

State of Health in the EU

Denmark

Country Health Profile 2017

The Country Health Profile series

The *State of Health in the EU* profiles provide a concise and policy-relevant overview of health and health systems in the EU Member States, emphasising the particular characteristics and challenges in each country. They are designed to support the efforts of Member States in their evidence-based policy making.

The Country Health Profiles are the joint work of the OECD and the European Observatory on Health Systems and Policies, in cooperation with the European Commission. The team is grateful for the valuable comments and suggestions provided by Member States and the Health Systems and Policy Monitor network.

Contents

1 • HIGHLIGHTS	1
2 • HEALTH IN DENMARK	2
3 • RISK FACTORS	4
4 • THE HEALTH SYSTEM	6
5 • PERFORMANCE OF THE HEALTH SYSTEM	9
5.1 Effectiveness	9
5.2 Accessibility	11
5.3 Resilience	13
6 • KEY FINDINGS	16

Data and information sources

The data and information in these Country Health Profiles are based mainly on national official statistics provided to Eurostat and the OECD, which were validated in June 2017 to ensure the highest standards of data comparability. The sources and methods underlying these data are available in the Eurostat Database and the OECD health database. Some additional data also come from the Institute for Health Metrics and Evaluation (IHME), the European Centre for Disease Prevention and Control (ECDC), the Health Behaviour in School-Aged Children (HBSC) surveys and the World Health Organization (WHO), as well as other national sources.

The calculated EU averages are weighted averages of the 28 Member States unless otherwise noted.

To download the Excel spreadsheet matching all the tables and graphs in this profile, just type the following StatLinks into your Internet browser:
<http://dx.doi.org/10.1787/888933593475>

Demographic and socioeconomic context in Denmark, 2015

	Denmark	EU
Demographic factors	Population size (thousands)	5 683
	Share of population over age 65 (%)	18.6
	Fertility rate ¹	1.7
Socioeconomic factors	GDP per capita (EUR PPP ²)	36 600
	Relative poverty rate ³ (%)	7.1
	Unemployment rate (%)	6.2

1. Number of children born per woman aged 15–49.

2. Purchasing power parity (PPP) is defined as the rate of currency conversion that equalises the purchasing power of different currencies by eliminating the differences in price levels between countries.

3. Percentage of persons living with less than 50 % of median equivalised disposable income.

Source: Eurostat Database.

Disclaimer: The opinions expressed and arguments employed herein are solely those of the authors and do not necessarily reflect the official views of the OECD or of its member countries, or of the European Observatory on Health Systems and Policies or any of its Partners. The views expressed herein can in no way be taken to reflect the official opinion of the European Union. This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over

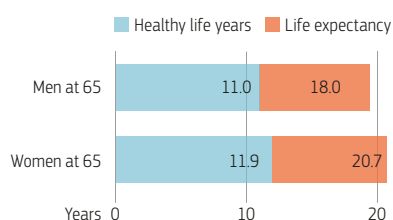
any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Additional disclaimers for WHO are visible at <http://www.who.int/bulletin/disclaimer/en/>

1 Highlights

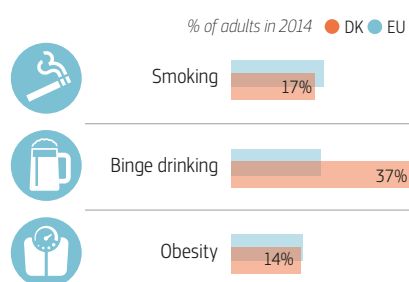
The Danish population is living longer than a decade ago, but not all of these additional years are spent in good health. The Danish health system generally provides good access to high-quality care, with comparatively low levels of unmet need for medical care. Challenges remain to tackle important risk factors to health, such as excessive alcohol consumption and rising obesity rates and to improve care coordination for the growing number of people living with chronic conditions.

Health status



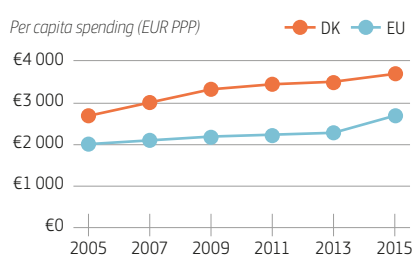
At age 65, Danish women can expect to live almost another 20.7 years, and men another 18.0 years (up from 18.3 and 15.2 years, respectively, in 2000). Danes can expect to spend about 60% of this time beyond 65 in good health and free from disability (12 years for women and 11 years for men).

Risk factors



Smoking rates in Denmark have declined sharply since 2000 and are now among the lowest in the EU. On the other hand, 37% of Danish adults report regular heavy alcohol consumption, the highest in the EU. Almost 40% of Danish adolescents report having been drunk at least twice in their life. Obesity rates are below the EU average but on the rise: 14.0% of Danish adults were obese in 2014, up from 9.5% in 2000.

Health system

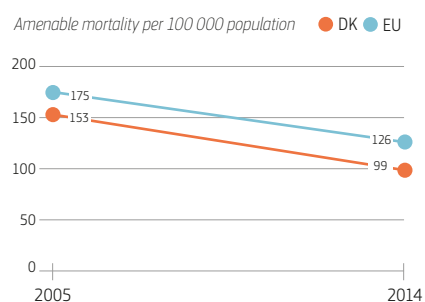


In 2015, Denmark spent EUR 3 776 per capita on health care, much higher than the EU average of EUR 2 797. This equates to 10.3% of GDP – up from 9.1% in 2005 and above the EU average of 9.9%. Public financing made up 84% of the expenditure, the second highest proportion in the EU, with the remainder mainly funded by out-of-pocket payments concentrated heavily on prescription drugs and dental care.

Health system performance

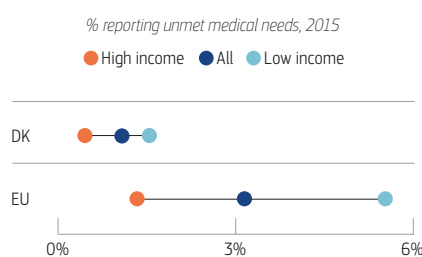
Effectiveness

Amenable mortality in Denmark is among the lowest in the EU. This suggests that the health care system is effective in treating life-threatening conditions.



Access

Danish residents enjoy good access to health care. Relatively few report unmet needs for medical care. The gap between low- and high-income groups is small compared to most other EU countries.



Resilience

The Danish health care system functions efficiently and boasts a first-rate information infrastructure, even though the suspension of the Danish General Practitioners (GP) database in 2014 was a setback. One important challenge is to improve care coordination for chronic conditions.



2 Health in Denmark

Life expectancy is increasing and slightly above the EU average

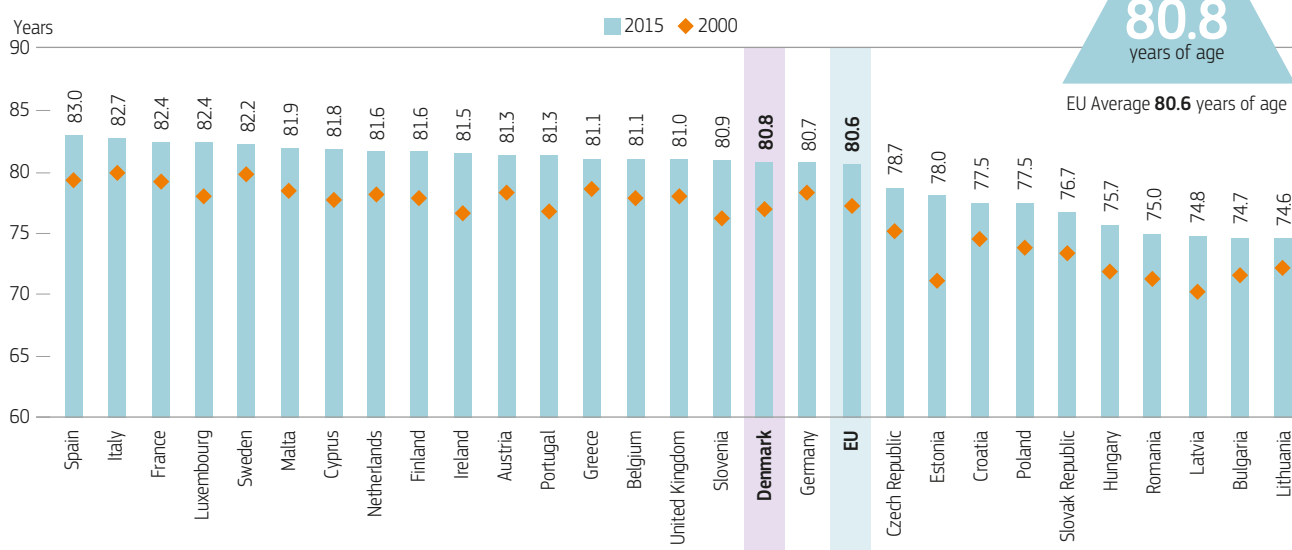
Life expectancy in Denmark increased by almost four years between 2000 and 2015 to reach 80.8 years, slightly above the EU average and the second lowest among the earliest 15 Member States of the EU (Figure 1). As in other EU countries, a gender gap in life expectancy persists, with 2015 data suggesting that life expectancy at birth for Danish men (78.8 years) is about four years less than for women (82.7 years). This gap is slightly lower than the EU average of 5.6 years. A gap in longevity is also observed between socioeconomic groups: Danish men with a high level of education can expect to live six years longer than those with a low level of education.¹ For women, this gap is just over four years.

Most of the life expectancy gains in Denmark since 2000 were driven by reduced mortality rates after the age of 65. Danish women of this age could expect to live another 20.7 years in 2015 (up from 18.3 years in 2000), whereas Danish men could expect to live another 18.0 years (up from 15.2 years in 2000). However, at age 65, Danish women and men can expect to live about 60% of their remaining years of life free from disability (11.9 years for women and 11.0 years for men).²

1. Lower education levels refer to people with less than primary, primary or lower secondary education (ISCED levels 0–2) while higher education levels refer to people with tertiary education (ISCED levels 5–8).

2. These are based on the indicator of 'healthy life years', which measures the number of years that people can expect to live free of disability at different ages.

Figure 1. Life expectancy in Denmark is increasing and slightly above the EU average.

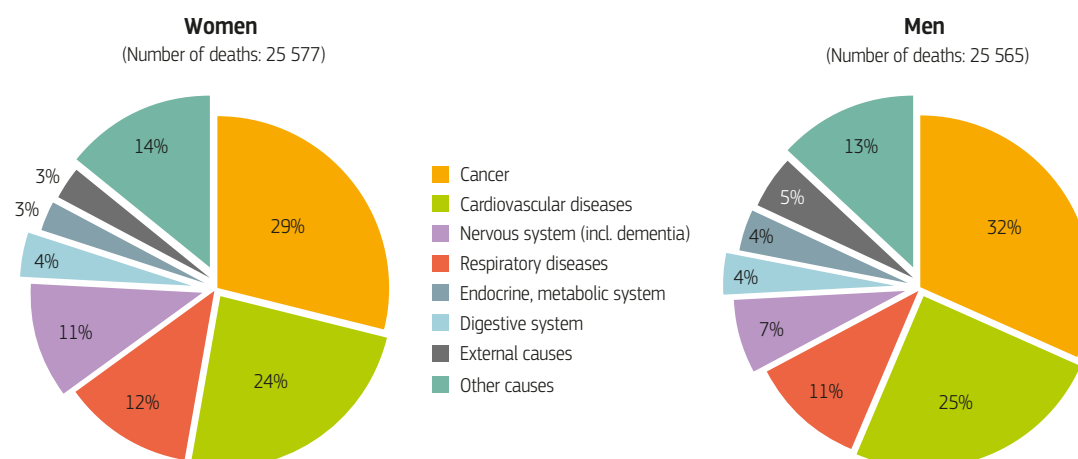


Source: Eurostat Database.

Cancer and cardiovascular diseases are the largest contributors to mortality

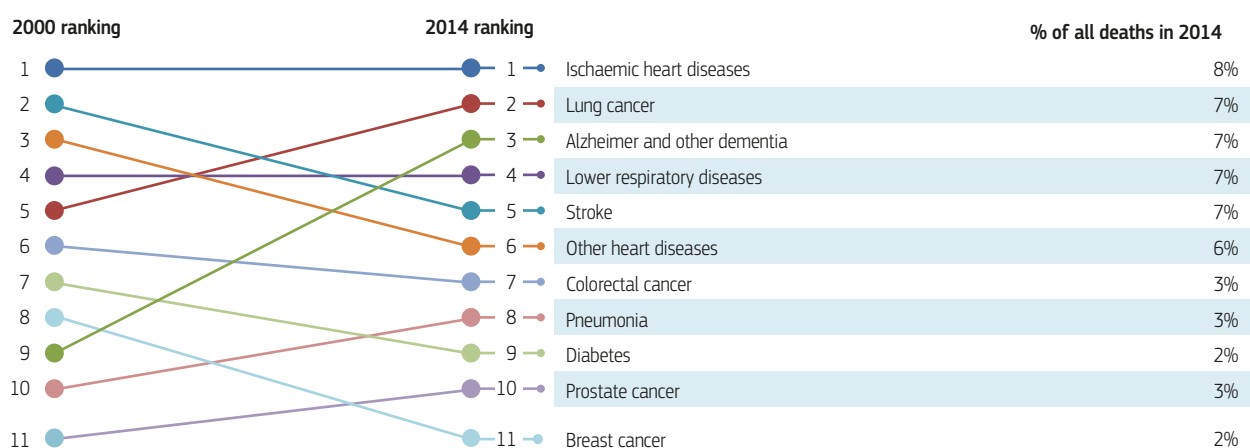
Cancer and cardiovascular diseases are the two leading causes of death in Denmark (Figure 2). The mortality rate due to cancer is fourth highest in the EU, and in 2014, cancer accounted for 29% of all deaths among women and 32% of all deaths among men. Over 12 000 died from cardiovascular diseases (24% of all deaths among women and 25% of all deaths among men). Respiratory diseases and diseases of the nervous system (including Alzheimer's and other dementias) were the third and fourth main causes of death in Denmark among both women (12% and 11%, respectively) and men (11% and 7%, respectively).

The leading causes of death in Denmark have remained the same since 2000 but their relative positions changed (Figure 3). Ischaemic heart diseases remain the most frequent cause of death even though incidence has more than halved since 2000. Lung cancer is the second main cause of death, most likely the legacy of historically high smoking rates, previously among the highest in the EU (see Section 3). The number of people dying from Alzheimer's and other dementias more than doubled and is now the third most common cause of death, reflecting population ageing, better diagnosis, lack of effective treatments as well as more precise coding.

Figure 2. Cancer and cardiovascular diseases account for the majority of all deaths in Denmark

Note. The data are presented by broad ICD chapter. Dementia was added to the nervous system diseases' chapter to include it with Alzheimer's disease (the main form of dementia).

Source: Eurostat Database (data refer to 2014).

Figure 3. Ischaemic heart diseases remain the leading cause of death in Denmark

Source: Eurostat Database.

Musculoskeletal problems and depression are among the leading determinants of poor health

Chronic diseases are an increasing cause of disease burden in Denmark. Institute for Health Metrics and Evaluation (IHME) estimates suggest that musculoskeletal problems including low back and neck pain are now the leading cause of disability-adjusted life years (DALYs)³ in Denmark. Other major sources of ill health include major depressive disorders, chronic respiratory diseases and diabetes (IHME, 2016).

3. DALY is an indicator used to estimate the total number of years lost due to specific diseases and risk factors. One DALY equals one year of healthy life lost (IHME).

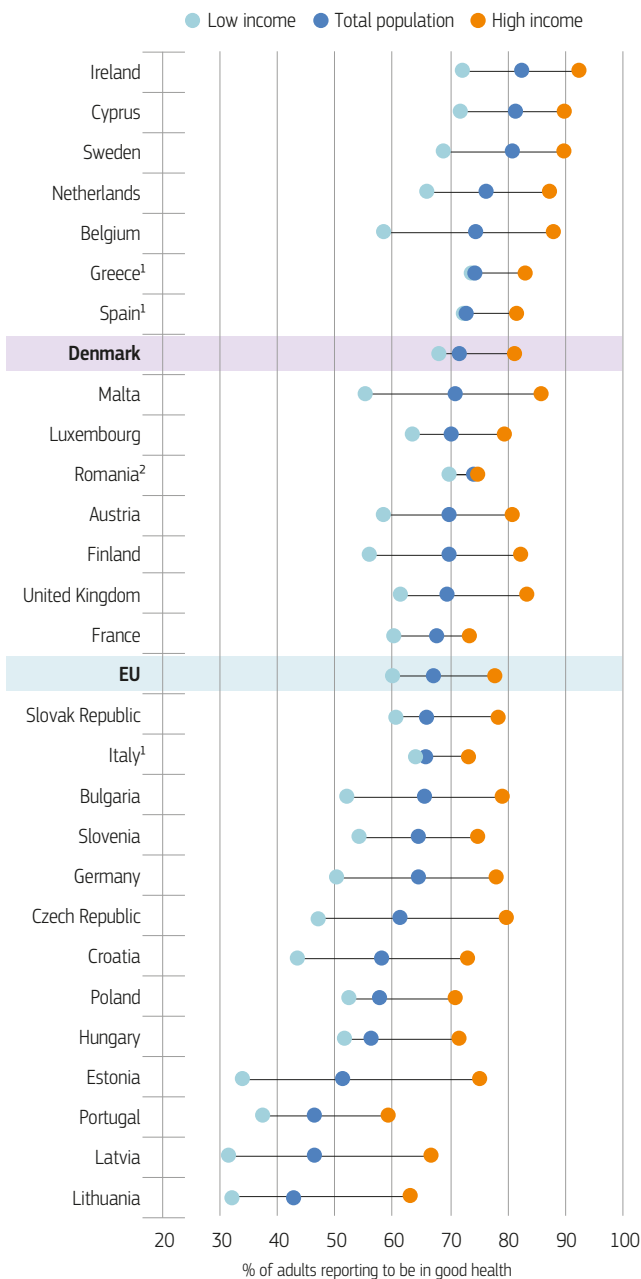
Based on self-reported data from the European Health Interview Survey (EHIS), nearly one in five people in Denmark live with hypertension, one in fifteen live with asthma and one in twelve live with chronic depression. Wide inequalities exist in the prevalence of these chronic conditions by education level. People with the lowest level of education are nearly 30% more likely to live with asthma and more than two-and-a-half times more likely to live with diabetes than those with the highest level of education.⁴

4. Inequalities by education may partially be attributed to the higher proportion of older people with lower educational levels; however, this alone does not account for all socioeconomic disparities.

Most people report being in good health, but a gap exists between income groups

Most people in Denmark report being in good health (72% in 2015), which is a slightly higher percentage than the EU average (67%). However, differences in self-rated health by socioeconomic status are observed: 82% of people in the highest income quintile report being in good health compared to 68% of those in the lowest quintile (Figure 4). Yet this gap is smaller than in most other EU countries.

Figure 4. Most Danish people report being in good health, but disparities arise across income groups



1. The shares for the total population and the low-income population are roughly the same.
2. The shares for the total population and the high-income population are roughly the same.

Source: Eurostat Database, based on EU-SILC (data refer to 2015).

3 Risk factors

Behavioural risk factors are major public health issues in Denmark

The health status of the Danish population and health inequalities are linked to a number of determinants, including living and working conditions, the physical environment in which people live, and a range of behavioural risk factors. According to estimates, over 30% of the overall disease burden in Denmark in 2015 could be attributed to behavioural risk factors, including smoking, alcohol use, diet and physical inactivity, with smoking and metabolic risks (e.g. obesity and high cholesterol) contributing the most (IHME, 2016).

Smoking rates declined sharply, but binge drinking remains a serious problem

The proportion of adults who smoke daily in Denmark decreased sharply from 31% in 2000 to 17% in 2014 and is now below that of most EU countries (Figure 5; see Section 5.1). Steep declines were observed in regular smoking among 15-year-old adolescents; the rate fell from just under 20% in 2002 to 8% in 2014, one of the lowest rates in EU countries.⁵

Excessive alcohol consumption among important segments of adolescents and adults remains a serious public health concern in Denmark. Although the amount of alcohol consumed per



5. However, a 2016 survey from the Danish Cancer Society found that regular smokers (daily and weekly) among 16- to 25-year-olds increased from 18% to 22% from 2015.

capita in 2014 was slightly below the EU average, 37% of adults in Denmark reported regularly engaging in heavy alcohol consumption (so-called binge drinking⁶), the highest proportion among all EU countries.

A substantial gender gap exists in the proportion of adults reporting such heavy alcohol consumption, with the rate among Danish men reaching 47% compared with 28% among Danish women. A much greater proportion of Danish adolescents also report having been drunk more than once in their life than in other EU countries – this proportion reached almost 40% among 15-year-olds in 2013–14 (38% among 15-year-old girls and 39% among boys), also the highest level among EU countries (see Section 5.1).

Overweight and obesity rates increased, but remain lower than in most other EU countries

Based on self-reported data (which tend to underestimate the prevalence of obesity), 14% of adults in Denmark were obese in 2014, up from 9.5% in 2000. While this rate remains lower than in most other EU countries, it is higher than in countries such as Italy, the Netherlands and Belgium. The proportion of 15-year-olds who were overweight or obese was 12% in 2013–14, unchanged from 2001–02, although overweight and obesity rates based on measured (as opposed to self-reported) height and weight are higher.

Low levels of physical activity among adolescents are a major challenge

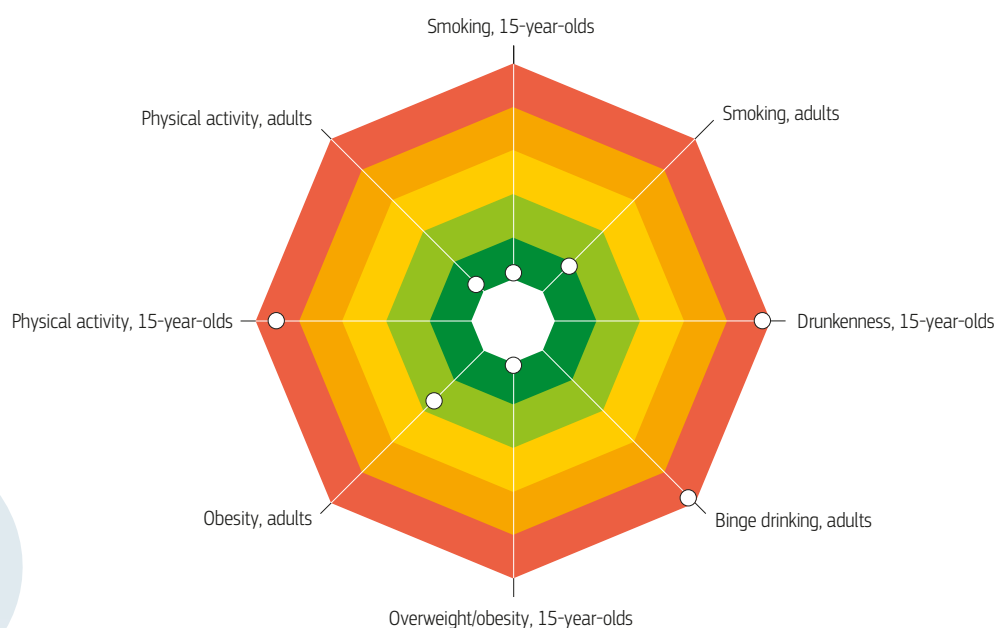
Physical activity among 15-year-olds in Denmark is relatively low, with only 12% reporting doing moderate or vigorous physical activity each day. This proportion is much lower among 15-year-old girls (7%) than boys (16%). However, physical activity among adults in Denmark is higher than in most other EU countries, with nearly 80% of adults reporting doing at least moderate physical activity each week.

Many behavioural risk factors are more common among disadvantaged populations

Many behavioural risk factors are more prevalent among populations with lower income and education. The exception is regular heavy drinking among adults, which appears to be equally prevalent across different socioeconomic groups. Smoking rates among those with the lowest level of education are more than double the rates among the most educated. Similarly, obesity is twice as prevalent among people with the lowest level of education. A higher prevalence of risk factors among disadvantaged groups contributes greatly to disparities in health status and life expectancy.

Denmark initiated a number of strategies aimed at reducing risky behaviours to improve the health of the whole population as well as addressing observed inequalities in health status (see Section 5.1).

Figure 5. Excessive alcohol consumption among adolescents and adults is a serious public health issue



Note: The closer the dot is to the centre the better the country performs compared to other EU countries. No country is in the white 'target area' as there is room for progress in all countries in all areas.

Source: OECD calculations based on Eurostat Database (EHIS in or around 2014), OECD Health Statistics and HBSC survey in 2013–14. (Chart design: Laboratorio MeS).

6. Binge drinking behaviour is defined as consuming six or more alcoholic drinks on a single occasion, at least once a month over the past year.

4 The health system

Responsibility for health service delivery is regional in Denmark

Denmark's health system is financed through general taxation. It is decentralised and provides universal access to services. Regulation, supervision, planning and quality monitoring are the role of the national government, while service delivery falls under the responsibility of the regions and municipalities. The regions are responsible for defining and running health services; municipalities are responsible for disease prevention, health promotion, rehabilitation, home care and long-term care (see Section 5.3).

Health expenditure in Denmark is high and mainly public

As illustrated in Figure 6, Denmark spent 10.3% of its GDP on health in 2015, a higher share than the EU average (9.9%). On a per capita basis, Denmark spent EUR 3 776 on health per person in 2015 (adjusted for differences in purchasing power), also a higher amount than the EU average EUR 2 797. Public expenditure comprised 84% of total health expenditure (among the highest share in the EU), while out-of-pocket payments accounted for 14% and the remaining 2% was paid by voluntary health insurance (Figure 7).

Health care is financed by block grants and activity-based payments

All Danish residents are entitled to publicly funded health care, which is predominantly free of charge at the point of use.⁷ Health care is predominantly tax-based, with funding allocated to regions and municipalities, and adjusted for social and demographic factors. Block grants⁸ finance more than three-quarters of regional activities, while municipal activity-based payments finance one-fifth (see Section 5.3) through a combination of local taxes and block grants from the national government.

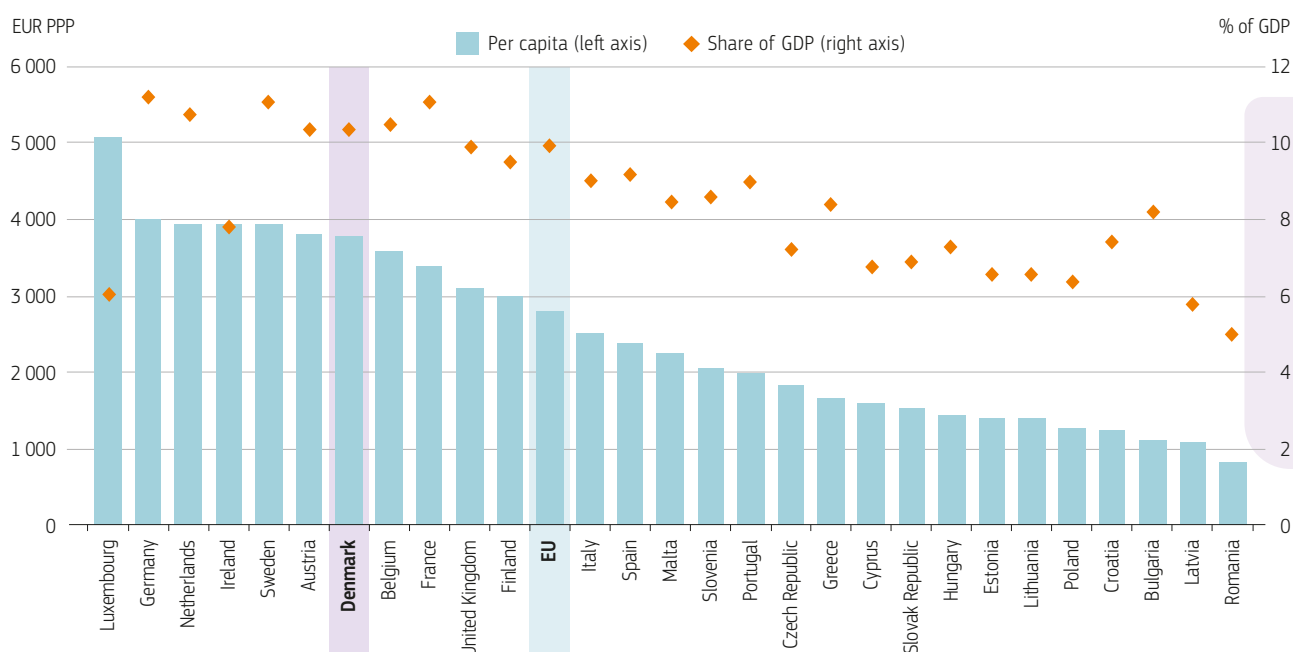
Denmark has relatively few hospital beds and short average lengths of stay

The number of acute hospital beds decreased in recent years and is about half the EU average (2.5 versus 5.1 per 1 000 population) (Figure 8). Almost all hospital beds (97%) are publicly owned. Recent trends include the merging and renovation of hospitals, and a reorganisation of acute care, including the centralisation

7. A voluntary, privately funded initiative also provides access for irregular migrants and visitors.

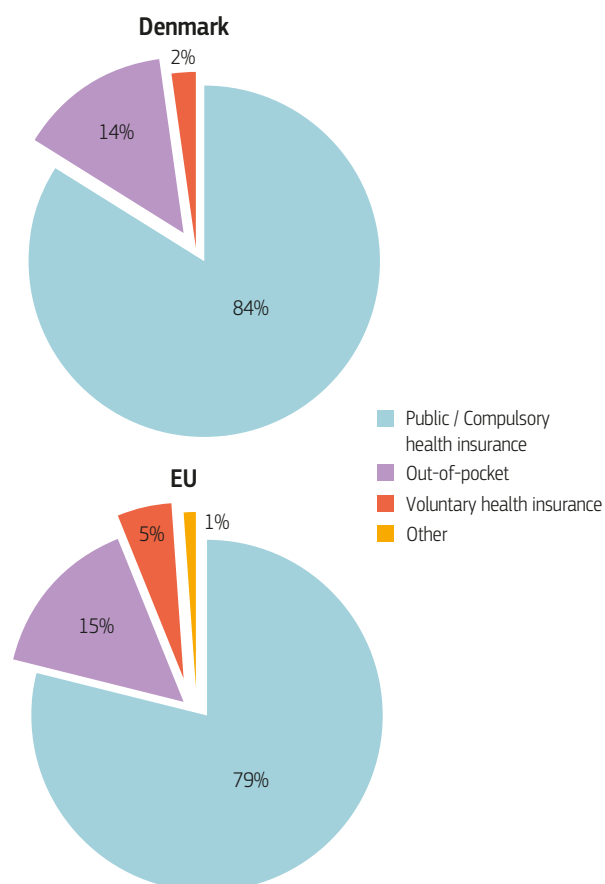
8. A block grant is an agreed amount of funding provided by one entity (usually a central government) to another entity for a specified purpose over a given period of time.

Figure 6. Spending on health in Denmark is high both in per capita terms and as a share of GDP



Sources: OECD Health Statistics, Eurostat Database, WHO Global Health Expenditure Database (data refer to 2015).

Figure 7. The share of public spending in current health expenditure is high in Denmark



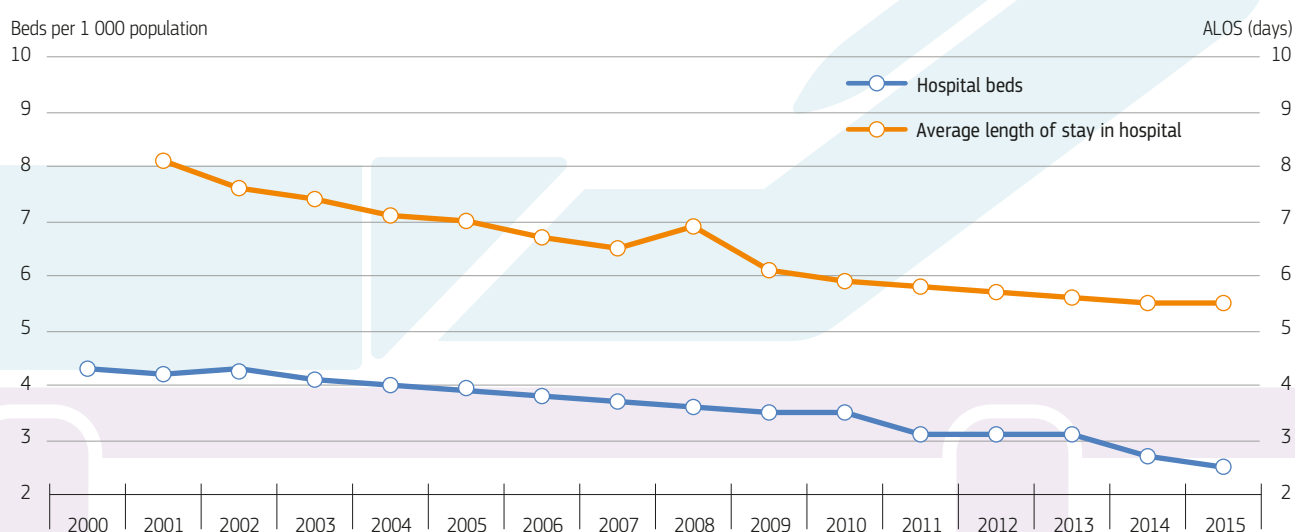
Source: OECD Health Statistics 2017, Eurostat Database.

of medical specialties in so-called 'joint acute wards'. Average lengths of stay decreased and are relatively short (5.5 days compared to an EU average of 8.0 days) (Figure 8), largely due to changes in treatment options and increases in outpatient (or ambulatory) treatment (see Section 5.3). As a result, Denmark has a comparatively low number of hospital discharges per 100 000 population (14 775 versus the EU average of 17 309).

A large cadre of nurses serve the Danish health system, while the number of doctors is close to the EU average

The number of doctors per capita in Denmark is slightly above the EU average (3.7 versus 3.6 per 1 000 population). One-fifth are general practitioners (GPs) and work predominantly in private solo practices. However, Denmark has the highest number of nurses per capita among EU countries, about double the EU average (16.7 versus 8.4 per 1 000 population) (Figure 9). The government recently decided to establish specialist training for nurses in chronic care outside hospitals, with these nurses most probably employed in GP practices and municipal health services. Regions also invested in multispecialty facilities called 'Health Houses', which include GPs (who also serve as coordinators of care), specialists and physiotherapists, although difficulties in recruiting GPs have emerged (see Section 5.2).

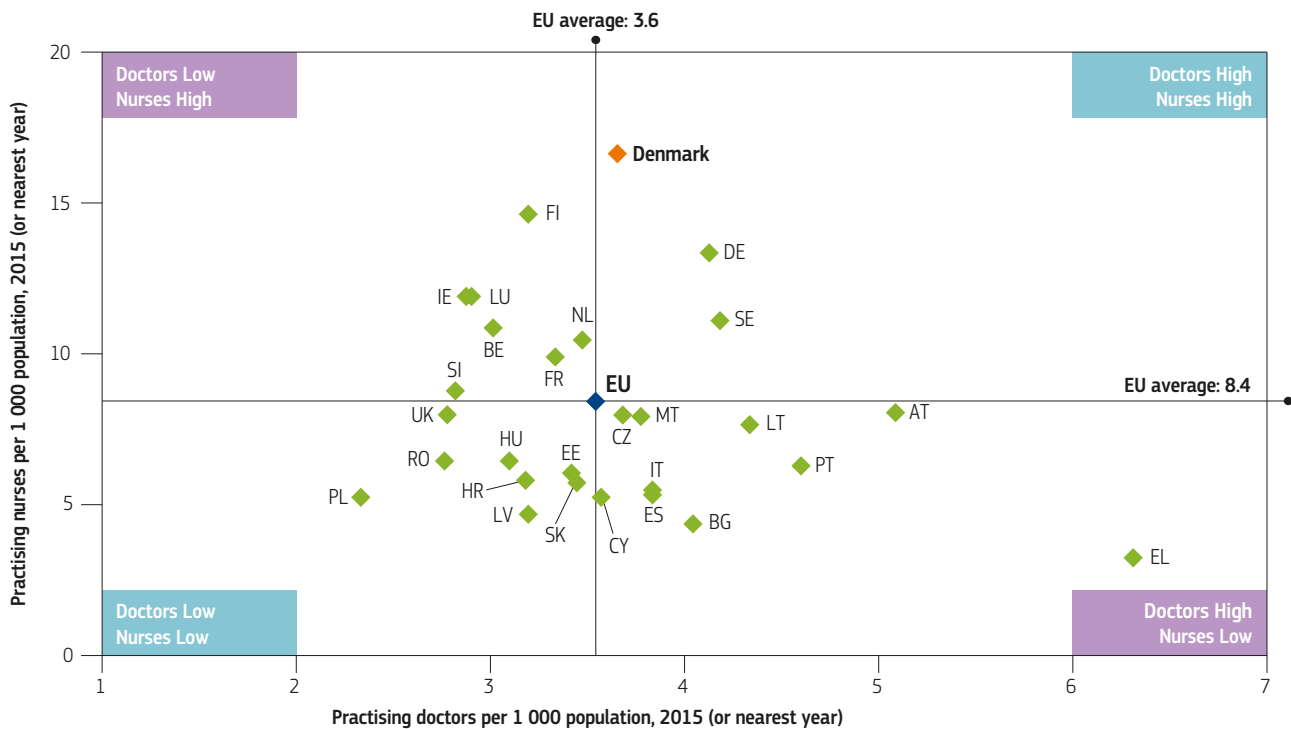
Figure 8. Acute hospital bed numbers and average length of stay decreased in Denmark



Note: There is a break in the series of hospital beds in 2011 and 2014.

Source: Eurostat Database.

Figure 9. Denmark has a comparatively high number of nurses per 1 000 population



Note: In Portugal and Greece, data refer to all doctors licensed to practice, resulting in a large overestimation of the number of practising doctors (e.g. of around 30% in Portugal). In Austria and Greece, the number of nurses is underestimated as it only includes those working in hospital.

Source: Eurostat Database.

Denmark's primary care sector is strong, and enjoys a high use of ICT in health care

Almost the whole Danish population (99%) is classified as so-called Group 1, whereby individuals are required to register with a GP who provides primary care as well as playing a gatekeeping role for access to hospital and specialist care.⁹ Both groups require a referral for hospital care. The primary care system appears to be holding up well despite the reductions in acute care activity described previously, although avoidable hospital admissions for certain conditions are higher than the EU average (see Section 5.3).

Denmark introduced a shared electronic medical record system through which all health care providers across sectors can view, change and prescribe. As a result, Denmark has the highest penetration among EU countries of ICT in health care (see Section 5.3).

Patients are guaranteed an assessment within 30 days by law

Outpatient specialist care is delivered through hospital-based ambulatory clinics or by self-employed specialists in privately owned facilities. Since diagnostic assessment within 30 days of referral is guaranteed by law, private practitioners may also receive patients referred from public sector providers and paid for by specific agreements with the regions (see Section 5.2).

Moreover, national clinical guidelines with monitoring of indicators for waiting times were established by the Danish Health Authority, with priorities including chronic disease prevention and treatment. Acute care is undergoing reorganisation with emphasis on stronger pre-hospital services and expanded emergency departments with senior specialists.

9. Group 2 classification enables free choice of GP and free access to specialists without referral but requires a co-payment. The region subsidises expenses for Group 2 patients up to the cost of the corresponding treatment for a patient in Group 1.

5 Performance of the health system

5.1 EFFECTIVENESS

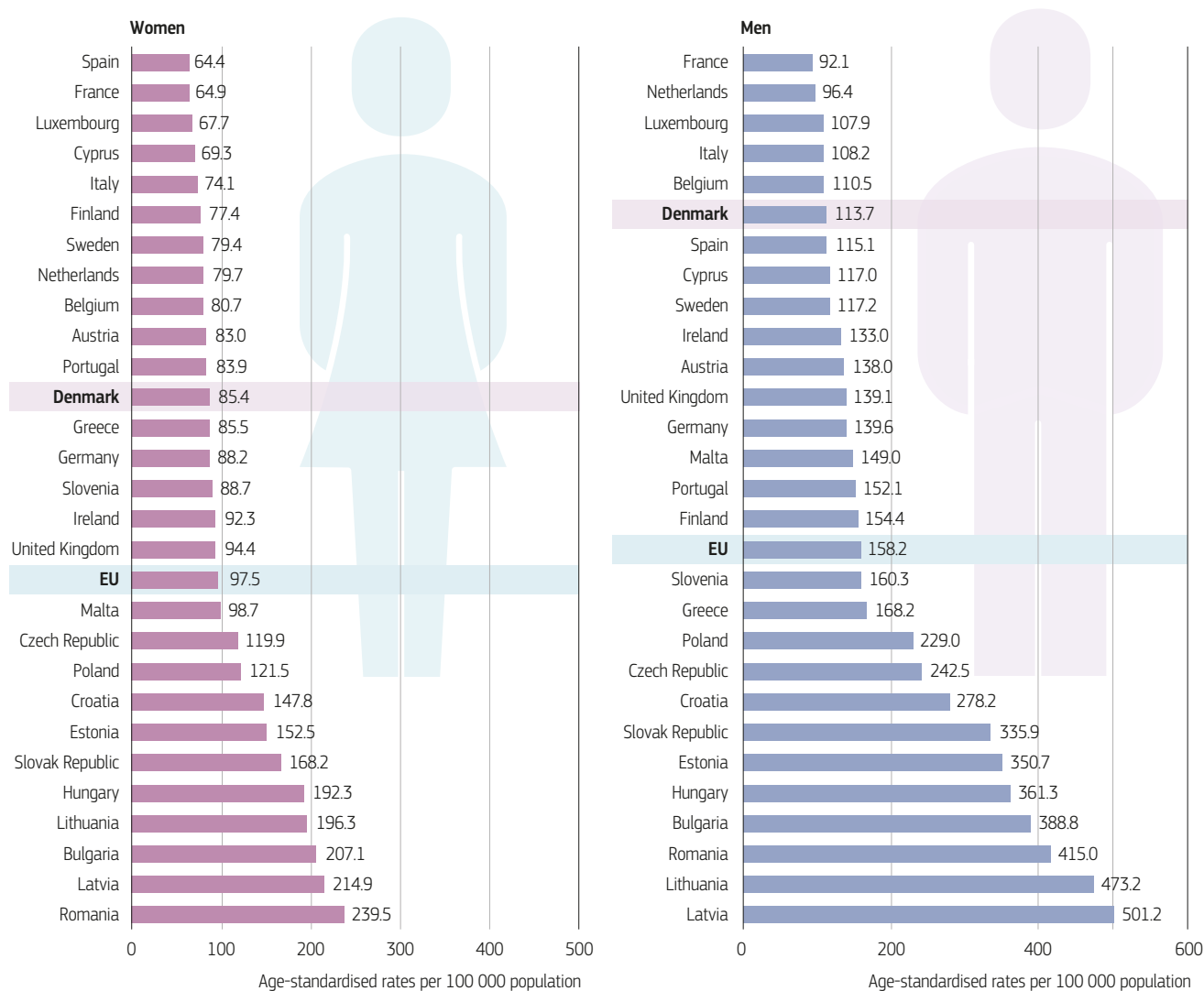
Low amenable mortality suggests that the health system is effective in dealing with life-threatening conditions

Denmark has comparatively low rates of amenable mortality, suggesting that the health system is effective in reducing deaths from conditions that can be managed medically. In 2014, the amenable mortality rates for Danish women and men were below

the EU average (Figure 10).¹⁰ The leading causes of amenable mortality in Denmark are ischaemic heart diseases, stroke and some types of cancer (Section 2). Since 2002, the number of amenable deaths has been reduced by about a third.

10. Amenable mortality is defined as premature deaths that could have been avoided through timely and effective health care.

Figure 10. Amenable mortality rates in Denmark are lower than the EU average



Source: Eurostat Database (data refer to 2014).

Low mortality rates for people requiring acute care suggest good hospital care

Hospitals in Denmark generally provide effective treatment for people requiring acute care. This is notably the case in the area of cardiovascular diseases. Good progress was achieved in reducing mortality rates for people admitted with heart attack or a stroke through streamlining emergency care processes and improvements in acute care treatments. The case-fatality rate for people admitted for heart attack in Denmark is now among the lowest in those EU countries reporting these data (Figure 11). It is also low for stroke admissions.

High screening rates and survival after diagnosis point to high-quality cancer care, but mortality remains high

Denmark has the second highest breast cancer screening rate for women aged 50–69 in the EU (over 80%), but its cervical cancer screening rate (approximately 65%) is closer to the EU average. Due partly to earlier diagnosis but also better treatments, Danish women diagnosed with breast or cervical cancers have among the highest chances of five-year survival in the EU (OECD, 2017c). Denmark offers as a primary screening modality the human papillomavirus test for the early identification of cervical cancer (IARC, 2017).

However, these high screening and survival rates are not reflected in lower mortality for these cancers, because of a relatively high number of new cases. Denmark's overall cancer mortality rate is the fourth highest in the EU. The incidence of breast cancer in Denmark was the second highest in 2012 (after Belgium), and the breast cancer mortality rate was the seventh highest in 2014.

A similar pattern can be observed for colorectal cancer among men and women. Although the survival rate for colorectal cancer in Denmark is slightly higher than the EU average and the mortality rate is declining, mortality remains higher than in most EU countries and the highest among the earliest 15 Member States of the EU (Figure 12). This calls for a greater emphasis to further reduce modifiable risk factors for colorectal cancer. These risk factors include a high-fat and low-fibre diet, lack of physical activity, tobacco use and alcohol consumption.

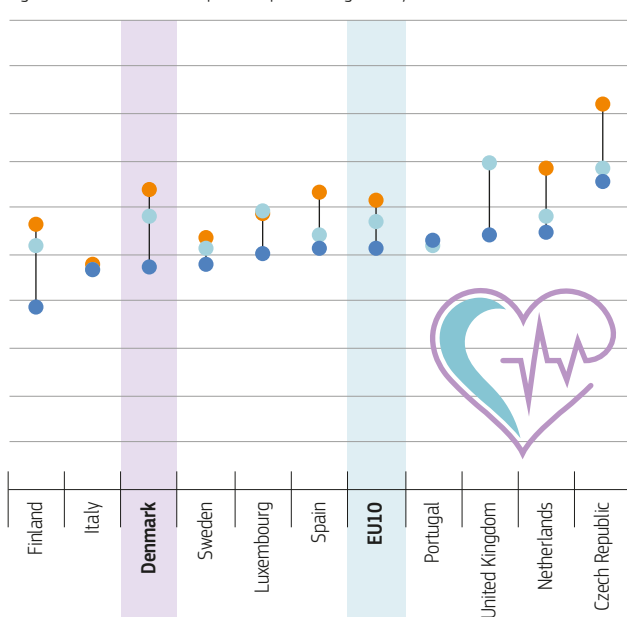
Prevention policies successfully reduced smoking rates

As already noted, smoking rates greatly reduced in Denmark over the past 15 years and are now much closer to the level seen in other Nordic countries. Denmark continues to implement a range of tobacco control policies and programmes, including tobacco cessation programmes, health warnings on cigarette packages, public awareness campaigns through mass media and high taxation on tobacco products.

Figure 11. Denmark has the among the lowest 30-day mortality rates from heart attack and stroke

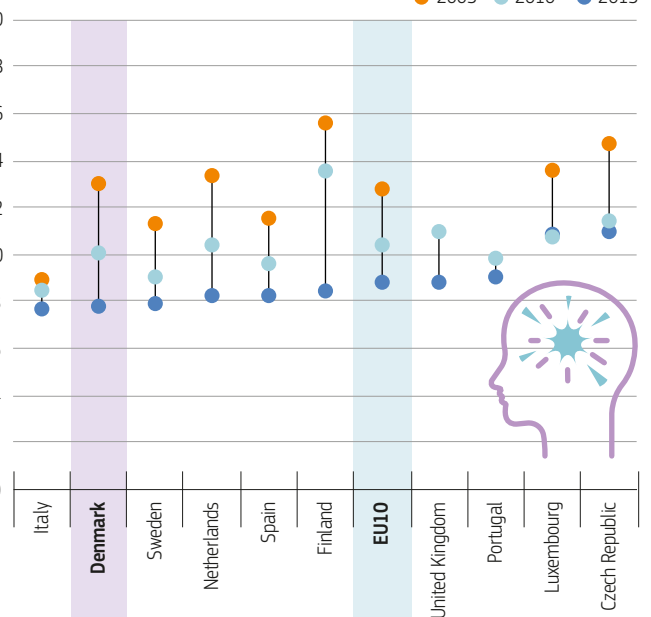
30-day mortality rate following admission for heart attack

Age-sex standardised rate per 100 patients aged 45 years and over



30-day mortality rate following admission for ischaemic stroke

Age-sex standardised rate per 100 patients aged 45 years and over

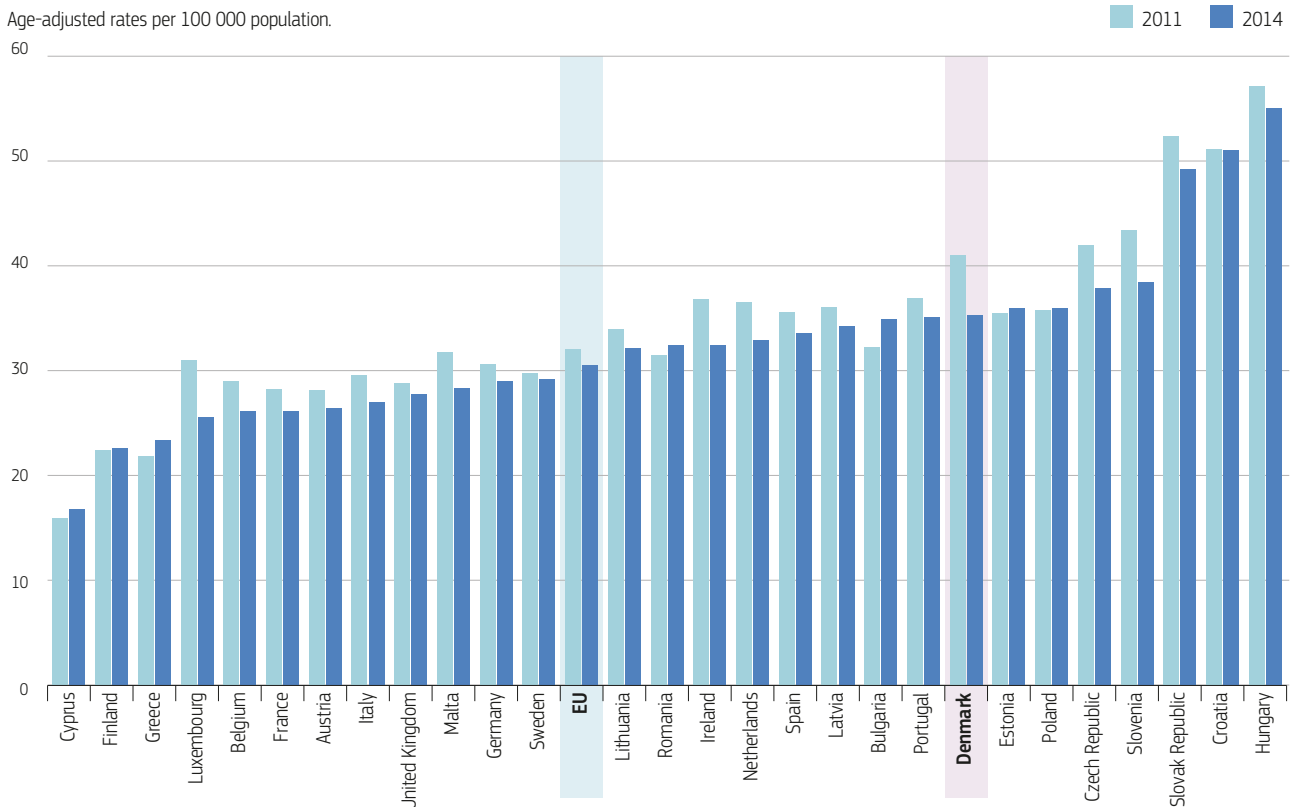


Note: This indicator is based on patient-level data. Three-year average for Luxembourg. The EU average is unweighted.

Source: OECD Health Statistics 2017.

Figure 12. Colorectal cancer mortality rate declined but is still higher than the EU average

Age-adjusted rates per 100 000 population.



Source: Eurostat Database.

Denmark also implemented national strategies to promote physical activity and better nutrition, and to tackle the rising rates of obesity and generally promote more healthy behaviours.

Excessive alcohol consumption and alcohol-related deaths in Denmark are much higher than in most other EU countries.

BOX 1. 'HEALTHIER LIFE FOR ALL' POLICY FRAMEWORK

A key objective of the Danish 2014 'Healthier life for all' prevention policy framework is to cut the number of people who engage in harmful alcohol consumption by a third. The government financially supports two partnerships to help with achieving this target.

The 'Partnership for a responsible alcohol culture' involves industry stakeholders (beverage companies, hotels, restaurants, the Danish Chamber of Commerce and the Danish Merchants Association) and focuses on compliance with age limits on the sale of alcohol and on initiatives to change the alcohol culture in bars. The 'Partnership for youth and alcohol' involves municipalities and civil society organisations, with the aim to reduce underage drinking by initiating local activities for young people in collaboration with local authorities and civil society (OECD, 2015).

More than 1 200 people died from preventable alcohol-related diseases in Denmark in 2014, and this number does not include those who died from alcohol-related accidents or violence. A number of measures have been taken in recent years to reduce excessive alcohol consumption (Box 1).

5.2. ACCESSIBILITY

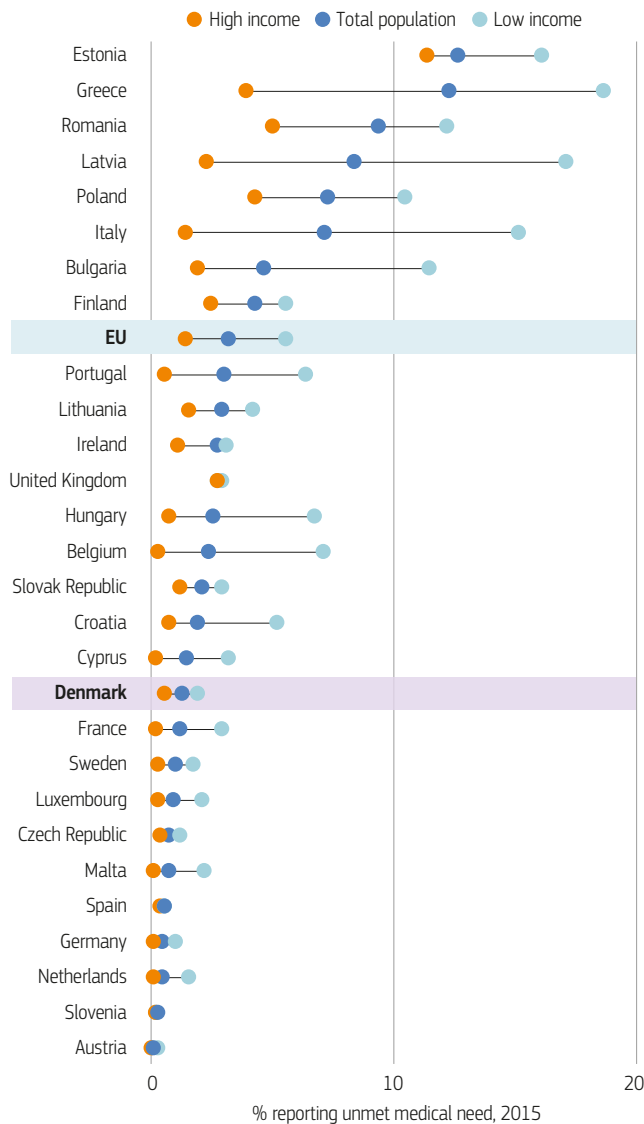
Coverage is broad with a relatively low level of unmet need for medical care

The health system provides the Danish population with universal access to health services. Based on data from the EU-SILC survey, unmet need for medical care due to cost, distance and other reasons in Denmark is relatively low, with only 1.3% of the population reporting such unmet needs compared to the EU average of 3.2% (Figure 13).

The Danish population enjoys access to a comprehensive package of services

As part of the public health insurance, Danish residents are entitled to most evidence-based therapies and clinical interventions. Coverage decisions for new pharmaceuticals are relatively quick, taking between one and two months in Denmark. Patient organisations, represented by the association Danish

Figure 13. People in Denmark report low levels of unmet need for medical care



Note: The data refer to unmet needs for a medical examination or treatment due to costs, distance to travel or waiting times. Caution is required in comparing the data across countries as there are some variations in the survey instrument used.

Source: Eurostat Database, based on EU-SILC (data refer to 2015).

Patients, are involved in decisions in the newly established Medicine Council, making recommendations on and prioritisations of new pharmaceutical treatments. Residents have the right to seek treatment anywhere in the country if their home region does not provide a service delivered elsewhere (in these cases, the home region needs to cover the expenses of treatment).

A joint initiative to better target treatment and strengthen precision (personalised) medicine by the national government and the regions was recently announced. This includes a project to collect and store genetic information from 100 000 people and a funding pool to enable precision medicine research.

Ceilings exist to protect vulnerable groups

User charges are required for outpatient visits to psychologists and physiotherapists, as well as for prescriptions, hearing aids and dental care to varying degrees. Patients with high annual outpatient medicine expenses (over DKK 3 045 or EUR 400) and those with low personal assets (below DKK 77 500 or EUR 10 400) receive 85% reimbursement for all drugs (Commonwealth Fund, 2015). Chronically ill patients can receive full reimbursement (for expenses above DKK 3 775 or EUR 500). Cost-sharing ceilings for children and means-tested social assistance for older people also exist.

Most complementary voluntary insurance (for drugs and dental care) is provided by a not-for-profit organisation, while supplementary insurance (providing expanded and faster access to private providers) is often provided as an employment benefit. Although 38% of the population has these types of complementary or supplementary coverage, they comprise only 2% of total health expenditure.

People in Denmark pay for about 14% of their health care costs out of pocket, with the remainder predominantly covered through public financing. This out-of-pocket share of expenditure remained fairly stable over the past decade and amounts to about 2.6% of household consumption, which is close to the EU average (2.3%). Most of the out-of-pocket costs are spent on dental care (26%), pharmaceuticals (29%) and curative care (30%). Because of the lower coverage for dental care, unmet need for dental care in Denmark is higher than for medical care: 4% of Danish people reported some unmet care needs for a dental examination due to financial reasons in 2015, and this proportion was two times greater among people in the lowest income quintile (about 8%).

Denmark has a high number of health professionals, but access and care coordination could be improved

As outlined in Section 4, Denmark has the highest number of nurses per capita among EU countries. While Danish residents currently experience low unmet need for medical care, this 'skills mix' provides opportunities to expand the scope of practice of nurses to better respond to growing and changing requirements. Many nurses work with more advanced tasks under delegation from a physician in a legal framework established to improve the scope of practice for nurses.

Still, task substitution between doctors and nurses remains uncommon. For example, Danish nurses only have very limited authority to prescribe medications – a common practice in several other EU health systems (like the Netherlands for nurse specialists,

and the United Kingdom and Ireland for nurse prescribers). This and other possible extensions in scope of practice will require revision of curricula or investments in more postgraduate education and training for nurses in Denmark, as scope exists in the Danish primary care payment schedule for nurses to perform some tasks traditionally done by physicians (OECD, 2017a).

Fragmentation of care between providers is often cited as problematic in Denmark. In an effort to integrate care, particularly for patients managing one or more chronic conditions, some municipalities created 'Health Houses' where general practice, allied health personnel and office-based specialist services are provided at one site. So far this has failed to show evidence of better care coordination (OECD, 2017a). Closer alignment between primary care practitioners, social workers and community care practitioners would be particularly beneficial. A ministerial committee examining how to strengthen primary care and improve care coordination is due to release its findings in 2017.

5.3. RESILIENCE¹¹

Despite increased budgetary pressure, long-term fiscal sustainability is not threatened

Denmark expenditure on health care is comparatively high, and mostly financed through public sources. A combination of demographic, technological and other factors is projected to add budgetary pressure over the medium to long run. However, owing to a largely favourable budgetary position and a set of reforms and initiatives, no major financial sustainability risks have been identified for Denmark due principally to a favourable budgetary position (European Commission and Economic Policy Committee, 2015).

Overall, the Danish health system is efficient, but variations exist across regions and levels of care

Activity-based funding with an annual 2% productivity increase requirement on hospital services, imposed approximately a decade ago, is likely to have driven technical efficiency gains (see Section 4). Denmark's comparatively low number of hospital beds and average length of stay have not resulted in any discernible reduction in quality, suggesting that overall the hospital system is functioning more efficiently. However, the ongoing sustainability of this annual funding reduction is beginning to be challenged.

The reduction in the number of hospital beds places more pressure on primary and community care. The 2007 reform gave municipalities responsibility for providing long-term care, rehabilitation and public

health. In general, primary care and other non-acute care services in Denmark appear to be performing efficiently under growing demands. The proportion of patients who visited an emergency department due to the unavailability of primary care was the lowest among EU countries in 2011–13 (Figure 14). Potentially avoidable hospital admission rates for heart failure are low, but improvement is possible to reduce hospitalisation for other chronic diseases such as asthma and chronic obstructive pulmonary disease, which is higher than the EU average.

Considerable variation exists in potentially avoidable hospitalisations for chronic conditions between Danish regions. For example, standardised admission rates for diabetes vary 1.5-fold between regions and avoidable admissions of people over 65 vary two-fold across Danish municipalities (from less than 40 to over 90 per 1 000 population). Delays in discharges from hospital also vary widely (OECD, 2017a). This suggests some unwarranted variation in access to, and quality of, primary care services and post-acute care, as well as the need for greater coordination across all levels of care.

Maintaining a proper balance between care and prevention is also important. At a time when chronic diseases are on the rise, primary care activities in disease prevention and health promotion declined by 36% between 2006 and 2014 (OECD, 2017a).

Policies to control pharmaceutical spending and promote appropriate prescribing have generally been successful

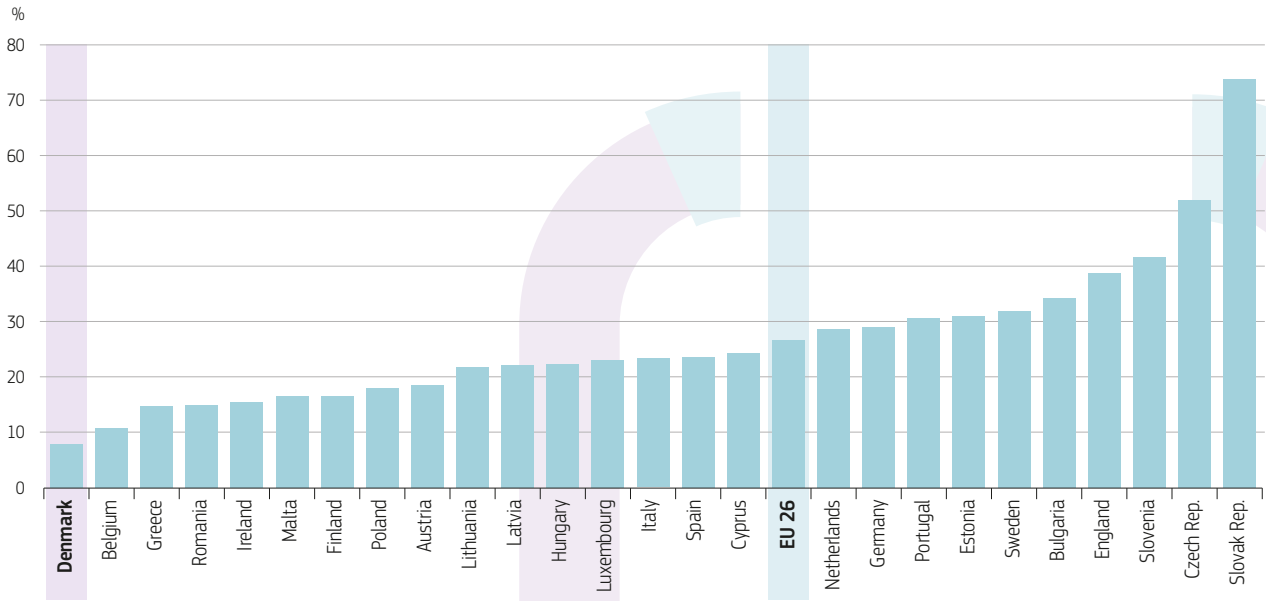
A number of policies were implemented in Denmark to control the growth of pharmaceutical spending, including price controls and the promotion of generics. The share of the generic market in volume has increased from less than 40% in 2007 to over 60% in 2015 (Figure 15).

Spending per capita on pharmaceuticals outside hospital in Denmark was only DKK 1 674 (or EUR 220) in 2015, a lower level than in any other EU countries. The share of pharmaceutical spending purchased outside hospital in overall health spending decreased considerably (from about 13% in 2000 to 10% in 2015) – a share that is substantially lower than the current EU average of 17%. However, hospital spending on pharmaceuticals has increased during that period.

Prescribing quality has also improved in recent years. Danish GPs fare well compared with others when it comes to prescribing diabetic patients with cholesterol lowering medications to prevent cardiovascular events. Over 85% of these patients are prescribed this medication, as recommended in clinical guidelines (Figure 16).

11. Resilience refers to health systems' capacity to adapt effectively to changing environments, sudden shocks or crises.

Figure 14. Danes are least likely to go to an emergency department due to unavailability of primary care



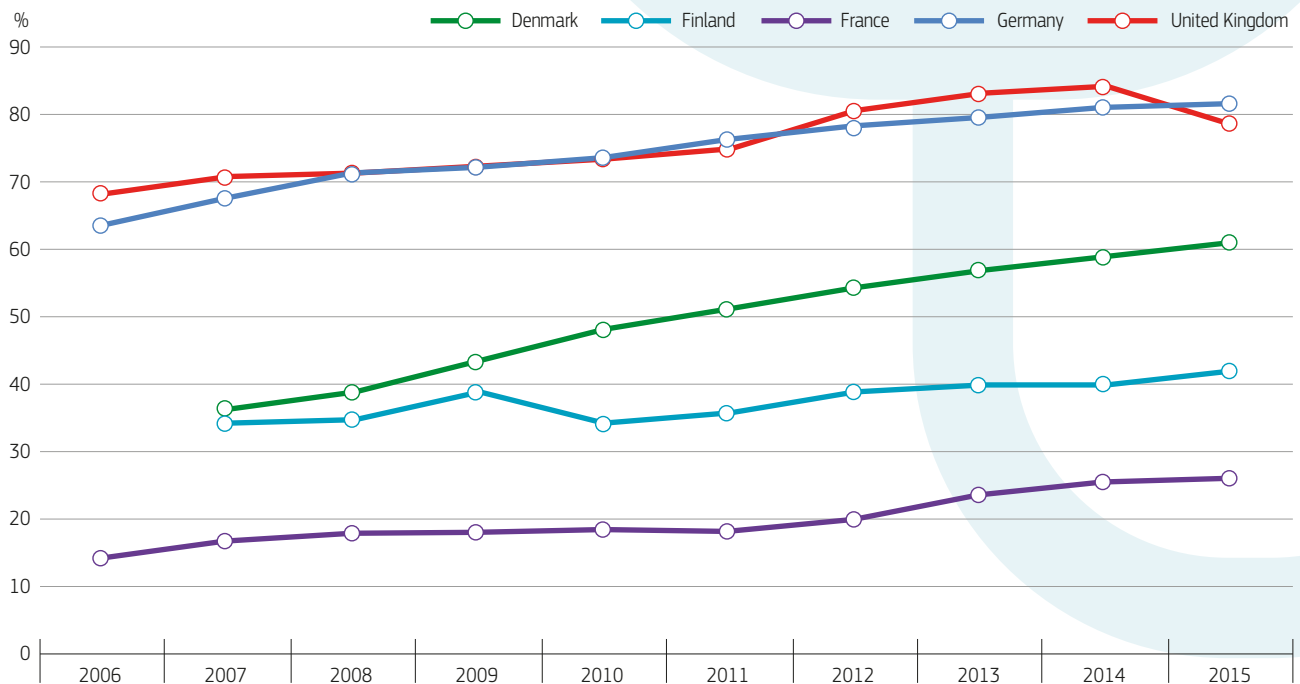
Note: Data were collected within the QUALICOPC study (Quality and Costs of Primary Care in Europe) between 2011 and 2013. The reference population is the proportion of people who visited an emergency department in the previous year.

Source: van den Berg, van Loenen, and Westert, 2016.

Danish GPs also perform fairly well when it comes to antibiotic use, although they prescribe them more frequently than GPs in the Netherlands, Sweden or Germany (OECD, 2017c). A non-negligible proportion of this prescribing appears to be inappropriate. In a recent OECD policy survey on waste in health systems, Denmark reported that treatment for upper respiratory

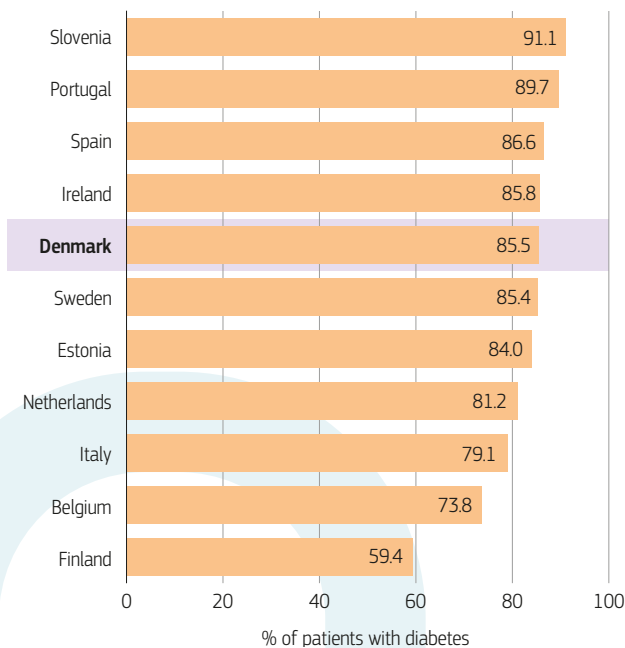
tract infections accounts for 20% to 30% of total antibiotic consumption. The use of antibiotics for upper respiratory tract infections is not recommended, as it is potentially harmful without providing effective treatment against the infection. It may also contribute to antibiotic resistance, which poses a more systemic threat to population health (OECD, 2017a).

Figure 15. The share of the generic market in Denmark has increased rapidly over the past decade



Source: OECD Health Statistics 2017.

Figure 16. Most people with diabetes are prescribed with a cholesterol-lowering medication in Denmark



Source: OECD Health Statistics 2017 (data refer to 2015).

The Danish health system boasts a first-rate information infrastructure

Denmark's strong information infrastructure enables better national exchange of electronic medical data. Denmark has a national electronic health record that spans across settings and sectors. While it is not a fully integrated system and different platforms exist in hospitals and GP practices, interoperability standards allow these to exchange information. It is in the top bracket of countries in terms of readiness to securely use these data for improving services and system management (OECD, 2017b).

eHealth adoption among GPs and in hospitals is the highest and fourth highest in Europe respectively (OECD, 2016). However, the suspension of the Danish General Practice Database in 2014 was a setback and deprived the Danish information infrastructure of a key dataset.

Strengthened emphasis on quality and patient engagement is encouraging

The Danish health system was traditionally quite decentralised, with responsibility for acute care, primary care and public health split across three levels: national, regional and municipal. The structural reform in 2007 initiated a process of recentralisation by reducing the number of regions from 14 to 5 and municipalities from 275 to 98. Regions are mainly responsible for providing health care services. Since the reform, municipalities are responsible for disease prevention and health promotion, but a lot of variation in the level of investment is observed.

In addition, the regions' ability to raise taxes was removed and health services are now financed by national and municipal governments using a combination of block grants and activity-based funding. The rationale for co-financing by the national and municipal governments is to incentivise cost control as well as prevention and health promotion. Evaluations of the reform in 2015 led to some revisions, but these evaluations did not look specifically at the effectiveness of municipal co-financing as an instrument to reduce hospital activity (although hospital activity has reduced and is now among the lowest in Europe (as discussed in Section 4).

Traditionally, regions and municipalities were required to develop a joint health plan every four years, covering all preventive and curative health care activities. These were strengthened as part of the reforms of 2007 through the creation of centrally standardised agreements covering care coordination, prevention and rehabilitation. These agreements are managed continuously by regional consultative committees comprising representation from the regions and municipalities as well as private health care practitioners, and are ratified by the National Health Board.

The Danish Institute for Quality and Accreditation in Healthcare manages the maintenance of safety and quality standards for private hospitals,¹² primary care and pharmacies. These standards comprise three categories: organisational (quality, risk management, hygiene and human capital); care coordination (patient involvement, referrals and medication safety); and disease-specific standards (guidelines and protocols). In addition, National Quality Goals initiated in 2016 set a framework to improve quality and efficiency of care across settings. These include dedicated quality improvement teams, a leadership programme and initiatives to enhance patient engagement in care.

12. In 2015, accreditation of public hospitals was discontinued in favour of other strategies to promote quality improvement.

6 Key findings

- Residents of Denmark are in good health compared to residents of most other EU countries. The Danish health care system is effective in preventing mortality from amenable causes such as ischaemic heart disease and stroke. The case-fatality rate for heart attack patients is among the lowest in the EU. Although cancer screening and five-year survival rates compare relatively positively, mortality rates for cervical, breast, colorectal and lung cancer are high, due in part to higher incidence of these cancers.
- Behavioural risk factors among Danish residents are mostly favourable. Smoking declined sharply over the past decade, but excessive alcohol consumption by Danish adults and adolescents is the highest in the EU. The rate of alcohol-related deaths is higher than in most other EU countries. Recent initiatives to reduce levels of binge drinking in Denmark are a welcome development. The proportion of residents who report being in good health is high, although a gap exists between income groups.
- The Danish health care system is highly accessible. Residents enjoy access to a comprehensive package of medical technologies and interventions. Means-tested ceilings and other protection exist against excessive cost-sharing for medical care. Unmet need for medical care due to financial, geographic or other reasons is low, but foregone needed care is higher for dental treatments, particularly in lower-income groups.
- Denmark spends 10.3% of GDP on health care, the sixth highest in the EU. Overall, the system appears to allocate and use its resources efficiently. Reductions in the number of acute care beds and average lengths of stay over the past few years appear to have been accommodated by the non-acute care sectors, which are performing well. Denmark has the highest number of nurses per capita in the EU, but more specialised work by nurses could further enhance efficiency across the system. Care coordination and chronic disease management can be improved, as considerable regional differences are observed in this regard.
- The Danish health care system has a first-rate information infrastructure. This includes an electronic health record system that, though not fully integrated, has a large degree of interoperability across settings and sectors and is used by all primary care practitioners. Furthermore, eHealth adoption and use across Danish primary and acute care is among the highest in the EU. Denmark also has a well-established series of disease registries. However, the suspension of the Danish General Practice Database in 2014 deprived the information infrastructure of a key dataset to drive quality of care, system learning and improvement.
- Key reforms initiated in 2007 consolidate functions and responsibilities among the three levels of government. A key aim is to improve care coordination, preventive services and rehabilitation. Reforms include incentives for cost containment, appropriate provision of care, and public health policies to ensure continued high performance of the health system and population health. More recently, National Quality Goals set a framework to improve care in all settings. The foundation appears to be in place for the residents of Denmark to continue benefiting from a well-functioning health care system.



Key sources

OECD/EU (2016), *Health at a Glance: Europe 2016 – State of Health in the EU Cycle*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264265592-en>.

Olejaz, M. et al. (2012), “Denmark: Health System Review”, *Health Systems in Transition*, Vol. 14(2), pp. 1–192.

References

Commonwealth Fund (2015), *International Profiles of health care systems: Denmark*.

European Commission (DG ECFIN) and Economic Policy Committee (AWG) (2015), “The 2015 Ageing Report – Economic and budgetary projections for the 28 EU Member States (2013-2060)”, *European Economy* 3, Brussels, May.

IARC (2017), “Cancer Screening in the European Union”, *Report on the implementation of the Council Recommendation on cancer screening May 2017*.

IHME (2016), “Global Health Data Exchange”, Institute for Health Metrics and Evaluation, available at <http://ghdx.healthdata.org/gbd-results-tool>.

OECD (2015), *Tackling Harmful Alcohol Use: Economics and Public Health Policy*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264181069-en>.

OECD (2017a), *Primary Care in Denmark*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264269453-en>.

OECD (2017b), *New Health Technologies: Managing Access, Value and Sustainability*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264266438-en>.

OECD (2017c), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2017-en.

van den Berg, M.J., T. van Loenen and G. Westert (2016), “Accessible and Continuous Primary Care May Help Reduce Rates of Emergency Department Use. An International Survey in 34 Countries”, *Family Practice*, Vol. 33(1), pp. 42-50.

Country abbreviations

Austria	AT	Denmark	DK	Hungary	HU	Malta	MT	Slovenia	SI
Belgium	BE	Estonia	EE	Ireland	IE	Netherlands	NL	Spain	ES
Bulgaria	BG	Finland	FI	Italy	IT	Poland	PL	Sweden	SE
Croatia	HR	France	FR	Latvia	LV	Portugal	PT	United Kingdom	UK
Cyprus	CY	Germany	DE	Lithuania	LT	Romania	RO		
Czech Republic	CZ	Greece	EL	Luxembourg	LU	Slovak Republic	SK		



State of Health in the EU

Country Health Profile 2017

The Country Health Profiles are an important step in the European Commission's two-year *State of Health in the EU* cycle and are the result of joint work between the Organisation for Economic Co-operation and Development (OECD) and the European Observatory on Health Systems and Policies. This series was co-ordinated by the Commission and produced with the financial assistance of the European Union.

The concise, policy relevant profiles are based on a transparent, consistent methodology, using both quantitative and qualitative data, yet flexibly adapted to the context of each EU Member State. The aim is to create a means for mutual learning and voluntary exchange that supports the efforts of Member States in their evidence-based policy making.

Each Country Health Profile provides a short synthesis of:

- health status
- the determinants of health, focussing on behavioural risk factors
- the organisation of the health system
- the effectiveness, accessibility and resilience of the health system

This is the first series of biennial country profiles, published in November 2017. The Commission is complementing the key findings of these country profiles with a Companion Report.

For more information see: ec.europa.eu/health/state

Please cite this publication as:

OECD/European Observatory on Health Systems and Policies (2017), *Denmark: Country Health Profile 2017, State of Health in the EU*, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.
<http://dx.doi.org/10.1787/9789264283343-en>

ISBN 9789264283343 (PDF)

Series: State of Health in the EU
ISSN 25227041 (online)