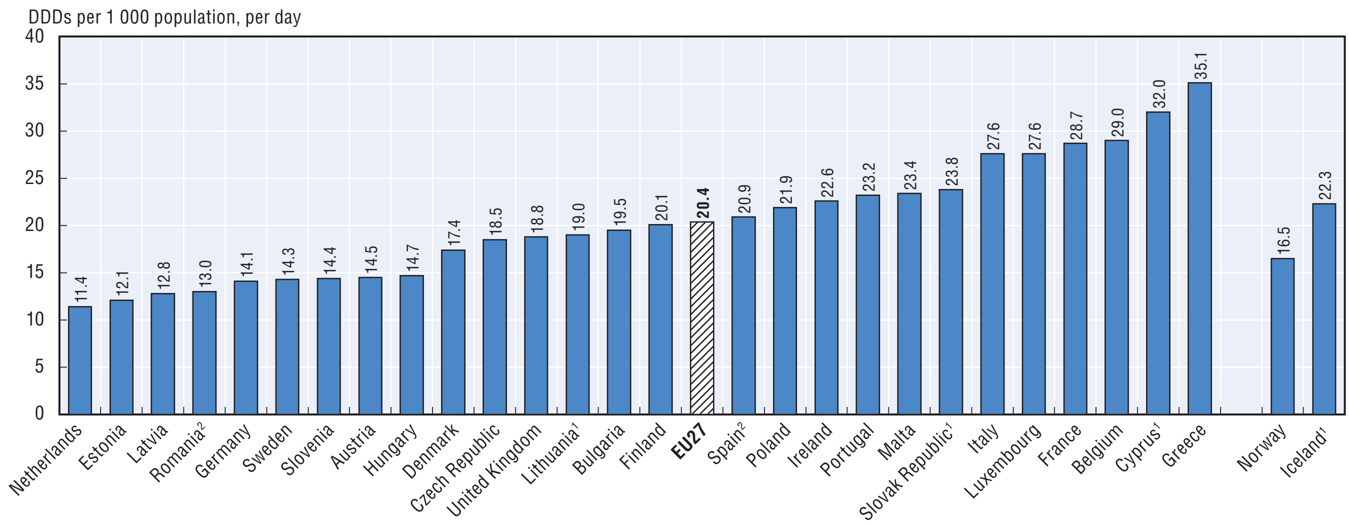
Grigoryan, L et al. (2006), "Self-medication with Antimicrobial Drugs in Europe", *Emerging Infectious Diseases*, Vol. 12, No. 3, pp. 452-459.

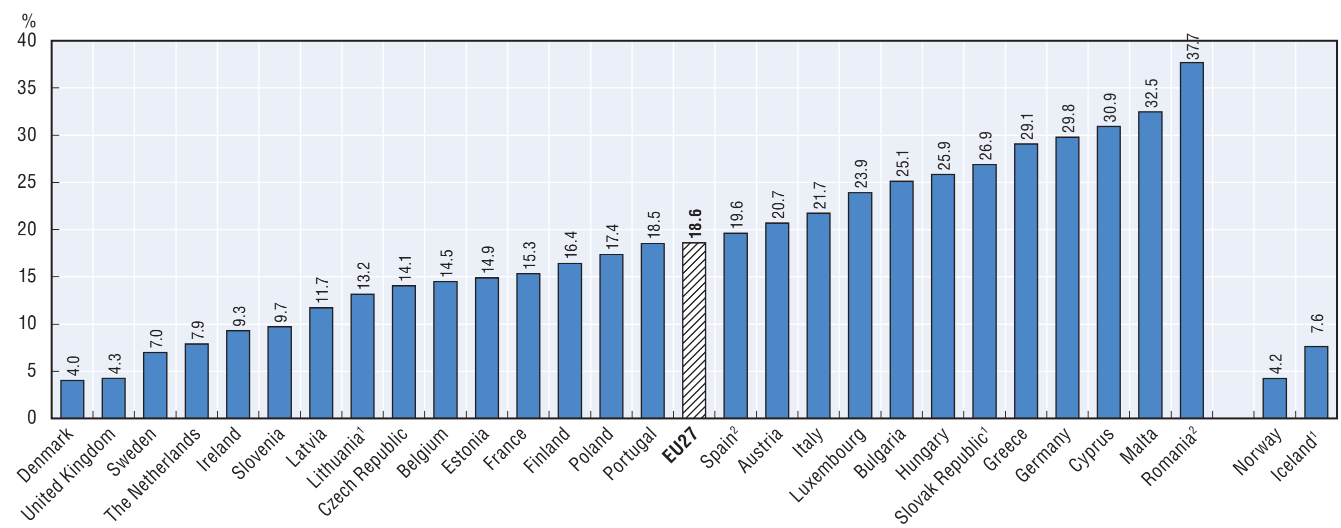
4.2.1. Overall volume of antibiotics prescribed, 2011



1. Data include the hospital sector.
2. Reimbursement data, i.e. not including consumption without a prescription and other non-reimbursed.

Source: ECDC (2013), *Surveillance of Antimicrobial Consumption in Europe 2011*.

4.2.2. Cephalosporins and quinolones as a proportion of all antibiotics prescribed, 2011



1. Data include the hospital sector.
2. Reimbursement data, i.e. not including consumption without a prescription and other non-reimbursed.

Source: ECDC (2013), *Surveillance of Antimicrobial Consumption in Europe 2011*.

StatLink http://dx.doi.org/10.1787/888933155679

Mortality due to coronary heart disease has declined substantially since the 1970s (see Indicator 1.4 "Mortality from heart disease and stroke"). This reduction can, in part, be attributed to better treatments, particularly in the acute phases of myocardial infarction (AMI). Care for AMI has changed dramatically in recent decades, with the introduction of coronary care units and treatments aimed at rapidly restoring coronary blood flow. Clinical practice guidelines, such as those developed by the European Society of Cardiology, provide clinicians with information on how to optimise treatments and studies have shown that greater compliance with guidelines improve health outcomes. However, some AMI patients do not receive recommended care, raising concerns over the quality of care in some countries.

A good indicator of acute care quality is the 30-day AMI case-fatality rate. This indicator measures the percentage of people who die within 30-days following admission to hospital for AMI. The measure reflects the processes of care, such as timely transport of patients and effective medical interventions. AMI case-fatality rates have been used for hospital benchmarking in several countries including Denmark and the United Kingdom (Kessler and Geppert, 2005; Cooper et al., 2011). The indicator is influenced by not only the quality of care provided in hospitals but also differences in hospital transfers, average length of stay and AMI severity.

Figure 4.3.1 shows the case-fatality rates within 30 days of admission for AMI. The panel on the left reports the in-hospital case-fatality rate when the death occurs in the same hospital as the initial AMI admission. The average age-standardised AMI case-fatality rate across the European Union was 7.8% in 2011 but rates vary widely between countries. The lowest age-standardised rates were in Denmark, Sweden and Norway (with rates at or below 4.5%) and the highest rate in Latvia (14.8%) and Hungary (13.9%). These cross-country differences relate to several factors including the quality of pre-hospital emergency medical services, the diagnosis and treatment patterns delivered to patients, although some of the variation between countries may be explained by differences in data definitions (see box on "Definitions and comparability"). Further, better hospital performance in cardiovascular disease has recently been linked to better quality governance systems for monitoring and benchmarking (OECD, forthcoming).

The right-hand-side panel of Figure 4.3.1 shows 30-day AMI case-fatality rates where fatalities are recorded regardless of where they occur. This is a more robust indicator because it records deaths more widely than the same-hospital indicator, but it requires linked-data which is not available in all countries. The average AMI case-fatality rate was 11.5% in 2011, ranging from 8.2% in Norway to 18.8% in Hungary. The degree of cross-country variation is considerably less compared to the same-hospital indicator. One potential reason for this is that patients may be more commonly transferred to other facilities in countries such as Denmark compared to Hungary.

Case-fatality rates for AMI have decreased over time, with almost all countries recording sizeable reductions between 2001 and 2011 (Figure 4.3.2). The AMI case-fatality rate for the 18 EU member states reporting data over this period fell by nearly 40% between 2001 and 2011. Between 2006 and 2011, the rate of decline was particularly striking in Denmark and the Slovak Republic, where case-fatality rates fell by more than 35%. These substantial improvements reflect better and more reliable processes of care, in particular with respect to rapid re-opening of the occluded arteries.

Definitions and comparability

In-hospital case-fatality rate following AMI is defined as the number of people who die within 30 days of being admitted (including same day admissions) to hospital with an AMI. Ideally, rates would be based on individual patients; however, not all countries have the ability to track patients in and out of hospitals, across hospitals or even within the same hospital because they do not currently use a unique patient identifier. In order to increase country coverage, this indicator is also presented based on individual hospital admissions and restricted to mortality within the same hospital, so differences in practices in discharging and transferring patients may influence the findings. In counting the number of AMI admissions, Belgium excludes transfers to other hospitals from the denominator, leading to some over-estimation.

Rates were age-sex standardised to the 2010 OECD population aged 45+ admitted to hospital for AMI. Standardised rates adjust for differences in age (45+ years) and sex and facilitate more meaningful international comparisons.

Data for Turkey only include public hospitals (excluding university and private hospitals).

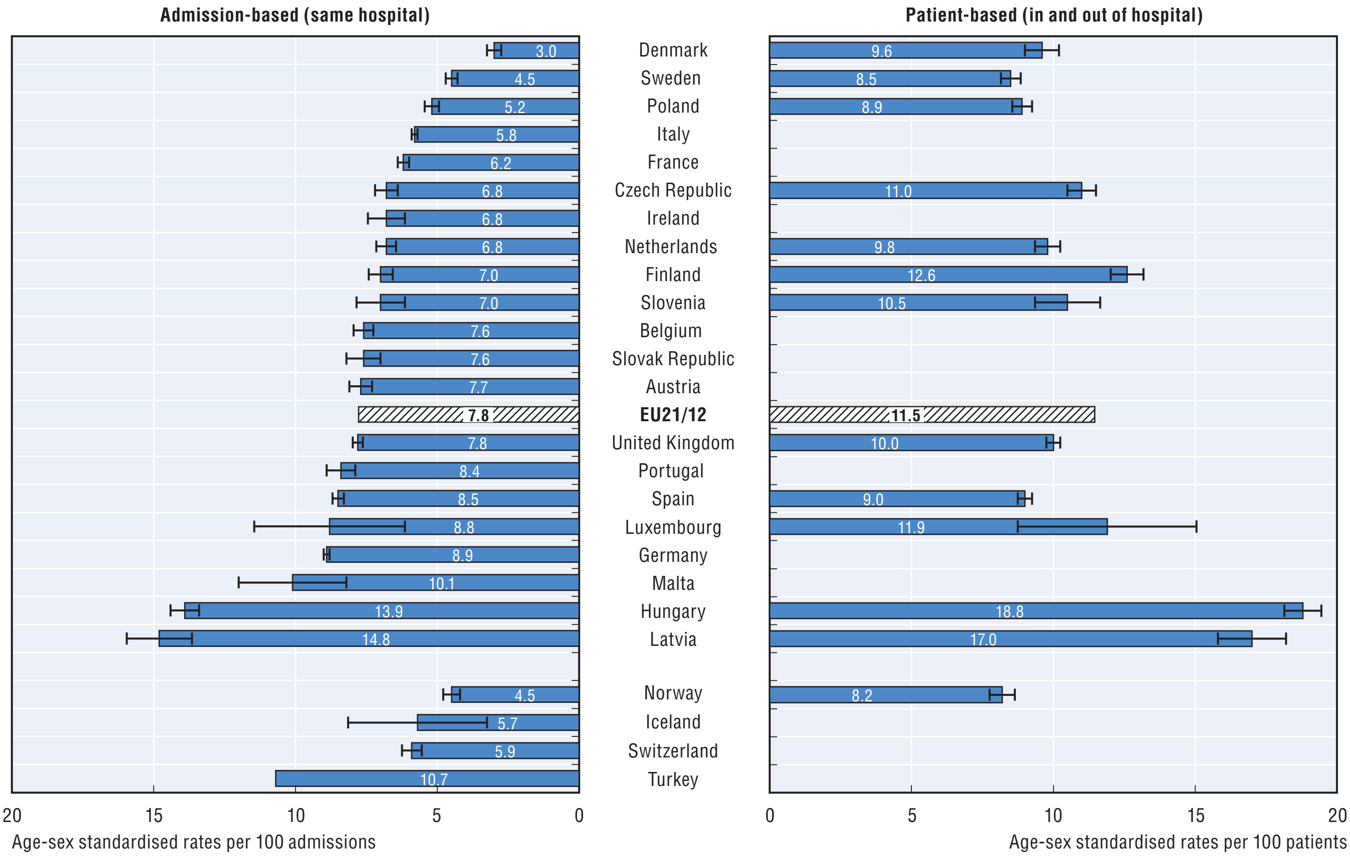
References

Cooper, Z. et al. (2011), "Does Hospital Competition Save Lives? Evidence from the English NHS Patient Choice Reforms", *Economic Journal*, Vol. 121, pp. F228-F260, August.

Kessler, D. and J. Geppert (2005), "The Effects of Competition on Variation in the Quality and Cost of Medical Care", *Journal of Economics and Management Strategy*, Vol. 14, No. 3, pp. 575-589.

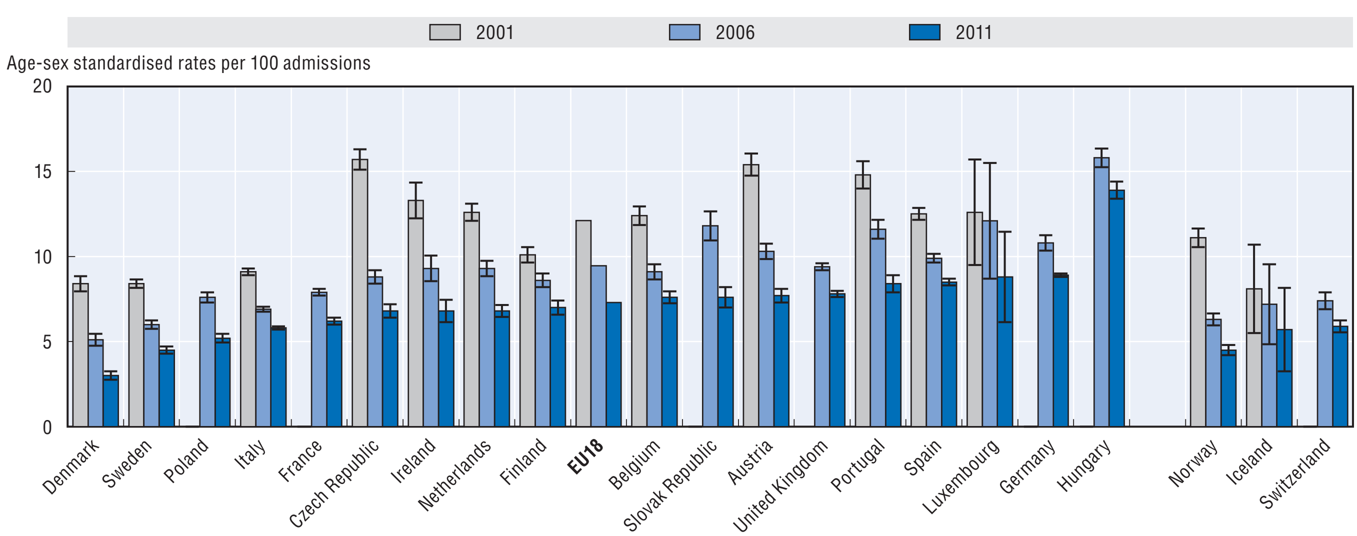
OECD (forthcoming), "Cardiovascular Disease and Diabetes: Policies for Better Health and Quality of Care", OECD Publishing, Paris.

4.3.1. Case-fatality within 30 days after admission for AMI in adults aged 45 and over, 2011 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.3.2. Reduction in admission-based case-fatality within 30 days after admission for AMI in adults aged 45 and over, 2001-11 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933155687

Cerebrovascular disease was the underlying cause for about 11% of all deaths in EU countries in 2011 (Indicator 1.4 "Mortality from heart disease and stroke"). Ischemic stroke represents around 85% of all cerebrovascular disease cases. It occurs when the blood supply to a part of the brain is interrupted, leading to a necrosis (i.e. the cells that die) of the affected part. Treatment for ischemic stroke has advanced dramatically over the last decade. Clinical trials have demonstrated clear benefits of thrombolytic treatment for ischemic stroke as well as receiving care in dedicated stroke units to facilitate timely and aggressive diagnosis and therapy for stroke victims.

Figure 4.4.1 shows the age-sex standardised case-fatality rates within 30 days of admission for ischemic stroke as an indicator of the quality of acute care received by patients. The left-hand-side panel reports the in-hospital case-fatality rate when the death occurs in the same hospital as the initial stroke admission. The panel on the right shows the case-fatality rate where deaths are recorded regardless of whether they occurred in or out of hospital. The indicator on the right hand side is more robust because it captures fatalities more comprehensively. Although more countries can report the more partial same-hospital measure, an increasing number of countries are investing in their data infrastructure and are able to provide more comprehensive measures.

Based on the measure of deaths in the same hospital, the standardised case-fatality rate for ischemic stroke was 9.6% on average across EU member states in 2011 but there were large differences between the highest rate in Latvia (19.0%) and Malta (18.8%) and the lowest rate in Denmark (4.1%). There is almost a five-fold cross-country difference between the highest and lowest percentage of in-hospital case-fatality for ischemic stroke. System-based factors play a significant role in explaining these differences. Denmark for example has been at the forefront of establishing dedicated stroke units in hospitals, contributing to the lowest case-fatality rates for ischemic stroke (OECD, 2013). Patterns of hospital transfers, average length of stay, emergency retrieval time and average severity of stroke constitute other factors influencing these rates. One should note that variation between countries may also, in part, be explained by differences in data definitions (see box on "Definitions and comparability").

Across the 12 countries that reported in- and out-of-hospital case-fatality rates, 12.7% of patients died within 30-days of being admitted to hospital for stroke. This figure is higher than the same-hospital based indicator because it also captures deaths occurring in other hospitals and out-of-hospital. Denmark reports age-standardised rate at 10.9% which is above the rates in other Nordic countries such as Finland, Sweden and Norway. The cross-country variation is substantially smaller for the in- and out-of-hospital measure compared to the same-hospital measure. This may be due to systematic differences between countries in the way that patients are transferred between hospitals and rehabilitative care facilities following stroke.

Between 2001 and 2011, case-fatality rates for ischemic stroke declined by over 20% across EU member states (Figure 4.4.2). These reductions suggest overall improvements in the quality of care for stroke patients, with gains made in most countries. However, improvements were not uniform across countries. Improvements in Belgium and Luxembourg were below the EU average, while the Czech Republic, the Netherlands and Norway were able to reduce their case fatality rates by more than 40% between 2001 and 2011. As in Denmark, the improvements in case-fatality rates can at least be partially attributed to the high level of access to dedicated stroke units in these countries.

Definitions and comparability

In-hospital case-fatality rate following ischemic stroke is defined as the number of people who die within 30 days of being admitted (including same day admissions) to hospital. Ideally, rates would be based on individual patients; however, not all countries have the ability to track patients in- and out-of-hospital, across hospitals or even within the same hospital because they do not currently use a unique patient identifier. In order to increase country coverage, this indicator is also presented based on unique hospital admissions and restricted to mortality within the same hospital, so differences in practices in discharging and transferring patients may influence the findings. In counting the number of stroke admissions, Belgium excludes transfers to other hospitals from the denominator, leading to some over-estimation.

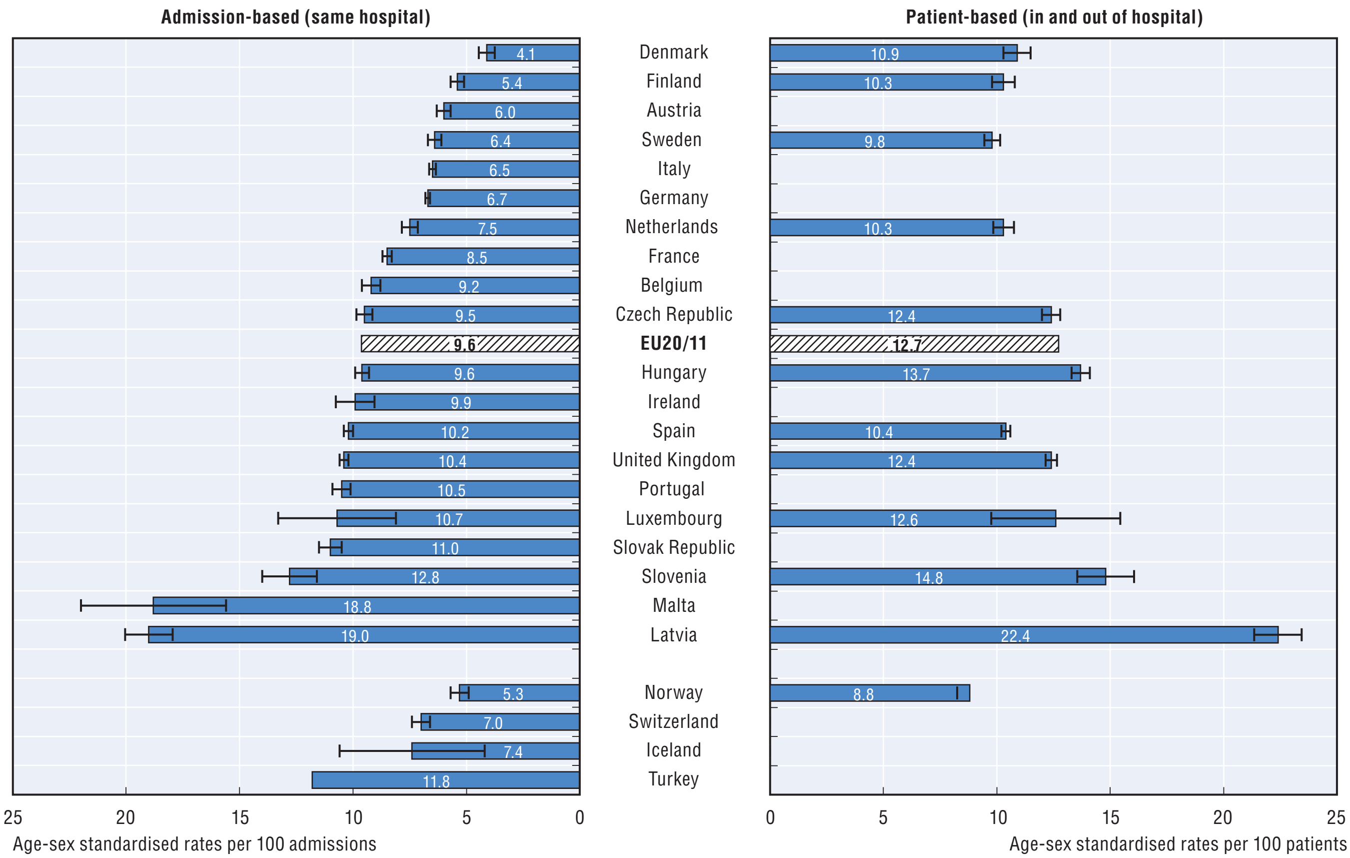
Rates were age-sex standardised to the 2010 OECD population aged 45+ admitted to hospital for stroke. Standardised rates adjust for differences in age (45+ years) and sex and facilitate more meaningful international comparisons.

Data for Turkey only include public hospitals (excluding university and private hospitals).

References

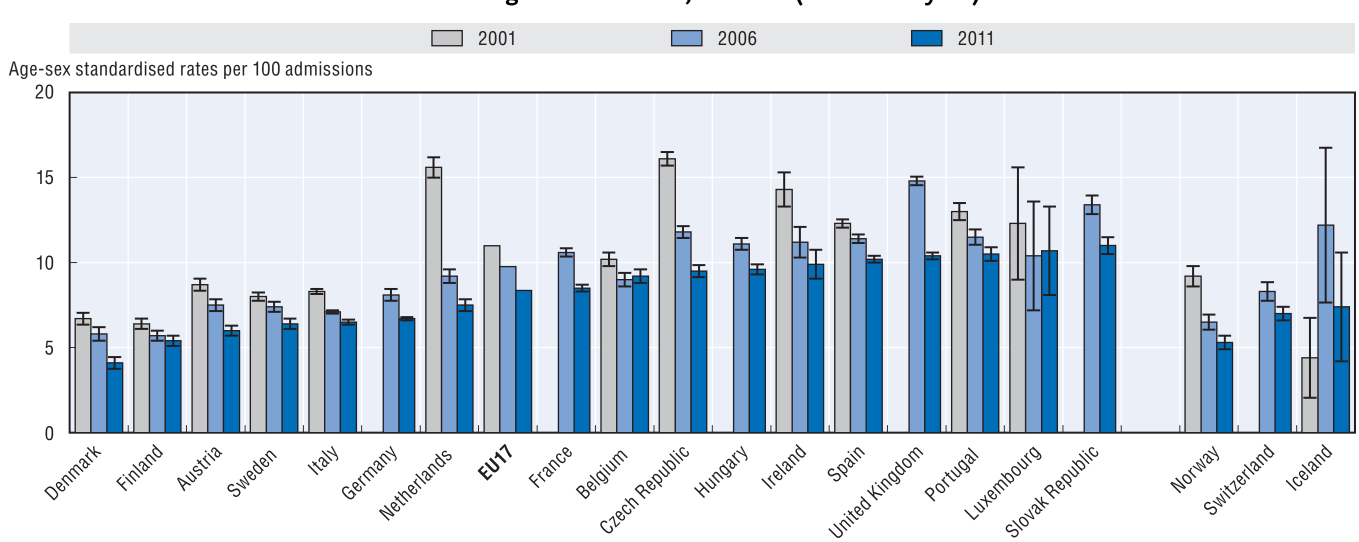
OECD (2013), *OECD Reviews of Health Care Quality: Denmark 2013 – Raising Standards*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264191136-en*.

4.4.1. Case-fatality within 30 days after admission for ischemic stroke in adults aged 45 and over, 2011 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.4.2. Reduction in admission-based case-fatality within 30 days after admission for ischemic stroke in adults aged 45 and over, 2001-11 (or nearest year)



Note: 95% confidence intervals represented by H.
Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933155692

Patient safety remains one of the most prominent issues in health policy and public debate. The European Commission estimates that without any policy changes, there are likely to be 10 million adverse events related to hospitalisations (including infection-related ones) in the European Union per year, of which almost 4.4 million would be preventable (European Commission, 2008). The European Union Network for Patient Safety and Quality of Care, PaSQ Joint Action, was launched in 2012 to create a permanent platform for future co-operation between member states in the area of patient safety and quality of care.

Figures 4.5.1 and 4.5.2 show rates of two adverse events: post-operative pulmonary embolism (PE) or deep vein thrombosis (DVT) and post-operative sepsis. PE or DVT cause unnecessary pain and in some cases death, but can be prevented by anticoagulants and other measures before, during and after surgery. Likewise, sepsis after surgery, which may lead to organ failure and death, can in many cases be prevented by prophylactic antibiotics, sterile surgical techniques and good post-operative care. Figure 4.5.3 illustrates a sentinel event – rates of foreign body left in during procedure. The most common risk factors for this "never event" are emergencies, unplanned changes in procedure, patient obesity and changes in the surgical team. Preventive measures include counting instruments, methodical wound exploration and effective communication among the surgical team.

Variation in post-operative PE or DVT rates (including all surgeries) varies more than 10-fold (Figure 4.5.1). Belgium, Portugal and Spain report the lowest rates, whilst Slovenia reports rates double the EU average. Rates following hip and knee replacement surgery are also shown. These are high risk procedures and higher rates would be expected, yet this pattern is observed in relatively few countries. Several explanations are possible, including more careful care after hip and knee surgery, differences in emergency/elective case mix across countries, in the mix of procedures across the public and private sectors if countries vary in the volume of hip and knee replacements undertaken in each sector, in how national databases link secondary complications back to the primary procedure, or in how secondary complications are reported to the national database, across surgical specialities within a country.

Variation in post-operative sepsis (including all surgeries) is also substantial, at around 5-fold (Figure 4.5.2). Rates following abdominal surgery, a high risk procedure, are higher, as expected, in almost all countries.

Variation in rates for the foreign body left in procedure is around 20-fold (Figure 4.5.3). Belgium, Denmark and Poland report the lowest rates and Switzerland and Portugal the highest rates. There is modest correlation in countries' relative performance across the three indicators, with Belgium and Poland reporting consistently lower rates compared to other countries.

Caution is needed in interpreting the extent to which these indicators accurately reflect international differences in patient safety rather than differences in the way that countries report, code and calculate rates of adverse events (see box on "Definitions and comparability"). In some cases, higher adverse event rates may signal more developed patient safety monitoring systems rather than worse care.

Definitions and comparability

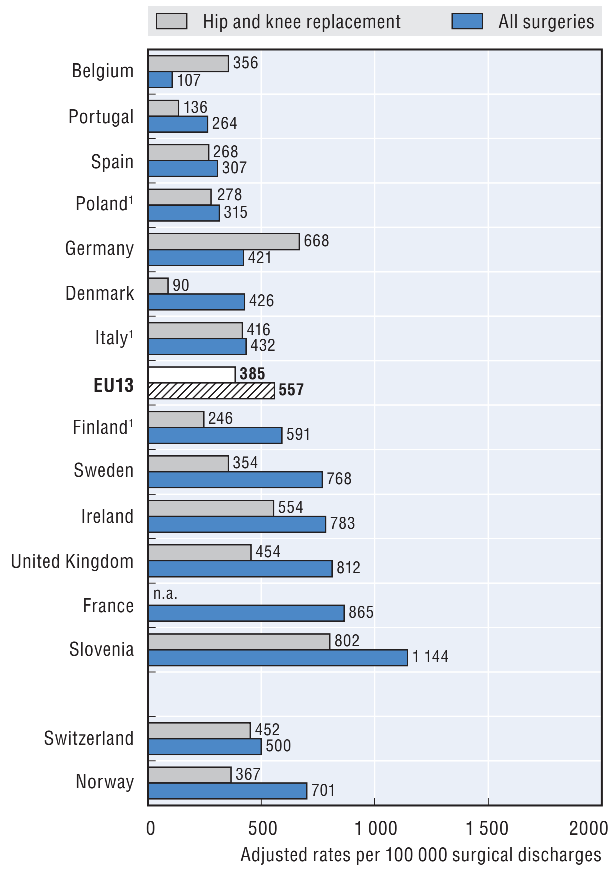
Surgical complications are defined as the number of discharges with ICD codes for complication in any secondary diagnosis field, divided by the total number of discharges for patients aged 15 and older. The rates have been adjusted by the average number of secondary diagnoses in order to improve cross-country comparability. Despite this adjustment, the results for three countries (Finland, Poland and Italy) that are reporting less than 1.5 diagnoses per record may be underestimated. Rates have not been age-sex standardised, since analyses find that this makes a marginal difference to countries' reported rate or ranking relative to other countries.

A fundamental challenge in international comparison of patient safety indicators centres on the quality of the underlying data. The indicators are typically derived from administrative databases, rather than systems specifically designed to monitor adverse events, hence differences in how countries record diagnoses and procedures and define hospital episodes can affect calculation of rates. Countries which rely on clinicians to report adverse events may record them less completely than countries which employ specially trained administrative staff to identify and code adverse events from patients' clinical records, for example. The extent to which national databases facilitate recording of secondary diagnoses or to which payments are determined by diagnosis or procedure lists may also influence recording. Differences in the use of a present on admission flag for diagnoses, and differences in disease classifications systems (for example between ICD-9-CM and ICD-10-AM) are also known to affect data comparability. Hence, differences in indicator rates are likely to reflect differences in coding and recording practices across countries to some extent, as well as true differences in the quality of care.

References

European Commission (2008), *Communication and Recommendation on Patient Safety, including the Prevention and Control of Healthcare-Associated Infections – Summary of the Impact Assessment*, European Commission, Brussels.

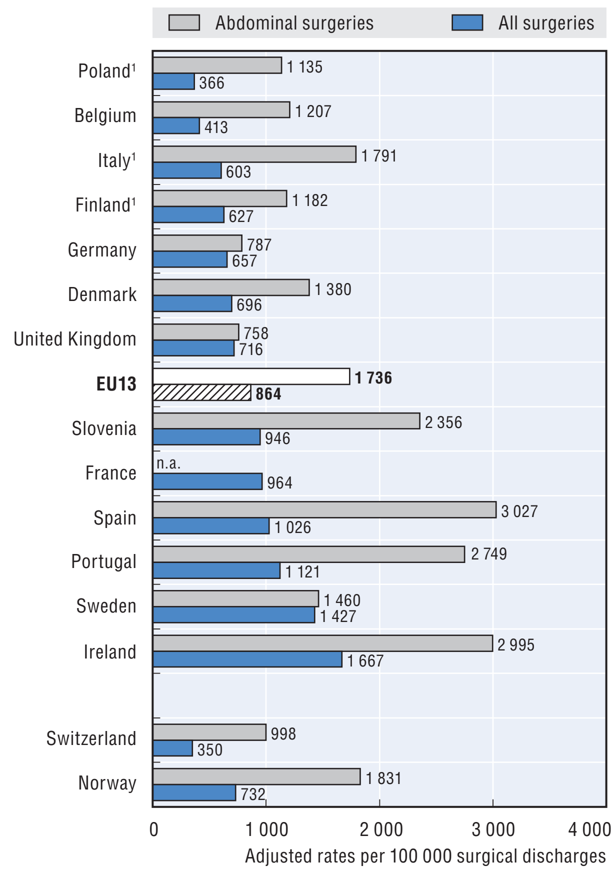
4.5.1. Postoperative pulmonary embolism or deep vein thrombosis in adults, 2011 (or nearest year)



1. The average number of secondary diagnoses is < 1.5.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

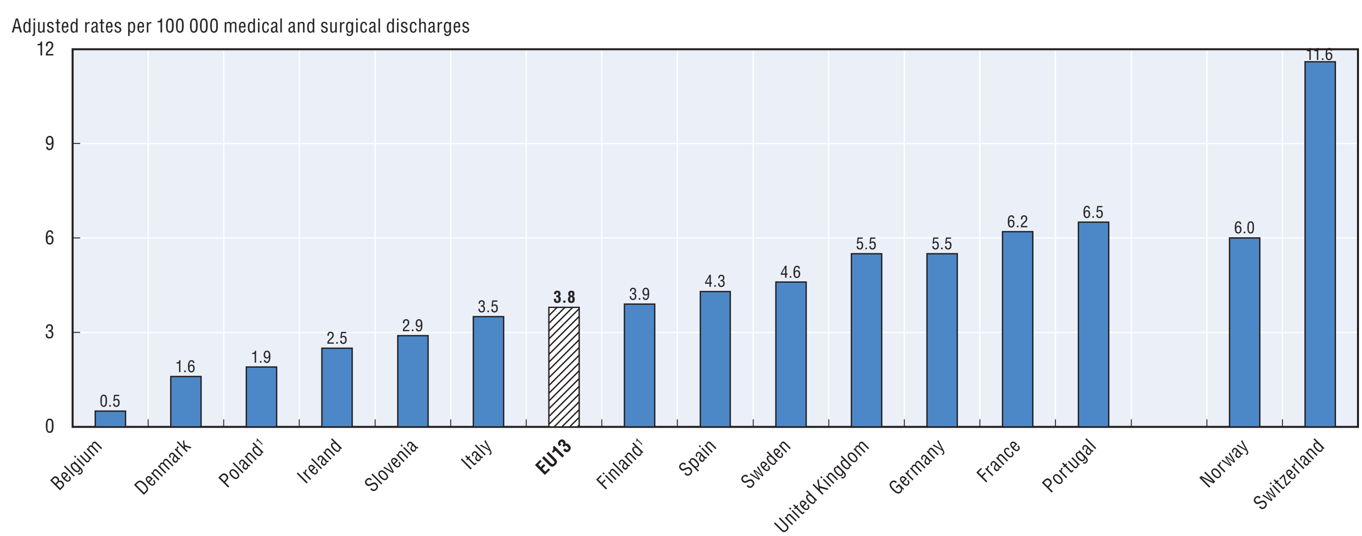
4.5.2. Postoperative sepsis in adults, 2011 (or nearest year)



1. The average number of secondary diagnoses is < 1.5.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.5.3. Foreign body left in during procedure in adults, 2011 (or nearest year)



Note: Some of the variations across countries are due to different classification systems and recording practices.

1. The average number of secondary diagnoses is < 1.5.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933155709

Cervical cancer is highly preventable if precancerous changes are detected and treated before progression occurs. The main cause of cervical cancer, which accounts for approximately 95% of all cases, is sexual exposure to the human papilloma virus (HPV). In 2012, 34 000 new cervical cancers are diagnosed in Europe (IARC, 2012). The 2014-16 Comprehensive Cancer Control Joint Action has the objectives to identify key elements and quality standards for cancer control in Europe in order to reduce incidence by 15% by 2020. Countries follow different policies with regards to the prevention and early diagnosis of cervical cancer. About half of EU countries have cervical cancer screening organised through population-based programmes but the periodicity and target groups vary.

Figure 4.6.1 shows cervical screening rates across European countries around the years 2002 and 2012 for women aged 20-69 years. In 2012 (or nearest year), Austria, Latvia, Germany, Sweden, the United Kingdom, and Norway reported coverage close to 80% of the target population. Whilst overall screening rates across the European Union improved slightly over the past decade, several countries, including France, Switzerland, Finland, Iceland, Luxembourg, Norway, the Netherlands, the Slovak Republic and the United Kingdom witnessed a decline in screening rates between 2002 and 2012. A regional pilot screening program was implemented in Ireland in 2002, so that cervical screening rates are not comparable between 2002 and 2012.

Cancer survival is one of the key measures of the effectiveness of cancer care systems, taking into account both early detection of the disease and the effectiveness of treatment. Figure 4.6.2 shows a small gain in five-year cervical cancer survival in the European Union between 1997-2002 and 2007-12, although gains were not uniform across countries. Of the ten EU member states reporting data in both periods, seven recorded modest gains in survival whereas three countries (Ireland, Finland and Malta) reported a small decline, although the reduction was not statistically significant. Among EU member states, Austria reported the highest rates as well as the highest gain in cervical cancer survival (although not statistically significant), with 67.9% of patients surviving five years after diagnosis.

Mortality rates reflect the effect of cancer care over the past years and the impact of screening, as well as changes in incidence (OECD, 2013). The mortality rates for cervical cancer declined in most European countries between 2000 and 2011, apart from Luxembourg, Greece, Croatia, Estonia, Bulgaria and Latvia (Figure 4.6.3). For some countries such as Lithuania and Romania, mortality rates remain well above the EU average. In Ireland, the increase in age-standardised mortality rates from cervical cancer between 2000 and 2011 is not statistically significant.

Since the development of a vaccine against some HPV types, vaccination programmes have been implemented in most EU countries (ECDC, 2012), although there is an ongoing debate about the impact of the vaccine on cervical cancer screening strategies. By May 2012, 17 of the then 27 EU member states had implemented routine HPV vaccination programmes. In most cases, the vaccination programmes are financed by national health systems but in some countries including for example Belgium and France, recipients contribute to 25% and 35% of the payment, respectively.

Definitions and comparability

Screening rates for cervical cancer reflect the proportion of women who are eligible for a screening test and actually receive the test. As policies regarding screening periodicity and target population differ across countries, the rates are based on each country's specific policy. Some countries ascertain screening based on surveys and others based on encounter data, which may influence the results. Screening rates reported by member states are calculated from Health Interview Surveys on self-perception around preventive measures, which might correspond to different periods and sample across member states. Survey-based results may also be affected by recall bias. If a country has an organised programme, but women receive a screening outside the programme, rates may also be underreported. Survey data are reported only when programme data are not available.

Relative survival reflect the proportion of patients with a certain type of cancer who are still alive after a specified time period (commonly five years) compared to those still alive in absence of the disease. Relative survival captures the excess mortality that can be attributed to the diagnosis. For example, a relative survival of 80% does not mean that 80% of the cancer patients are still alive after five years, but that 80% of the patients that were expected to be alive after five years, given their age at diagnosis and sex, are in fact still alive. All the survival data presented here have been age-standardised using the International Cancer Survival Standard (ICSS) population. Survival is not adjusted for tumour stage at diagnosis, hampering assessment of the relative impact of early detection and better treatment.

See Indicator 1.5 "Mortality from cancer" for definition, source and methodology underlying the cancer mortality rates.

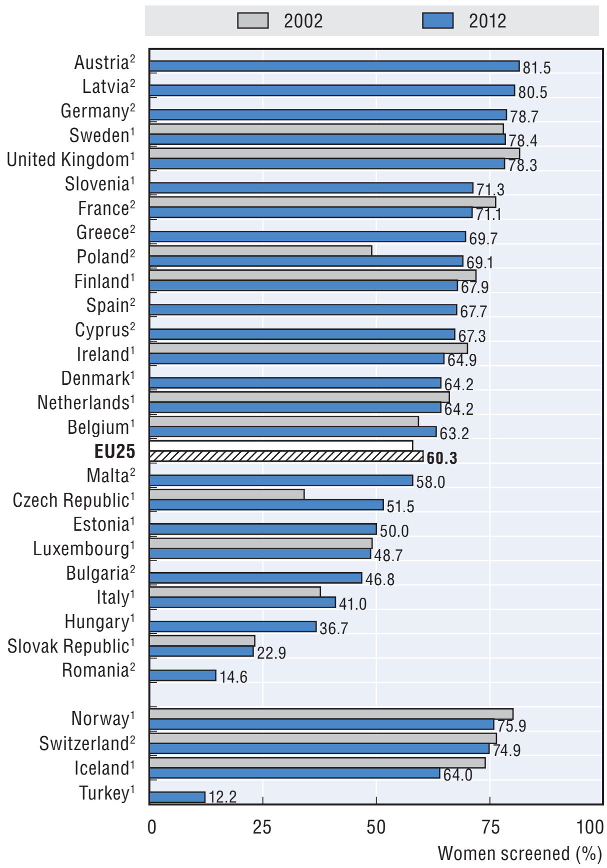
References

European Centre for Disease Prevention and Control (2012), *Introduction of HPV vaccines in EU Countries: An Update*, Stockholm.

IARC – International Agency for Research in Cancer (2012), *GLOBOCAN 2012: Cancer Fact Sheet*, available at: *http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx*.

OECD (2013), *Cancer Care: Assuring Quality to Improve Survival*, OECD Publishing, *http://dx.doi.org/10.1787/9789264181052-en*.

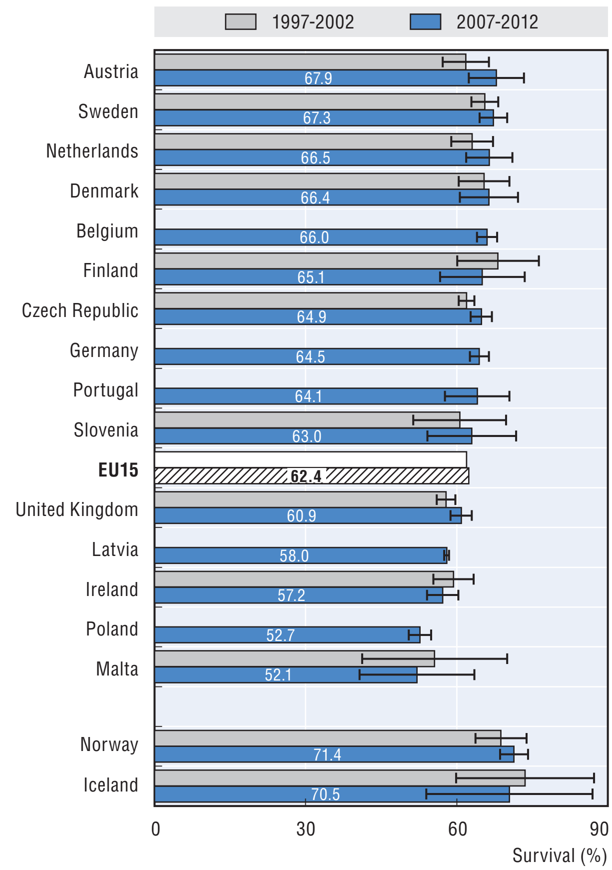
4.6.1. Cervical cancer screening in women aged 20-69, 2002 to 2012 (or nearest year)



1. Programme.
2. Survey.

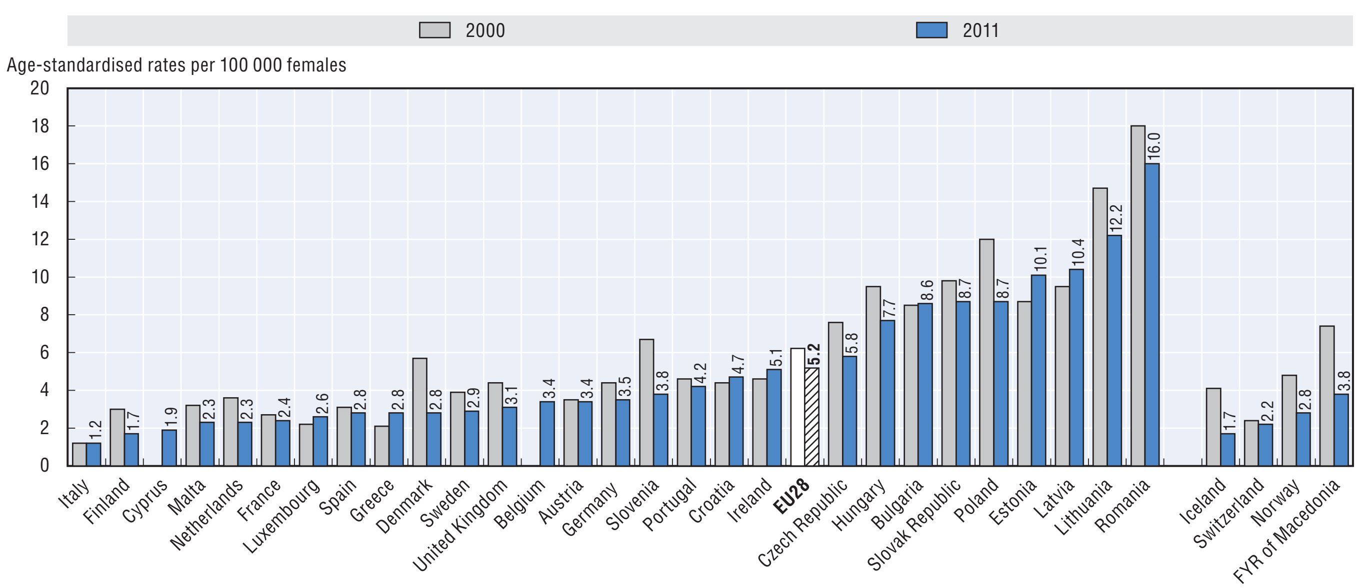
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Statistics Database 2014* for non-OECD countries.

4.6.2. Cervical cancer five-year relative survival, 1997-2002 and 2007-12 (or nearest period)



Note: The 95% confidence intervals represented by H.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en*

4.6.3. Cervical cancer mortality, females, 2000 to 2011



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155713

Breast cancer is the most prevalent form of cancer among women, with 367 000 new cases diagnosed each year in Europe (IARC, 2012). Risk factors that increase a person's chance of getting this disease include, but are not limited to, age, family history of breast cancer, oestrogen replacement therapy, lifestyle, nutrition and alcohol. Variation in breast cancer care across European countries is indicated by mammography screening rates in women aged 50-69 years, relative survival, and mortality rates.

European Guidelines (European Commission, 2006) promote a desirable breast cancer screening target of at least 75% of eligible women in European member states, but in 2010 only six countries had reached this target. There is considerable uniformity amongst national breast screening programmes, in terms of the target age group and recommended time interval between screens. Participation, however, continues to vary considerably across European countries, ranging from 8% in Romania and 16% in the Slovak Republic, to over 80% in Finland, Denmark, Austria and the Netherlands (Figure 4.7.1). This variation may, in part, be explained by programme longevity, with some countries having well established programmes and others commencing programmes more recently. However, screening rates fell in a number of countries in the past decade, including Finland, Ireland, Italy, the Netherlands, Norway and Iceland. Rates in Estonia and Czech Republic have increased substantially, although they remain below the EU average.

Breast cancer survival reflects advances in improved treatments as well as public health interventions to detect the disease early through screening programmes and greater awareness of the disease. The introduction of combined breast conserving surgery with local radiation and neoadjuvant therapy, for example, have increased survival as well as the quality of life of survivors. The availability and use of newer and more effective chemotherapy agents for metastatic breast cancer have also been shown to improve survival among women.

The relative five-year breast cancer survival has improved in many countries in recent periods (Figure 4.7.2), reaching over 80% in all EU countries except Poland. In part, this may be related to more limited access of care in Poland where there are fewer cancer care centres and radiotherapy facilities (OECD, 2013). Five-year survival for breast cancer has increased considerably in central and eastern European countries, where survival has historically been low, as well as in Ireland. Recent studies suggest that some of the differences in cancer survival could be due to variations in the implementation of screening programmes. In addition to well organised breast cancer screening programmes, a recent OECD report on cancer care showed that shorter waiting times and the provision of evidence-based best practice are also associated with improved survival in OECD countries. Developing comprehensive breast cancer control plans, setting national targets with a specified time frame, having guidelines, using case management and having mechanisms for monitoring and quality assurance were found to be associated with improved breast cancer survival (OECD, 2013).

Mortality rates from breast cancer have declined in all EU member states over the past decade except for Bulgaria, Latvia and Croatia (Figure 4.7.3). The reduction in mortality rates reflects improvements in early detection and treatment of breast cancer and is also influenced by the incidence of the disease. Improvements were substantial in Austria, the Netherlands, the Czech Republic, as well as in Malta. Denmark also reported an important decline over the last decade, but its mortality rate was still the highest in 2011.

Definitions and comparability

Mammography screening rates reflect the proportion of eligible women who are actually screened. As policies regarding target age groups and screening periodicity differ to some extent across countries, the rates are based on each country's specific policy. Some countries ascertain screening based on surveys and others based on encounter data, and this may influence results. Screening rates reported by member states are calculated from Health Interview Surveys on self-perception around preventive measures, which might correspond to different periods and sample across member states. Survey-based results may also be affected by recall bias. If a country has an organised programme, but women receive a screen outside of the programme, rates may also be underreported.

Survival is defined in Indicator 4.6 "Screening, survival and mortality for cervical cancer". See Indicator 1.5 "Mortality from cancer" for definition, source and methodology underlying the cancer mortality rates.

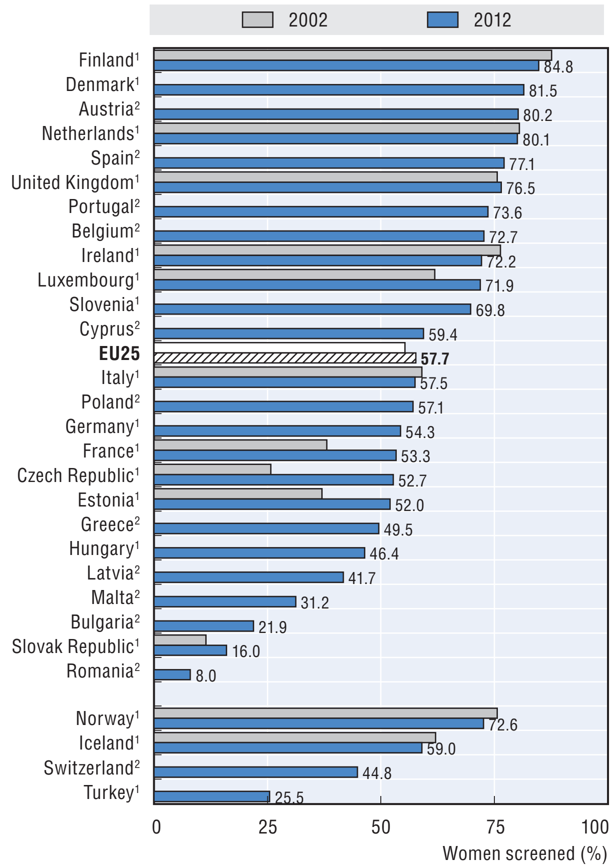
References

European Commission (2006), *European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis*, 4th edition, Luxembourg.

IARC – International Agency for Research on Cancer (2012), *GLOBOCAN 2012: Cancer Fact Sheet*, available at: *http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx*.

OECD (2013), *Cancer Care: Assuring Quality to Improve Survival*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264181052-en*.

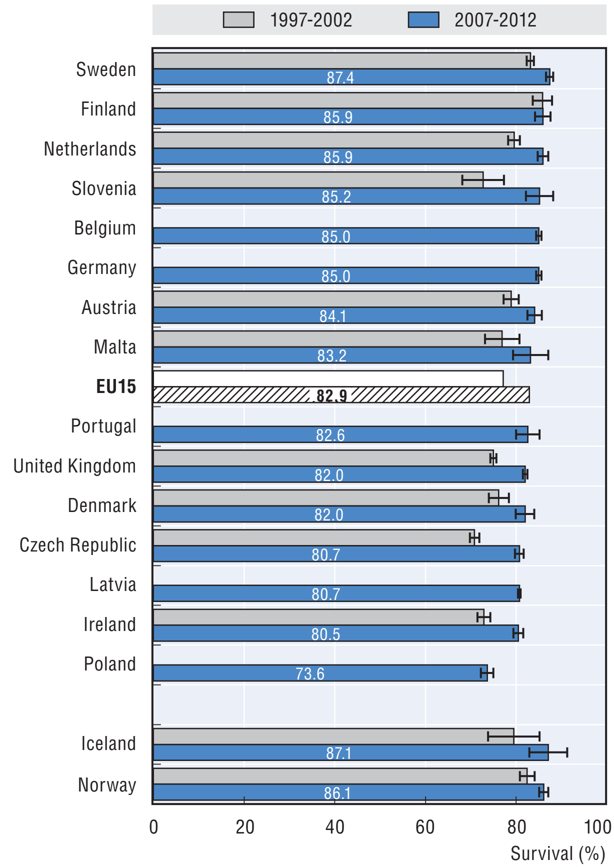
4.7.1. Mammography screening in women aged 50-69, 2002 to 2012 (or nearest year)



1. Programme.
2. Survey.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en* completed with *Eurostat Statistics Database* for non-OECD countries.

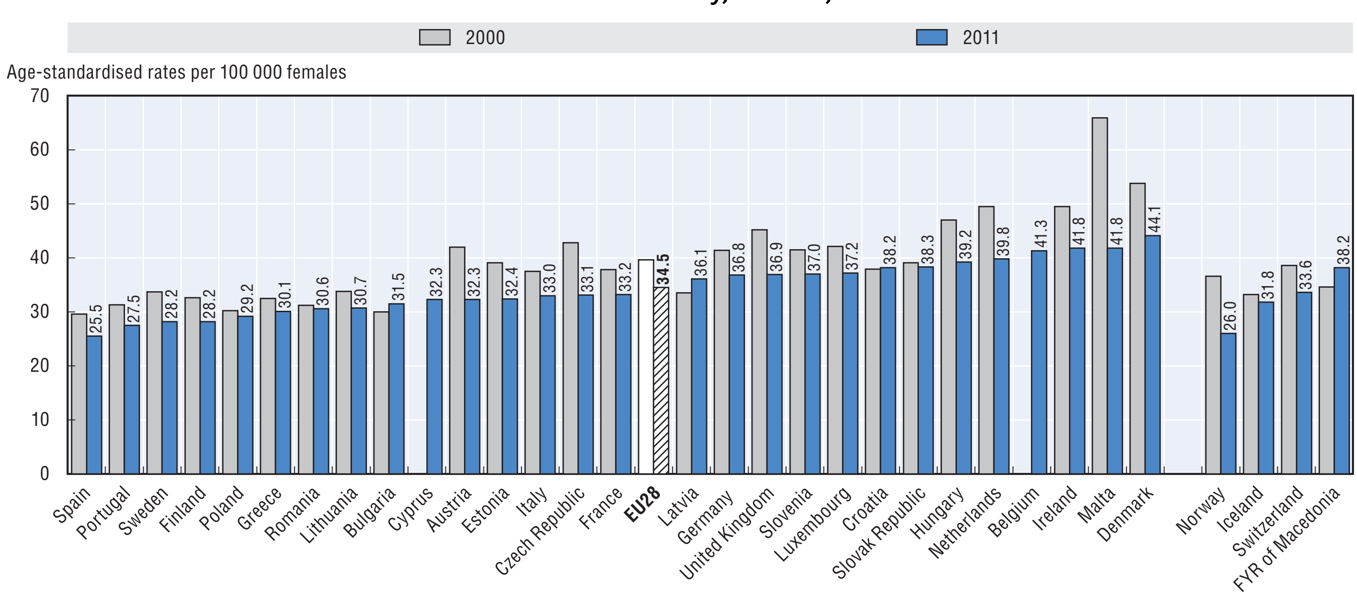
4.7.2. Breast cancer five-year relative survival, 1997-2002 and 2007-12 (or nearest period)



Note: The 95% confidence intervals are represented by H.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en.*

4.7.3. Breast cancer mortality, females, 2000 to 2011



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155729

Colorectal cancer is the third most commonly diagnosed form of cancer worldwide, after lung and breast cancers, with 345 000 new cases diagnosed in the European Union in 2012. Incidence rates are significantly higher for males than females (IARC, 2012). There are several factors that place certain individuals at increased risk for the disease, including age, the presence of polyps, ulcerative colitis, a diet high in fat and genetic background. The disease is more common in Europe and the United States, and is rare in Asia. But in countries where people have adopted western diets, such as Japan, the incidence of colorectal cancer is increasing.

The European Council has recommended the implementation of population-based primary screening programmes using the faecal occult blood test (FOBT) for men and women aged 50-74 years (European Commission, 2010). Organised screening programmes are being introduced or piloted in several countries and data on screening rates have become available for some European countries. Figure 4.8.1 shows colorectal screening rates using the FOBT test. The use of colonoscopy, which is part of several national policy cancer screening programmes for those with elevated risk, is not captured by these data (ECHIM, 2012). Based on survey data, participation is still relatively low across Europe when compared to long-standing screening programmes for cervical and breast cancer (see Indicators 4.6 and 4.7). Germany is a notable exception where screening rates for colorectal cancer have reached nearly 55% of the target population in 2008. The low rates observed in most countries may not only reflect the relatively recent implementation of many colorectal cancer screening programmes, but also the organisation and objectives of these programmes which might vary across member states. The International Agency for Research on Cancer has for example previously noted that there was considerable variation in the way colorectal cancer screening programmes have been implemented across EU member states (IARC, 2008).

Advances in diagnosis and treatment of colorectal cancer have increased survival over the last decade. There is compelling evidence in support of the clinical benefit of improved surgical techniques, radiation therapy and combined chemotherapy (OECD, 2013). Figure 4.8.2 shows the five-year relative survival following colorectal cancer diagnosis between 1997-2002 and 2007-12. In the 2007-12 period, the highest survival was observed in Belgium, at nearly 65%. The figures indicate that survival improved in all 11 countries for which survival data was available for both periods, with countries such as Ireland and the Czech Republic witnessing substantial gains in survival.

Mortality rates reflect the effect of cancer care, screening and diagnosis as well as changes in incidence. Between 2000 and 2011, average EU mortality rates fell from 37.9 to 34.4 per 100 000 population, although the trend was not uniform across all countries. Figure 4.8.3 shows that out of 28 EU member states, 17 countries saw a decrease whereas eight countries saw an increase in colorectal cancer mortality. Despite a decrease in their mortality rates for colorectal cancer over the past decade, Hungary continues to have the highest mortality rate for colorectal cancer, followed by the Slovak Republic, Croatia, Slovenia and the Czech Republic.

Definitions and comparability

Colorectal screening rates reflect the proportion of persons, aged 50-74, who have undergone a colorectal cancer screening test (faecal occult blood test) in the last two years. Screening rates are based on self-reported responses to the first wave of the European Health Interview Survey (EHIS) around 2008.

Survival is defined in Indicator 4.6 “Screening, survival and mortality for cervical cancer”. See Indicator 1.5 “Mortality from cancer” for definition, source and methodology underlying the cancer mortality rates. Deaths from colorectal cancer are classified to ICD-10 codes C18- C21 (colon, rectosigmoid junction, rectum, and anus).

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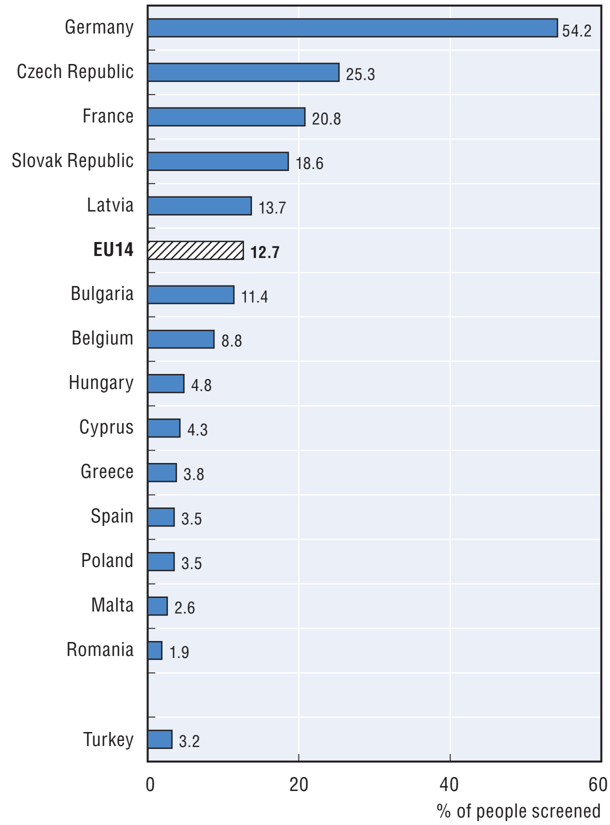
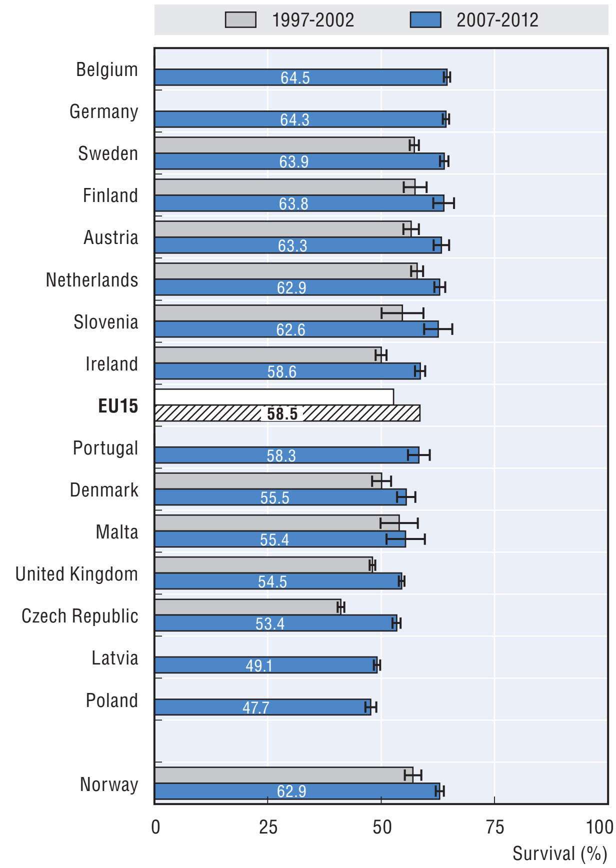
4.8.1. Colorectal cancer screening in people aged 50-74, 2008 (or nearest year)



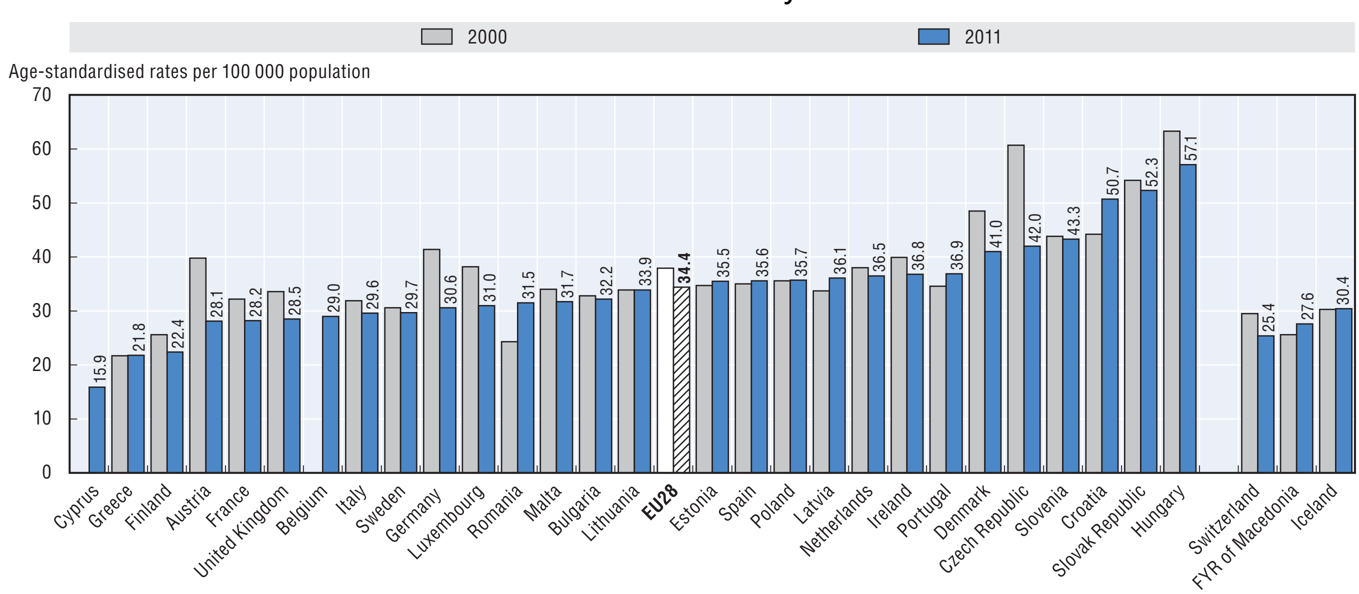
Note: Data based on surveys in all countries.
Source: *Eurostat Statistics Database* (based on EHIS).

4.8.2. Colorectal cancer, five-year relative survival, 1997-2002 and 2007-12 (or nearest period)



Note: The 95% confidence intervals are represented by H.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

4.8.3. Colorectal cancer mortality 2000 to 2011



Source: *Eurostat Statistics Database.*

StatLink http://dx.doi.org/10.1787/888933155732

Vaccination programmes are among the safest and most effective public health interventions to provide protection against diseases such as diphtheria, tetanus and pertussis, measles and hepatitis B. All EU member countries have established vaccination schedules, recommending the vaccines to be given at various ages during childhood. Although there is strong evidence that childhood vaccines are highly cost-effective health care intervention, too many children in Europe go unvaccinated and remain vulnerable to these potentially life-threatening diseases. Notably, children from disadvantaged socio-economic groups such as Roma migrants have a lower likelihood of receiving vaccination, which calls for actions to design more effective vaccination strategies.

Vaccination against diphtheria, tetanus and pertussis (DTP) and measles are part of all national vaccination schedules in Europe. Figures 4.9.1 and 4.9.2 show that the overall vaccination of children against DTP and measles is high in European countries. On average, 96% of 1-year-old children received the recommended DTP vaccination and 94% received measles vaccinations in accordance with national immunisation schedules. Rates for DTP vaccinations are below 90% only in Austria, Romania and Iceland, while vaccination rates against measles are below 90% only in Austria, Cyprus, France and Serbia.

Although national coverage rates are high, some parts of the population remain exposed to certain diseases. In 2013, for example, there was a measles outbreak in the North of England as well as parts of Wales. The outbreak was linked to a time in the early 2000s when vaccination rates fell to 80% among a cohort of children. During this period there was intense media coverage on the safety of the measles, mumps and rubella (MMR) vaccine, leading many parents to decide not to immunise their child. Although these safety concerns have since been refuted, large numbers of children in this age cohort remain unimmunised, raising the likelihood of outbreaks such as the one experienced in 2013.

Figure 4.9.3 shows the percentage of children aged one year who are vaccinated for hepatitis B. The hepatitis B virus is transmitted by contact with blood or body fluids of an infected person. A small proportion of infections become chronic, and these people are at high risk of death from cancer or cirrhosis of the liver. A vaccination has been available since 1982 and is considered to be 95% effective in preventing infection and its chronic consequences. Since a high proportion of chronic infections are acquired during early childhood, the WHO recommends that all infants should receive their first dose of hepatitis B vaccine as soon as possible after birth, preferably within 24 hours (WHO, 2009).

Most EU countries have followed the WHO recommendation to incorporate hepatitis B vaccine as an integral part of their national infant immunisation programme (WHO/UNICEF, 2014). For these countries, the immunisation coverage is averaging 94%. However, a number of countries do not currently require children to be vaccinated and consequently the rates for these countries are significantly lower than other countries. For example, in Denmark and Sweden, vaccination against hepatitis B is not part of the general infant vaccination programme, but is provided to high risk groups such as children with mothers who are infected by the hepatitis B virus. Other European countries that do not include vaccination against hepatitis B in their infant programmes are Iceland, Finland, Hungary, Slovenia, Switzerland and the United Kingdom. In France, hepatitis B vaccination has been controversial but vaccination coverage among children has increased in recent years.

Definitions and comparability

Vaccination rates reflect the percentage of children at either age 1 or 2 who receive the respective vaccination in the recommended timeframe. Childhood vaccination policies differ slightly across countries. Thus, these indicators are based on the actual policy in a given country. Some countries administer combination vaccines (e.g. DTP for diphtheria, tetanus and pertussis) while others administer the vaccinations separately. Some countries ascertain vaccinations based on surveys and others based on encounter data, which may influence the results.

References

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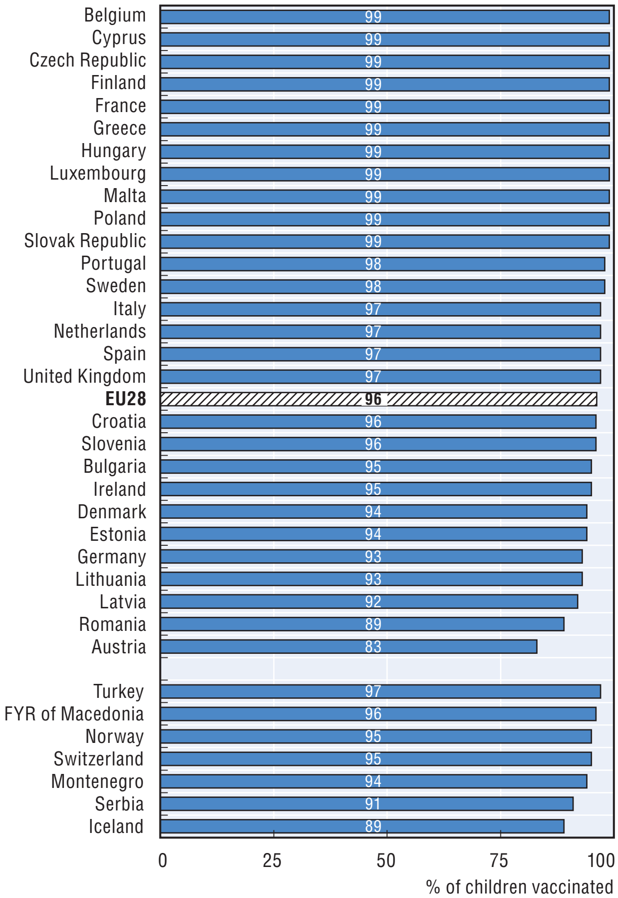
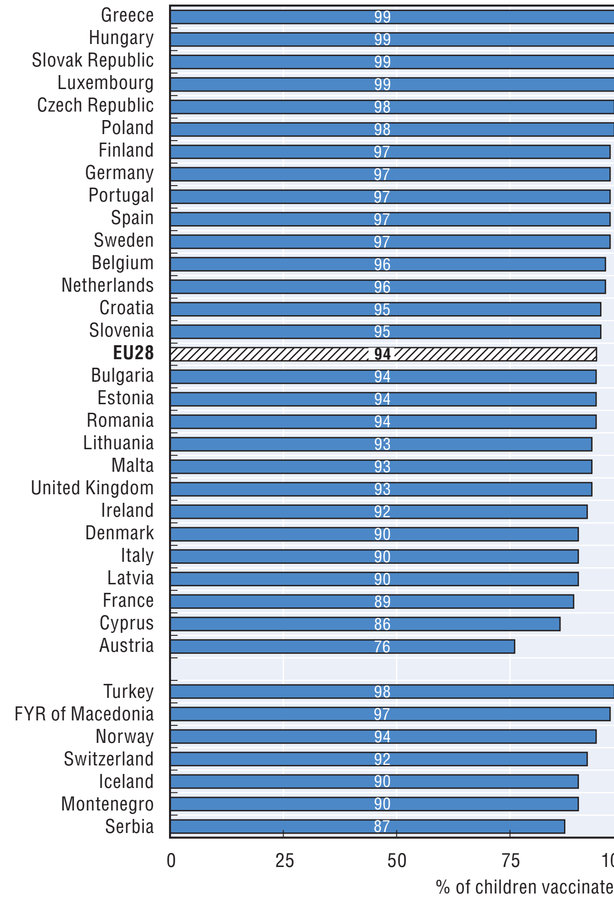
4.9.1. Vaccination against diphteria, tetanus and pertussis, children aged 1, 2012



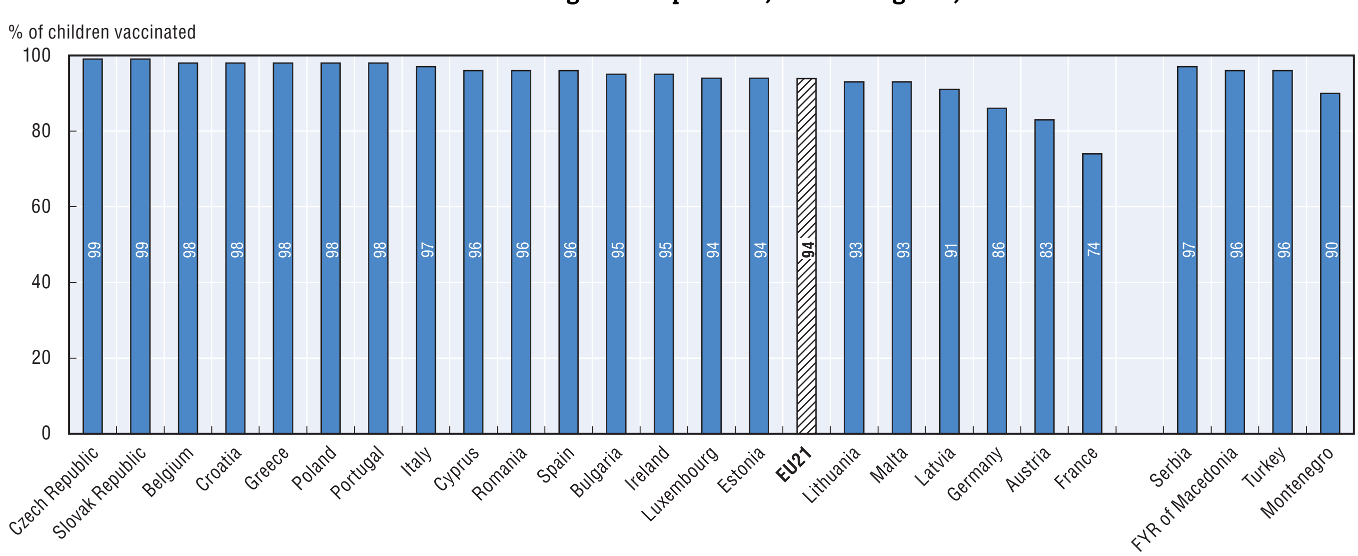
Source: WHO/UNICEF (2014), *http://dx.doi.org/10.1787/health-data-en.*

4.9.2. Vaccination against measles, children aged 1, 2012



Source: WHO/UNICEF (2014), *http://dx.doi.org/10.1787/health-data-en.*

4.9.3. Vaccination against hepatitis B, children aged 1, 2012



Source: WHO/UNICEF (2014), *http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933155748

Influenza is a common infectious disease that affects between 5 and 15% of the population each year (WHO, 2014). Most people with the illness recover quickly, but elderly people and those with chronic medical conditions are at higher risk of complications and even death. Influenza can also have a major impact on the health care system. In the United Kingdom, an estimated 779 000 general practice consultations and 19 000 hospital admissions were annually attributable to influenza (Pitman et al., 2006).

Vaccines have been used for more than 60 years, and provide a safe means of preventing influenza. While influenza vaccines have shown positive results in clinical trials and observational studies, there is a need for more high quality studies on the effectiveness of influenza vaccines for the elderly. Nevertheless, appropriate influenza vaccines have been shown to reduce the risk of death by up to 55% among healthy older adults as well as reduce the risk of hospitalisation by between 32% and 49% among older adults. In 2003, countries participating in the World Health Assembly (WHA), including all EU member states, committed to the goal of attaining vaccination coverage of the elderly population of at least 50% by 2006 and 75% by 2010 (WHA, 2003).

Figure 4.10.1 shows that around 2012, across 21 EU member states for which data were available, the average influenza vaccination rate for people aged 65 and over was 43%. Vaccination rates across Europe range from 1% in Estonia to 76% in the United Kingdom. Whilst there is still some uncertainty about the reasons for such cross-national differences in vaccination rates, studies have highlighted that the lack of public health insurance coverage may be an important determinant in explaining low uptake in some countries. Studies have also shown that personal contact with a doctor is a key determinant of uptake, and that better information through mass-media campaigns, patient and provider education initiatives, and recall and reminder systems can play an important role in improving vaccination rates. In Estonia, for example, influenza vaccination is not publicly covered.

Figure 4.10.2 indicates that between 2002 and 2012, vaccination rates across the European Union remained stable. There is no uniform trend across Europe. Some countries such as Germany have maintained their vaccination rates over the last decade, countries such as the Slovak Republic, France, Spain, Slovenia, Hungary, Finland, Luxembourg, Ireland and the Netherlands have seen a decrease in the rates while countries such as Denmark, Italy, Belgium, Portugal, the United Kingdom and the Czech Republic have seen a rise between 2002 and 2012. Only the United Kingdom attained the 75% coverage target in 2012, but this target was also nearly met in the Netherlands. Changes over time should be interpreted with some caution because of changes to the way vaccination rates were calculated in some countries (see box on "Definition and comparability").

In June 2009, the WHO declared the first influenza pandemic since 1968-69 (WHO, 2009). Within 23 weeks of the first diagnosis of the H1N1 influenza virus (also referred to as "swine flu"), there were over 53 000 confirmed cases across all EU member states, Iceland, Liechtenstein and Norway (ECDC, 2011). The estimated infection attack rates remained low in the overall population but were high amongst young people aged 5-19 years. Following the development, testing and production of a H1N1 vaccine, most EU member states included the 2009-10 seasonal influenza vaccine and the pandemic vaccine into their influenza vaccination programmes. Despite the worldwide focus on H1N1, numerous studies have shown that vaccination rates against the virus were lower than expected in a large number of countries. In part, this may be due to the easing of concerns about the threat of H1N1 amongst the general population by the time the vaccine became available.

Definitions and comparability

Influenza vaccination rate refers to the number of people aged 65 and older who have received an annual influenza vaccination, divided by the total number of people over 65 years of age. The main limitation in terms of data comparability arises from the use of different data sources, whether survey or programme, which are susceptible to different types of errors and biases. For example, data from population surveys may reflect some variation due to recall errors and irregularity of administration. A number of countries changed the way in which influenza vaccination rates were calculated between 2005 and 2012. These countries are: Denmark, Germany, Luxembourg, Switzerland and the United Kingdom.

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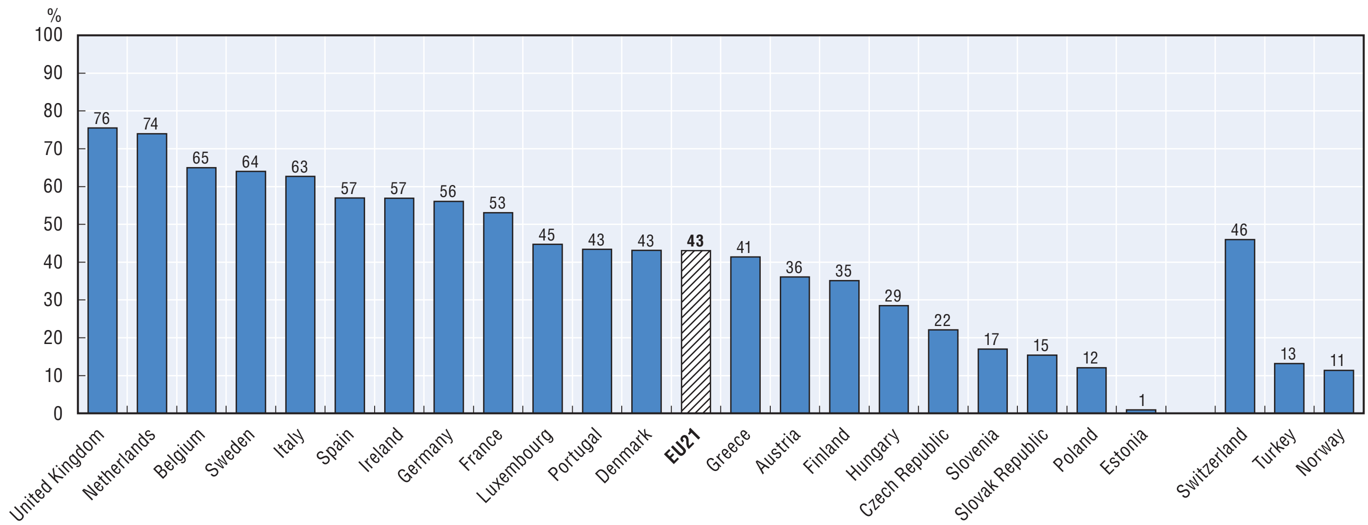
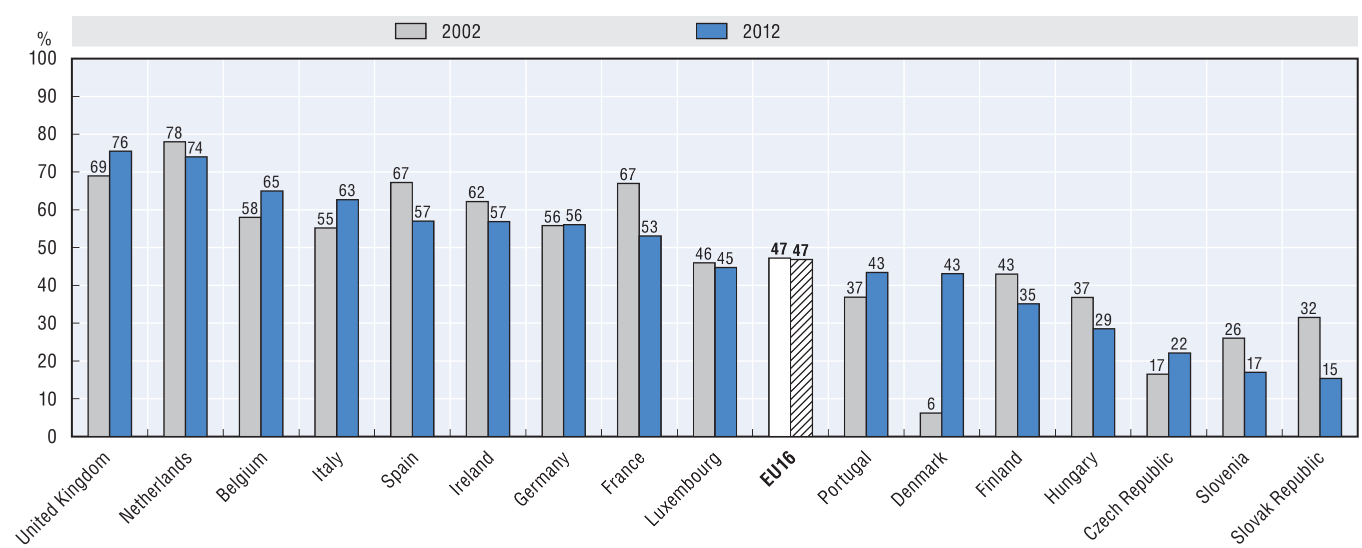
4.10.1. Vaccination rates for influenza, population aged 65 and over, 2012 (or nearest year)



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

4.10.2. Trends in vaccination rates for influenza, population aged 65 and over, 2002-12 (or nearest year)



Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en.*

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Health at a Glance: Europe 2014

Chapter 5

Access to care

Health care coverage enables access to medical goods and services and provides financial protection against unexpected or serious illness (European Commission, 2014). While the share of the population covered by a public or private health insurance provides some indication of financial protection, this is not a complete indicator of accessibility, since the range of services covered and the degree of cost-sharing applied to those services vary across countries and will impact on direct out-of-pocket expenditure by patients (Indicator 5.2). Ensuring effective access to health care also requires having a sufficient number of health care providers in different geographic regions in the country (Indicator 5.3) and that patients do not have to wait excessively long times to receive services (Indicator 5.5).

Most European countries have achieved universal (or near-universal) coverage of health care costs for a core set of services, which usually include consultations with doctors, tests and examinations, and hospital care (Figure 5.1.1). In most countries, dental care (especially for children) and the purchase of prescribed pharmaceuticals are also at least partially covered (Paris et al., 2010). Three European countries do not have universal or near-universal health coverage (Bulgaria, Greece and Cyprus).

In Bulgaria and Greece, the share of the population covered has decreased in recent years. In Bulgaria, a tightening of the law in 2010 made people lose their social health insurance coverage if they fail to pay their contribution (Dimova et al., 2012). However, it is common for uninsured people who need medical care to go to emergency services, where they will be encouraged to get an insurance (without paying any financial penalty for not having had an insurance prior to that). In Greece, the economic crisis has reduced health insurance coverage among people who have become long-term unemployed, and many self-employed workers have decided not to renew their health insurance plan because of reduced disposable income. However, since June 2014, uninsured people are covered for prescribed pharmaceuticals and for services in emergency departments in public hospitals, as well as for non-emergency hospital care under certain conditions (Eurofound, 2014). In Cyprus, an estimated 83% of the population were entitled to public health services in 2007 (latest available year), although many are seeking medical care in the private sector and pay out-of-pocket.

Basic primary health coverage, whether provided through public or private insurance, generally covers a defined "basket" of benefits, in many cases with cost-sharing. In some countries, additional health coverage can be purchased through private insurance to cover any cost-sharing left after basic coverage (complementary insurance), add additional services (supplementary insurance) or provide faster access or larger choice to providers (duplicate insurance). In most European countries, only a small proportion of the population has an additional private health insurance. But in five countries, half or more of the population had a private health insurance in 2012 (Figure 5.1.2).

In France, nearly all the population (95%) has a *complementary* private health insurance to cover cost-sharing in the social security system. A large proportion of the population in Belgium, Luxembourg and Slovenia also make use of complementary health insurance. The Netherlands has the largest *supplementary* market (88% of the population), whereby private insurance pays for prescribed pharmaceuticals and dental care that are not covered in the basic package. *Duplicate* markets, providing faster private-sector access to medical services where there are waiting times in public systems, are largest in Ireland (45%).

While the population covered by private health insurance has grown over the past decade in some countries like France, Belgium and Germany, there has been a reduction in private health insurance coverage in recent years in other countries like Spain and Ireland (Figure 5.1.3).

The importance of private health insurance is not linked to a countries' economic development. Other factors are more likely to explain the development of the private health insurance market, including the history of health care financing arrangements and government interventions to promote the take-up of private health insurance.

Definition and comparability

Coverage for health care is defined as the share of the population receiving a defined set of health care goods and services under public programmes and through private health insurance. It includes those covered in their own name and their dependents. Public coverage refers both to government programmes, generally financed by taxation, and social health insurance, generally financed by payroll taxes. Take-up of private health insurance is often voluntary, although it may be mandatory by law or compulsory for employees as part of their working conditions. Premiums are generally non-income-related, although the purchase of private coverage can be subsidised by the government.

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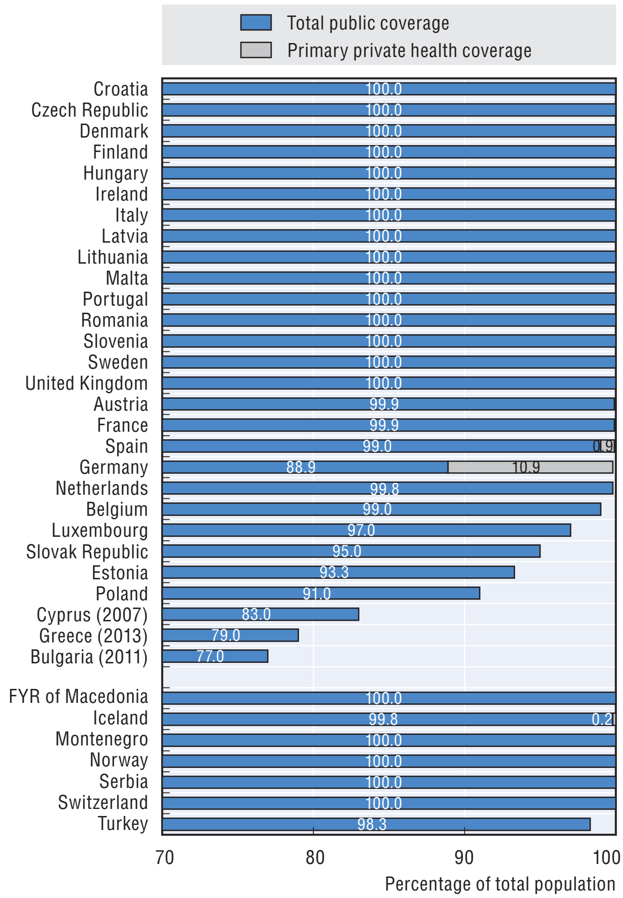
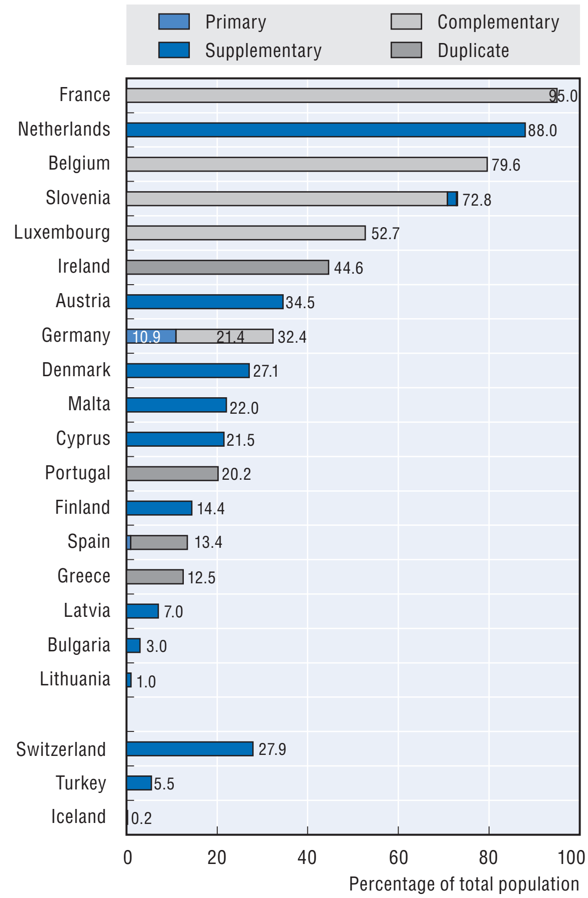
5.1.1. Health insurance coverage for a core set of services, 2012 (or nearest year)



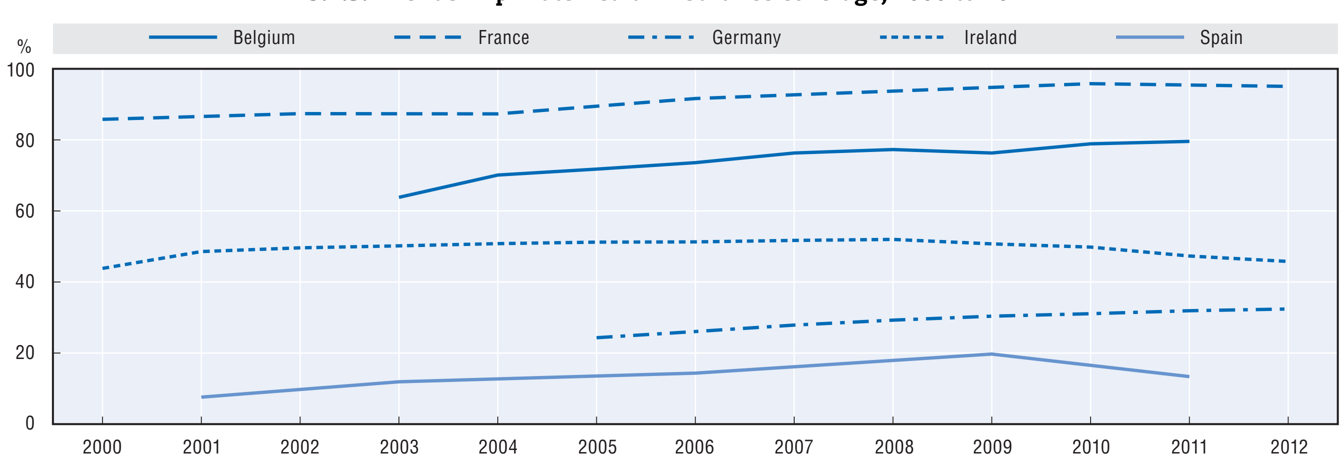
Note: The coverage rate for Luxembourg is underestimated since the number of European civil servants and their family's members is unknown.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en*; European Observatory Health Systems in Transition (HiT) Series for non-OECD countries.

5.1.2. Private health insurance coverage, by type, 2012 (or nearest year)



Note: Private health insurance can fulfil several roles. In Austria and Denmark, for example, it can be both complementary and supplementary.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en*; European Observatory Health Systems in Transition (HiT) Series for non-OECD countries.

5.1.3. Trends in private health insurance coverage, 2000 to 2012



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

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Financial protection through either public coverage or private health insurance can substantially reduce the amount that people pay directly for medical care. In some countries, the burden of high out-of-pocket spending can create barriers to accessing and using health care services: households that face difficulties paying medical bills may delay or even forgo needed health care. On average across EU member states, a fifth of all health spending is paid directly by patients (see Indicator 6.5 "Financing of health care").

In contrast to publicly funded care, out-of-pocket payments rely on people's ability to pay. If the financing of health care becomes more dependent on out-of-pocket payments, the burden is transferred, in theory, towards those who use services more, and possibly from high to low-income earners, where health care needs are typically higher. In practice, many countries have policies in place to protect vulnerable groups from excessive out-of-pocket payments. These consist of partial or total exemptions for people receiving social benefits, seniors, or people with chronic diseases or disabilities by capping direct payments, either in absolute terms or as a share of income (Paris et al., 2010; Paris et al., forthcoming).

The burden of out-of-pocket medical spending can be measured as a proportion of spending by households on the whole range of their consumption of goods and services. The share allocated to medical spending varied considerably across EU member states in 2012, ranging from 1.5% or less of total household consumption in the United Kingdom, Croatia and France, to more than 4% in Cyprus, Bulgaria, Malta, Portugal and Hungary (Figure 5.2.1). On average, across the European Union, 2.9% of household spending went towards medical services.

Health systems in EU member states differ in the degree of coverage for different health services and goods. In most countries, coverage is higher for hospital care and doctor consultations than for pharmaceuticals, dental care and eye care (Paris et al., 2010; Paris at al., forthcoming). Taking into account these differences as well as the relative importance of these different spending categories, there are significant variations between EU member states in the breakdown of the medical costs that households have to bear themselves.

In most EU member states, curative care (covering both inpatient and outpatient care) and pharmaceuticals are the two main spending items for out-of-pocket expenditure (Figure 5.2.2). On average, these two components account for more than 70% of all medical spending by households, but the importance varies between countries. In Cyprus and Luxembourg, inpatient and outpatient curative care accounts for 50% or more of total household medical spending. In other countries such as Romania, Croatia, Lithuania, Poland, Estonia, the Czech Republic and Hungary, more than half of all out-of-pocket payments are for pharmaceuticals. In some of these countries, in addition to co-payments for prescribed pharmaceuticals, spending on over-the-counter medicines for self-medication is historically high.

Dental treatment is also an important part of household medical spending, accounting for 16% of all out-of-pocket expenditure on average across EU countries. This figure reaches as much as 30% in Spain and Denmark, as well as in Norway and Iceland. This can at least partly be explained by the limited public coverage for dental care in these countries compared with the relatively good coverage for other categories of care. The significance of therapeutic appliances (e.g. eye-glasses, hearing aids, etc.) in households' total medical spending differs widely but reaches over 30% in the Netherlands. The average across EU countries is 13%. More than half of this relates to eye-care products. In many countries, public coverage is limited to a contribution to the cost of lenses. Frames are often exempt from public coverage, leaving private households to bear the full cost if they are not covered by complementary private insurance.

Definition and comparability

Out-of-pocket payments are expenditures borne directly by a patient where neither public nor private insurance cover the full cost of the health good or service. They include cost-sharing and other expenditure paid directly by private households and also include in some cases estimations of informal payments to health care providers. Only expenditure for medical spending (i.e. current health spending less expenditure for the health part of long-term care) is presented here, because the capacity of countries to estimate private long-term care expenditure varies widely.

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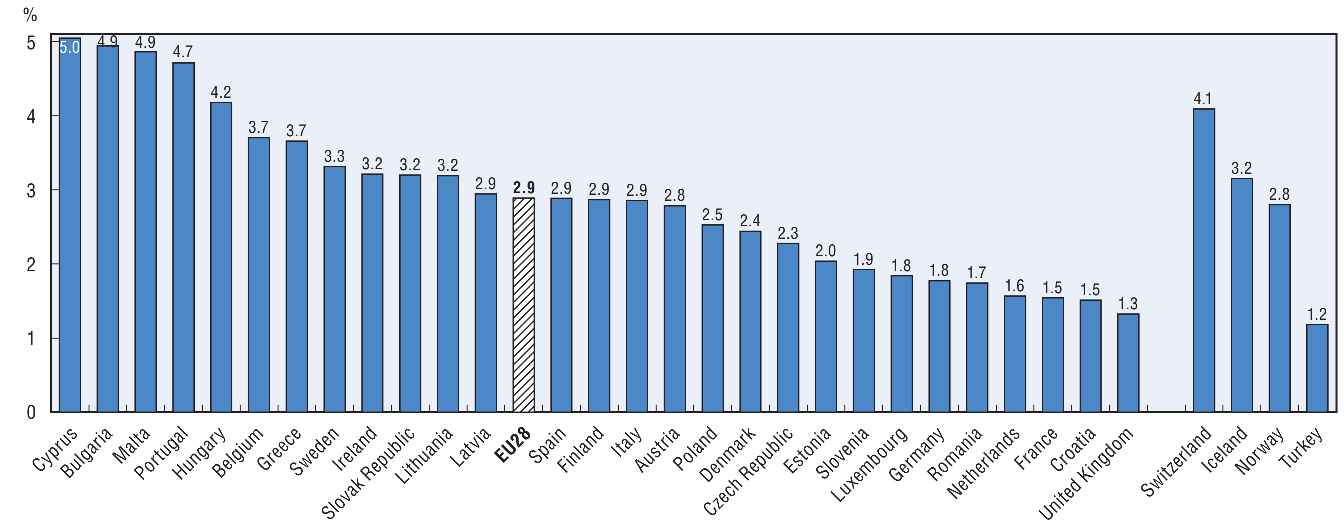
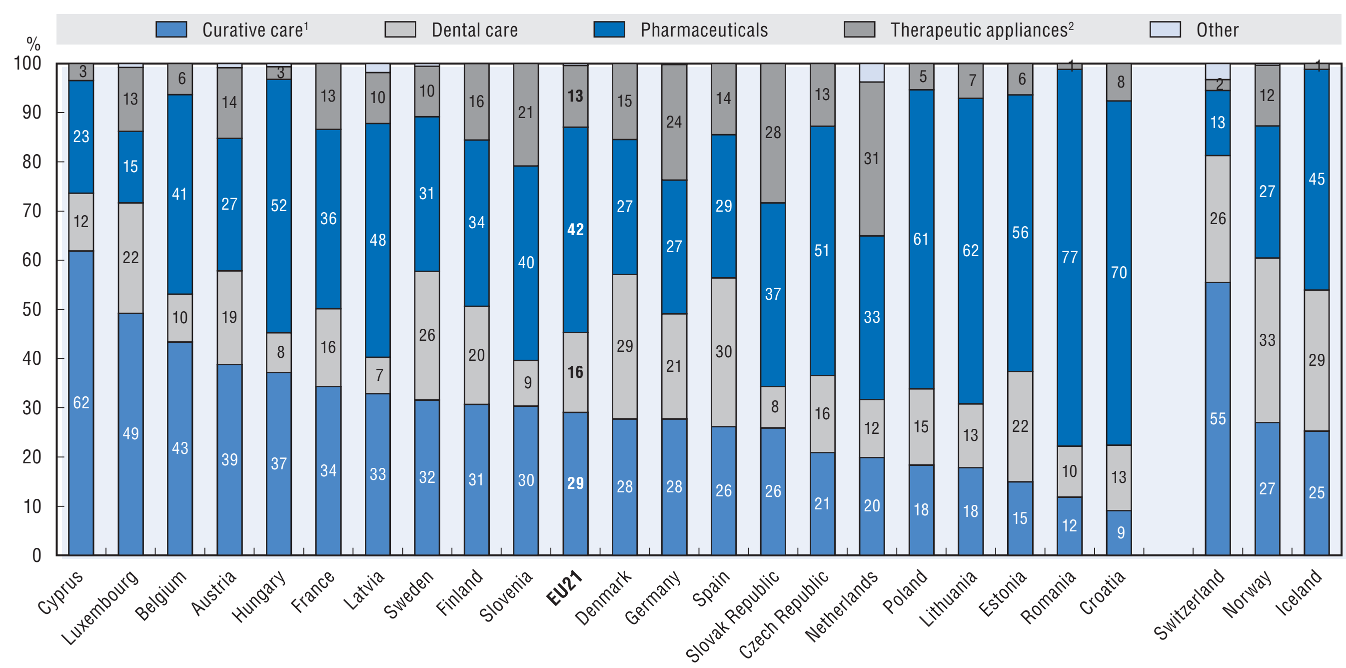
5.2.1. Out-of-pocket medical spending as a share of final household consumption, 2012 (or nearest year)



Note: This indicator relates to current health spending excluding long-term care (health) expenditure.
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database and *WHO Global Health Expenditure Database* for non-OECD countries.

5.2.2. Shares of out-of-pocket medical spending by services and goods, 2012 (or nearest year)



Note: This indicator relates to current health spending excluding long-term care (health) expenditure.
1. Including rehabilitative and ancillary services.
2. Including eye care products, hearing aids, wheelchairs, etc.
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database for non-OECD countries.

StatLink http://dx.doi.org/10.1787/888933155779

Access to medical care requires an adequate number and proper distribution of physicians in all parts of the country. Shortages of physicians in certain regions can increase travel times or waiting times for patients, and result in unmet care needs. The uneven distribution of physicians is an important concern in most European countries, especially in those countries with remote and sparsely populated areas, and those with deprived urban regions which may also be underserved.

The overall number of doctors per capita varies across EU countries from lows of about 2 to 2.5 per 1 000 population in Poland, Romania and Slovenia, to highs of more than 4 in Greece, Austria and Lithuania (Indicator 3.1). Beyond these cross-country differences, the number of doctors per capita also often varies widely across regions within the same country (Figure 5.3.1). A common feature in many countries is that there tends to be a concentration of physicians in capital cities. In the Czech Republic, for example, the density of physicians in Prague is almost twice the national average. Austria, Greece, Portugal and the Slovak Republic also have a much higher density of physicians in their national capital region.

The density of physicians is consistently greater in urban regions, reflecting the concentration of specialised services such as surgery and physicians' preferences to practice in urban settings. Differences in the density of doctors between predominantly urban regions and rural regions in 2011 was highest in the Slovak Republic, Czech Republic and Greece, driven to a large extent by the strong concentration of doctors in their national capital region (Figure 5.3.2).

Doctors may be reluctant to practice in rural and disadvantaged urban regions due to various concerns about their professional life (e.g. income, working hours, opportunities for career development, isolation from peers) and social amenities (such as educational opportunities for their children and professional opportunities for their spouse).

A range of policy levers may influence the choice of practice location of physicians, including: 1) the provision of financial incentives for doctors to work in underserved areas; 2) increasing enrolments in medical education programmes of students coming from specific social or geographic background, or decentralising medical schools; 3) regulating the choice of practice location of doctors (for all new medical graduates or possibly targeting more specifically international medical graduates); and 4) re-organising health service delivery to improve the working conditions of doctors in underserved areas and find innovative ways to improve access to care for the population.

In many European countries, different types of financial incentives have been provided to doctors to attract and retain them in underserved areas, including one-time subsidies to help them set up their practice and recurrent payments such as income guarantees and bonus payments (Ono et al., 2014).

In Germany, the number of practice permits for new ambulatory care physicians providing services to statutory health insurance patients in each region is regulated, based on a national service delivery quota (Federal Joint Committee, 2012). In France, new multi-disciplinary medical homes were introduced a few years ago as a new form of group practices in underserved areas, allowing physicians and other health professionals to work in the same location while remaining self-employed.

The effectiveness and costs of different policies to promote a better distribution of doctors can vary significantly, with the impact likely to depend on the characteristics of each health system, the geography of the country, physician behaviours, and the specific policy and programme design. Policies should be designed with a clear understanding of the interests of the target group in order to have any significant and lasting impact (Ono et al., 2014).

Definition and comparability

Indicator 3.1 provides information on the definition of doctors.

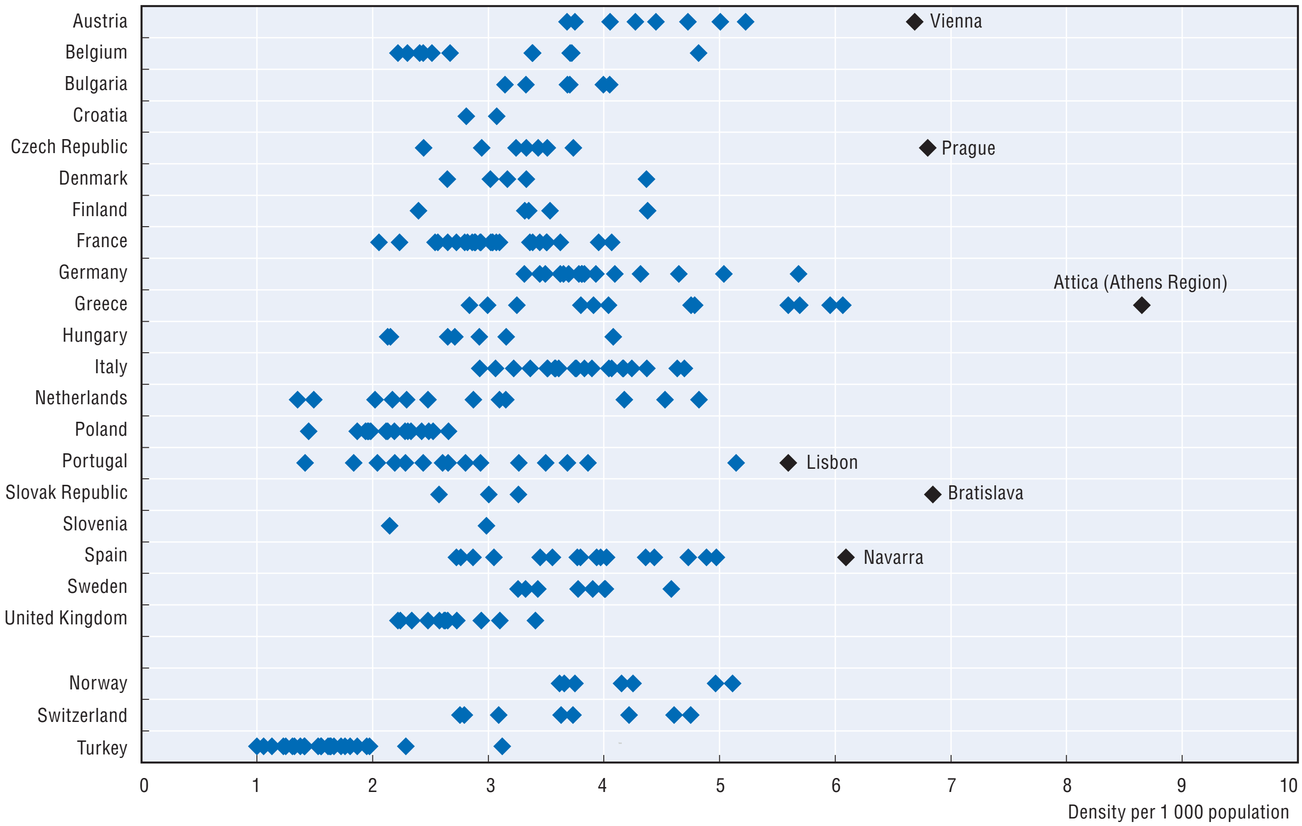
The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system used to divide the territorial units of the European Union for the purpose of the collection, development and harmonisation of EU regional statistics. The higher level (Territorial Level 2) consists of large regions corresponding generally to national administrative regions. These broad regions may contain a mixture of urban, intermediate and rural areas. The lower level (Territorial Level 3) is composed of smaller regions which are classified as predominantly urban, intermediate or predominantly rural regions.

References

Federal Joint Committee (2012), *Planning Guideline of the Federal Joint Committee,* Federal Ministry of Justice (Germany).

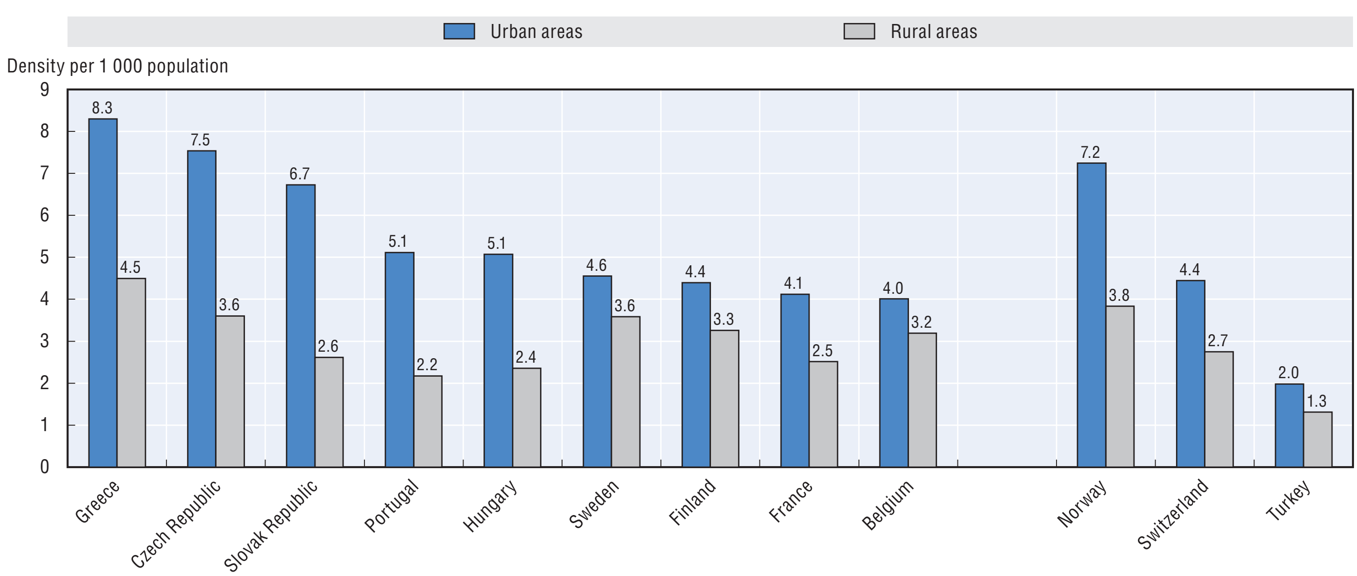
Ono, T., M. Schoenstein and J. Buchan (2014), "Geographic Imbalances in Doctor Supply and Policy Responses", *OECD Health Working Papers* No. 69, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5jz5sq5ls1wl-en*.

5.3.1. Physician density, by NUTS 2 level, 2012 (or nearest year)



Source: *Eurostat Statistics Database.*

5.3.2. Physician density in predominantly urban and rural regions, selected countries, 2011 (or nearest year)



Source: OECD (2013), *OECD Regions at a Glance, 2013, http://dx.doi.org/10.1787/reg_glance-2013-en.*

StatLink http://dx.doi.org/10.1787/888933155782

All European countries endorse equity of access to health care for all people as an important policy objective. One method of gauging to what extent this objective is achieved is through assessing reports of unmet needs for health care. The problems that people report in obtaining care when they are ill or injured often reflect significant barriers to care.

Some common reasons given for not receiving care include excessive costs, having to travel too far to receive care, long waiting times, or not being able to take time off. Differences in the reporting of unmet care needs *across* countries may be partly due to socio-cultural differences. However, these factors play a lesser role in explaining any differences among population groups *within* each country. Self-reported unmet care needs must be seen in conjunction with other indicators of potential barriers to access, such as the extent of health insurance coverage and the amount of out-of-pocket payments (see Indicators 5.1 and 5.2).

In all European countries, a large majority of the population reported no unmet care needs, according to the 2012 EU Statistics on Income and Living Conditions survey (EU-SILC). However, in some countries, significant proportions of people reported having unmet needs. In Latvia, Poland, Romania and Bulgaria, more than 10% of survey respondents had an unmet need for a medical examination, and the burden fell heaviest on low income groups, particularly in Latvia and Bulgaria (Figure 5.4.1). On average across EU member states, more than twice as many people in low income groups reported unmet needs as did people in high income groups. The main reason for people in low income groups to report unmet health care needs was that care was too expensive.

A larger proportion of the population indicates unmet needs for dental care than for medical care (Figure 5.4.2). In many countries, dental care is only partially included, or not included at all in basic health care coverage, and so must either be paid out-of-pocket, or covered through purchasing private health insurance. People in Latvia reported the highest rates of unmet need for a dental examination in 2012 (over 20% of the population), followed by Portugal, Romania, Bulgaria, and Italy (all between 10-15%). There are large inequalities in unmet dental care needs between high and low income groups in most of these countries. People in Slovenia, the Netherlands and Luxembourg reported the lowest rates of unmet dental care needs in 2012 (between 1% and 3% only), according to EU-SILC.

Unmet needs for medical care and dental care due to financial reasons have decreased between 2005 and 2008 on average across EU countries, and have remained fairly stable on average between 2008 and 2012 (Figures 5.4.3 and 5.4.4). The proportion of people in low-income groups reporting some unmet needs for medical care and dental care for financial reasons continues to be two-times greater than among all the population as a whole, and over four-times greater compared with people in high-income groups on average across EU countries.

In Greece, the percentage of people reporting some unmet medical care needs for financial reasons has increased since the beginning of the crisis in 2008, rising from around 4% of the population in 2008 to over 6% in 2011 and 2012, according to EU-SILC. This proportion reached 11% among people in the lowest income quintiles in 2012, up from 7% in 2008.

By contrast, in Portugal, the percentage of people reporting unmet medical care needs for financial reasons was lower in 2011 and 2012 compared with the years before the crisis. These results from EU-SILC have also been found in the European Quality of Life Surveys (EQLS): 34% of Portuguese respondents to this EQLS survey reported having some difficulties accessing care due to cost in 2011, less than the 49% who reported having such difficulties in 2007 (Eurofound, 2013). The MoU that the Portuguese Government signed in May 2011 with the EU Commission, the IMF and the ECB (the "troika") included a series of measures to reduce public spending on health, but it also included certain measures to protect access to care, particularly for low-income groups. For example, while co-payments for a range of health services were increased for most of the population, the number of patients exempted from such co-payments was increased through increasing the income threshold (Eurofound, 2014; see chapter by Rodrigues and Schulmann).

Definition and comparability

Questions on unmet health care needs are included in the European Union Statistics on Income and Living Conditions survey (EU-SILC). To determine unmet medical and dental care, individuals are asked whether there was a time in the previous 12 months when they felt they needed health care or dental care but did not receive it, followed by a question as to why the need for care was unmet. Reasons given include that care was too expensive, the waiting time was too long, or the distance to travel was too far.

Cultural factors may affect responses to questions about unmet care needs. Caution is therefore required in comparing the magnitude of inequalities across countries.

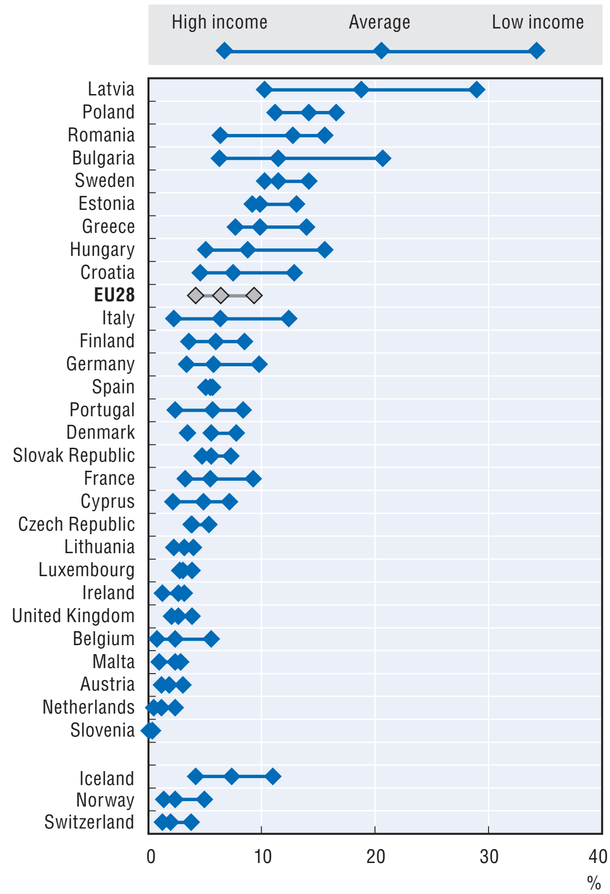
Income quintile groups are computed on the basis of the total equivalised disposable income attributed to each member of the household. The first quintile group represents the 20 % of the population with the lowest income, and the fifth quintile group represents the 20 % of the population with the highest income.

References

Eurofound (2014), *Access to Healthcare in Times of Crisis*, Dublin, including a country report on Portugal by R. Rodrigues and K. Schulmann.

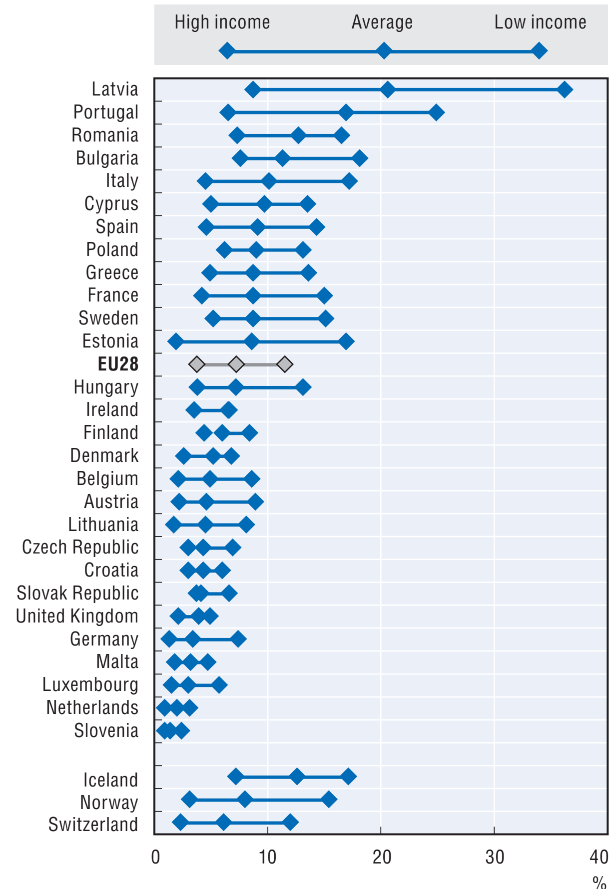
Eurofound (2013), *Impacts of the Crisis on Access to Healthcare Services in the EU*, Dublin.

5.4.1. Unmet need for a medical examination (for financial or other reasons), by income quintile, 2012



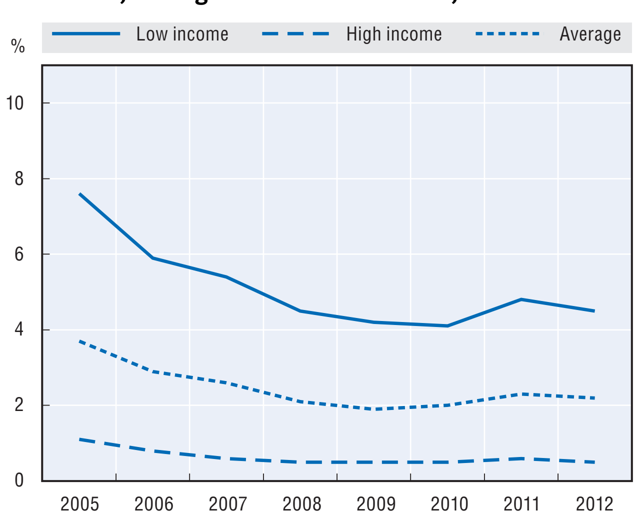
Note: 2011 data for Austria and Ireland.
Source: *Eurostat Statistics Database*, based on EU-SILC.

5.4.2. Unmet need for a dental examination (for financial or other reasons), by income quintile, 2012



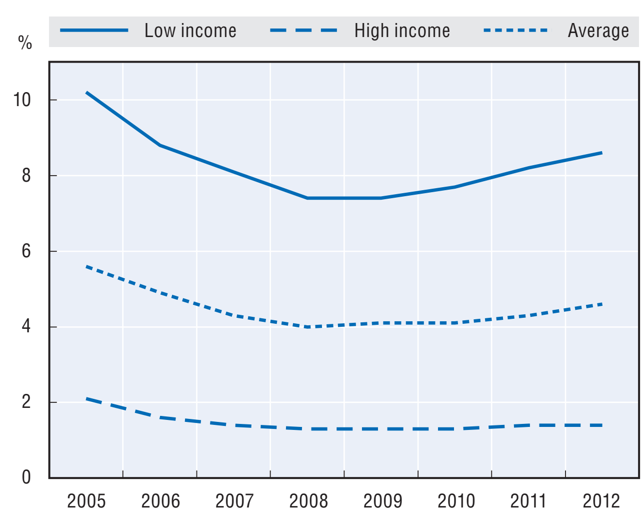
Note: 2011 data for Austria and Ireland.
Source: *Eurostat Statistics Database*, based on EU-SILC.

5.4.3. Change in unmet medical care need for financial reasons, average across EU countries, 2005 to 2012



Source: *Eurostat Statistics Database*, based on EU-SILC.

5.4.4. Change in unmet dental care need for financial reasons, average across EU countries, 2005 to 2012



Source: *Eurostat Statistics Database*, based on EU-SILC.

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Long waiting times for health services is an important policy issue in many European countries (Siciliani et al., 2013a). Long waiting times for elective (non-emergency) surgery generates dissatisfaction for patients because the expected benefits of treatments are postponed, and the pain and disability remains.

Waiting times is the result of a complex interaction between the demand and supply of health services, where doctors play a critical role on both sides. The demand for health services and for elective surgery is determined by the health status of the population, patient preferences (including their weighting of the expected benefits and risks of different procedures), and the extent of cost-sharing for patients. However, doctors play a crucial role in converting the demand for better health from patients in a demand for medical care. On the supply side, the availability of different categories of surgeons, anaesthesists and other staff involved in surgical procedures, as well as the supply of the required equipment is likely to influence surgical activity rates.

The measure presented here focuses on waiting times from the time that a specialist adds a patient to the waiting list to the time that the patient receives the treatment. The waiting times relate to three frequent non-emergency surgical interventions: cataract surgery, hip replacement and knee replacement. Both the average waiting times and the median are presented. Because some patients wait for very long times, the average is usually greater than the median.

In 2012/13, the average waiting times for cataract surgery was just over 30 days in the Netherlands, but about three-times longer (100 days) in Spain and Finland (Figure 5.5.1). In the United Kingdom, the average waiting times for cataract surgery was almost 70 days in 2012, slightly shorter than in 2006, but longer than in 2008 and 2010. Waiting times for cataract surgery has come down over the past few years in some countries, such as the Netherlands and Denmark (and also Estonia, based on the median waiting times). In Portugal and Spain, waiting times fell between 2006 and 2010, but has increased since 2010.

In 2012/13, the average waiting times for hip replacement was less than 40 days in the Netherlands, but almost four-times longer (around 150 days) in Spain and Hungary (Figure 5.5.2). In Portugal and Finland, the average waiting times to get a hip replacement was around 120 days, while in the United Kingdom, it was 90 days. The median waiting times was about 40 days in Denmark and 75 days in Hungary. It was highest in Poland (slightly more than 200 days), followed by Spain and Estonia (around 150 days). Waiting times for hip replacement in the United Kingdom fell sharply between 2006 and 2008, but has remained stable since then. In Portugal and Spain, following significant reductions between 2006 and 2010, waiting times for hip replacement has increased since 2010.

Waiting times for knee replacement has come down over the past few years in some countries such as the Netherlands, Denmark, Finland and Estonia, although it remains very long in Estonia (Figure 5.5.3). In the United Kingdom, waiting times for knee replacement followed the same pattern as for hip replacement: it fell markedly between 2006 and 2008, but has remained stable since then. In 2012/13, the median waiting times for knee replacement was longest in Poland, Estonia, Portugal and Spain.

Over the past decade, waiting time guarantees have become the most common policy tool to tackle long waiting times in several countries. This has been the case in Finland where a National Health Care Guarantee was introduced in 2005 and led to a reduction in waiting times for elective surgery (Jonsson et al., 2013). In England, since April 2010, the NHS Constitution has set out a right to access certain services within maximum waiting times or for the NHS to take all reasonable steps to offer a range of alternative providers if this is not possible, including a right to start non-emergency treatment within a maximum of 18 weeks from referral if that is what the patient wants and is clinically appropriate (Smith and Sutton, 2013).

Definition and comparability

There are at least two ways of measuring waiting times for elective procedures (Siciliani et al., 2013b): 1) measuring the waiting times for patients treated in a given period; or 2) measuring waiting times for patients still on the list at a point in time. The data reported here relate to the first measure (data based on the second measure are available in *OECD Health Statistics*). The data come from administrative databases (not surveys). Waiting times are reported both in terms of the average and the median. The median is the value which separates a distribution in two equal parts (meaning that half the patients have longer waiting times and the other half lower waiting times). Compared with the average, the median minimises the influence of outliers (patients with very long waiting times).

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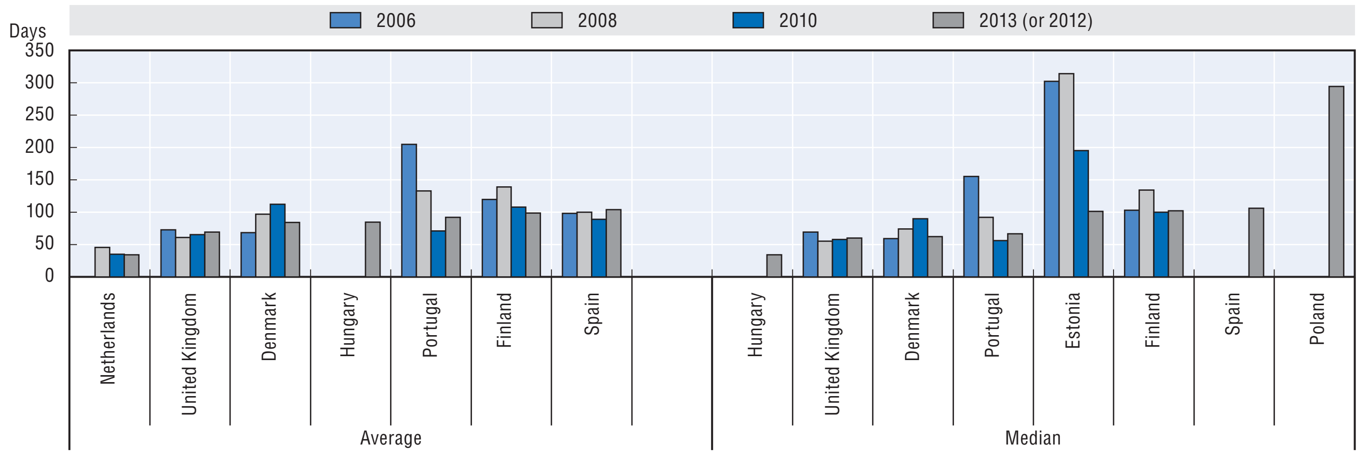
Siciliani, L., V. Moran and M. Borowitz (2013b), "Measuring and Comparing Health Care Waiting Times in OECD Countries", *OECD Health Working Papers* No. 67, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k3w9t84b2kf-en*.

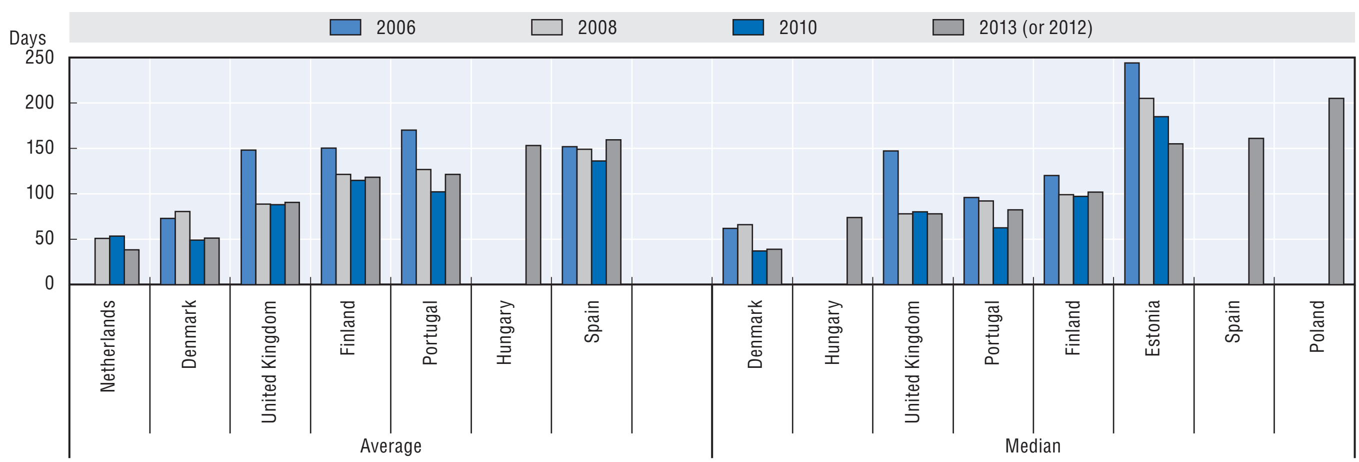
Smith, P. and M. Sutton (2013), "United Kingdom", Part II, Chapter 16 in *Waiting Time Policies in the Health Sector: What Works*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264179080-en*.

5.5.1. Cataract surgery, waiting times from specialist assessment to treatment, 2006 to 2012/13



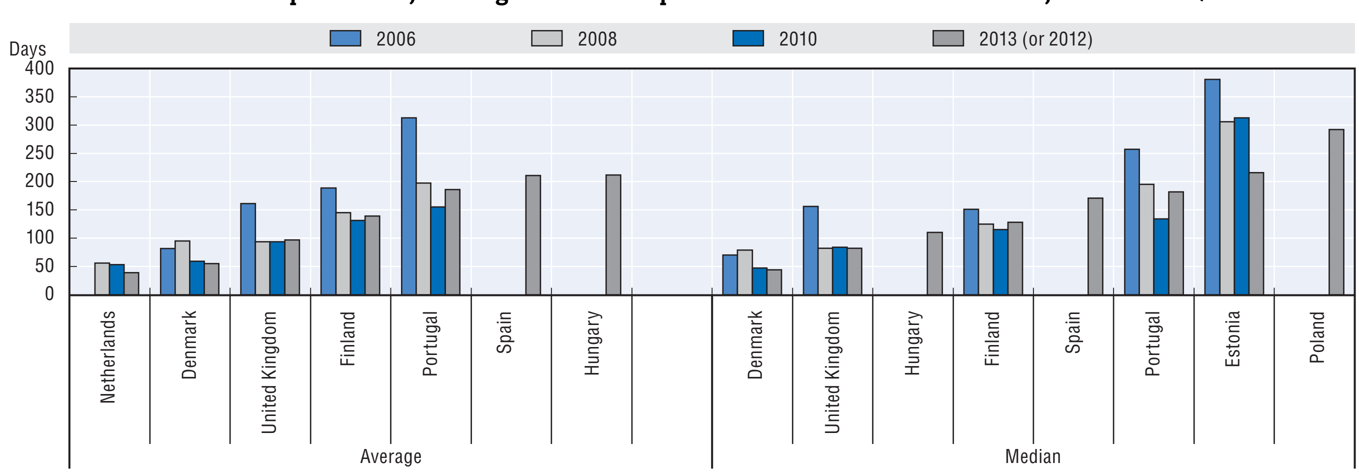
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

5.5.2. Hip replacement, waiting times from specialist assessment to treatment, 2006 to 2012/13



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

5.5.3. Knee replacement, waiting times from specialist assessment to treatment, 2006 to 2012/13



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.*

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Chapter 6

Health expenditure and financing

There are large variations in the levels and rates of growth of health spending across Europe. How much a country spends on health and the rate at which this expenditure grows reflect a wide array of economic and social factors, as well the financing and organisational structures of its health system.

There is a strong relationship between the overall income level of a country and how much the country spends on health. It is therefore not surprising that Norway and Switzerland are the two European countries that spent the most on health in 2012 (Figure 6.1.1), with spending of over EUR 4 500 per person (adjusted for countries' different purchasing powers – see the box on "Definition and comparability"). Among EU member states, the Netherlands (EUR 3 829), Austria (EUR 3 676) and Germany (EUR 3 613) were the highest per-capita spenders, well above the EU average (EUR 2 193). Romania (EUR 753) and Bulgaria (EUR 900) were the lowest-spending countries among EU members. Of the other European states outside the European Union, health spending per capita was of a similarly low level in Montenegro, the Former Yugoslav Republic of Macedonia and Turkey.

Figure 6.1.1 shows the breakdown of per capita spending on health into public and private sources (see also Indicator 6.5 "Financing of health care"). On average, around three-quarters of health spending comes from public sources and the ranking by public share of spending is similar to overall health spending. Of the EU member states, only Cyprus sees private spending on health outweighing public financing, though Latvia and Bulgaria also have high levels of private spending. By contrast, the Netherlands, United Kingdom and most of the Nordic countries have levels of public financing exceeding 80%.

Since the onset of the economic crisis in 2008, health spending has slowed markedly across Europe after years of continuous growth. Between 2009 and 2012, expenditure on health in real terms (adjusted for inflation) fell in half of EU countries and significantly slowed in the rest (Figure 6.1.2). On average across the European Union, health spending decreased by 0.6% each year between 2009 and 2012, compared with annual growth of 4.7% between 2000 and 2009. Of the countries outside the European Union, only the Former Yugoslav Republic of Macedonia and Switzerland have seen growth rates increase since 2009.

While health budgets were maintained at the start of the economic crisis in many countries, health spending per capita began to fall in 2009 in some of the countries hardest hit by the economic crisis (e.g. Estonia and Iceland). More widespread reductions were observed in 2010 and 2011 in response to fiscal pressures and the need to reduce large deficits and debts (Morgan and Astolfi, 2014).

By 2012, a number of countries began to experience renewed growth in health spending, albeit at much lower rates compared to the pre-crisis period. However, health spending continued to fall in 2012 in Greece, Italy, Portugal and Spain, as well as in the Czech Republic and Hungary.

Greece has seen per capita health spending fall by 9% each year since 2009 after yearly growth of more than 5% between 2000 and 2009, leaving the per capita level 25% lower in 2012 than in 2009. Ireland and the Slovak Republic also suffered significant reversals in per capita health spending after previously strong growth.

Definition and comparability

Total expenditure on health measures the final consumption of health goods and services (i.e. current health expenditure) plus capital investment in health care infrastructure, as defined in the System of Health Accounts manual (OECD, 2000; OECD, Eurostat and WHO, 2011). This includes spending by both public and private sources on medical services and goods, public health and prevention programmes, and administration.

The vast majority of countries now produce health spending data according to the boundaries and definitions proposed in the *System of Health Accounts* (SHA) manual. The comparability of the functional breakdown of health expenditure data has improved over recent years. However, limitations remain, as some countries have not yet implemented the SHA classifications and definitions. Even among those countries that are submitting data according to the SHA, the comparability of data sometimes needs to be improved. Different practices regarding the treatment of capital expenditure and the inclusion of long-term care in health or social expenditure are some of the main factors affecting data comparability.

Countries' health expenditures are converted to a common currency (euro) and are adjusted to take account of the different purchasing power of the national currencies, in order to compare spending levels. Economy-wide (GDP) PPPs are used to compare relative expenditure on health in relation to the rest of the economy.

For the calculation of growth rates in real terms, economy-wide GDP deflators are used for all countries. In some countries (e.g. France and Norway) health-specific deflators exist, based on national methodologies, but these are not used in this publication due to limited comparability.

References

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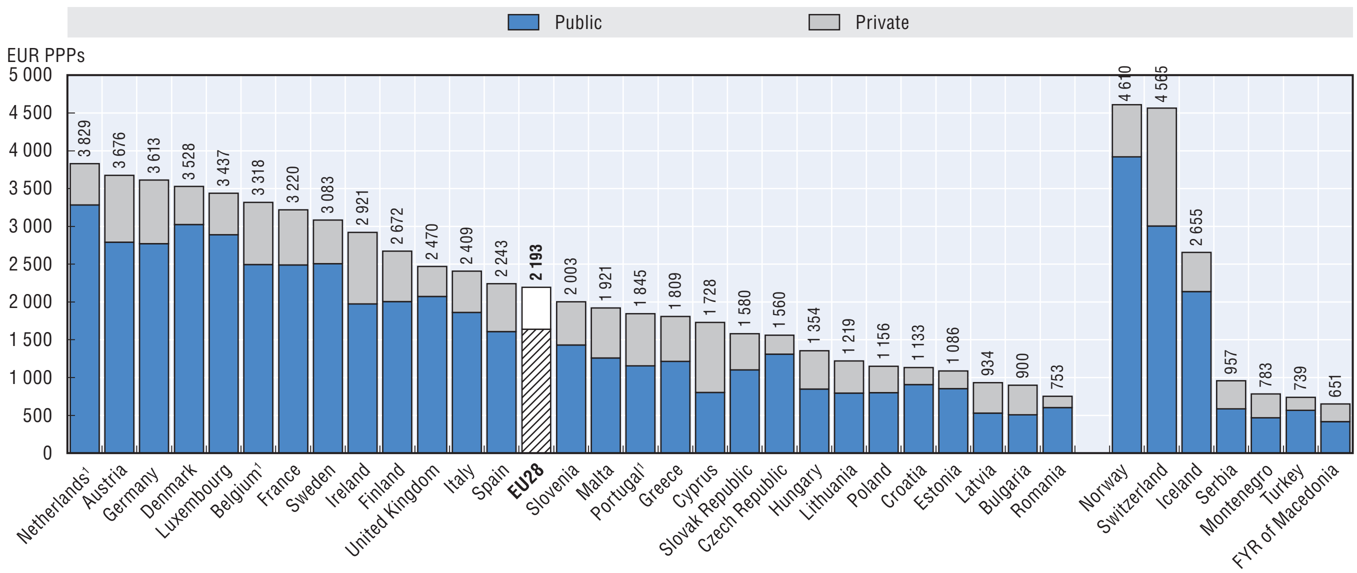
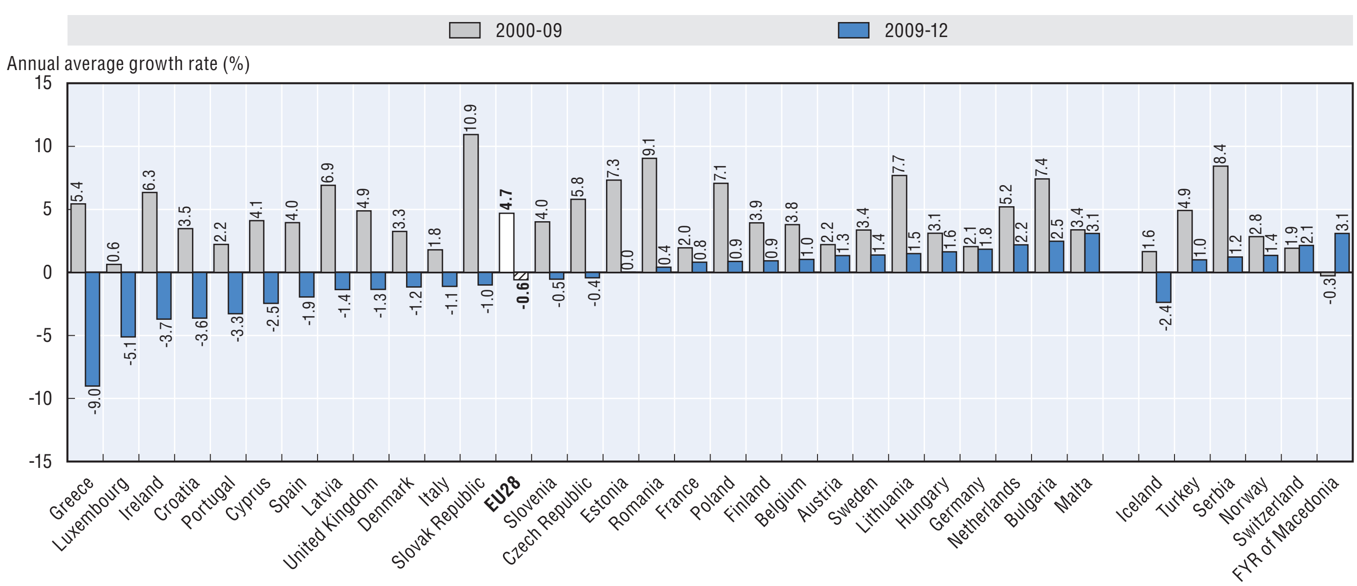
6.1.1. Health expenditure per capita, 2012 (or nearest year)



1. Current health expenditure.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Global Health Expenditure Database.*

6.1.2. Annual average growth rate in per capita health expenditure, real terms, 2000 to 2012 (or nearest year)



Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Global Health Expenditure Database.*

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In 2012, EU member states devoted an (unweighted) average of 8.7% of their GDP to health spending (Figure 6.2.1), up significantly from 7.3% in 2000. A peak of 9.0% was reached in 2009 following the economic crisis which started in many countries in mid-2008. In many countries, public spending on health was maintained in the immediate aftermath of the crisis while GDP fell, but this was followed in 2010 and 2011 by a range of measures to rein in government health spending as part of broader efforts to reduce budgetary deficits.

Among EU member states, the Netherlands allocated the highest share of its GDP to health in 2012 (11.8%), followed by France and Germany (at 11.6% and 11.3% respectively). The shares of the highest-spending European countries remain well below that of the United States, where health expenditure accounted for 16.9% of GDP in 2012. The share of health spending in GDP was lowest in Romania, Latvia and Estonia at below 6%. Outside the European Union, Switzerland was on par with the high spending EU states, with 11.4% of GDP spent on health, while Turkey allocated 5.4% of its GDP to health. Capital spending, which covers investments in the health sector during the year, accounted on average for 0.3% of GDP in 2012.

For a more complete understanding of the level of health spending, the health spending to GDP ratio should be considered together with health spending per capita (see Indicator 6.1). Countries having a relatively high health spending to GDP ratio might have relatively low health expenditure per capita, and the converse also holds. For example, Luxembourg and Croatia both spent around 7% of their GDP on health in 2012; however, per capita spending (adjusted to EUR PPPs) was three times higher in Luxembourg (see Figure 6.1.1).

Changes in the ratio of health spending to GDP are the result of the combined effects of growth in both GDP and health expenditure. Even taking into account the economic crisis, between 2000 and 2012, the annual average growth in health expenditure per capita in real terms was about 3.3% on average in EU member states, greater than the growth rate in GDP per capita. Among the EU-28, with the exception of Croatia, Latvia and Luxembourg, annual growth in health spending outpaced GDP growth from 2000 to 2012, explaining why the share of GDP allocated to health increased in all these countries.

In France and Germany, the health spending to GDP ratio increased from just over 10% in 2000 to more than 11% in both countries in 2012 (Figure 6.2.2). Health spending per capita grew slightly faster in Germany than in France over the past decade, but so did GDP per capita. The share of GDP was relatively stable in both countries between 2003 and 2008, but it then increased by 1 percentage point in 2009 as health spending continued to grow while GDP fell in both countries.

In the United Kingdom, health spending as a share of GDP increased rapidly from somewhat below the EU average in 2000 to above the average by 2006. As in many other European countries, the share of health spending allocated to GDP in the United Kingdom increased by almost a full percentage point in 2009 following the economic crisis, but has since reduced slightly.

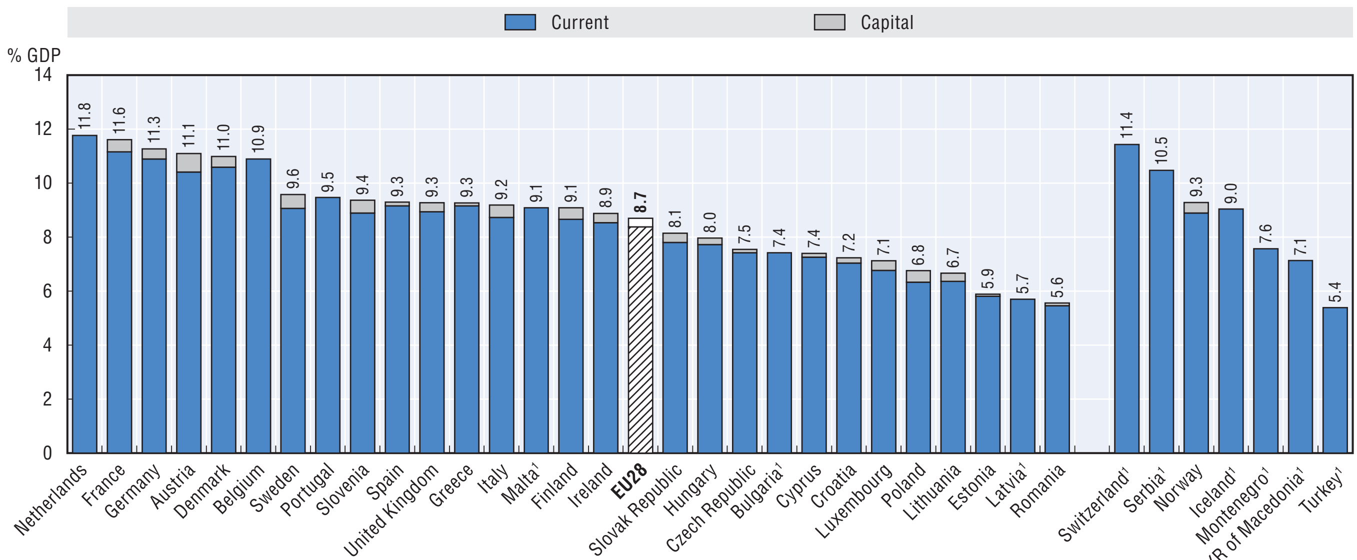
Definition and comparability

See Indicator 6.1 for the definition of total health expenditure.

Gross domestic product (GDP) = final consumption + gross capital formation + net exports. Final consumption of households includes goods and services used by households or the community to satisfy their individual needs. It includes final consumption expenditure of households, general government and non-profit institutions serving households.

In countries, such as Ireland and Luxembourg, where a significant proportion of GDP refers to profits exported and not available for national consumption, gross national income (GNI) may be a more meaningful measure than GDP.

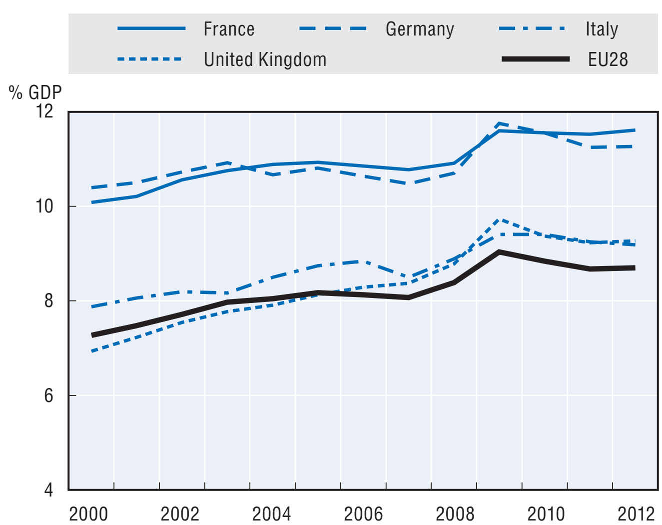
6.2.1. Health expenditure as a share of GDP, 2012 (or nearest year)



1. Total expenditure only (no breakdown between current and capital spending available).

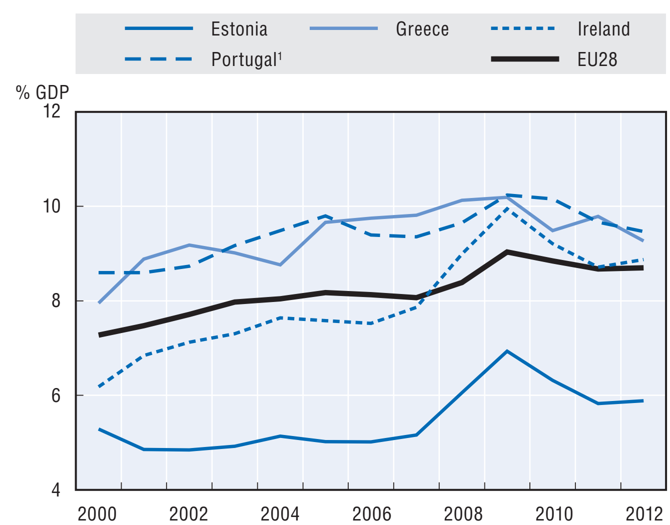
Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Global Health Expenditure Database.

6.2.2. Health expenditure as a share of GDP, 2000-12, selected European countries



Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.

6.2.3. Health expenditure as a share of GDP, 2000-12, selected European countries



1. Data refer to current expenditure (excluding capital spending).

Source: OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en.

StatLink http://dx.doi.org/10.1787/888933155821

Spending on inpatient care and outpatient care covers the major part of health expenditure across EU member states – almost two-thirds of current health expenditure on average in 2012 (Figure 6.3.1). A further quarter of overall health spending was allocated to medical goods (mainly pharmaceuticals), while 10% went towards long-term care and the remaining 6% to collective services, including public health and prevention services and administration.

Greece stands out as the European country with the highest share of spending on inpatient care (including day care in hospitals): it accounted for almost half of total health spending in 2012, a significant increase from 2011 as a consequence of a larger decrease in spending on outpatient care and pharmaceuticals. In France, Romania, Austria and Poland, the hospital sector also plays an important role, with inpatient spending comprising more than a third of total cost. On the other hand, Portugal, Cyprus and Sweden have a high share of outpatient spending representing more than 40% of health expenditure in those countries.

The other major category is spending on medical goods. Differences in the consumption patterns of pharmaceuticals and relative prices are some of the main factors explaining the variations in medical goods spending among countries. In the Slovak Republic and Hungary, medical goods represent the largest spending category at more than a third of overall health expenditure. They also account for 30% or more in Lithuania, Croatia, Romania and Latvia. In Denmark, Norway and Switzerland, on the other hand, spending on medical goods represents only 10-11% of total health spending.

There are also differences among countries in their expenditure on long-term care. Countries such as Norway, the Netherlands and Denmark, which have established formal arrangements for the elderly and the dependent population, allocate around a quarter of all health spending to long-term care. In many southern and central European countries with a more informal long-term care sector, the expenditure on formal long-term care services accounts for a much smaller share of total spending.

The economic crisis affected health spending growth in many EU countries, resulting in substantially lower spending growth since 2009. In order to curb public spending, governments introduced a number of measures, such as cuts in health sector workforce and salaries, reductions in the fees paid to health providers and the prices for pharmaceuticals, and increases in co-payments for patients (Morgan and Astolfi, 2013).

The resulting slowdown in health expenditure experienced in many European countries affected all health spending categories to varying degrees (Figure 6.3.2). Both inpatient and outpatient care saw average spending growth decrease significantly, especially from 2010 onwards, in contrast to the high growth rates seen prior to the economic crisis. Pharmaceutical spending has continued to shrink, on average, for the last three years from 2010 to 2012, mainly due to government price reduction policies (see also Indicator 6.4). Many countries also took early measures to reduce or postpone spending on prevention and public health services, with a slight recovery in spending observed since 2011. The strong increase in 2009 is due partially to the H1N1 influenza pandemic which led to significant one-off expenditures for the purchase of large stocks of vaccines in many countries. Administration was another category immediately targeted in cost-cutting efforts. Cuts in administrative budgets were an initial response to the financial crisis in many countries, such as in the Czech Republic, where the budget of the Ministry of Health was reduced by 30% between 2008 and 2010. Across all EU member states, administrative expenditure stagnated in 2010 and 2011 before growing again in 2012.

Definition and comparability

The *System of Health Accounts* (OECD, 2000; OECD, Eurostat, WHO, 2011) defines the boundaries of the health care system. Current health expenditure comprises personal health care (curative care, rehabilitative care, long-term care, ancillary services and medical goods) and collective services (prevention and public health services as well as health administration). Curative, rehabilitative and long-term care can also be classified by mode of production (inpatient, day care, outpatient and home care). Concerning long-term care, only the health aspect is normally reported as health expenditure, although it is difficult in certain countries to separate out clearly the health and social aspects of long-term care. Some countries with comprehensive long-term care packages focusing on social care might be ranked surprisingly low based on SHA data because of the exclusion of their social care. Thus, estimations of long-term care expenditure are one of the main factors limiting comparability across countries.

References

Morgan, D. and R. Astolfi (2013), "Health Spending Growth at Zero: Which Countries, Which Sectors Are Most Affected?", *OECD Health Working Papers*, No. 60, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k4dd1st95xv-en*.

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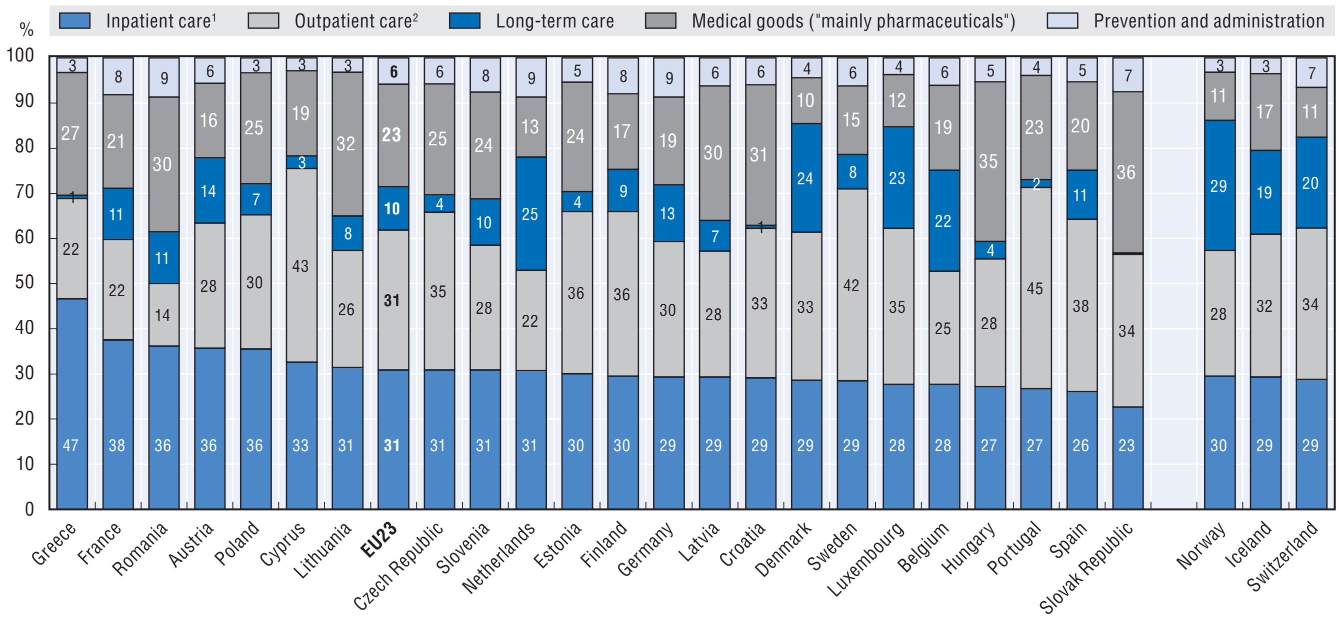
OECD, Eurostat and WHO (2011), *System of Health Accounts 2011*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264116016-en*.

6.3.1. Current health expenditure by function, 2012 (or nearest year)

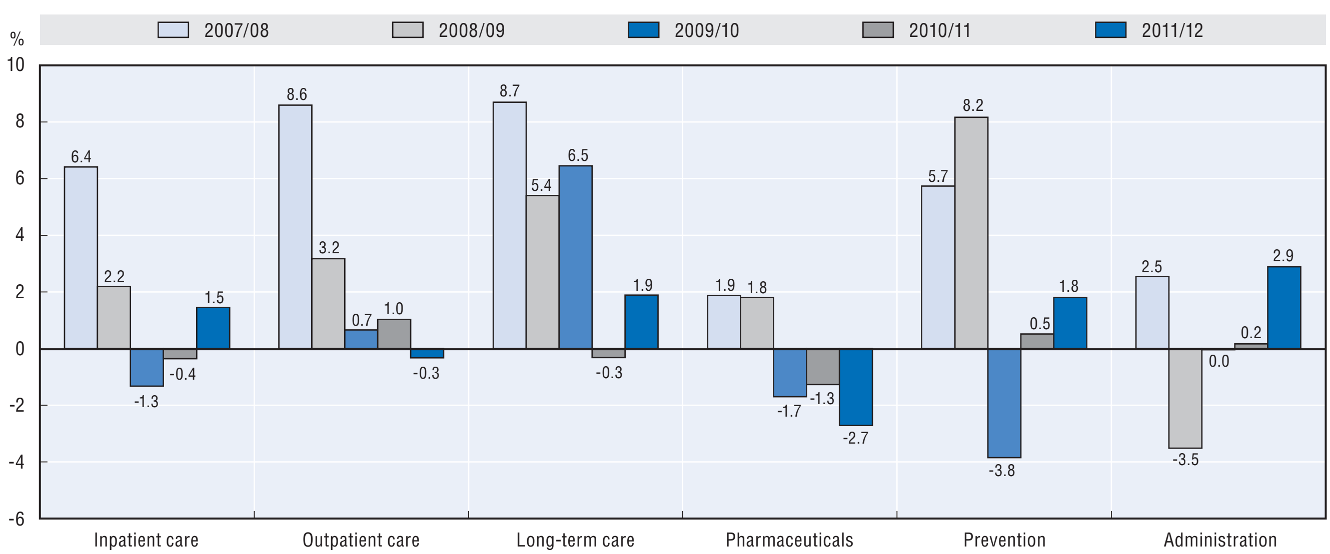


Note: Countries are ranked by inpatient care as a share of current health expenditure.

1. Refers to curative-rehabilitative care in inpatient and day care settings.
2. Includes home-care and ancillary services.

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database* for non-OECD countries.

6.3.2. Average annual growth rates of spending for selected functions, EU average, in real terms



Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database* for non-OECD countries.

StatLink http://dx.doi.org/10.1787/888933155831

Spending on pharmaceuticals accounted for almost a fifth of all health expenditure on average across EU member states in 2012, making it the third largest spending component after inpatient and outpatient care.

The total pharmaceutical bill across the European Union approached EUR 200 billion in 2012. However, there are wide variations in pharmaceutical spending per capita across countries, reflecting differences in volume, structure of consumption and pharmaceutical prices (Figure 6.4.1, left panel). At EUR 550, Belgium spent more on pharmaceuticals in 2012 than any other European country on a per capita basis. Germany (EUR 501) and Ireland (EUR 500) also spent 40% more on medicines than the EU average, which stood at EUR 350 per capita. At the other end of the scale, Denmark, Latvia and Romania had relatively low spending levels, below or around EUR 200 on a per capita basis.

Pharmaceutical spending accounted for 1.5% of GDP on average across EU member states with a little under two-thirds financed publicly and the rest from private sources. Across the European Union, the pharmaceutical spending as a share of GDP ranged from less than 1% in Luxembourg and Denmark, to over 2% in Hungary, Greece and the Slovak Republic (Figure 6.4.1, right panel). Public funding of pharmaceuticals ranged from 0.3% of GDP in Denmark and Cyprus to as much as 1.5% of GDP in Greece.

The economic crisis has had a significant effect on the growth in pharmaceutical spending in many European countries (Figure 6.4.2). Between 2000 and 2009, annual pharmaceutical expenditure per capita grew by 3.7% in real terms on average in EU member states, but fell in the following three consecutive years. On average, pharmaceutical spending fell by over 2% per year in real terms between 2009 and 2012 across EU member states. In three-quarters of EU countries, pharmaceutical spending has dropped in real terms since 2009 and in all EU member states, without exception, the average growth rates between 2009 and 2012 were below those of the pre-crisis period. The reduction was particularly steep in those countries that were hit hardest by the recession. In Greece, pharmaceutical spending per capita has decreased by more than 12% per year since 2009, following high growth rates in the preceding years. In 2012, pharmaceutical spending per capita in Greece was 33% lower than in 2009 in real terms. Luxembourg (-7.2%), Denmark (-6.1%), Portugal (-6.1%), Spain (-5.2%), Italy (-3.9%) and Cyprus (-3.5%) as well as the EU candidate Iceland (-4.9%) also experienced substantial annual reductions in pharmaceutical spending in the years since 2009. But lower pharmaceutical spending has also been the case in European economies that weathered the financial crisis fairly well: annual growth rates decreased on average in Poland (-2.2%), Switzerland (-1.0%) and Germany (-0.4%).

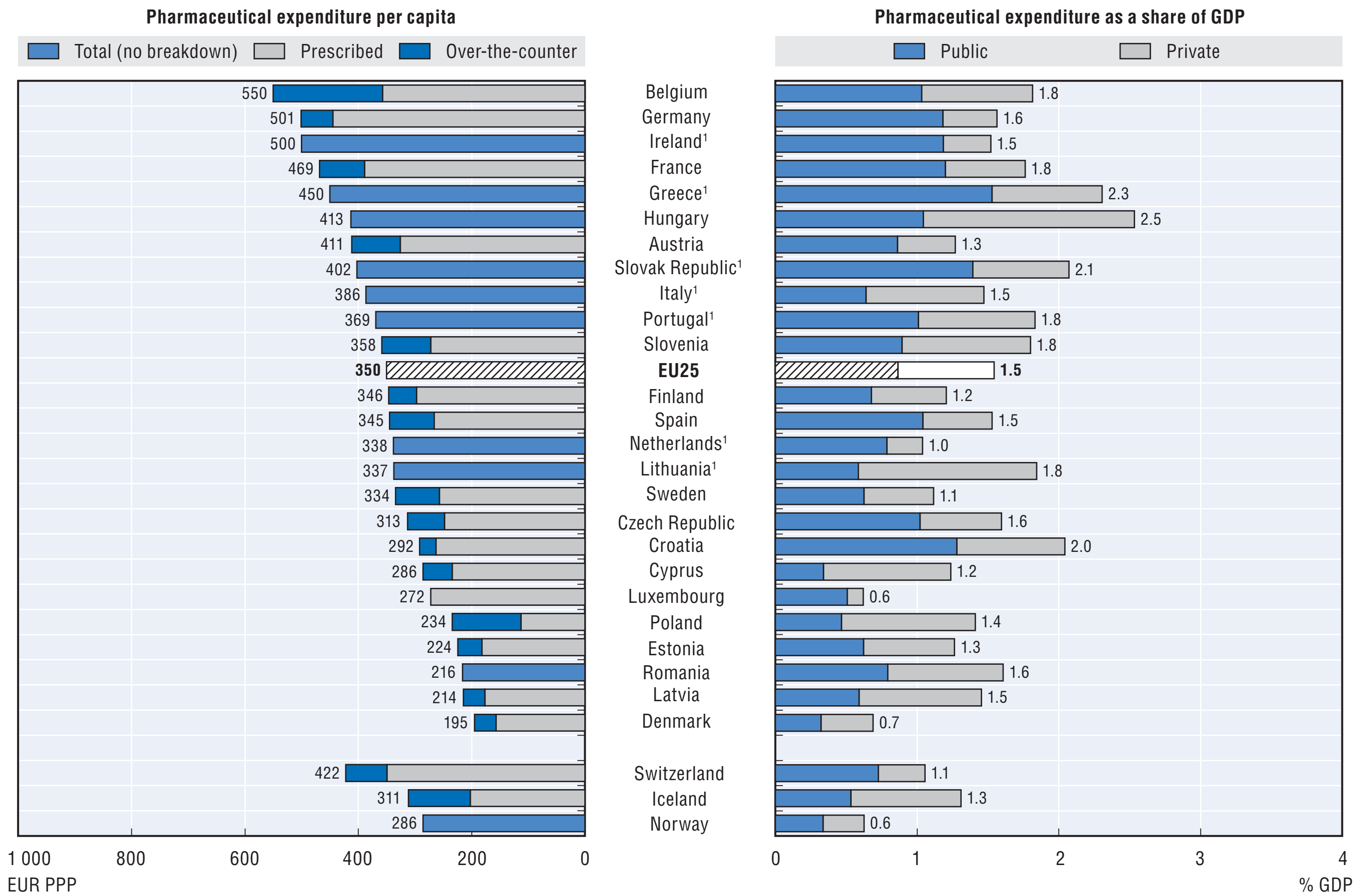
Many European countries introduced a range of measures to curb pharmaceutical spending: price cuts (achieved through negotiations with the pharmaceutical manufacturers, introduction of reference pricing, application of compulsory rebates, decrease of pharmacy margins, reductions of the value added tax applicable for pharmaceuticals), centralised public procurement of pharmaceuticals, promoting the use of generics, reduction of package sizes, reduction in coverage (excluding pharmaceuticals from reimbursement) and increases in co-payments by households.

For example, Spain introduced a general rebate applicable for all medicines prescribed by NHS physicians in 2010. In addition, it mandated price reductions for generics which is one of the factors explaining the growth in the consumption of generics in that country. In Germany, compulsory rebates for manufacturers were raised in 2011 and prices frozen until 2013. Since 2011, pharmaceutical companies have been mandated to enter into rebate negotiations with health insurance funds for new innovative drugs, which put an end to the previous free-pricing regime. In Italy, some of the spending reduction can be attributed to the implementation of tighter pharmaceutical budgets for the Italian regions as well as reductions in wholesale and pharmacy margins, and price cuts on generics based on a reference pricing. In Hungary, the introduction of new mandatory tendering processes for publicly-financed medications has started to bring pharmaceutical spending down, while in Denmark, as in many other countries, negative growth was partially due to patent expirations of high-volume and high-cost brand name drugs.

Definition and comparability

Pharmaceutical expenditure covers spending on pharmaceuticals used in ambulatory care and does not include the costs of medicines used in hospitals as these are captured in estimates of inpatient spending (resulting in an under-estimation of around 15% in total pharmaceutical spending approximately). Pharmaceutical expenditure covers both prescription medicines and self-medication, often referred to as over-the-counter products. Final expenditure on pharmaceuticals includes wholesale and retail margins and value-added tax. It also includes pharmacists' remuneration when the latter is separate from the price of medicines.

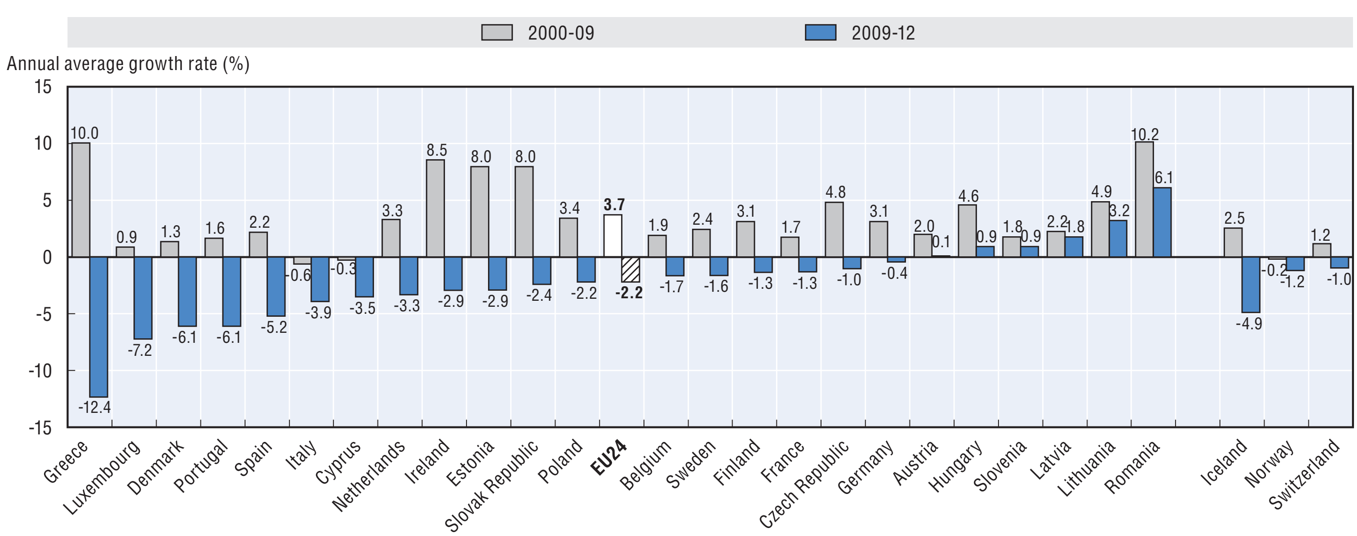
6.4.1. Expenditure on pharmaceuticals per capita and as a share of GDP, 2012 (or nearest year)



1. Includes medical non-durables (resulting in an over-estimation of around 5-10%).

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database* for non-OECD countries.

6.4.2. Average annual growth in pharmaceutical expenditure[1] per capita, in real terms, 2000 to 2012 (or nearest year)



1. Including medical non-durables.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database* for non-OECD countries.

StatLink http://dx.doi.org/10.1787/888933155842

Across all European countries, health care is financed by a mix of public and private spending. In some countries, public health spending is generally confined to spending by the government using general revenues. In others, social insurance funds finance the bulk of health expenditure. Private financing of health care consists mainly of payments by households (either as standalone payments or as part of co-payment arrangements) as well as various forms of private health insurance intended to replace, complement or supplement publicly-financed coverage.

In all but one EU country (Cyprus), the public sector is the primary source of health care financing. On average across EU countries, three-quarters of all health care spending was publicly financed in 2012. In Denmark, the United Kingdom and Sweden, the central, regional or local governments finance more than 80% of all health spending. In the Czech Republic, the Netherlands, Croatia, Luxembourg, France and Germany, social health insurance is the dominant financing scheme, funding 70% or more of all health expenditure. Only in Cyprus was the share of public spending on health below 50% with a large proportion of health spending (47%) financed directly by households. Although not the dominant financing scheme, private health insurance also finances a significant proportion – 10% or more – of total health spending in Slovenia, Ireland, France and Germany. The nature of the private health insurance, however, varies in these countries (see Indicator 5.1 "Coverage for health care").

Governments provide a multitude of services for their populations from the public budget. Hence, health care is competing for resources with many different sectors such as education, defence and housing. The size of the public budget allocated to health is determined by a number of factors including, among others, the type of health and long-term care system, the demographic composition of the population, and the relative budget priorities in countries, which can change from year to year. On average across the European Union, 14% of total government expenditure was dedicated to health care (Figure 6.5.2). There are, however, important variations across EU member states. In the Netherlands and Germany, one euro out of every five spent by the government is allocated to health care. A similar share is also seen in Switzerland (22%). On the other hand, this falls to less than one out of every EUR 10 spent by governments in Cyprus and Latvia.

After public financing, the main source of funding tends to be out-of-pocket payments. On average, households financed a fifth of all health spending across EU member states in 2012. This share is above 30% in Cyprus, Bulgaria, Latvia, Lithuania, Malta and Portugal, while it was lowest in countries such as the Netherlands (6%), France (8%) and the United Kingdom (9%).

On average across EU countries, the share of out-of-pocket spending has remained stable over the past five years. But this average hides significant differences across countries. In Portugal, Lithuania, Hungary and Ireland, the share increased by more than 2 percentage points since 2007. In some of these countries, public coverage for certain services was reduced in response to public financing constraints and a growing share of payments was transferred to households. In Portugal, for example, user charges for some types of vaccinations and health certificates issued by doctors were introduced. Moreover, public coverage for some pharmaceuticals was reduced. In Ireland, entitlement for public coverage was removed for some sections of the wealthier population, while prescription charges were introduced and coverage for dental care reduced (Mladovsky et al., 2012).

In a number of other countries, the share of spending by private households fell over the same period. Estonia, Belgium and Poland have all seen drops of about 2 percentage points or more.

Definition and comparability

The financing of health care can be analysed from the point of view of the sources of funding (households, employers and the state), financing schemes (e.g., compulsory or voluntary insurance), and financing agents (organisations managing the financing schemes). Here "financing" is used in the sense of financing schemes as defined in the *System of Health Accounts* (OECD, 2000; OECD, Eurostat and WHO, 2011). Public financing includes expenditure by the general government and social security funds. Private financing covers households' out-of-pocket payments, private health insurance and other private funds (NGOs and private corporations). Out-of-pocket payments are expenditures borne directly by patients. They include cost-sharing and, in certain countries, estimations of informal payments to health care providers.

Total government expenditure is used as defined in the *System of National Accounts* (SNA 2008) and includes as major components intermediate consumption, compensation of employees, subsidies, interest, social benefits and transfers in kind, current transfers and capital transfers payable by central, regional and local governments as well as social security funds.

References

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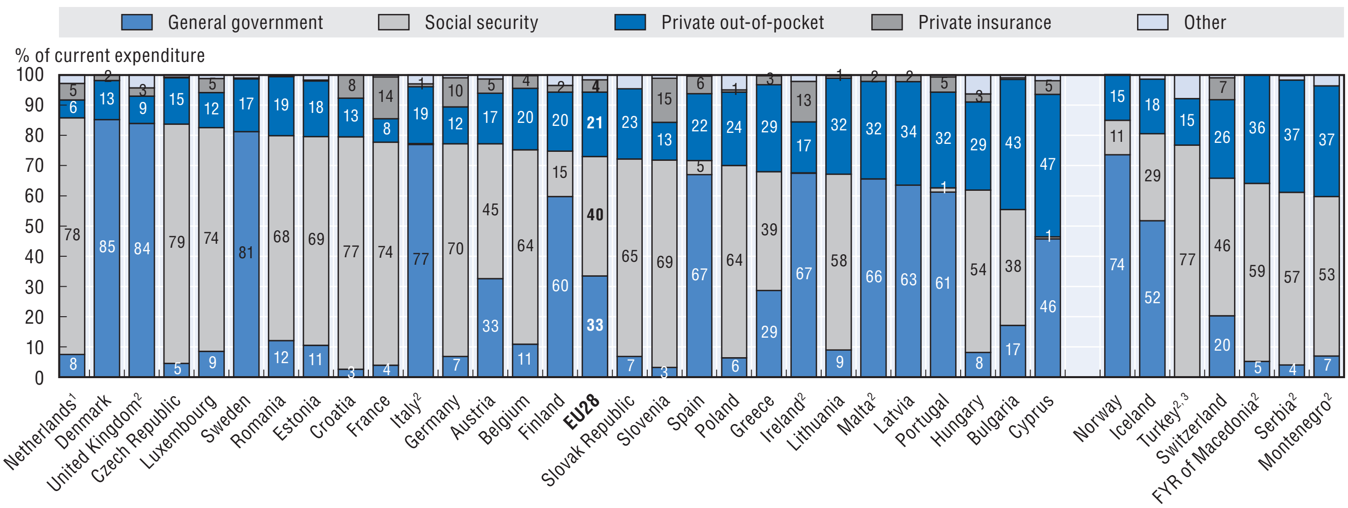
OECD, Eurostat and WHO (2011), *System of Health Accounts 2011*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264116016-en*.

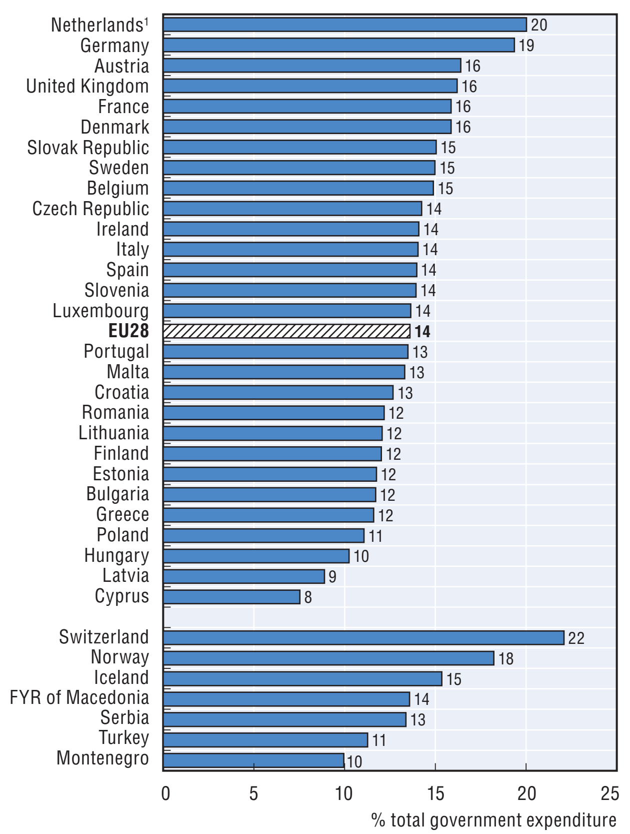
6.5.1. Expenditure on health by type of financing, 2012 (or nearest year)



1. The Netherlands do not account for fixed deductable payable by patients (350 EUR per year) as out-of-pocket spending, resulting in an under-estimation of the share of out-of-pocket payments.
2. Data refer to total health expenditure.
3. Public spending cannot be split.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Global Health Expenditure Database.*

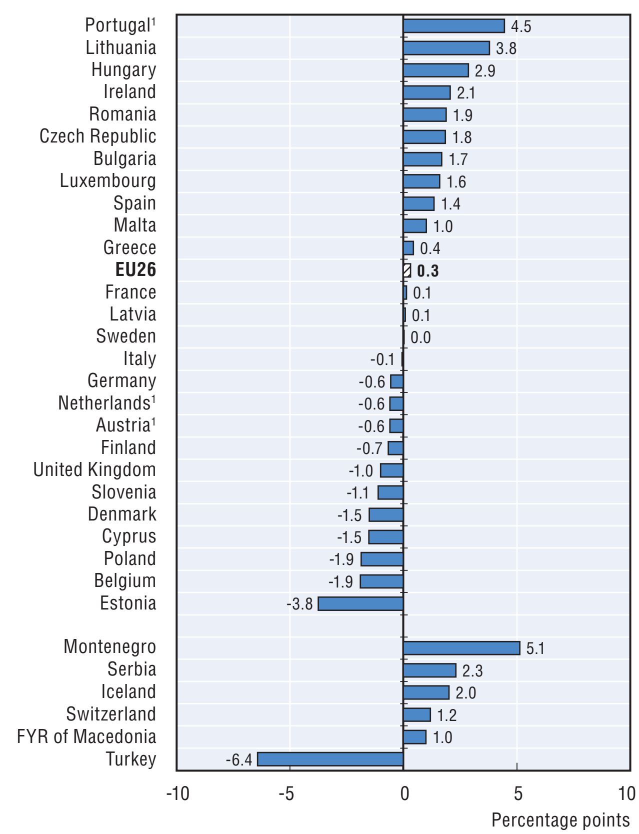
6.5.2. Health expenditure as share of total government expenditure, 2012 (or nearest year)



1. Data refer to current health expenditure.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; OECD National Accounts; Eurostat Statistics Database; WHO Global Health Expenditure Database.*

6.5.3. Change in out-of-pocket expenditure as share of total expenditure on health, 2007 to 2012 (or nearest year)



1. Data refer to current health expenditure.

Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database; WHO Global Health Expenditure Database.*

StatLink http://dx.doi.org/10.1787/888933155850

The globalisation of health care has given rise to new patterns of consumption and production of health care services over recent decades. A significant new element of the trade in health care has involved the movement of patients across borders in the pursuit of medical treatment: a phenomenon commonly termed medical tourism. This growth has been fuelled by a number of factors. Technological advances in information systems and communication allow patients or purchasers of health care to seek out quality treatment at lower cost and/or more immediately from health care providers in other countries. The portability of health coverage, as a result of EU-wide measures to facilitate patient flows with regard to public health insurance systems, may also fuel further increases. All this is coupled with a general increase in the temporary movement of populations for business or leisure.

While the major part of international trade in health services involves the physical movement of patients across borders to receive treatment, to get a full measure of imports and exports, there are also other aspects such as goods and services delivered remotely such as pharmaceuticals ordered from another country or diagnostic services provided from a doctor in one country to a patient in another. The magnitude of such trade remains small, but advances in technology mean that this area also has the potential to grow rapidly.

Data on spending for health services and goods by residents abroad (imports) are available for most European countries. They amounted to more than EUR 3 billion in 2012. However, due to data gaps and under-reporting, this is also likely to be a significant underestimate. The vast majority of this trade is among European countries. With health-related imports reaching over EUR 1 700 million, Germany is by far the greatest importer in absolute terms, followed by the Netherlands and France. Nevertheless, in comparison to the size of the health sector as a whole, trade in health goods and services remains marginal for most countries (Figure 6.6.1). Even in the case of Germany, reported imports represent only around 0.6% of Germany's health expenditure. The share rises above 1% of health spending in Iceland, Portugal and the Netherlands, and up to 3.5% in Cyprus as there is a higher level of cross-border movement of patients to Greece. Luxembourg (5%) is a particular case because a large part of its insured population is living and consuming health services in neighbouring countries.

A smaller number of countries report figures on health care goods and services purchased by non-residents (exports), totalling around EUR 2.5 billion in 2012 (Figure 6.6.2). For many countries, these figures are still likely to be significant underestimates. Of the countries for which data are available, France reports the highest value of health care to foreigners at around EUR 560 million with the Czech Republic second at close to EUR 500 million. Hungary and Poland are also relatively high exporters in absolute terms. Compared to overall health spending, health-related exports remain marginal in most countries, except Croatia, Czech Republic and Hungary where they account for 4% to 5% of overall health spending. These countries have become popular destinations for patients from other European countries, particularly for services such as dental surgery. The growth rate in health-related exports has exceeded 20% per year over the past five years in Slovenia.

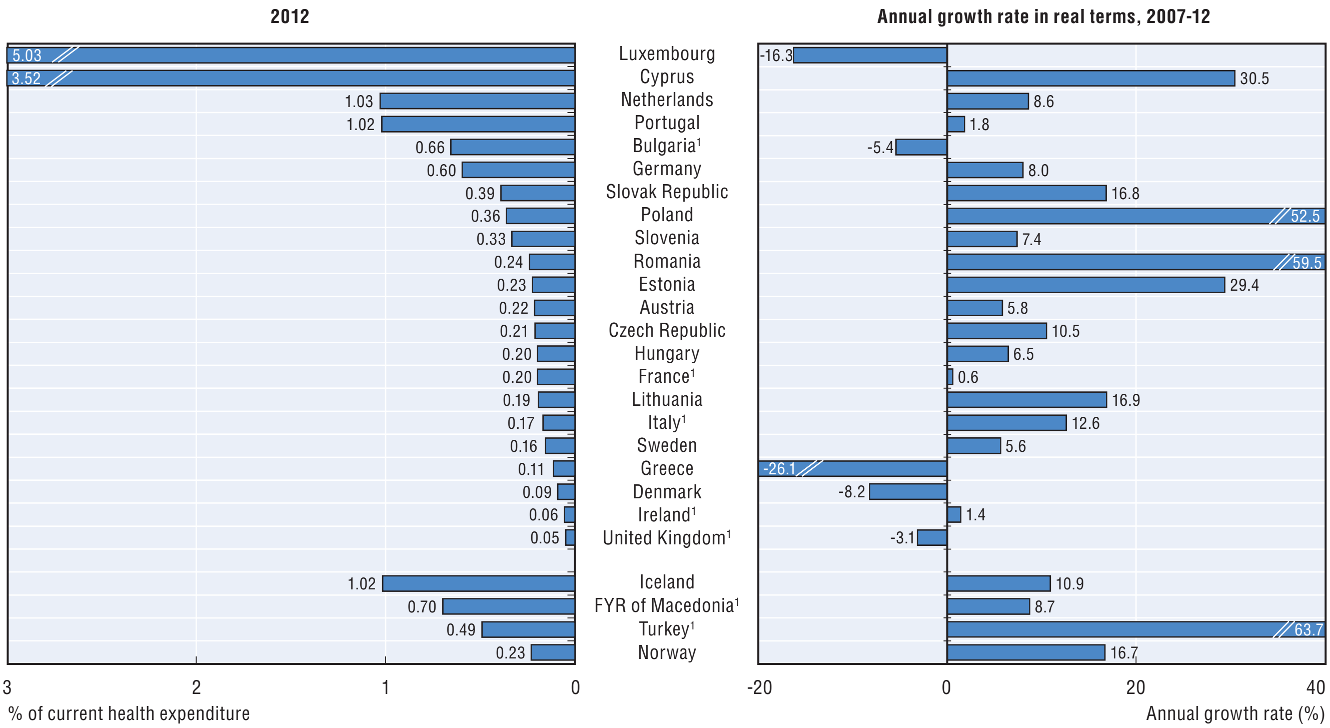
Patient mobility in Europe may see further growth as a result of an EU directive, adopted in 2011 and implemented in 2013, which supports patients in exercising their right to cross-border health care and promotes co-operation among health systems (Directive 2011/24/EU).

Definition and comparability

The *System of Health Accounts* includes imports within current health expenditure, defined as imports of medical goods and services for final consumption. This category covers the purchase of medical services and goods by resident patients while abroad.

In the balance of payments, trade refers to goods and services transactions between residents and non-residents of an economy. According to the *Manual on Statistics of International Trade in Services*, "Health-related travel" is defined as "goods and services acquired by travellers going abroad for medical reasons". This category has some limitations in that it covers only those persons travelling for the specific purpose of receiving medical care, and does not include those who happen to require medical services when abroad. The additional item "Health services" covers those services delivered across borders but can include medical services delivered between providers as well as to patients.

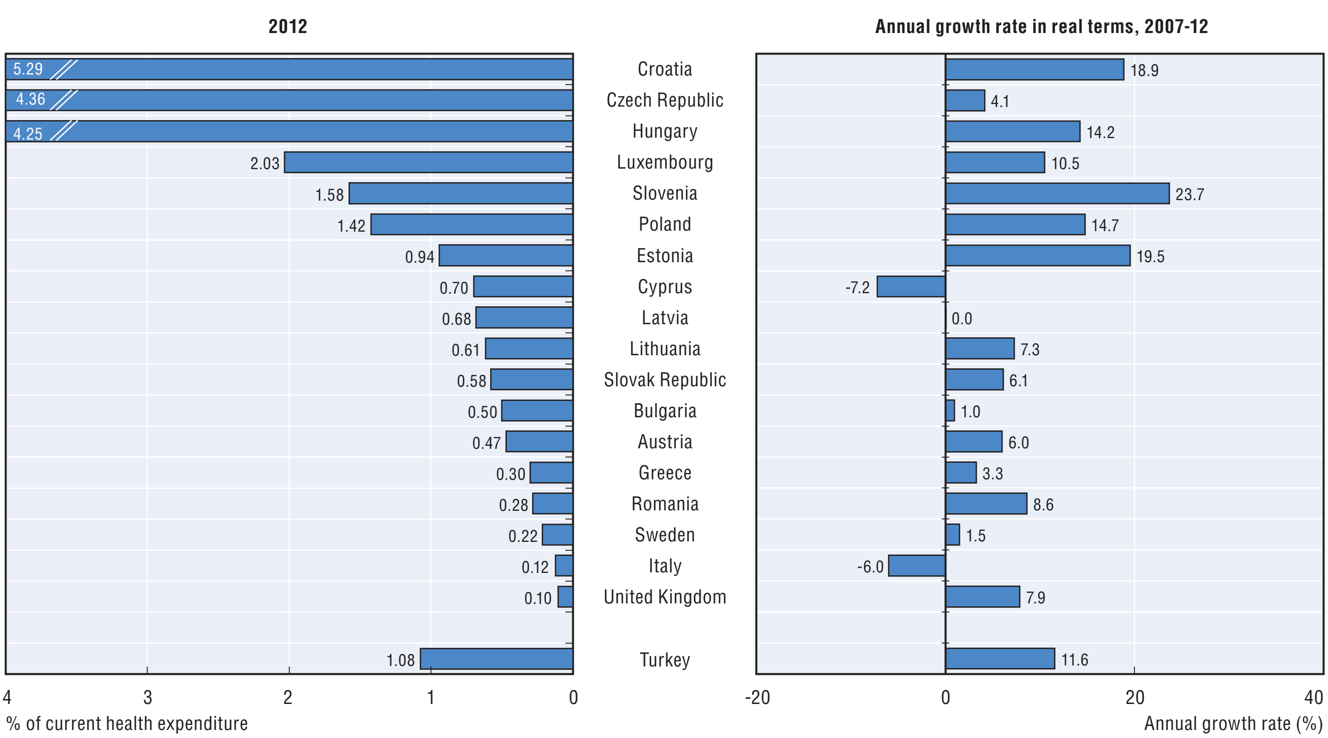
6.6.1. Imports of health care services as share of health expenditure, 2012 and annual growth rate in real terms, 2007-12 (or nearest year)



1. Refers to Balance of Payments concept of health-related travel plus health services within personal, recreational and cultural services.

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; Eurostat Balance of Payments-International Trade in Service Statistics.

6.6.2. Exports of health-related travel or other services as share of health expenditure, 2012 and annual growth rate in real terms, 2007-12 (or nearest year)



Note: Health-related exports occur when domestic providers supply medical services to non-residents.

Source: Eurostat Balance of Payments-International Trade in Service Statistics.

StatLink http://dx.doi.org/10.1787/888933155860

Statistical annex

Table A.1. Total population, mid-year, thousands, 1960 to 2012

	1960	1970	1980	1990	2000	2010	2011	2012
Austria	7 048	7 467	7 549	7 678	8 012	8 390	8 406	8 430
Belgium	9 153	9 656	9 859	9 967	10 251	10 920	11 048	11 128
Bulgaria	7 867	8 490	8 862	8 718	8 170	7 396	7 348	7 306
Croatia	4 140	4 412	4 600	4 777	4 468	4 296	4 283	4 269
Cyprus	573	614	509	580	694	829	851	864
Czech Republic	9 602	9 858	10 304	10 333	10 255	10 474	10 496	10 511
Denmark	4 580	4 929	5 123	5 141	5 340	5 548	5 571	5 592
Estonia	1 212	1 360	1 477	1 569	1 397	1 331	1 327	1 323
Finland	4 430	4 606	4 780	4 986	5 176	5 363	5 388	5 414
France	45 684	50 772	53 880	56 709	59 062	62 918	63 224	63 519
Germany[1]	55 608	61 098	61 549	63 202 |	82 212	81 777	81 798	80 426
Greece	8 332	8 793	9 643	10 157	10 917	11 153	11 123	11 093
Hungary	9 984	10 338	10 711	10 374	10 211	10 000	9 972	9 920
Ireland	2 829	2 957	3 413	3 514	3 805	4 560	4 577	4 587
Italy	50 200	53 822	56 434	56 719	56 942	59 277	59 379	59 540
Latvia	2 121	2 359	2 512	2 663	2 368	2 098	2 060	2 034
Lithuania	2 779	3 140	3 413	3 698	3 500	3 097	3 028	2 988
Luxembourg	314	339	364	382	436	507	518	531
Malta	327	303	317	354	381	415	416	419
Netherlands	11 487	13 039	14 150	14 952	15 926	16 615	16 693	16 755
Poland	29 637	32 664	35 574	38 111	38 259	38 184	38 534	38 536
Portugal	8 858	8 680	9 766	9 983	10 290	10 573	10 558	10 515
Romania	18 407	20 250	22 243	23 202	22 443	20 247	20 148	20 077
Slovak Republic	4 068	4 538	4 980	5 299	5 389	5 391	5 398	5 408
Slovenia	1 585	1 725	1 901	1 998	1 989	2 049	2 053	2 057
Spain	30 455	33 815	37 439	38 850	40 263	46 577	46 743	46 773
Sweden	7 485	8 043	8 311	8 559	8 872	9 378	9 449	9 519
United Kingdom	52 400	55 663	56 314	57 248	58 893	62 766	63 259	63 696
EU (total)	**391 161**	**423 730**	**445 976**	**459 725**	**485 920**	**502 131**	**503 649**	**503 229**
FYR of Macedonia	1 392	1 629	1 891	1 882	2 026	2 055	2 059	2 061
Iceland	176	204	228	255	281	318	319	321
Montenegro	..	..	..	..	614	619	621	622
Norway	3 581	3 876	4 086	4 241	4 491	4 889	4 953	5 019
Serbia	..	..	..	..	7 516	7 291	7 234	7 199
Switzerland	5 328	6 181	6 319	6 716	7 184	7 825	7 912	7 997
Turkey	27 438	35 294	44 522	56 104	67 393	73 142	74 224	75 176

| Break in series.
1. Population figures for Germany prior to 1991 refer to West Germany.
Source: *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155876

Table A.2. **Share of the population aged 65 and over, 1 January, 1960 to 2012**

	1960	1970	1980	1990	2000	2010	2011	2012
Austria	12.1	14.0	15.5	14.9	15.4	17.6	17.6	17.8
Belgium	12.0	13.3	14.3	14.8	16.8	17.2	17.1	17.3
Bulgaria	7.4	9.4	11.8	13.0	16.2	18.2	18.5	18.8
Croatia	..	..	..	..	16.1	17.8	17.7	17.9
Cyprus	..	..	10.8	10.8	11.2	12.5	12.7	12.8
Czech Republic	9.5	11.9	13.6	12.5	13.8	15.3	15.6	16.2
Denmark	10.5	12.2	14.3	15.6	14.8	16.3	16.8	17.3
Estonia	10.5	11.7	12.5	11.6	15.0	17.4	17.6	17.9
Finland	7.2	9.0	11.9	13.3	14.8	17.0	17.5	18.1
France	11.6	12.8	14.0	13.9	16.0	16.8	16.9	17.3
Germany[1]	10.7	13.0	15.5	15.2 |	16.2	20.7	20.6	21.0
Greece	9.4	11.1	13.1	13.7	16.5	18.9	19.3	19.7
Hungary	8.9	11.5	13.5	13.2	15.0	16.6	16.7	16.9
Ireland	11.1	11.1	10.7	11.4	11.2	11.2	11.5	11.9
Italy	9.3	10.8	13.1	14.7	18.1	20.4	20.5	20.8
Latvia	..	11.9	13.0	11.8	14.8	18.1	18.4	18.6
Lithuania	..	10.0	11.3	10.8	13.7	17.3	17.9	18.1
Luxembourg	10.8	12.5	13.7	13.4	14.3	14.0	13.9	14.0
Malta	..	..	8.4	10.4	12.1	14.9	15.7	16.4
Netherlands	8.9	10.1	11.5	12.8	13.6	15.3	15.6	16.2
Poland	5.8	8.2	10.2	10.0	12.1	13.5	13.5	13.8
Portugal	7.8	9.2	11.2	13.2	16.0	18.3	18.7	19.0
Romania	..	8.5	10.3	10.3	13.2	16.1	16.1	16.3
Slovak Republic	6.8	9.1	10.6	10.3	11.4	12.4	12.6	12.8
Slovenia	..	..	11.4	10.6	13.9	16.5	16.5	16.8
Spain	8.2	9.5	10.8	13.4	16.7	16.8	17.1	17.4
Sweden	11.7	13.6	16.2	17.8	17.3	18.1	18.5	18.8
United Kingdom	11.7	12.9	14.9	15.7	15.8	16.3	16.4	16.8
EU (unweighted average)	**9.6**	**11.1**	**12.5**	**12.9**	**14.7**	**16.5**	**16.7**	**17.0**
FYR of Macedonia	..	..	..	..	9.8	11.6	11.7	11.8
Iceland	8.0	8.8	9.8	10.6	11.6	12.0	12.3	12.6
Montenegro	..	..	..	..	11.7	12.7	12.8	13.0
Norway	10.9	12.8	14.7	16.3	15.3	14.9	15.1	15.4
Serbia	..	..	..	..	16.0	17.0	17.2	17.3
Switzerland	10.2	11.2	13.8	14.6	15.3	16.8	16.9	17.2
Turkey	3.6	4.4	4.7	4.4	6.7	7.1	7.3	7.4

| Break in series.
1. Population figures for Germany prior to 1991 refer to West Germany.
Source: Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155887

Table A.3. **Crude birth rate, per 1 000 population, 1960 to 2012**

	1960	1970	1980	1990	2000	2010	2011	2012
Austria	17.9	15.0	12.0	11.8	9.8	9.4	9.3	9.4
Belgium	16.8	14.7	12.6	12.4	11.4	11.9	11.6	11.5
Bulgaria	17.8	16.3	14.5	12.1	9.0	10.2	9.6	9.5
Croatia	18.4	13.8	14.8	11.6	9.8	10.1	9.6	9.8
Cyprus	26.2	19.2	20.4	18.3	12.2	11.8	11.3	11.8
Czech Republic	13.4	15.0	14.9	12.6	8.9	11.2	10.4	10.3
Denmark	16.6	14.4	11.2	12.3	12.6	11.4	10.6	10.4
Estonia	16.7	15.8	15.0	14.2	9.4	11.9	11.1	10.6
Finland	18.5	14.0	13.2	13.1	11.0	11.4	11.1	11.0
France	17.9	16.7	14.9	13.4	13.1	12.8	12.5	12.4
Germany[1]	17.4	13.3	10.1	11.5 |	9.3	8.3	8.1	8.4
Greece	18.9	16.5	15.4	10.1	9.5	10.3	9.6	9.0
Hungary	14.7	14.7	13.9	12.1	9.6	9.0	8.8	9.1
Ireland	21.5	21.8	21.7	15.1	14.4	16.5	16.2	15.7
Italy	18.1	16.7	11.3	10.0	9.5	9.5	9.2	9.0
Latvia	16.7	14.6	14.1	14.2	8.6	9.4	9.1	9.8
Lithuania	22.5	17.7	15.2	15.4	9.8	9.9	10.0	10.2
Luxembourg	16.0	13.0	11.4	12.9	13.1	11.6	10.9	11.3
Malta	26.2	17.6	17.7	15.2	11.5	9.4	10.0	9.8
Netherlands	20.8	18.3	12.8	13.2	13.0	11.1	10.8	10.5
Poland	22.6	16.8	19.6	14.4	9.9	10.8	10.1	10.0
Portugal	24.1	20.8	16.2	11.7	11.7	9.6	9.2	8.5
Romania	19.1	21.1	17.9	13.6	10.4	10.5	9.7	10.0
Slovak Republic	21.7	17.8	19.1	15.1	10.2	11.2	11.3	10.3
Slovenia	17.6	15.9	15.7	11.2	9.1	10.9	10.7	10.7
Spain	21.7	19.5	15.3	10.3	9.9	10.4	10.1	9.7
Sweden	13.7	13.7	11.7	14.5	10.2	12.3	11.8	11.9
United Kingdom	17.5	16.2	13.4	13.9	11.5	12.9	12.8	12.8
EU (unweighted average)	**19.0**	**16.5**	**14.9**	**13.1**	**10.7**	**10.9**	**10.6**	**10.5**
FYR of Macedonia	31.7	23.2	21.0	18.8	14.5	11.8	11.1	11.4
Iceland	28.0	19.7	19.8	18.7	15.3	15.4	14.1	14.1
Montenegro	..	..	..	..	15.0	12.0	11.6	12.0
Norway	17.3	16.7	12.5	14.4	13.2	12.6	12.2	12.0
Serbia	..	..	..	..	9.8	9.4	9.1	9.3
Switzerland	17.7	16.1	11.7	12.5	10.9	10.3	10.2	10.3
Turkey	..	..	..	..	21.6	17.2	16.8	17.1

Note: Crude birth rate is defined as the number of live births per 1 000 population.
| Break in series.
1. Population figures for Germany prior to 1991 refer to West Germany.
Source: *Eurostat Statistics Database*.

StatLink http://dx.doi.org/10.1787/888933155898

Table A.4. **Fertility rate, number of children per women aged 15-49, 1960 to 2012**

	1960	1970	1980	1990	2000	2010	2011	2012
Austria	2.69	2.29	1.65	1.46	1.36	1.44	1.43	1.44
Belgium	2.54	2.25	1.68	1.62	1.64	1.84	1.81	1.79
Bulgaria	2.31	2.17	2.05	1.82	1.26	1.57	1.51	1.50
Croatia	2.20	1.83	1.92	1.67	1.39	1.55	1.48	1.51
Cyprus	..	..	2.48	2.41	1.64	1.44	1.35	1.39
Czech Republic	2.11	1.91	2.10	1.89	1.14	1.49	1.43	1.45
Denmark	2.54	1.95	1.55	1.67	1.77	1.88	1.76	1.73
Estonia	1.98	2.17	2.02	2.05	1.36	1.72	1.61	1.56
Finland	2.71	1.83	1.63	1.79	1.73	1.87	1.83	1.80
France	2.74	2.48	1.95	1.78	1.87	2.02	2.00	2.00
Germany[1]	2.37	2.03	1.56	1.45 |	1.38	1.39	1.36	1.38
Greece	2.23	2.40	2.23	1.40	1.26	1.51	1.39	1.34
Hungary	2.02	1.97	1.92	1.84	1.33	1.26	1.24	1.34
Ireland	3.76	3.87	3.23	2.12	1.90	2.06	2.06	2.02
Italy	2.41	2.43	1.68	1.36	1.26	1.41	1.39	1.42
Latvia	1.94	2.02	1.90	2.01	1.25	1.36	1.33	1.44
Lithuania	..	2.40	1.99	2.03	1.39	1.50	1.55	1.60
Luxembourg	2.28	1.98	1.50	1.62	1.78	1.63	1.52	1.57
Malta	..	..	1.99	2.05	1.69	1.36	1.45	1.43
Netherlands	3.12	2.57	1.60	1.62	1.72	1.80	1.76	1.72
Poland	2.98	2.20	2.28	1.99	1.37	1.38	1.30	1.30
Portugal	3.10	2.83	2.18	1.56	1.56	1.39	1.35	1.28
Romania	2.34	2.90	2.43	1.84	1.31	1.54	1.46	1.53
Slovak Republic	3.07	2.40	2.31	2.09	1.29	1.40	1.45	1.34
Slovenia	2.18	2.21	2.11	1.46	1.26	1.57	1.56	1.58
Spain	2.86	2.90	2.22	1.36	1.23	1.37	1.34	1.32
Sweden	2.20	1.94	1.68	2.14	1.55	1.98	1.90	1.91
United Kingdom	2.72	2.43	1.90	1.83	1.64	1.93	1.91	1.92
EU (unweighted average)	**2.54**	**2.32**	**1.99**	**1.78**	**1.48**	**1.59**	**1.55**	**1.56**
FYR of Macedonia	..	..	..	..	1.88	1.56	1.46	1.51
Iceland	4.27	2.81	2.48	2.31	2.08	2.20	2.02	2.04
Montenegro	..	..	..	..	..	1.69	1.65	1.71
Norway	2.91	2.50	1.72	1.93	1.85	1.95	1.88	1.85
Serbia	..	..	..	..	1.48	1.40	1.40	1.45
Switzerland	2.44	2.10	1.55	1.59	1.50	1.54	1.52	1.53
Turkey	6.2	5.6	4.6	2.9	2.5	2.1	2.0	2.1

| Break in series.

1. Population figures for Germany prior to 1991 refer to West Germany.

Source: Eurostat Statistics Database.

StatLink http://dx.doi.org/10.1787/888933155908

Table A.5. **GDP per capita in 2012 and average annual growth rates, 2000 to 2012**

	GDP per capita in EUR PPP	Annual growth rate per capita in real terms					
	2012	2007/08	2008/09	2009/10	2010/11	2011/12	2000-12
Austria	33 130	1.0	-4.1	1.5	2.6	0.6	1.1
Belgium	30 457	0.2	-3.6	1.2	0.6	-0.9	0.6
Bulgaria	12 123	6.9	-4.9	1.1	2.5	1.2	4.6
Croatia	15 580	2.1	-6.8	-2.0	0.1	-1.9	2.2
Cyprus	23 352	1.0	-4.5	-1.3	-2.1	-3.9	0.3
Czech Republic	20 666	2.2	-5.0	2.2	1.6	-1.2	2.7
Denmark	32 118	-1.4	-6.2	0.9	0.7	-0.7	0.2
Estonia	18 450	-3.9	-13.9	2.8	9.9	4.3	4.5
Finland	29 404	-0.2	-9.0	2.9	2.3	-1.5	1.2
France	27 731	-0.6	-3.6	1.2	1.5	-0.4	0.5
Germany	32 062	1.3	-4.9	4.2	3.3	2.4	1.3
Greece	19 512	-0.4	-3.1	-4.7	-6.9	-6.7	0.3
Hungary	16 996	1.1	-6.6	1.3	1.9	-1.2	1.9
Ireland	32 913	-4.1	-7.3	-1.6	1.8	-0.1	0.7
Italy	26 223	-1.8	-5.9	1.4	0.3	-2.6	-0.2
Latvia	16 376	-1.7	-16.3	0.8	7.2	6.5	5.2
Lithuania	18 288	4.0	-13.9	3.7	8.5	5.1	5.8
Luxembourg	67 210	-2.5	-7.3	1.2	-0.3	-2.5	0.6
Malta	22 014	3.2	-3.5	3.7	1.1	0.0	0.9
Netherlands	32 541	1.4	-4.2	1.0	0.5	-1.6	0.7
Poland	17 106	5.1	1.6	3.8	3.6	1.9	3.7
Portugal	19 491	-0.2	-3.0	1.9	-1.1	-2.8	0.0
Romania	13 558	9.2	-5.8	-0.6	2.8	1.0	4.7
Slovak Republic	19 404	5.7	-5.1	4.3	2.9	1.6	4.4
Slovenia	21 382	3.2	-8.8	0.8	0.5	-2.7	1.8
Spain	24 129	-0.7	-4.7	-0.7	-0.3	-1.7	0.3
Sweden	32 186	-1.4	-5.8	5.7	2.2	0.2	1.5
United Kingdom	26 638	-1.5	-5.9	0.9	0.3	-0.4	0.8
EU28 (unweighted)	**25 037**	**1.0**	**-6.2**	**1.3**	**1.7**	**-0.3**	**1.9**
EU28 (weighted)[1]	25 656	0.0	-4.8	1.8	1.3	-0.3	1.0
FYR of Macedonia	9 044	4.8	-1.1	2.7	2.6	-0.5	2.2
Iceland	29 372	-0.7	-6.9	-4.0	2.3	0.9	1.0
Montenegro	10 346	6.5	-6.1	4.5	3.0	-2.8	3.8
Norway	49 663	-1.2	-2.9	-0.8	0.0	1.6	0.6
Serbia	9 039	4.3	-3.1	1.4	2.4	-1.0	3.2
Switzerland	39 939	0.9	-3.2	1.9	0.7	0.0	0.8
Turkey	13 711	-0.6	-6.1	7.5	7.2	0.8	3.2

1. The weighted average is calculated based on total GDP divided by the total population of the 28 EU member states.
Source: *OECD Health Statistics 2014, http://dx.doi.org/10.1787/health-data-en; Eurostat Statistics Database.*

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Table A.6. **Total expenditure on health per capita in 2012 and average annual growth rates, 2000 to 2012**

	Total health expenditure per capita in EUR PPP	Annual growth rate per capita in real terms[1]					
	2012	2007/08	2008/09	2009/10	2010/11	2011/12	2000-12 (or latest year)
Austria	3 676	3.2	2.1	1.1	0.3	2.7	2.0
Belgium[3]	3 318	3.5	3.3	0.3	1.1	1.8	3.1
Bulgaria	900	9.5	-1.5	6.0	-1.8	3.3	6.2
Croatia	1 133	5.8	-6.9	-1.0	-7.7	-2.0	1.6
Cyprus	1 728	15.0	2.6	-3.0	2.0	-6.2	2.4
Czech Republic	1 560	6.9	9.2	-3.2	2.6	-0.5	4.2
Denmark	3 528	0.6	5.7	-2.5	-1.3	0.3	2.1
Estonia	1 086	12.8	-1.5	-6.3	1.3	5.4	5.5
Finland	2 672	3.1	0.5	0.9	1.8	0.1	3.2
France	3 220	0.6	2.4	0.8	1.3	0.3	1.7
Germany	3 613	3.5	4.4	2.4	0.6	2.6	2.0
Greece	1 809	2.8	-2.5	-11.3	-3.9	-11.7	1.6
Hungary	1 354	-1.7	-3.2	5.5	1.5	-2.0	2.7
Ireland	2 921	9.6	2.6	-8.9	-3.7	1.8	3.7
Italy	2 409	2.7	-0.5	1.5	-1.4	-3.3	1.1
Latvia	934	-7.1	-13.7	-4.7	1.2	-0.4	4.8
Lithuania	1 219	10.4	-1.8	-2.4	4.9	2.1	6.1
Luxembourg	3 437	4.8	1.4	-4.9	-5.5	-5.0	-0.8
Malta	1 921	-0.3	-1.4	3.1	4.2	2.0	3.3
Netherlands[3]	3 829	3.9	3.4	2.8	0.7	3.1	4.4
Poland	1 156	14.3	6.4	1.1	1.3	0.3	5.5
Portugal[3]	1 845	3.0	2.9	1.0	-5.9	-4.8	0.8
Romania	753	13.2	-1.8	4.4	-3.2	0.1	6.8
Slovak Republic	1 580	9.3	8.3	-3.0	-3.8	4.0	7.8
Slovenia	2 003	9.5	1.1	-2.5	0.6	0.4	2.9
Spain	2 243	4.4	2.5	-0.1	-2.4	-3.3	2.4
Sweden	3 083	2.1	1.4	0.7	2.4	1.1	2.9
United Kingdom	2 470	3.3	4.3	-2.8	-1.2	0.0	3.3
EU28 (unweighted)	**2 193**	**5.3**	**1.1**	**-0.9**	**-0.5**	**-0.3**	**3.3**
EU28 (weighted)[2]	2 535	3.3	3.2	0.3	-0.2	0.0	2.4
FYR of Macedonia	651	4.1	-1.8	3.8	2.4	3.1	0.6
Iceland	2 655	-0.2	-1.8	-7.4	-0.4	0.8	0.6
Montenegro	783	-2.9	-6.5	18.7	3.3	2.3	3.8
Norway	4 610	2.7	1.6	-1.4	3.3	2.2	2.5
Serbia	957	4.3	-2.0	3.9	-1.5	1.4	6.4
Switzerland	4 565	1.7	3.5	1.1	2.0	3.4	2.0
Turkey	739	0.0	-6.1	-0.7	1.0	2.8	3.9

1. Using national currency units at 2005 GDP price level.
2. The weighted average is calculated based on total health spending divided by the total population of the 28 EU member states.
3. Data refer to current health expenditure (excluding investment).

Source: *OECD Health Statistics 2014*, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*; *WHO Global Health Expenditure Database*.

StatLink http://dx.doi.org/10.1787/888933155920

Table A.7. **Total expenditure on health, percentage of GDP, 1980 to 2012**

	1980	1990	2000	2005	2010	2011	2012
Austria	7.5 |	8.4	10.0	10.4	11.1	10.9	11.1
Belgium[2]	6.3	7.2	8.1 |	9.6	10.6	10.6	10.9
Bulgaria	..	..	6.2 |	7.3	7.6	7.3	7.4
Croatia	..	..	7.8	7.0	7.9 |	7.3	7.2
Cyprus	..	..	5.8 |	6.4	7.3	7.6	7.4
Czech Republic	..	4.4 |	6.3 |	6.9	7.4	7.5	7.5
Denmark	8.9	8.3	8.7 |	9.8	11.1	10.9	11.0
Estonia	..	..	5.3	5.0	6.3	5.8	5.9
Finland	6.3	7.7 |	7.2	8.4	9.0	8.9	9.1
France	7.0	8.4 |	10.1 |	10.9	11.6	11.5	11.6
Germany	8.4	8.3 |	10.4	10.8	11.6	11.2	11.3
Greece	5.9	6.7	8.0	9.7	9.5	9.8	9.3
Hungary	..	..	7.2 |	8.4	8.1	8.0	8.0
Ireland	8.1	6.0	6.2	7.6	9.2	8.7	8.9
Italy	..	7.7	7.9	8.7	9.4	9.2	9.2
Latvia	..	..	6.0 |	6.3	6.5	6.1	5.7
Lithuania	..	..	6.5 |	5.8	7.1	6.9	6.7
Luxembourg	5.2	5.4 |	7.5	7.9	7.6	7.3	7.1
Malta	..	..	6.6	9.1	8.5	8.7	9.1
Netherlands[2]	7.0	7.5 |	7.6 |	10.1	11.2	11.2	11.8
Poland	..	4.8	5.5 |	6.2	7.0	6.9	6.8
Portugal[2]	4.9	5.6 |	8.6	9.8	10.2	9.7	9.5
Romania	..	..	4.3 |	5.5	5.9	5.6	5.6
Slovak Republic	..	..	5.5	7.0 |	8.5	8.0	8.1
Slovenia	..	..	8.3 |	8.5	9.1	9.1	9.4
Spain	5.3	6.5 |	7.2 |	8.3	9.6	9.4	9.3
Sweden	8.7	8.1 |	8.2	9.1	9.5	9.5	9.6
United Kingdom	5.6	5.8	6.9	8.1	9.4	9.2	9.3
EU28 (unweighted)	**..**	**..**	**7.3**	**8.2**	**8.8**	**8.7**	**8.7**
EU28 (weighted)[1]	..	..	8.5	9.4	10.2	10.1	10.1
FYR of Macedonia	..	..	8.7	8.1	7.0	6.9	7.1
Iceland	6.3	7.8	9.5	9.4	9.3	9.0	9.0
Montenegro	..	..	7.5	8.7	7.2	7.2	7.6
Norway	7.0	7.6	8.4	9.0	9.4	9.3	9.3
Serbia	..	..	7.4	9.1	10.7	10.3	10.5
Switzerland	7.2	8.0 |	9.9	10.9	10.9	11.1	11.4
Turkey	2.4	2.7 |	4.9	5.4	5.6	5.3	5.4

| Break in series.

1. The weighted average is calculated based on total health spending divided by total GDP of the 28 EU member states.
2. Data refer to current health expenditure (excluding investment).

Source: OECD Health Statistics 2014, *http://dx.doi.org/10.1787/health-data-en*; *Eurostat Statistics Database*; *WHO Global Health Expenditure Database*.

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