

Health Systems in Transition

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Denmark

Health system review

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Preface

The Health Systems in Transition (HiT) series consists of country-based reviews that provide a detailed description of a health system and of reform and policy initiatives in progress or under development in a specific country. Each review is produced by country experts in collaboration with the Observatory's staff. In order to facilitate comparisons between countries, reviews are based on a template, which is revised periodically. The template provides detailed guidelines and specific questions, definitions and examples needed to compile a report.

HiTs seek to provide relevant information to support policy-makers and analysts in the development of health systems in Europe. They are building blocks that can be used:

- to learn in detail about different approaches to the organization, financing and delivery of health services and the role of the main actors in health systems;
- to describe the institutional framework, the process, content and implementation of health care reform programmes;
- to highlight challenges and areas that require more in-depth analysis;
- to provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in different countries; and
- to assist other researchers in more in-depth comparative health policy analysis.

Compiling the reviews poses a number of methodological problems. In many countries, there is relatively little information available on the health system and the impact of reforms. Due to the lack of a uniform data source, quantitative data on health services are based on a number of different sources, including

the World Health Organization (WHO) Regional Office for Europe's European Health for All database, data from national statistical offices, Eurostat, the Organisation for Economic Co-operation and Development (OECD) Health Data, data from the International Monetary Fund (IMF), the World Bank's World Development Indicators and any other relevant sources considered useful by the authors. Data collection methods and definitions sometimes vary, but typically are consistent within each separate review.

A standardized review has certain disadvantages because the financing and delivery of health care differ across countries. However, it also offers advantages, because it raises similar issues and questions. HiTs can be used to inform policy-makers about experiences in other countries that may be relevant to their own national situation. They can also be used to inform comparative analysis of health systems. This series is an ongoing initiative and material is updated at regular intervals.

Comments and suggestions for the further development and improvement of the HiT series are most welcome and can be sent to info@obs.euro.who.int.

HiTs and HiT summaries are available on the Observatory's web site (<http://www.healthobservatory.eu>).

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The Health Systems in Transition (HiT) profile on Denmark was co-produced by the European Observatory on Health Systems and Policies and the University of Copenhagen, which is a member of the network of National Lead Institutions (NLI), which works with the Observatory on country monitoring.

The NLI network is made up of national counterparts who are highly regarded at national and international level and have particular strengths in the area of health systems, health services, public health and health management research. They draw on their own extensive networks in the health field and their track record of successful collaboration with the Observatory to develop and update the HiTs.

The University of Copenhagen is located in Copenhagen, the capital city of Denmark, and is the largest institution of research and education in Denmark. The Department of Public Health of the University of Copenhagen carries out research and teaching and acts as a consultant within the area of public health. It includes most of the disciplines contributing to the field of public health and investigates the health status of the population, efforts being made to improve the health of the population and the endeavours of society to reduce morbidity and mortality. The research is multidisciplinary and performed by researchers trained in medicine, natural science, social science and the humanities.

This edition was written by Maria Olejaz (PhD Fellow, Department of Public Health, University of Copenhagen), Annegrete Juul Nielsen (Assistant Professor, Department of Public Health, University of Copenhagen), Andreas Rudkjøbing (MD PhD Fellow, Department of Public Health, University of Copenhagen), Hans Okkels Birk (External Lecturer, Department of Public Health, University of Copenhagen and Consultant, Region Zealand) and Allan Krasnik (Professor, Department of Public Health, University of Copenhagen). It was edited by

Cristina Hernández-Quevedo, working with the support of Sarah Thomson of the Observatory's team at the London School of Economics and Political Science. The basis for this edition was the previous HiT for Denmark, which was published in 2007 and written by Martin Strandberg-Larsen, Mikkel Bernt Nielsen, Signild Vallgård, Allan Krasnik and Karsten Vrangbæk and edited by Elias Mossialos.

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List of abbreviations

Abbreviations	
AIDS	Acquired immunodeficiency syndrome
BMI	Body mass index
CAM	Complementary and alternative medicine
COPD	Chronic obstructive pulmonary disease (<i>kronisk obstruktiv lungesygdom</i>)
CT	Computer tomography
DAG	Danish ambulatory grouping systems (<i>Danske ambulante grupperingssystem</i>)
DDKM	Danish Healthcare Quality Programme (<i>Danske Kvalitetsmodel</i>)
DKK	Danish krone (Danish currency unit)
DRG	Diagnosis-related group
EU	European Union
EU15	EU Member States before May 2004
EUnetHTA	European network for Health Technology Assessment
GDP	Gross domestic product
GP	General practitioner
HCQI	Health Care Quality Indicators (OECD project)
Hib	<i>Haemophilus influenzae</i> type b
HIV	Human immunodeficiency virus
HTA	Health technology assessment
IT	Information technology
LUP	National Danish Survey of Patient Experiences (<i>Landsdækkende Undersøgelser af Patientoplevelser</i>)
MMR	Immunization against measles, mumps and rubella
MRI	Magnetic resonance imaging
OECD	Organisation for Economic Co-operation and Development
SUSY	Danish Health and Morbidity Survey (<i>Sundheds- og sygelighedsundersøgelserne</i>)
VAT	Value added tax
VHI	Voluntary health insurance
WHO	World Health Organization

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Abstract

Denmark has a tradition of a decentralized health system. However, during recent years, reforms and policy initiatives have gradually centralized the health system in different ways. The structural reform of 2007 merged the old counties into fewer bigger regions, and the old municipalities likewise. The hospital structure is undergoing similar reforms, with fewer, bigger and more specialized hospitals. Furthermore, a more centralized approach to planning and regulation has been taking place over recent years. This is evident in the new national planning of medical specialties as well as the establishment of a nationwide accreditation system, the Danish Healthcare Quality Programme, which sets national standards for health system providers in Denmark. Efforts have also been made to ensure coherent patient pathways – at the moment for cancer and heart disease – that are similar nationwide. These efforts also aim at improving intersectoral cooperation. Financially, recent years have seen the introduction of a higher degree of activity-based financing in the public health sector, combined with the traditional global budgeting.

A number of challenges remain in the Danish health care system. The consequences of the recent reforms and centralization initiatives are yet to be fully evaluated. Before this happens, a full overview of what future reforms should target is not possible. Denmark continues to lag behind the other Nordic countries in regards to some health indicators, such as life expectancy. A number of risk factors may be the cause of this: alcohol intake and obesity continue to be problems, whereas smoking habits are improving. The level of socioeconomic inequalities in health also continues to be a challenge. The organization of the Danish health care system will have to take a number of challenges into account in the future. These include changes in disease patterns, with an ageing population with chronic and long-term diseases; ensuring sufficient staffing; and deciding how to improve public health initiatives that target prevention of diseases and favour health improvements.

Executive summary

Denmark is a small high-income country with a high population density and a demographic development similar to other western European countries. It is a parliamentary democracy, divided into three different administrative levels: the state, the regions and the municipalities. From an international perspective, Denmark can be characterized as having a relatively good health status; however, regarding some health measures such as life expectancy, it lags behind the other Scandinavian countries. The proportion of people overweight or obese has increased over the last few years and alcohol consumption and tobacco use continue to be a problem, although the proportion of smokers has decreased in recent years. Socioeconomic inequalities in health have increased and are a further challenge.

Organization and governance

The health system can be characterized as fairly decentralized, with responsibility for primary and secondary care located at local levels. However, a process of (re)centralization has been taking place, which lowered the number of regions from 14 to 5 and the municipalities from 275 to 98. Access to a wide range of health services is largely free of charge for all residents. The health system is organized according to three administrative levels: state, region and local. Planning and regulation take place at both state and local levels. The state holds the overall regulatory and supervisory functions as well as fiscal functions but is also increasingly taking responsibility for more specific planning activities, such as quality monitoring and planning of the distribution of medical specialties at the hospital level. The five regions are, among other things, responsible for hospitals as well as for self-employed health care professionals. The municipalities are responsible for disease prevention and health promotion. In recent years, the development of a more coordinated health

system has attracted considerable attention. Regulation takes place through, among other things, national and regional guidelines, licensing systems for health professionals and national quality monitoring systems. A series of laws and initiatives have been introduced since the 1990s to strengthen patient rights, including national laws on patient choice as well as the establishment of an independent governmental institution responsible for complaints procedures.

Financing

Health care expenditure is slightly higher than the average for EU Member States before May 2004 (EU15). More than 80% of health care expenditure is financed by the state through a combination of block grants and activity-based financing. The importance of out-of-pocket payments differs markedly by service, playing a major role in financing drugs, dental services and glasses, while playing only a minor role for other services. Voluntary health insurance (VHI) is available for the population. Since 2002, supplementary VHI subsidized by the state has played a small but rapidly growing role in financing elective surgery and physiotherapy – and has been the subject of intense political debate between politicians, who argue that VHI contributes to a more effective health care sector or that it introduces inequality in access to care. The municipalities are financed through income taxes (rates set locally, collected centrally) and block grants from the state, while the regions are financed by the state (income tax, value added tax (VAT), taxes on specific goods, etc.) and the municipalities. The financing structure reflects attempts to control costs through global budgeting and upper limits to private providers' turnover. It also reflects efforts to strengthen health promotion, clinical production and responsiveness to patients by use of free choice of hospital in combination with activity-based hospital financing and by the introduction of reimbursement from the municipalities to the regions, thereby providing the municipalities with a financial incentive to keep their citizens healthy.

Physical and human resources

The physical and organizational infrastructure of the hospital sector has been undergoing change. The number of hospital beds has declined since the early 1990s in the acute, long-term and psychiatric care sectors. Average length of stay has also declined through changes in treatment options, with an increase in outpatient treatment as well as a policy of deinstitutionalization in the

psychiatric sector. A more recent trend is the merging of hospitals and the centralization of medical specialties, including a reorganization of the acute care system. Alongside this process, the government has launched a major investment programme in new hospitals and improvements to existing ones. The use of information technology (IT) has received increasing attention within the health care sector. Strategies for digitalization of health information have been proposed a number of times but implementation has encountered problems because of a lack of coordination. Nevertheless, all primary care doctors now use electronic medical records. Ongoing initiatives include a national medication record as well as electronic patient journals within the five regions. Regarding human resources, the number of physicians is experiencing a slight increase but recruitment problems persist, particularly in rural areas. General practitioners (GPs) are fairly well distributed throughout the country, but practising specialists are concentrated in the capital and other urban areas. Nurses constitute the largest group of health workers and the number of nurses has increased in recent decades. During the past 5–10 years, active recruitment of health workers from outside Denmark has taken place.

Provision of services

Public health services are partly integrated with curative services and partly organized as separate activities run by special institutions. Since 1999, the government has launched a number of national public health programmes and strategies focusing on risk factors such as diet, smoking, alcohol intake and physical activity. The primary sector consists of private (self-employed) practitioners (GPs, specialists, physiotherapists, dentists, chiropractors and pharmacists) and municipal health services, such as nursing homes, home nurses, health visitors and municipal dentists. The GPs act as gatekeepers, referring patients to hospital and specialist treatment. Most secondary and tertiary care takes place in general hospitals owned and operated by the regions. Doctors and other health professionals are employed in hospitals on a salaried basis. Hospitals have both inpatient and outpatient clinics as well as 24-hour emergency wards. Outpatient clinics are often used for pre- or post-hospitalization diagnosis and treatments. Most public hospitals are general hospitals with different specialization levels. Community pharmacies are privately organized but subject to comprehensive state regulation on price and location to ensure that everybody has reasonable access to a pharmacy, even in rural areas. A collective financial equalization system requires pharmacies with above-average turnovers to contribute to pharmacies with below-average

turnovers. Many actors are involved in rehabilitation care within the health care sector, the social sector, the occupational sector and the educational sector; with each sector carrying out a different aspect of work. Consequently, one area that is attracting attention within rehabilitation and intermediate care is the problem of securing coherent patient pathways. Palliative care has been slowly developing in recent years, and national initiatives are being developed at the time of writing. Oral health care for children and adolescents is provided by the municipal dental service. Dental health care for citizens older than 18 years is offered by private dental practitioners. The Danish Institute for Quality and Accreditation in Healthcare manages the Danish Healthcare Quality Programme (DDKM). DDKM is based on the principle of accreditation and standards and includes monitoring of quality of care in the primary and secondary sectors. Special population groups have different kinds of access to the statutory health system. Recognized refugees are included in regional health care coverage and have the same rights as inhabitants registered with the Central National Register. Asylum seekers are not covered by regional health care and have fewer entitlements. Undocumented immigrants are only entitled to acute treatment. However, a new private clinic for undocumented immigrants that will not require those attending to register with the authorities has recently been established by the Danish Medical Association, the Danish Red Cross and the Danish Refugee Council.

Principal health reforms

Recent reforms include legislation on free choice of hospitals as well as waiting time guarantees, together with reforms and initiatives connected to the organization of the administrative structure and the hospital sector. The political objectives of many of the initiatives have had to do with standardization and cost control. The major structural reform of 2007 changed the administrative landscape of Denmark by creating larger municipalities and regions and redistributing tasks and responsibilities. Modernization of the hospital sector has included a restructuring of acute care, with centralization of units in so-called “joint acute wards”. Other initiatives include the introduction of national clinical pathways for cancer and heart disease and national planning of the distribution of specialties across hospitals. The DDKM, based on a process of accreditation, has also been established and is to be implemented across the entire system. No major reforms are scheduled for the future, but a series

of specific issues are on the political agenda of the newly elected government. Future concerns pertain to three key areas: prioritization of resources, solving the problem of a declining workforce and the organization of the health system.

Assessment of the health system

Health legislation formally provides residents with the right to easy and equal access to health care and entitles patients to choose treatment after referral at any hospital in the country. Financing mainly takes place through taxation at the state (progressive tax) and the municipal (proportional tax) level. There is a rather stable level of out-of-pocket payments in Danish health care, about 14%. These are mostly related to payments for pharmaceuticals, dental care and physiotherapy, with an impact on access for low-income groups, particularly regarding dental care. The expansion of VHI is motivated by the wish by large population groups to reduce these co-payments and spread the risk, but also to ensure access to the small private hospital sector if needed. Continuity of care is a concern in the rather fragmented and decentralized Danish health care structure. Various initiatives have been implemented in order to improve continuity, but lack of integration of care is still a major issue, particularly regarding chronic care.

Denmark is still lagging behind other Nordic countries regarding general mortality and in some cause-specific mortality figures; this probably results from a combination of health care, environmental and health behaviour factors. Health inequalities between educational, occupational and ethnic groups are an issue. This might to some extent reflect inequalities in utilization of some services, as there are clear socioeconomic and geographical inequalities in the use of preventive services, but there are also differences in the use of some curative services because of co-payments and geographical distribution of practising specialists.

The reduction in waiting times, along with the waiting time guarantee and “extended free choice” of hospital, ensures access to health services within relatively short periods (one month). Patient satisfaction surveys continue to demonstrate remarkably high levels of satisfaction with both GPs and hospital services. A stated objective of the structural reform in 2007 was to create incentives for the municipalities to place more emphasis on prevention, health promotion and rehabilitation outside of hospitals. Incentives have not yet shown

significant effects in the municipalities, and the recent financial crisis has contributed to very tight municipal budgets and difficulties in finding means for new preventive initiatives.

Transparency of the health system has increasingly been a political priority during recent decades. Initiatives for improving this transparency have included quality indicators on clinical performance becoming available on the Internet. Information for the public on actual waiting times for admission to public hospitals has been ensured in order to facilitate the use of the right to free choice by patients. There is generally a high level of awareness of general rights such as waiting time guarantees and free choice in the general population. Accountability of payers and providers, however, is largely ensured by hierarchical control within political–bureaucratic structures at national, regional and municipal levels.

In recent years, the hospital sector has shown a gradually higher productivity, with a 5.6% increase from 2009 to 2010, whereas the stated objective of the structural reform in 2007, involving merging of municipalities and incentives for more health-related activities, has not yet shown significant effects on the general productivity and efficiency of municipalities within the health field.

1. Introduction

Denmark is a small high-income country with a high population density and a demographic development similar to other western European countries. It is a parliamentary democracy, divided into three different administrative levels: the state, the regions and the municipalities. From an international perspective, Denmark can be characterized as having a relatively good health status; however, regarding some health measures such as life expectancy, it lags behind the other Scandinavian countries. The proportion of people overweight or obese has increased over recent years and alcohol consumption and tobacco use continue to be a problem, although the proportion of smokers has decreased in the last few years. Socioeconomic inequalities in health have increased and are a further challenge.

1.1 Geography and sociodemography

Denmark is one of the Scandinavian countries. The mainland is located north of its only land neighbour, Germany, south-west of Sweden and south of Norway. Denmark also encompasses two off-shore territories, Greenland and the Faroe Islands, granted home rule in 1979 and 1948, respectively. This report only covers Denmark, and not these territories, which have their own and, in some respects quite different, health systems and challenges. Denmark consists of a mainland peninsula and a number of islands (Fig. 1.1). The climate is temperate.

Fig. 1.1

Map of Denmark



Source: Author's own compilation.

Denmark is a small country with few inhabitants, but with a high population density. The demographic development is similar to other western European countries, with an increasing proportion of older people and a low birth rate. Most inhabitants live in urban areas and approximately a third of the country's households are single-person households (Table 1.1).

Denmark is divided into five administrative regions: Capital Region of Denmark, Region Zealand, Region of Southern Denmark, Central Denmark Region and North Denmark Region. These regions do not reflect any fundamental sociodemographic or health differences, although variations in provision of services and in health status may exist.

Table 1.1

Trends in population/demographic indicators, selected years

	1980	1990	1995	2000	2005	2011
Total population ^a	5 122 065 ^b	5 135 409	5 215 718	5 330 020	5 411 405	5 560 628
Population, female (% total population) ^a	50.64	50.73	50.65	50.58	50.53	50.43
Population, <15 years (% total population) ^a	21.11 ^b	17.15	17.27	18.41	18.81	17.90
Population, 65+ years (% total population) ^a	14.34 ^b	15.59	15.31	14.83	15.01	16.79
Population, 80+ years (% total population) ^a	2.77 ^b	3.67	3.93	3.92	4.08	4.11
Population growth (average annual growth rate (%))	0.12	0.14	0.44	0.34	0.27	0.65 ^c
Population density (per km ²)	120.88	121.26	123.21	125.79	127.65	129.47 ^d
Fertility rate, total (total births per woman)	1.55	1.67	1.81	1.77	1.80	1.89 ^d
Crude birth rate (per 1000 population)	11.20	12.30	13.30	12.60	11.86	11.84 ^d
Crude death rate (per 1000 population)	10.90	11.90	12.10	10.90	10.14	9.94 ^d
Age dependency ratio (% of working population)	54.46	48.43	48.41	49.95	51.28	52.69 ^c
% population urban	83.70	84.80	85.00	85.10	85.90	–
Single-person households (%) ^a	32.76 ^e	32.54	32.30	31.98	31.76	31.34 ^f
School enrollment, tertiary (% gross)	28	34	45	58	81	–

Sources: World Bank, 2011; ^a Statistics Denmark, 2011; ^b Eurostat, 2011.

Notes: ^c 2009; ^d 2008; ^e 1986; ^f 2010; The age dependency ratio is the ratio of the combined child population (aged 0–14) and the elderly population (aged 65+) to the working age population (aged 15–64).

1.2 Economic context

Denmark can be described as a high-income economy. It is characterized by a relatively even distribution of income across the population (Table 1.2), although socioeconomic inequalities have been shown to be rising (Larsen et al., 2011). Until the 1950s, agriculture provided the biggest share of export and national income; since then, industry and services have dominated, with the latter growing the most rapidly. Except for oil, natural gas and fertile soil, the country is poor in natural resources. The general level of education of the population is fairly high, with 32% of the population between 25 and 64 years having attained tertiary education in 2007 (OECD, 2010). Unemployment decreased from the mid-1990s onwards, but has increased during the recent economic crisis. However, it is still relatively low compared with other European countries, except among some ethnic minority groups. The higher unemployment rate among ethnic minority groups may be changing, however, as more women, particularly from ethnic minority groups, are enrolling in tertiary education. The unemployment rate also varies considerably across different geographical areas, with some areas experiencing a significantly higher unemployment rate than the Denmark average. Denmark does not have an officially established

poverty threshold, but this issue is currently being debated both politically and in the media. Table 1.2 includes an indicator elaborated by Eurostat that operates with poverty as a relative rather than absolute measure.

Table 1.2
Macroeconomic indicators, selected years

	1980	1990	1995	2000	2005	2009
GDP (current million US\$)	69.709	135.838	181.984	160.083	257.676	309.596
GDP, PPP (current international million US\$)	51.112	94.895	120.251	153.872	179.888	203.265
GDP per capita (current international US\$)	13 607	26 428	34 809	29 993	47 577	55 992
GDP per capita, PPP (current international US\$)	9977	18 462	23 001	28 829	33 214	36 762
GDP annual growth (%)	-0.5	1.6	3.1	3.5	2.4	-4.9
Public expense (% of GDP)	-	-	41.5	34.8	32.7	36.7
Cash surplus/deficit (% of GDP)	-	-	-3.7	1.6	5.4	3.8
Tax revenue (% of GDP)	-	-	31.9	30.8	32.6	35.0
Central government debt (% of GDP)	-	-	74.0	53.3	36.7	32.9 ^a
Value added in industry (% of GDP)	27.22	25.62	25.08	26.81	25.51	22.46
Value added in agriculture (% of GDP)	4.88	4.00	3.47	2.61	1.43	0.92
Value added in services (% of GDP)	67.90	70.39	71.45	70.58	73.06	76.63
Labour force (total)	2 664 040	2 912 630	2 821 336	2 862 718	2 899 236	2 963 335 ^a
Unemployment, total (% of labour force)	-	8.30	7.00	4.50	4.80	3.30 ^a
Population at risk of poverty (%) ^b	-	-	-	-	17.2	17.4
Gini coefficient ^c	-	-	-	21.0 ^d	23.9	27.0
Real interest rate	8.15	10.82	8.96	4.93	-	-
Official exchange rate (US\$)	5.64	6.19	5.60	8.08	6.00	5.36

Source: World Bank, 2011.

Notes: ^a 2008; ^b Population at risk of poverty is defined by Eurostat (2011) as the number of people who have an equivalized disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalized disposable income (after social transfers); ^c The Gini coefficient is a measure of absolute income inequality. The coefficient is a number between 0 and 1, where 0 corresponds with perfect equality (where everyone has the same income) and 1 corresponds with perfect inequality (where one person has all the income, and everyone else has zero income); ^d 1999; PPP: purchasing power parity.

1.3 Political context

Denmark is a constitutional monarchy and a parliamentary democracy. The government is the executive body and the parliament is the legislative body. The Supreme Court is not politically appointed, as it is in some other countries. The minimum percentage of the votes necessary for a party to be represented in the parliament is 2% and, at the time of writing, there are nine political parties in the parliament, plus four representatives for Greenland and the Faroe Islands. The participation in national elections is generally high. The three largest parties are the Liberal Party, the Social Democrats and the Danish People's Party. There is a long tradition in Denmark of minority governments consisting

of two or three parties. The current government, which has been in power since autumn 2011, is made up of a coalition between the Social Democratic Party, the Social-Liberal Party and the Socialist People's Party and is supported by the Unity List. The government succeeded a coalition between the Liberal Party and the Conservative Party supported by the Danish People's Party, which was in power from 2001 to 2011.

The Danish Ministry of Health (*Sundhedsministeriet*) has over the last decade been combined with and/or separated from the Ministry of Interior (*Indenrigsministeriet*), and consequently has had several name changes. From 2001 to 2007, it was combined with the Ministry of Interior and was thus called Ministry of Interior and Health (*Indenrigs – og Sundhedsministeriet*). From 2007 to 2010, it was separated and named the Ministry of Health and Prevention (*Ministeriet for Sundhed og Forebyggelse*) but from 2010, it was again combined with the Ministry of Interior. From October 2011, it has been separated from the Ministry of Interior and is now called the Ministry of Health. Throughout this report, the generic name “Ministry of Health” will be used. The period-specific names will be used in the corresponding references.

The regional political level comprises five regions. One of the main responsibilities of this level of government is the health care sector. The local level comprises 98 municipalities. The municipalities are responsible for environment and technology, schools, social services, prevention and health promotion, as well as certain health care services. The regions and the municipalities have separate responsibilities and, in comparison with the state, the regions do not have any governing or regulatory role with regard to the municipalities.

Denmark has been a member of the European Union (EU), since 1973. It is also a member of the United Nations, the World Health Organization (WHO) and other United Nations organizations, the World Trade Organization, the OECD, the North Atlantic Treaty Organization and the Council of Europe.

Denmark participates in the following international conventions (among others): the Convention against Torture and Other Cruel, Inhuman and Degrading Treatment or Punishment; the International Covenant on Civil and Political Rights; the Convention on the Elimination of All Forms of Discrimination against Women; the International Convention on the Elimination of All Forms of Racial Discrimination; the International Covenant on Economic, Social and Cultural Rights; the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families; and the Convention

on the Rights of the Child, with the Optional Protocols on the involvement of children in armed conflict and on the sale of children, child prostitution and child pornography.

In the 2010 Corruption Perceptions Index assessment carried out by Transparency International, Denmark achieved the highest ranking, 9.3, tied with New Zealand and Singapore, indicating that corruption is perceived as very low in Denmark (Transparency International, 2010).

1.4 Health status

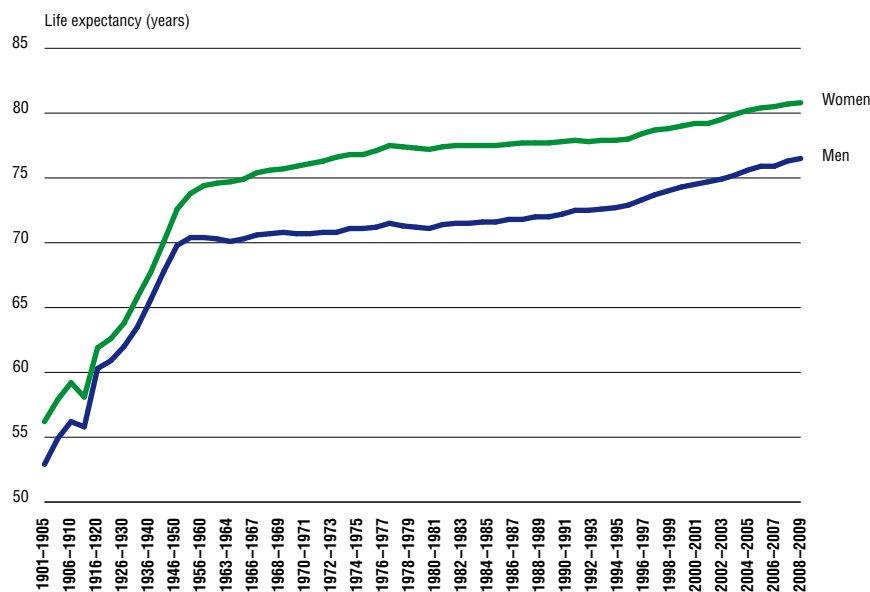
From an international perspective, health status in Denmark can generally be characterized as good in terms of morbidity and mortality indicators. However, over recent decades, the improvements in population health status have progressed at a slower rate than in other European countries such as the other Nordic countries. Nevertheless, life expectancy trends show that there was a marked improvement in the population's health status in the latter half of the 1990s.

Life expectancy

As Fig. 1.2 and Table 1.3 show, average life expectancy in Denmark increased substantially during the 20th century, albeit with somewhat different developments for men and women. Male life expectancy remained almost stagnant from the early 1950s, only beginning to increase again during the 1990s. Female life expectancy, however, rose rapidly until the 1970s, with smaller increases from then on. In 1970, Denmark had the highest life expectancy after Sweden and Norway within the OECD countries. However, from then to 1995, overall average life expectancy in Denmark increased at a slower pace than in other western European countries. From 1995 onwards, average life expectancy increased significantly and at a pace similar to many other western European countries. Since 2001, average life expectancy has risen by 1.8 years. This increase is equivalent to the average increase in life expectancy in the EU15 and greater than the OECD average. However, average life expectancy is still lower than in most of the countries to which Denmark is usually compared. For women, average life expectancy was 81.0 years in 2008. This is almost a year less than the OECD average and almost two years less than the EU15 average. For men, average life expectancy of 76.5 years is equivalent to that of Finland but otherwise is significantly lower than the other countries to which Denmark is usually compared (National Board of Health, 2010a).

Fig. 1.2

Average life expectancy (in years) for men and women, 1901–2009



Source: Statistic Denmark, 2011.

Table 1.3

Mortality and health indicators, selected years

	1980	1990	1995	2000	2005	2008
Life expectancy at birth (years)						
Total	74.10	74.81	75.21	76.75	78.17	78.70
Male	71.17	72.02	72.72	74.50	75.96	76.52
Female	77.18	77.73	77.83	79.12	80.50	80.99
Total adult mortality rate						
Male (per 1000 men)	166.60	155.27	142.26	125.85	111.16	115.81 ^a
Female (per 1000 woman)	105.83	101.15	93.41	78.83	69.29	69.43 ^a

Source: World Bank, 2011.

Note: ^a 2007.

There are a number of reasons for the less favourable health developments in Denmark. An extensive survey in 2000 showed that middle-aged women in particular had higher mortality rates than in other EU countries. The 2000 survey as well as later studies (Kjøller, Juel & Kamper-Jørgensen, 2007; National Board of Health, 2010a, 2011c) have also highlighted health risk factors, which will be examined in more detail below and in section 1.4.1.

Mortality and morbidity

The three main causes of death in Denmark in 2009 were cancer, heart disease and other circulatory diseases (National Board of Health, 2010b). Within all three groups, there has been a fall in incidence, however, since 1995. For heart disease, Denmark has had the highest average fall in mortality for the period 2001–2006 compared with the Nordic countries Sweden and Norway. For cancer, however, the incidence rate is still higher than for example, the OECD and EU15 averages, (National Board of Health, 2010a).

Most of the decline in Danish mortality rates during the 20th century was among infants, children and young people. Infant mortality rates are now among the lowest in Europe. While life expectancy for a newborn boy increased by 20 years over the last century, it rose by four years for a man aged 50 years or older. Declining mortality rates among children, young and middle-aged people largely reflect a decline in infectious diseases, including tuberculosis. In the 1930s, 60% of those dying from tuberculosis were aged between 15 and 44 years, thus belonging to the workforce. During the 1960s, people aged over 65 mainly died from cancer and cardiovascular diseases, which is still the case today. Causes of death have also differed according to gender, with mortality rates from cardiovascular diseases increasing among men until the mid-1960s and decreasing among women since the early 1950s.

During the late 1980s, Denmark had a lower mortality from cardiovascular diseases than Norway and Sweden, although the rate was still high compared with the rest of the EU. Some lifestyle factors with detrimental health effects (such as smoking, high calorie intake and alcohol intake) have been relatively high in Denmark compared with other Scandinavian countries. Taken together, however, these lifestyle factors still do not sufficiently explain Denmark's lower level of longevity.

Since the mid-1990s, there has been a general fall in deaths from many causes in Denmark, although some death rates have remained quite stable or shown increases (Table 1.4). There has been a marked decrease in the number of people dying from infection with the human immunodeficiency virus (HIV) and the acquired immunodeficiency syndrome (AIDS), which reflects the appearance of more effective treatments in the late 1990s. The fall in deaths attributable to cervical cancer also showed a pronounced fall between 2005 and 2009; this can be ascribed to efforts in screening and treatment within this area (see section 1.4.3). The marked increase in deaths linked to mental disorders

can probably be partly explained by changes in how suicides are registered as deaths, which are now most often considered linked to mental disorders; however, the number of deaths from suicide have not gone down accordingly.

Generally, an increase in inequality concerning average life expectancy in Denmark can be seen, although life expectancy has increased for all social groups. People with relatively few years of education and relatively low income have shorter life expectancies than people with higher education and relatively higher incomes. Moreover, the difference has been increasing over the last 20 years. Section 1.4.2 elaborates on these findings.

Table 1.4
Main causes of death, selected years

Causes of death (ICD-10 classification)	1995	1999	2001	2005 ^a	2009 ^{a,b}
Communicable diseases					
All infectious and parasitic diseases (A00–B99)	637	351	388	724	851
Tuberculosis (A15–A19)	23	23	23	19	26
Sexually transmitted diseases (A50–A64)	2	1	1	–	–
HIV/AIDS (B20–B24)	255	38	34	39	31
Noncommunicable diseases					
Circulatory diseases (I00–I99)	24 926	21 274	20 873	17 638	15 191
Malignant neoplasms (C00–C97)	15 701	15 184	15 451	15 281	15 450
Colon cancer (C18)	1351	1425	1400	1433	1444
Cancer of larynx, trachea, bronchus and lung (C32–C34)	3634	3394	3537	3697	3817
Breast cancer (C50)	1481	1365	1349	1267	1254
Cervical cancer (C53)	177	176	148	135	93
Diabetes (E10–E14)	795	1195	1373	1334	1380
Mental and behavioural disorders (F00–F99)	935	1397	1819	2539	3189
Ischaemic heart disease (I20–I25)	12 678	10 029	9266	6707	5650
Cerebrovascular diseases (I60–I69)	5543	4998	5070	4767	3940
Digestive diseases (K00–K93)	2828	3368	2800	2863	2832
External causes					
Transport accidents (V01–V99)	639	541	468	361	329
Suicide (X60–X84)	922	763	727	629	639
Signs, symptoms and other ill-defined conditions (R00–R53, R55–R99)	3765	1883	1934	978	1566

Sources: WHO, 2011; ^aNational Board of Health, unpublished data 2011.

Notes: ^bData corresponding to 2009 have been corrected by the National Board of Health by adding 2.44% to the initially available raw data; ICD-10: WHO Classification of Mental and Behavioural Disorders.

Morbidity rates were reported by the National Institute of Public Health (*Statens Institut for Folkesundhed*) in 1987, 1994, 2000 and 2005 (a 2010 survey is under production at the time of writing). The Danish Health and Morbidity Survey (*Sundheds – og sygelighedsundersøgelserne* (SUSY)) in 2005 was based on a representative sample of approximately 22 000 people over the age of 16. The survey showed a rise in the rate of self-reported long-standing illnesses

and chronic disease within the population in the period between 1987 and 2000, with a slight decrease thereafter. In 2005, 39.8% of the adult population reported having at least one long-standing disease, the share being a bit higher for women (41.7%) than for men (37.8%), and increasing with age. The most common long-standing diseases in 2005 were musculoskeletal disease, cardiovascular diseases, respiratory disease and diseases of the nervous system and sensory organs (Ekholm et al., 2006). As many as 79% of those surveyed in the 2005 SUSY considered their individual health status to be “good” or “very good” (the top two grades in a five-grade scale) (Ekholm et al., 2006). The earlier surveys show a similar trend, with a positive health response ranging from 78% to 79%. These figures were higher in Denmark than in most other EU countries. In a recent national survey conducted in 2010 (the National Health Profile) and based on 180 000 participants, 85% of individuals considered their health to be “good”, “very good” or “excellent” (the three highest scores in a five-grade scale) (National Board of Health, 2011c). A slightly greater share of men than women considered their health to be “good”, “very good” or “excellent”. Self-rated health was also found to be correlated with educational level and employment status. According to the SUSY, almost 40% of Danes reported that they suffered from a long-standing illness in 2000, compared with 33% in 1987 (not adjusted for age composition). In 2005, approximately 14% suffered to such an extent that the illness seriously restricted their daily activity. Approximately 52% reported experiencing good emotional well-being during the last four weeks prior to the survey (Ekholm et al., 2006).

The effects of policy efforts on the causes of death are difficult to establish. As discussed above and as seen in Table 1.4, mortality numbers have fallen over time for a number of diseases, and a number of policy efforts have been initiated during that same time period, but how and whether they are correlated cannot be determined definitively. For a number of years, however, different policy efforts ranging from public campaigns to legislation have tried to alter the consumption of tobacco; during that same time period, a fall in tobacco consumption has been observed (see the discussion under tobacco use, below). The National Institute of Public Health in collaboration with the National Board of Health (*Sundhedsstyrelsen*) evaluated the Law on Smoke-free Environments of 2007, which banned smoking in public areas, and found that the number of daily smokers as well as the amount of passive smoking had fallen since the law was established in 2007 (Aarestrup, Due & Juel, 2009). Policy efforts aimed directly at mortality rates include the so-called “heart packages” and “cancer packages”, which are clinical pathways for a number of heart and cancer

diseases (see section 6.1). Clinical pathways may shorten diagnostic procedures in some instances (Andersen et al., 2011) but it remains to be seen what the direct effect will be on mortality rates.

Since the 2007 reform (see section 6.1), municipalities have been obligated to pay for their inhabitants' use of the regional health care facilities (such as hospitals). This was seen as an incentive for the municipalities to initiate effective health promotion and primary prevention – an area they were made responsible for in the same reform. The effects are difficult to determine, however. Generally, the tendency has been to focus more on advanced treatment and clinical pathways and not so much on health promotion and primary prevention to improve mortality rates. Efforts in screening have also been more hesitant, and screening has been much debated in Denmark based on the potential risks, adverse effects, and patient anxiety, as well as the lack of documentation of health effects. Recently, there have been some cutbacks, for example in school physicians. Section 7.4 contains more information on improvements in health and health care that may be attributed to efforts in the health care system.¹

Generally, improvements are observed in the mortality rates for children, as all rates have fallen in the period from 1980 to 2009 (Table 1.5) and are now very low. A significant decrease was seen in the rates of sexually transmitted diseases from 1980 to 2009, with the most marked reduction taking place between 1980 and 1990, which corresponds to the time of the HIV epidemic. However, chlamydial infection continues to be a problem in Denmark. The annual number of cases has been rising since the mid-1990s, from 13 038 in 1995 to 23 854 in 2005 and 29 825 in 2009 (National Serum Institute, 2011).

The abortion rate fell steadily from the 1970s (highest in 1975 at 23.7 per 1000 women) until 2002 (abortion rate, 12); thereafter a small increase can be observed. In 2009, there was a general abortion rate of 12.9. The abortion rate is greater among adolescents and was 16.4 in 2009 (Sex and Society, 2011).

1.4.1 Factors affecting health status

Several factors affect the health status of the Danish population. Among these are diet and obesity, tobacco use, alcohol consumption and a lack of physical activity.

¹ Data on the population healthy life expectancy, disability-adjusted life expectancy and healthy life years are not provided in this report, as data from Denmark are not reliable and cannot be compared with data from other countries. See Ekholm et al. (2006) for a full explanation regarding missing data reliability.

Table 1.5

Maternal and child health indicators, selected years

	1980	1990	1995	2000	2005	2009
Termination of pregnancy rate (per 1000 live births) ^a	407.27	324.58	249.19	233.51	236.19	–
Perinatal mortality rate (per 1000 live births) ^a	8.9	8.19	5.91	4.82	3.33	2.18
Neonatal mortality rate (per 1000 live births) ^a	5.5	4.56	3.74	3.27 ^b	3.41	–
Postneonatal mortality rate (per 1000 live births) ^a	2.9	2.79	1.32	1.36 ^b	1.03	–
Infant mortality rate (per 1000 live births)	8	8	5	5	4	3
Under-five mortality rate (per 1000 live births)	10	9	6	6	5	4
Maternal mortality rate (per 100 000 live births)	–	7	11	5	4	–
Syphilis incidence rate (per 100 000 population)	10.6	1.46	0.8	1.01	2.16	2.57 ^c
Gonococcal infection incidence rate (per 100 000 population)	215.5	38.7	5.55	6.28	8.2	7.21 ^c

Sources: World Bank, 2011; ^aWHO Regional Office for Europe, 2011.Notes: ^b2001; ^c2008.

Diet and obesity

A rise in the proportion of obese (body mass index (BMI) ≥ 30) Danish citizens has taken place over recent years, as it has in most European countries. From 1987 to 2005, the proportion almost doubled from 5.5% of the population to 11.4% (Ekholm et al., 2006). In 2005, 11.0% of men and 11.8% of women in Denmark were obese. These numbers are smaller than the EU15 and OECD averages (National Board of Health, 2010a). It has been shown that the level of education is associated with obesity. Those with a lower level of education are associated with a higher incidence of being severely overweight. Those who have fewer than 10 years of education are more than twice as likely to be severely overweight than those with a minimum of 15 years of education (6.4% and 16.9%, respectively) (Ekholm et al., 2006). The share of people living in Denmark who are moderately overweight (BMI, 25–30) has also increased, with approximately 41% of men and 26% of women characterized as overweight in 2005. By comparison, only 35% of men and 17% of women were overweight in 1987 (Ekholm et al., 2006). A study conducted in Central Denmark Region in 2010 has shown an increase in the proportion of the population being overweight in the period 2006 to 2010 (Larsen et al., 2011). Of the people interviewed in this region, 52% were overweight, distributed as 16% obese and 37% moderately overweight. According to the findings of this study, being overweight is more prevalent among men, people with lower educational level and the unemployed. The National Health Profile 2010 based on 180 000 participants found similar correlations on a national basis: 46.7% of respondents reported a BMI greater than 25 and 13.4% a BMI greater than 30. This excess weight was significantly more common among men (54.2%) than women (39.4%) (National Board of Health, 2011c).

The 2005 SUSY found differences in diet between age groups and between genders (Ekholm et al., 2006). More women than men have a daily consumption of steamed vegetables, salad/raw vegetables and fruit, and more men than women include potatoes in their diet. Daily intake of salad is most common within the age groups 16–24 and 45–64. There has been a significant increase in the proportion of people who have a daily intake of salad in the period 2000 to 2005 across both genders and all age groups. The consumption of fish at least once a week is more equally distributed between the sexes, at an average of 44.4% (Ekholm et al., 2006). Between 1955 and 1999, the amount of protein in the average Danish diet generally increased, and the consumption of carbohydrates and dietary fibre has decreased. The dietary fat content increased from 36% in 1955 to 43% in 1989 and then decreased to 38% in 1995. The dietary fat content is, however, still too high according to national dietary guidelines (Kjøller & Rasmussen, 2002). The National Health Profile of 2010 surveyed participants about their diet habits in regard to fruits, vegetables, fish and dietary fat and composed a “diet score” on the basis of these diet habits. This score enabled people’s dietary habits to be grouped into three categories: “healthy”, “averagely healthy” and “unhealthy”. According to their findings and their categories, 13.3% of the participants had an unhealthy diet. The proportion among men (18%) was higher than among women (8.7%) and was also found to be correlated with educational level and employment status (National Board of Health, 2011c).

Tobacco use

Tobacco use in Denmark has been found to be a contributing factor to approximately 14 000 deaths a year, corresponding to every fourth death. Approximately 2000 deaths have been found to be caused by passive smoking (Kjøller, Juel & Kamper-Jørgensen, 2007). Around 4500 people die from smoking-related cancer each year. This corresponds to approximately one-third of all cancer deaths in Denmark per year (Peto et al., 2006). From the 1950s, a continuing decrease in the percentage of daily smokers has been observed, apart from a rise from the 1950s to the 1970s in the share of daily smokers among women (Rambøll, 2004). From the mid-1990s, the number of daily smokers in the Danish population has decreased substantially, by almost half a million. In 2000, approximately 33% were smokers, compared with 24% in 2010. In 2010, 33% of the Danish population was ex-smokers – this is the highest number of former daily smokers ever recorded in Denmark (National Board of Health, 2011b).

During the period 2001 to 2008, the proportion of daily smokers decreased at an average of 3.5% per year and in 2010 it was approximately 20% (National Board of Health, 2010a, 2011c). This proportion is lower than the OECD and EU15 averages (National Board of Health, 2010a). The proportion of heavy smokers (15 or more cigarettes a day) was 10.9% in 2010 and correlated with educational level and employment status, with a higher proportion of heavy smokers among people with no education and among people without employment; 71.2% of smokers have stated that they wish to quit smoking (National Board of Health, 2011c).

Alcohol consumption

Statements based on sales have shown that the Danish population's average alcohol consumption increased rapidly through the 1960s. From the middle of the 1970s, the increase slowed, and since then the average alcohol consumption has stabilized. Since 1975, Danish men and women aged 14 and above drink, on average, 12 litres of pure alcohol per person per year. In 1999, the average intake was 11.3 litres of pure alcohol per person per year (Kjøller & Rasmussen, 2002). In 2008, the average intake decreased to 10.9 litres of pure alcohol per person per year (National Board of Health, 2010a).

A large proportion of the Danish population drinks alcohol on a regular basis, and the weekly alcohol consumption differs between women and men. In a survey conducted by the National Institute of Public Health for the year 2008, 89.2% of men and 80.6% of women reported drinking alcohol within the previous week (National Institute of Public Health, 2009). In the 2010 National Health Profile survey, the recommended maximum level of alcohol units set by the National Board of Health in 2008 (21 units per week for men and 14 for women) was exceeded by 10.6% of participants. The percentage was higher for men (13.3%) than for women (8%). Compared with other age groups, a relatively large percentage of both men and women in the 16–24 years age group have an alcohol intake above the recommended maximum level (National Board of Health, 2011c).

Physical activity

Among the Danish population, 26.6% reported being physically active at a moderate to hard level at least four hours a week in 2005. The proportion is larger among men (32.9%) than it is among women (20.5%). An increase in the percentage has taken place since 1987, where 20.7% engaged in moderate to hard physical activity weekly. Older age as well as educational level have an impact on the amount of physical activity (Ekholm et al., 2006).

The 2010 National Health Profile found that 28.3% of individuals reported engaging in moderate to hard physical activity in their spare time during the previous year and 15.9% engaging in sedentary activities. Among those reporting to be engaged mostly in sedentary activities in their spare time, 68.8% reported wanting to be more physically active. A higher percentage of men engaged in moderate to hard physical activity (35.2%) than women (21.6%). Engaging in moderate to hard physical activity was also found to be associated with relatively higher educational level (National Board of Health, 2011c).

1.4.2 Inequalities in health

Socioeconomic inequalities in health have gradually increased since the 1970s in Denmark, as is the case in many other European countries, despite Denmark's relatively low level of income inequality (Table 1.2). Health inequalities are expressed as inequalities in both mortality and morbidity according to a recent review of socioeconomic inequalities in Denmark commissioned by the National Board of Health (Diderichsen, Andersen & Manuel, 2011). There is evidence of socioeconomic inequalities in health at the start of a person's life, as infant mortality rate and the risk of low birth weight are correlated with the mother's educational level. Similarly, the difference between the expected remaining life years for a 30-year-old man belonging to the top quartile according to educational level and one belonging to the bottom quartile increased from 2 to 3.8 years between 1987 and 2009. Similarly for women, the difference has increased from 1.2 to 2.5 years during the same time period. An analysis of developments within mortality rates shows that groups with relatively high educational level have had continually improving mortality rates throughout the 1990s and 2000s, but there has been a certain degree of stagnation within the rates for men and women with no vocational training in the 2000s. Inequalities in life expectancy can also be found if income is considered instead of educational level. The difference in average life expectancy between the highest and lowest income quartiles increased from 5.5 years to 9.9 years for men and from 5.3 years to 6.2 years for women during the period 1987 to 2009 (Diderichsen, Andersen & Manuel, 2011). A similar trend is seen when it comes to morbidity. People with relatively lower educational level can, therefore, expect to have fewer remaining life years in good health than people with a relatively higher educational level. If socioeconomic inequalities in morbidity burden in terms of life years lost through early death or prolonged serious disease are calculated as differences between groups with different educational level, five diseases are responsible for two-thirds of the socioeconomic inequalities in morbidity: chronic obstructive pulmonary disease (COPD), heart disease, dementia, lung

cancer and depression. The consequences of having a disease are also more severe among people with lower educational level. This can be seen when considering outcomes such as survival rates after heart disease and cancer (Diderichsen, Andersen & Manuel, 2011).

As the previous sections on health risk factors have shown, a healthy lifestyle is also more common among those with a relatively higher educational level. However, this is not the only explanation for the existence of socioeconomic inequalities in health. A comprehensive national study on mortality and life expectancy between 1987 and 1998 found that Danes with no vocational training had a mortality rate that was almost 80% higher than that of Danes with a higher level of education. Even when smoking, drinking and lack of exercise were adjusted for, the mortality rate of those with no vocational training was still 50% higher. This was found to be largely a result of less favourable living conditions, unhealthier work environments and a much higher mortality rate for permanently unemployed people (Juel, 1999). The national review on socioeconomic inequalities in health from 2011 highlights similar determinants (Diderichsen, Andersen & Manuel, 2011).

Dental health

In Denmark, a registry of dental health among children has been in existence since 1972. No similar registry exists for the adult population, which means that information on adult dental health is based on surveys and studies. The number of decayed, missing and filled teeth at the age of 12 years has decreased steadily since 1975. In 2009, the share of children of 12 years of age with decayed, missing and filled teeth was 0.64%, compared with 5.2% in 1975, 2.1% in 1985 and 1% in 2000 (WHO Regional Office for Europe, 2011). The relatively small percentage of children with decayed, missing and filled teeth, compared with international figures, is partly explained by free access to dental care for those aged 18 years or younger (either at a municipal dental health service or at a private practice dentist on a fee-for-service basis, paid by the municipalities). The effort to promote health education has also strengthened the daily use of a toothbrush and fluoride toothpaste in children. Surveys have shown that good oral hygiene habits in childhood are retained in adolescence (Lissau, Holst & Friis-Hasche, 1990). For more information on dental health care see section 5.12.

Studies conducted since the 1970s have shown a relatively high incidence of dental disease among adults. A nationwide study performed in 2001 showed that almost all adults experience caries or dental inflammation at some point in their lives. Regional differences exist in dental health as well as socioeconomic inequalities (Kjøller, Juel & Kamper-Jørgensen, 2007).

1.4.3 National vaccination programmes and levels of immunization

General vaccination programmes are carried out by GPs and financed by the regions on a fee-for-service basis. Primary vaccinations for children are given in conjunction with health examinations, which are offered as part of the prevention programme for children. These vaccinations are financed by the regions and are free of charge for the children in question. The Danish vaccination programme for children includes vaccinations against diphtheria; tetanus; pertussis; polio; *Haemophilus influenzae* type b (Hib) infection; pneumococcal disease; measles, mumps, rubella (MMR); and cervical cancer caused by human papilloma virus. Coverage for diphtheria, tetanus, pertussis, polio and Hib infection is relatively high in Denmark but has not achieved the 95% objective. Similarly, there have been problems with coverage for MMR vaccination arising from parents' doubts about adverse effects and complications with the vaccine. Coverage for MMR consequently continues to be less than 90%, if coverage is considered as vaccination with both MMR first and second vaccinations (National Serum Institute, 2010). The vaccination programme for children was established in 1987 but has been changed and expanded since. The latest addition to the programme is the vaccination against human papilloma virus, which has been offered free of charge to girls at the age of 12 since 2008–2009. From 2012, women up to the age of 26 will be offered the vaccination free of charge.

2. Organization and governance

The health system can be characterized as fairly decentralized, with responsibility for primary and secondary care located at local levels. However, a process of (re)centralization has been taking place, which lowered the number of regions from 14 to 5 and of municipalities from 275 to 98. Access to a wide range of health services is largely free of charge for all residents. The health system is organized according to three administrative levels: state, region and local. Planning and regulation take place at both state and local level. The state holds the overall regulatory and supervisory functions as well as fiscal functions, but it is also increasingly taking responsibility for more specific planning activities such as quality monitoring and planning of the distribution of medical specialties at the hospital level. The five regions are, among other things, responsible for hospitals as well as for self-employed health care professionals. The municipalities are responsible for disease prevention and health promotion. In recent years, the development of a more coordinated health system has attracted considerable attention. Regulation takes place through, among other things, national and regional guidelines, licensing systems for health professionals and national quality monitoring systems. A series of laws and initiatives has been introduced since the 1990s to strengthen patient rights, including national laws on patient choice as well as the establishment of an independent governmental institution responsible for complaints procedures.

2.1 Overview of the health system

The Danish health system can be characterized as fairly decentralized, because responsibility for primary and secondary health care lies with the regions and municipalities, as illustrated in Fig. 2.1. The Danish health system moved to its decentralized form in the 1970s and 1980s. However, recent reforms have recentralized the system in some respects as the state now has a higher

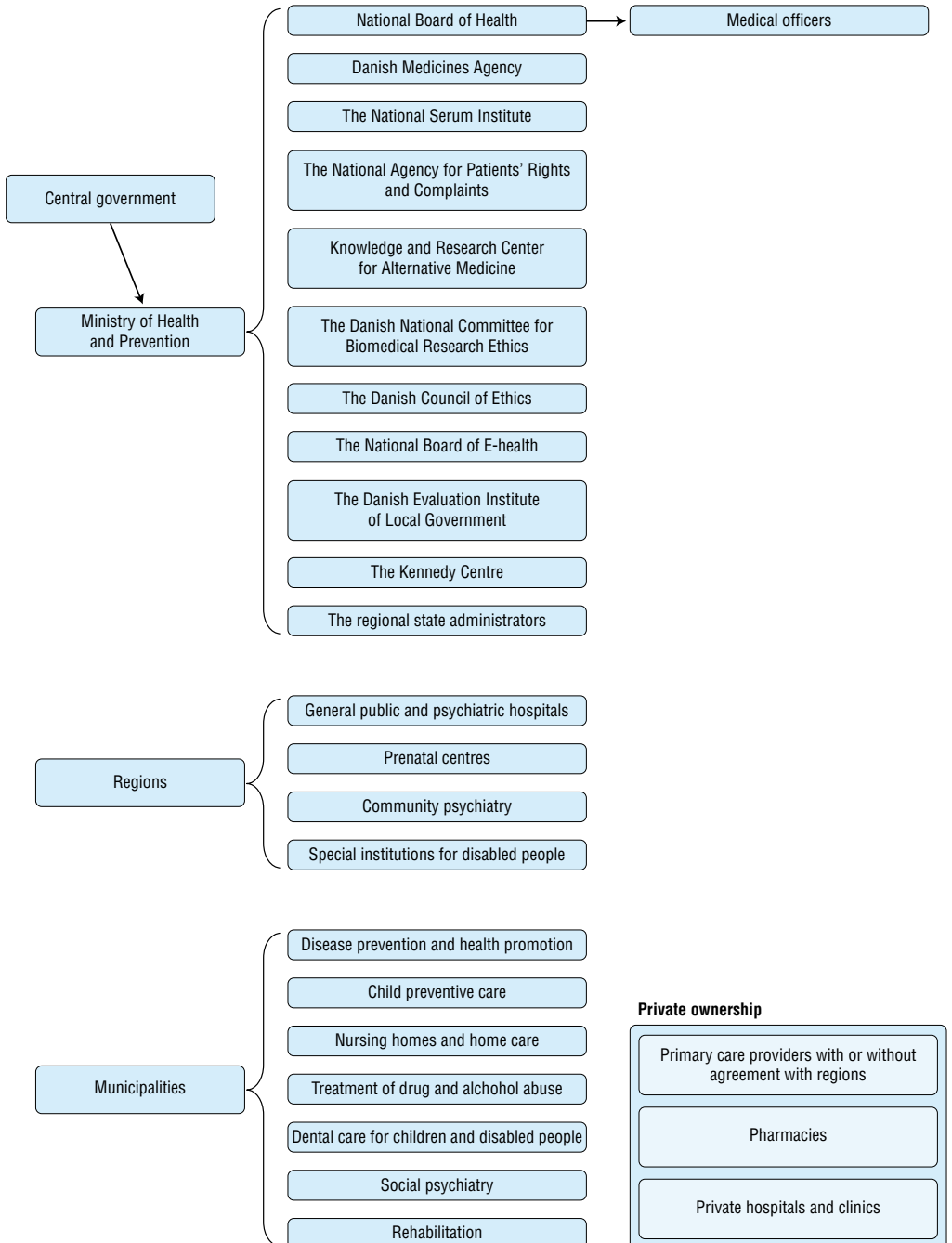
regulatory and governing role than earlier. At the state level, the Ministry of Health¹ has a governing role over regional and municipal organization and management of health care, as well as the supervision and partial financing of the municipalities and regions. In the field of health care, the Ministry is in charge of the administrative functions that are related to the organization of hospitals, community psychiatry and self-employed health professionals with agreements with the region, as well as the market authorization of pharmaceuticals and supervision of the pharmacy sector. Prevention and health promotion are also part of the Ministry's remit. The regions own and run hospitals and partly or fully finance private practitioners such as GPs, specialists, chiropractors and physiotherapists, based on transfers from the state and municipalities (see also Chapter 3). They also provide reimbursement for pharmaceutical care. At the local level, the municipalities are responsible for disease prevention, health promotion and rehabilitation outside hospitals, as well as other areas of health care such as health visitors, school health services, home care and nursing homes.

2.2 Historical background

In Denmark, there is a long tradition of public welfare (Vallgård, 1989, 1999a, 1999b) and decentralized management of welfare tasks. Before the 18th century, landlords and artisan masters were responsible for providing care for their subordinates when they were ill or in need of help in other respects. However, this did not mean that help was always given. Gradually, changes in societal behaviour occurred as a result of the dissolution of feudal social relations and the increasing power of the central state. A new political ideology, namely cameralism, which stressed the importance of a big and industrious population, gained ground in the 18th century and created an impetus towards improving the health of the population. Most of the tasks aimed at health care and relief for the poor were taken over or established in the 18th and 19th centuries by towns and counties, not the central state. The central state laid down the guiding principles, but most welfare measures were carried out by the local authorities, as is still the case. The Danish health care sector was financed mainly by taxes, which were raised by parishes, towns and counties and governed by the same authorities. Philanthropy and charity, organized through the church, only played a relatively minor role in welfare provision in Denmark and the other Nordic

¹ The Ministry of Health (in generic terms) has been organized in different ways since its establishment in 1987, when it was separated from the Ministry of Interior. In 2001, it was merged with the Ministry of Interior to form the Ministry of Interior and Health. In 2007, it was separated from the Ministry of Interior and named the Ministry of Health and Prevention, only to be merged with the Ministry of Interior again in 2010. The varying separations and mergings may signal varying focus on the importance of health.

Fig. 2.1
Overview of the health system



countries since the Reformation in 1536, compared with many other European countries. The fact that the public authorities also played the role of benefactors is probably one of the reasons why people's attitudes towards the state are much more positive in Scandinavia than in most other western European societies. The roots of the Danish welfare state date back to the 18th century, long before the establishment of the Social Democrats and other pro-welfare state parties and the rise of organized philanthropy.

With the introduction of public relief for the poor at the end of the 18th century, limiting the number of citizens entitled to help because of poor health became an issue. Improving the population's health was considered both to improve the national economy in general and to reduce public spending. A number of measures were implemented to improve the population's health, such as the education of midwives, inoculation for smallpox, the improved education of physicians and surgeons, and the undertaking of public health and the treatment of poor people by state-employed district doctors. The first hospitals were built by counties and towns. The hospitals were very small and their purpose was to provide the sick (mainly patients with venereal and other contagious diseases) with care and shelter. An exception was the state hospital, Frederiks Hospital in Copenhagen (300 beds), where patients with contagious diseases were not admitted. It was established in 1757 as a teaching hospital for surgeons and physicians.

During the 19th century, the number of private medical practitioners increased. Everyone who could afford it was treated by doctors in their homes, and even extensive surgery was performed in private homes. Trained midwives were employed all over the country and they helped the poor, free of charge. Public health measures such as improving sewerage and water supply, housing improvements and control of food and working conditions were taken. Public health boards were set up from the middle of the 19th century. From that point on, the state regulation of health care increased and, in 1803, the predecessor of the National Board of Health was established.

From 1838, all Danish doctors were educated in both surgery and medicine at the University of Copenhagen, which previously had been separate entities. Therefore, all doctors were trained in the same way and by the same teachers, creating a unified and homogeneous profession. In 1936, a medical school was opened in Århus; in 1966, another one was established in Odense and in 2010, the University of Ålborg started teaching medical students. In 1857, the Danish Medical Association (*Lægeforeningen*) was founded, and the proportion of doctors enrolled soon increased. Approximately 60% of medical doctors were

members of the Association in 1900 and practically all doctors were members by 1920. Since GPs constituted the largest section of the profession until the late 1930s, they also made up the largest proportion of the Association. However, the influence of the GPs in the Association has been smaller than their numbers would indicate.

Public hospitals were built during the 19th century in almost all Danish towns by the towns and counties themselves and financed primarily by property taxes and, to a lesser extent, charity and user charges (which were sometimes paid by the patients themselves but more often by their employers or the authorities for relief for the poor). Originally, hospitals were intended for and used by the poor, but this gradually changed at the end of the 19th century. While the lower social classes still constitute the majority of hospital patients, this is mainly because of the greater burden of poorer health among the lower social classes (Steensen & Juel, 1990). Hospitals aimed at a specific disease or group of diseases have been rare in Denmark, with the exception of psychiatric, fever and tuberculosis hospitals. From the 1930s onwards, the state has subsidized hospitals to an increasing degree, but county councils continued to be responsible for hospitals. The state has exerted only little formal influence in this area. Of the private hospitals, a few Catholic hospitals existed on a non-profit-making basis; however, they have been gradually taken over by the counties, as have the very few hospitals owned and managed by the state, including Rigshospitalet in Copenhagen.

Health insurance developed during the second half of the 19th century. Health insurance organizations were created by a combination of artisans and other groups. The artisans organized their own mutual assistance funds as a continuation of guild funds, which had also been established by members. Other groups organized health insurance funds for poorer people, established either by themselves or by those who were financially better off. Philanthropic activities were motivated by the desire to prevent illness and thereby prevent labourers and crofters becoming dependent on relief for the poor. State subsidies were given to insurance schemes from 1892. The late 19th century in Denmark was characterized by the establishment of associations: workers organizing themselves into labour unions and the Social Democratic Party, farmers establishing cooperatives, and smallholders and day labourers organizing themselves into groups.

Health insurance schemes covered the insured and their children. Married women were independent contributing members from the start. Members of the insurance schemes were initially required to pay half of their hospital

user charges; however, this payment was later reimbursed by the insurance scheme. Accordingly, for insurance scheme members, hospital admissions were free at the point of use. User charges were only a small part of hospital expenditure, with the rest financed by taxes. The insurance schemes also paid for care provided by GPs, which is one of the reasons for the high number and equal distribution of GPs in Denmark. Historically, there were more doctors in Denmark per 1000 inhabitants than in any other Scandinavian country. In fact, in 1930, there were twice as many doctors in Denmark than in Sweden. It was not until the late 1960s and 1970s that Norway and Sweden reached the Danish level. Initially, membership of the health insurance schemes was taken up exclusively by the lower income classes. In 1900, these schemes only covered 20% of the population; by 1925 they covered 42%. In 1973, however, when the insurance schemes were abolished, coverage was 90%. Contributions to the schemes could be considered an earmarked tax. Social insurance schemes of this type did not exist in other public service areas, such as social security and pensions, as they did in Germany. From 1973 onwards, health care was financed by taxes, with the exception of those services or products paid for by the patients themselves; these included dentist bills (in part), optical lenses and a share of the costs of prescription drugs.

During the 1930s and 1940s – partly in reaction to the falling birth rate – free health examinations were introduced for pregnant women, infants and preschool children. School medical services, which had previously only existed in cities and towns, were implemented throughout the country. These services have undergone revision in recent years and have received less focus. General health examinations have not been introduced for other groups; however, some specific examinations, such as systematic screening for cervical and breast cancer, are offered in all regions.

Danish welfare politics in general, and health care policies in particular, have been characterized by a consensus regarding the basic institutional structure (Vallgård, 1999a). Since the 1940s, there has been agreement among the political parties that access to health care should be independent of where one lives and of economic resources. From 1945 to 1970, health care policy was characterized by a strong medical influence and consensus. Health care matters were discussed in technical rather than political terms. Since the 1980s, however, controversies have been much more frequent, as in several other countries over this period. Differences between the political parties also became more visible in this area, as they began to include specific health policies in their programmes. Hospital management has also changed in recent years following the appointment of more professional managers,

such as economists, lawyers, political scientists and other university-educated administrators. This has affected hospital power structures and it is claimed by doctors to have reduced the influence of clinical practitioners. Economic rationale plays a more prominent role in the system today, both as a result of the focus on cost-containment and the introduction of new performance measures. The 1970 reform of the political and administrative structure reduced the number of counties and municipalities. It also placed the responsibility for the largest part of the health care sector on the counties, whereas previously this responsibility had been divided between the towns, counties, state and the health insurance schemes. In 2007, a reform was implemented reducing the number of municipalities to 98 and establishing five regions with the responsibility for providing hospital and outpatient care for citizens. The municipalities received more responsibility for rehabilitation, disease prevention and health promotion, as well as for the care and treatment of disabled people, and alcohol and drug users. Municipalities contribute to the regions through payments both per capita and by activity, the latter according to citizens' utilization of the regional health services (see Chapter 6 for more on the 2007 reform). The Acts on health care mainly set out the general legislative framework, letting the local and regional authorities decide on matters relating to actual performance, but the Acts also created a certain degree of recentralization. Ensuring local self-governance has for a long time, and in many different respects, been given a higher priority in formal legislation than ensuring an equal level of quality and provision of health care. This, however, changed with the 2007 reform, which holds equal standards of care throughout the country as one of its main priorities. Further recent initiatives such as the Danish Healthcare Quality Programme (*Danske Kvalitetsmodel* (DDKM)), which is now being rolled out to the entire Danish health system, the use of clinical guidelines and the use of clinical patient pathways have further tried to standardize the delivery of health care.

In the 1970s, public awareness of rising public expenditures began to increase (Vallgård, 1992). Public expenditure as a share of gross national product rose from 28% to 42% between 1960 and 1971, a period when general economic growth was rapid. Concern about the increase in public expenditure promoted a reorientation of health care politics, where more attention was subsequently given to primary health care, disease prevention and health promotion. The effect of health care on mortality was also questioned. From the middle of the 1970s, cost-containment became a political issue and the increase in health care expenditure slowed. New management methods were introduced in hospitals and, with them, more nonmedically trained managers were hired, which reduced the influence of the increasing number of doctors to

some extent. From the 1980s, the politics of care for the diseased and disabled older citizen changed from an institutional system to one based on home care. The number of home nurses and other facilities increased substantially, while beds in nursing homes decreased, in spite of a rising number of older inhabitants in Denmark. Then, the slower increase in resources to health care led to an intensified debate about prioritizing. No national model or priority plan has ever been discussed, but different counties elaborated their own prioritizing criteria during the 1990s. During the same period, health technology assessment (HTA) and, largely, quality assurance were taken up in the health care sector and supported by the national authorities. Gradually, disease prevention and health promotion have received more political focus at both the central government level – with government programmes in 1989, 1999 and 2002, as well as the *Health Package 2009* (described in detail in section 5.1) – and the local levels, in counties and local communities, which have launched campaigns against cancer and heart disease and have employed people with the task of promoting prevention activities.

Since the 1990s, health care expenditure has again risen. The debate on prioritization has subsided and the focus has shifted to efficiency and quality, inspired by the “new public management” wave. Since the early 1990s, more economic incentives have gradually been introduced into the hospital sector. In 1993, free choice of hospital was introduced and in 1998 it was decided that hospitals should be reimbursed according to diagnosis-related groups (DRGs) for patients living in other counties. Since 1973, hospitals have received resources according to their budgets; however, in 1999, it was decided that 10% of resources would be allocated in relation to activities based on DRGs; from 2004 this figure changed to 20% and later to 50% (see section 3.7.1). Quality assurance methods, including accreditation, have played an increasing role in hospital management. Patient rights have also been strengthened through legislation on rights and complaint systems (see section 2.9). Additionally, waiting times have been a big political issue since the mid-1990s. As such, a maximum two-month waiting guarantee from diagnosis to treatment was introduced in 2002 and then reduced to one month in 2007. As a result, if the patient cannot be guaranteed treatment within one month, he or she may choose to be treated at another hospital, including private hospitals and hospitals in other countries, in so far as a prior agreement has been reached between the patient’s region and the treatment facility. Overall, a change in the role of hospitals towards one providing more diagnosis and treatment and less care is seen in trends such as a decrease in the number of hospitals and hospital beds

and in the length of stay; an increase in the number of doctors and nurses; a slight increase in admissions; and a steep increase in outpatient visits, both to hospital outpatient departments and GPs.

2.3 Organization

The defining feature of the Danish health system is its decentralized responsibility for primary and secondary health care. However, important negotiation and coordination channels exist between the state, regions and municipalities, and the political focus on controlling health care costs has encouraged a trend towards more formal cooperation and a stronger influence of the central authorities. Table 2.1 gives an overview of the activities of the state, regions, municipalities and private sector.

State level

Responsibility for preparing legislation and providing overall guidelines for the health sector lies with the Ministry of Health. Each year, the Ministry of Health, the Ministry of Finance and the regional and municipal councils – represented by Danish Regions (*Danske Regioner*) and Local Government Denmark – take part in a national budget negotiation to set targets for health care expenditure. These targets are not legally binding. The National Board of Health, a central body established in 1803 and now connected to the Ministry of Health, is responsible for supervising health personnel and institutions, and for advising different ministries, regions and municipalities on health issues. Furthermore, the National Board of Health is responsible for planning the distribution of medical specialties among hospitals (see section 2.5).

Regional level

The five regions are governed by councils, which are elected every four years. They are financed by the state and the municipalities. Danish Regions is the interest organization for the five regions in Denmark. Danish Regions is run by a board of elected regional politicians from the five regions. The board is appointed for a four-year period and reflects the political affinities of the 205 members of the five regional councils. The regions own and run hospitals, prenatal care centres and community psychiatric units and they finance GPs, specialists, physiotherapists, dentists and pharmaceuticals. Reimbursements for private practitioners and salaries for employed health professionals are agreed through negotiations between Danish Regions and the different professional organizations. The Ministry of Health, the Ministry of Finance and Local Government Denmark also participate in these negotiations.

Table 2.1

Political bodies, administrative bodies and health care responsibilities

	State	Regions	Municipalities	Private
Political bodies	Parliament and its health committee	5 regional councils with committees	98 municipal councils with subcommittees	
	Government represented by Ministers of Health, Finance, Welfare and Labour			
Administrative bodies	Ministry of Health	Hospital administration	Social and health administration	
	National Board of Health and a number of other boards and institutions	Administration for the reimbursement of private practitioners		
	Ministry of Finance			
	Ministry of Welfare			
	Ministry of Labour			
Activities	Regulation and legislation	Hospitals	Nursing homes	General practitioners
	Surveillance of the health sector and health hazards	Prenatal centres	Home nurses	Specialists
	Public health officers	Special institutions for disabled people	Health visitors	Physiotherapists
	Annual budget negotiations with Danish Regions and Local Government Denmark	Community psychiatry	Children's dentists	Dentists
			Home dental service for disabled people	Pharmacies
			School health services	Chiropractors
			Home health	Private hospitals
				Occupational health units

Source: Adapted from Vallgård & Krasnik, 2007, 2008.

Municipal level

The 98 municipalities are also governed by councils elected every four years (the elections take place at the same time as regional council elections). They are responsible for providing services such as nursing homes, home nurses, health visitors, school health care, dental care for some groups, municipal dentists, prevention and health promotion, and institutions for people with special needs (i.e. people with disabilities, treatment for drug- and alcohol-related problems, and school health services). These activities are financed by taxes, with funds distributed through global budgets and carried out by salaried health professionals. Salaries and working conditions are negotiated by Local Government Denmark and the different professional organizations.

Local Government Denmark is the interest organization of the municipalities in Denmark. The distribution of seats in the political committees is based on the elections to the local town councils.

Private sector

The oldest part of the private sector includes the pharmacies and the GPs; other health professionals who work on a self-employed basis are specialist doctors, physiotherapists, psychologists, chiropractors and others (see Chapter 4 for more information on the different groups of health professionals). During recent decades, a number of private hospitals have been established on a profit-making basis. The presence of this new type of private hospital and clinic has increased since the beginning of the 1990s. Until 2002, the sector experienced heavy budget deficits. According to the Association of Private Hospitals and Clinics, private hospitals experienced a rise in demand during 2005–2009. Recently, budget deficits have re-occurred. Currently, private hospitals have a capacity of approximately 500 beds, which corresponds to 2.5% of all hospital beds (Association of Private Hospitals and Clinics, 2010). Measured in production value, private hospitals constituted 2.2% of the total hospital activity in 2010, compared with 1.1% in 2006. In the same period, the number of private hospitals and clinics with registered activity rose from 175 to 249, corresponding to a 42% increase (National Board of Health, 2011c). The private hospitals have caused political conflict and have been discussed numerous times in the Danish Parliament. The resulting differences in access to treatment are considered by some to constitute a threat to the equity principles of the Danish health system, while others claim that they offer a good supplement and provide an innovative element to it (Andreasen et al., 2009).

Professional associations

The Danish Medical Association is the professional association for doctors in Denmark, and nearly all Danish doctors are members. Until the 1980s, the Danish Medical Association participated in almost all governmental committees on health care. However, with politicians becoming increasingly interested in, and having different opinions on, health care politics, the Danish Medical Association has gradually lost some of its influence (Vallgård, 1992). Several measures developed by the profession have since been taken over by the state, such as the system of approving medical specialties (see section 2.8.3). Nurses have been an organized entity since 1899 and have often also been represented in committees. Nurses and other paramedics have organized themselves effectively since the mid-1990s in order to influence the political agenda.

Patients groups

There are between 200 and 300 active patient groups in Denmark, depending on how they are defined. Most groups are formed around concerns about particular diseases or health problems, such as heart disease, cancer, arthritis, diabetes or multiple sclerosis. Some groups are very active in trying to influence public debate and act as the patients' voices in the media towards the authorities and politicians. The largest, best-known and most well-funded groups have a strong track record of involvement in health policy. These groups are backed by large membership numbers and operating budgets, which enable them to maintain a professional staff. The larger patient organizations are generally invited to participate in parliamentary hearings relevant to their causes and concerns, while this is quite rare for the smaller organizations (see section 2.9.5). Danish Patients (*Danske patienter*) is an umbrella organization for 15 patient associations in Denmark, of which some are umbrella organizations themselves, bringing the total number up to 77 patient organizations representing 830 000 members in total. Danish Patients develops policy based on documented knowledge and cooperates with authorities, research institutions and other health care organizations in developing the health system of the future based on the interests of patients (Danish Patients, 2011).

2.4 Decentralization and centralization

With the exception of a few central state hospitals, health care in Denmark has been the responsibility of the towns and counties since the middle of the 18th century; consequently, there is a long tradition of decentralized administration in the health sector (see section 2.2). The 1970 reform of the public administrative structure, which reduced the number of counties from 24 to 14 and the number of municipalities from over 1300 to 275, led to both centralization and decentralization of responsibilities. While many state tasks were transferred to the counties, responsibility for the hospitals moved from local hospital boards to the county councils. Ironically, though, the state's tendency to intervene in the administration of the health care sector has increased over time since this reform. Consequently, tension has been rising with regard to the counties' autonomy. The 2007 reform allocated new tasks and responsibilities to both the state and the municipalities, and thereby involved a certain level of both centralization and decentralization, while reducing the role of the regions (see Chapter 6).

In 1976, responsibility for psychiatric hospitals and care for disabled people was decentralized from the state to the counties as part of an effort to develop closer coordination between somatic and psychiatric care and, more generally, to establish smaller units that would be closer to the population. The counties also developed closer coordination with municipal social services, which gradually led to their handling the special needs of psychiatric patients. The process of decentralizing psychiatric treatment is continuing today (see Chapter 5 for more information on the psychiatric system). Deconcentration of state functions in Danish health care is rare. One of the few examples of this is the case of public health officers, who have been employed by the state since the beginning of the 18th century and who work at the regional level. Initially, GPs were paid through the many local health insurance schemes; these were, however, gradually centralized and finally taken over by the counties in 1973, and the GPs and other self-employed health professionals have from then on been financed through taxes.

2.5 Planning

Planning is an integral part of the Danish health system. The planning system reflects the decentralized nature of the system, with the regions and municipalities as planners and providers of health care services and the state as the provider of the overall framework of the system. However, some specific planning activities, such as planning the distribution of the medical specialties, are increasingly highly regulated at the state level.

Economic management and planning of the health sector take place within a framework of negotiation between the different political and administrative levels. The annual national budget negotiation results in agreement on resource allocations, such as the recommended maximum level of municipal taxes, the level of state subsidies to the regions and municipalities, the level of redistribution or financial equalization between municipalities, and the size of additional grants earmarked for specific areas that need additional resources (see Chapter 3).

The annual national budget negotiation has been increasingly used by the central government as a means of reaching agreement on the development of the health sector and for setting the overall economic framework. The central government has some influence over the direction of the health sector by highlighting priority areas, such as heart surgery and cancer treatment, and making earmarked grants available to assist the regions and municipalities

in achieving targets, such as reducing waiting times for surgery, increasing the number of heart bypass operations and expanding psychiatric services. Although these targets are not legally binding, the practice of earmarking funds reduces local autonomy to set priorities. The regions have, therefore, frequently expressed dissatisfaction with this practice, claiming that it contradicts the fundamental principle of decentralized health care in Denmark.

The regions' interest organization, Danish Regions, influences planning in the health system as it negotiates the annual financial frames of the regions with the state as well as the pay and working conditions for regional employees as it is the regions' central employer and bargaining organization. In this way, the regions, as one collective body, can to some extent regulate the number of people employed in hospitals and the number of private practitioners entitled to reimbursement from the regions. An even geographical distribution of GPs was further strengthened through practice planning from 1976. Furthermore, the regions' collective negotiations with professional organizations can to some extent regulate the activities of private practitioners by associating certain activities with fees, thereby creating an incentive for private practitioners to carry out certain activities. An example of this was the introduction of special fees for preventive advisory talks given by GPs. These have been removed again in the most recent negotiations. The degree of decentralization can, however, be questioned as these are examples of the regions acting collectively through their interest organizations. Therefore, the individual regional council's influence is more limited.

Each region can determine the size, content and costs of hospital activities through detailed budgets. These budgets enable them to specify which treatments should be offered and which technical equipment should be bought. The regions' opportunities to plan their own capacity is, however, reduced by: (1) choice, which allows hospital patients access to treatment in other regions; (2) waiting list guarantees, which force them to prioritize specific interventions/treatments; and (3) various initiatives, which have been introduced by centrally conceived legislation or agreements (Vrangbæk, 1999).

The decentralized system is managed through coordination between the municipalities, the regions and the state in order to secure, for example, coherent patient trajectories. The goal of coherence was formalized through legislation enacted in 1994, which required counties and municipalities to develop a joint health plan every four years for the coordination of all preventive and curative health care activities within the health care sector, and, to some extent, between the health care sector and other public sectors (e.g. the social sector).

Following the 2007 reform (see Chapter 6), the Health Act 2005 was revised. Statutory cooperation between municipalities and regions was established in the form of mandatory regional health care agreements covering issues such as coordination of treatment, prevention, discharge and rehabilitation. The health care agreements are anchored in regional consultative committees consisting of representatives from the region, the municipalities within the region and private practitioners. The regional consultative committees are used to resolve disputes (e.g. about the service level, professional indications and referral criteria in the area of training) and to create the basis for a continuous dialogue about planning. The health care agreements must comply with centrally defined requirements, and tangible proof that cooperation between regions and municipalities actually achieves these requirements must be made publicly available. Overall, the new health agreements seem to have improved the possibilities for a more coordinated care system through the National Board of Health's requirements for the contents of the agreements and its authority to ratify the agreement, as well as the feedback mechanism with the committees (Strandberg-Larsen, Nielsen & Krasnik, 2007).

2.6 Intersectorality

There are no direct mechanisms or rules that ensure that health is taken into account by ministries other than the Ministry of Health. Some of the responsibilities of the Ministry of Social Affairs fall under what may be considered health affairs, including nursing homes. An example of health being an explicit concern for other ministries is taxing “unhealthy goods” such as tobacco, alcohol and, recently, the amount of fat in foods, which is carried out by the Ministry of Finance. The taxes are, however, contested issues and their impact on health is still unclear.

Since 1990, a public pool of funds has existed that is earmarked for disadvantaged groups (*satspuljer*); this fund results from an annual automatic regulation that makes transfer payments increase by 0.3% less than average wage rate development. As part of the negotiated agreements of 2009 and 2010 regarding these funds, DKK 130.4 million has been set aside for strengthening the health initiatives for disadvantaged groups over the following five years. The funds are utilized as monetary support for different projects, which must apply for the funds. The first round was in 2009 and was distributed to 17 different projects, including a number of projects run by municipalities. Which other projects will be supported in the following rounds is still to be decided at the

time of writing. The prioritized themes for applications in 2010 were health improvement for citizens in risk of losing their job, health improvement for persons with decreased cognitive functionality, and preventive initiatives for children growing up in families characterized with psychiatric illness. The two prioritized themes for 2011 are initiatives to improve health among people living at social psychiatric housing and asylum centres, and the development and establishment of local recreational and physical education activities.

In January 2010, a national review of social inequalities in health was commissioned by the National Board of Health. The review describes a number of social determinants that are of importance to health status and morbidity (see section 1.4.2).

2.7 Health information management

2.7.1 Information systems

A number of public registers exist within the health care field concerning the population's use of health care benefits, disease incidence and prevalence, causes of death, and so on (Thygesen & Ersbøll, 2011). The registers are mainly compiled for administrative purposes and the information regarding individuals is used for treatment and statistical research purposes. More specifically, the data can be used for the management of health expenses or the planning of activities within the health system. The registers and their data are furthermore very important for both epidemiological studies and health services research in Denmark (see also section 4.1.4).

In the most commonly used registers, individuals are labelled according to a personal identification number (in the Central National Register (Centrale Person Register), the Danish Civil Registration System) and the Register contains information on the individuals, including their family relations, education and income status (Vallgård & Krasnik, 2008). This provides researchers with the opportunity to collect and combine information at an individual level from different registers for the analysis of statistical associations (Knudsen & Hansen, 2008). Such coupling of registers is under strict regulation, because of data sensitivity.

Data validity in the major registers is generally high. The key registers that can be identified are as follows.

Registers based on contact with the hospital system: the National Patient Register (*Landspatientregistret*), the Psychiatric Central Register, the Medical Birth Register and the National Board of Health Register for Legal Abortions. The National Patient Register is a unique register containing all hospital admissions, outpatient treatments and casualty department visits across all of the public and private hospitals in the country.

Registers of specific diseases: the Cancer Register, the Malformation Register and the Artificial Insemination Register (for in vitro fertilization).

Registers of population's health status in general: Causes of Death Register and the Work Accident Register.

Administrative registers with relevance to the health sector: the Central National Register (the Danish Civil Registration System), the Health Reimbursement Register and the Sickness Benefit Register. The Health Reimbursement Register contains information about health services provided by GPs, practising specialists, dentists, physiotherapists, psychologists, and so on. However, it does not include information about symptoms or diagnoses of patients. All information in the registry is connected to the citizens' unique Central National Register numbers, which makes it possible to link information from this Register with information from the National Patient Register and the Causes of Death Register. In this way, it is possible to analyse complex health-related matters relating to specific population groups (Vallgård & Krasnik, 2008).

Other registers of importance for public health science: the Demographic Database, the Prevention Register, the Hospital Use Statistics Register and the Fertility Database.

Further information on registers can be found at www.dst.dk, www.im.dk, www.sst.dk and www.regioner.dk.

To conduct research projects based on register data, permission from the Data Protection Agency is required. Multicentre trials can only be approved by a single research ethics committee. Clinical trials concerning drugs must be approved by the Danish Medicines Agency (*Lægemiddelstyrelsen*). The Danish Law on Biomedical Research Ethics Committee System and the Processing of Biomedical Research Projects sets out the legal framework for research ethics of biomedical research projects in overall terms. Informed consent from research subjects is required and is fundamental to the rules governing ethics and to the committee system. The implementation of the law in relation to professional confidentiality and handling of personal information and so on (Health Act

of 2005) is monitored by the Data Protection Agency. It is the Agency's task to ensure that data are used in agreement with the Act and with the rules issued in pursuance of the Act. Therefore, data collected in relation to a project must be reported to the Data Protection Agency when the project involves handling of sensitive personal information. According to the Act, this covers collection, registration, systematization, storage, adjusting, selecting, searching, use of data, passing on, promoting or coordinating without blocking, erasing or terminating data.

Information systems also include those more specifically aimed at the general public and users of the health system. These include the web site www.sundhed.dk, which gives the user access to a variety of services such as information on waiting times and data on quality of care (see section 4.1.4).

2.7.2 HTA

The purpose of HTA is to obtain a relevant basis for decision-making – from politics to clinical practice – concerning the use of new or existing technologies in the health system. Decisions for the general use of technologies are supported with broad-based, systematic and well-documented information. There is no regulatory mechanism in the Danish health service requiring the use of HTA in policy decisions, planning or administrative procedures.

HTA is decentralized. This corresponds with the national strategy for HTA, which explicitly states that HTA should be applied at all levels of the health service as a systematic process in planning and operational policy, and as an underlying process for the routine clinical decisions of health professionals (National Board of Health, 1996). The newest national HTA strategy was released in 2008 by the National Board of Health. Staff members at all levels of the health service are responsible for identifying and drawing attention to areas where HTA is needed. This responsibility includes the need for new HTA as well as the evaluation of existing technologies. In areas where an independent national intervention is necessary, HTA projects can be undertaken as a basis for planning and operational decision-making. HTA carried out during recent years cover topics such as surgical treatment of patients with degenerative shoulder disorders, patient education, organization of treatment of diabetic foot ulcers, ventilation in operating rooms and assessments of new cancer drugs. At the national level, a number of comprehensive assessments of health technology have formed the basis for health policy decisions.

Since 1997, the National Board of Health has had HTA as part of its remit. The Danish Centre for Health Technology Assessment was established in 1997 and situated as a separate entity within the framework of the National Board of Health. In 2005, the Danish Centre for Health Technology Assessment was organizationally integrated into the National Board of Health. During the following years, HTA was given a lower priority even though the National Board of Health has been deeply involved in the development of the European network for Health Technology Assessment (EUnetHTA) and the EUnetHTA Secretariat is situated at the National Board of Health. Generally, central HTA receives less resources and attention in the Danish context, even though some HTA is carried out in a regional setting and in hospitals for planning and prioritization purposes. As an example, all approved cancer medications are assessed by the National Committee on Assessment of Cancer Drugs, which includes the use of a simplified version of HTA.

2.8 Regulation

The central government sets the overall direction of health care and increasingly – but still only to a limited extent – defines specific targets for the health care sector. For some decades, it has tried to regulate the establishment of highly specialized departments and functions (such as heart transplants), and during recent years it has set targets for waiting times, introduced screening programmes, improved treatment for cancer patients, and so on. With the recent reform, the central authorities have been given the means to govern these activities more efficiently.

The Ministry of Finance negotiates the level of taxation with the municipalities, thus setting the financial framework of the activities. It also participates in negotiations between professional organizations and unions about salaries, working conditions, fees and the number of practitioners with regional contracts.

2.8.1 Regulation and governance of third-party payers

The main financing of the health care sector comes from municipal and state taxation. The state subsidizes the regions and municipalities and does not act as a purchaser or directly finance the providers. The municipalities contribute taxes, which make up 20% of the overall regional income. A counterbalancing system has been implemented to ensure equitable geographic distribution of capital between the municipalities. The redistribution is devised according to

a formula that accounts for the following factors: age distribution, the number of children in single-parent families, the number of rented flats, the rate of unemployment, the number of people with a low level of education, the number of immigrants from non-EU countries, the number of people living in socially deprived areas and the proportion of older people living alone.

An increasing number of citizens take out VHI, which is organized by profit-making companies, in order to receive reimbursement for medical expenses, such as their utilization of private clinics. A rising number of companies offer VHI with variable coverage, and the market is not particularly transparent for the average consumer. The health insurance premiums are tax deductible for the companies, thus indirectly subsidized by the state. However, the newly elected government (see also Chapter 6) is planning to do away with this possibility. The private profit-making health insurance market is unregulated (see section 3.5).

2.8.2 Regulation and governance of providers

Organization

The role of the state is mainly to regulate and contain expenditure and to provide some general guidelines for the health care sector. There is no national health plan for the development of the health sector. In terms of organization, the five regions are responsible for providing hospital, somatic and psychiatric care, and for financing private practitioners (such as GPs, practising specialists, dentists, physiotherapists, chiropractors, and so on) for their public sector work. Private practitioners are self-employed but reimbursed for their services by the regions. However, only those who have a prior agreement with the regions are reimbursed, based on a negotiated number of doctors per 1000 inhabitants. Very few doctors work without such an agreement. A few private profit-making clinics and small hospitals are also paid by the regions for attending to patients according to contracts or waiting time guarantees. Furthermore, municipalities employ health care providers, who mainly take care of children and the older people (see Chapter 5).

There is a licensing system for health care professionals but not for health care facilities. However, a number of quality standards in the Danish model for accreditation pertain to physical structure. Health care facilities are supervised and increasingly governed by the National Board of Health. The National Board of Health has a system of locally based medical officers who supervise health professionals. Medical doctors (physicians and surgeons) have been licensed since the 17th century, midwives since the early 18th century,

and nurses since 1933. The National Board of Health grants the licences and, in case of malpractice or other undesirable behaviour, has the authority to withdraw them. There is no relicensing system. Further, through regulation of the capacity available for education, it is possible, to a certain degree, to control the number of authorized personnel within the different professional categories and specialties. During recent years, an increasing number of professional groups have obtained authorization/licensing by the National Board of Health. The groups that are able to obtain authorization/licensing currently are doctors, nurses, dentists and, most recently, also social and health care assistants, dental auxiliaries, clinical dental technicians, physiotherapists, chiropractors, midwives, prosthetists/orthotists, radiographers, opticians and contact lens optometrists, clinical dieticians, occupational therapists, medical laboratory technologists and chiropodists. According to the 2004 Law on a Profession Administrated Registration System for Alternative Practitioners, organizations of complementary and alternative medicine (CAM) providers may – provided they fulfil certain requirements – obtain permission from the Minister of Interior and Health to let their members describe themselves as registered CAM providers. Otherwise, the activities of CAM providers are regulated by the Law of Authorization of Health Professionals and of Health Care Activities, which forbids anyone other than authorized doctors to perform a number of activities.

Quality

A national model for quality assessment and improvement, the DDKM (see also section 6.1), was established in 2002. Its main objective was to monitor all publicly financed health care activities. In 2005, it was established as an independent institution. Its principal task is to provide ongoing feedback to individual health care institutions, including processed indicator data. The programme also promotes periodic accreditation, publication and benchmarking of assessments and indicators. National strategies for quality improvement have been published since 1993.

In 2004, an Act on Patient Safety came into effect. The Act aimed to promote patient safety by establishing a system in which all occurrences of adverse events must be reported, with the intention of preventing consequential events (Danish Society for Patient Safety, 2011). These reports do not allow the sanctioning of health care personnel or institutions. The National Board of Health registers and supervises qualified practitioners and other health care personnel. It is in charge of granting and, if necessary, removing authorization. The Board addresses questions regarding authorization revocation and activity reduction, according to the Law of Authorization of Health Professionals and

of Health Care Activities passed by the central government. The Act states that authorization can be revoked or activity can be reduced if a qualified health care worker takes an unnecessary risk regarding a patient's health or has shown serious or repeated unsafe professional activity. The final licence withdrawal occurs in court. This system of authorization helps to protect health care professions while at the same time reassuring the population and the responsible health authorities by ensuring minimum qualifications for health personnel.

A number of state agencies are responsible for securing the safety of citizens in health-related areas. The National Institute of Radiation Protection (*Statens Institut for Strålebeskyttelse*), an institute of radiation protection under the National Board of Health, is responsible for supervising utilization of X-ray machinery and radioactive substances. The Danish Working Environment Authority is responsible for supervising the working environment and prevention of occupational hazards. The Danish Environmental Protection Agency is responsible for environmental safety. Finally, the Danish Veterinary and Food Administration is responsible for supervising food safety.

2.8.3 Registration and planning of human resources

The state has an element of control over the supply of health professionals, since the training of authorized health professionals (with a few exceptions) is public. This is the case when there are applicants for all places, which has not always been the case for nurses. The state can also influence health professionals' qualifications by determining the content of their training. Training is regulated centrally by the Ministry of Science, Technology and Innovation, together with a number of councils, such as the Health Training Council and the Social and Health Training Council, which work in cooperation with the Ministry of Health, the National Board of Health and others. Further training in the health sector for specialists is the responsibility of the National Board of Health, and it is adjusted continually to meet the needs of the health sector with regard to subjects, content and capacity. Postgraduate training programmes for medical specialties, including general practice, are defined by the Ministry of Health based on advice from the National Board of Health and the National Council for Postgraduate Education of Physicians.

The state decides which professions are to be reimbursed by the regions. There are certain quotas, for example for physiotherapists, and in order to buy a general practice, authorization as a GP is required from the National Board of Health plus a license from the regions. Dentists, however, can establish a practice wherever they choose and still be reimbursed by the regions. The

regions limit the number of GPs entitled to receive reimbursement as a means of controlling costs. The number of GPs, measured per 1000 population, is negotiated by each region and representatives of the GPs working in the region.

Denmark has implemented EU Directive 2005/36/EC, which provides for the mutual recognition of professional qualifications in EU Member States, with the aim of facilitating the provision of cross-border services in the EU, including in the health sector. The National Board of Health is responsible for considering applications for authorization from medical personnel who hold authorizations from other countries. A special agreement between the Nordic countries, the “*Arjeplog-aftale*”, also exists (BKI no. 81 1994).

2.8.4 Regulation and governance of pharmaceuticals

Direct-to-consumer advertising of prescription drugs is permitted under strict legislation. In an ethical agreement between the Danish Medical Association, the Association of Danish Pharmacies (*Danmarks Apotekerforening*) and the Danish Association of the Pharmaceutical Industry in 2003, it was stressed, among a long list of restrictions, that advertising of drugs should not give the impression that it is not necessary to consult a GP, that side-effects don't exist, that the product is better than another drug, that it is recommended by scientists, that it mainly or solely addresses children, that it contains references to examinations, or that a person's well-being depends on their use of the drug. These advertising restrictions do not include advertising for vaccination campaigns, which are approved by the Danish Medicines Agency. However, the agreement was suspended in April 2011 and a new Ethical Committee of the Pharmaceutical Sector (*Etisk Nævn for Lægemiddelindustrien* (ENLI)) has been established (Ethical Committee of the Pharmaceutical Sector, 2011; Danish Medicines Agency, 2011).

In 1999, the National Institute for Rational Pharmacotherapy (a part of the Danish Medicines Agency) was founded to guide doctors in rational prescribing. It also has the function of elaborating treatment guidelines with respect to costs. Each region employs local groups of pharmacists and GPs to monitor prescription patterns and advise GPs on rational prescribing. The Institute for Rational Pharmacotherapy coordinates educational activities for groups at the local level too. It also established a national formulary for medical doctors to support rational choice of treatments in 2003. Practice guidelines are produced by the medical colleges for various specialties and by the Danish College of General Practice. The Institute for Rational Pharmacotherapy aims to provide objective information and guidelines on the rational use of pharmaceuticals, in

both pharmacological and economic terms. However, marketing authorization is based on chemical, pharmaceutical, clinical and safety criteria, without any assessment of need or cost-effectiveness; this means that there is no essential drugs list in the Danish pharmaceutical sector. Instead, consumption is partly regulated through the reimbursement system.

The Council for Adverse Drug Reactions offers general guidance to the Danish Medicines Agency and proposes recommendations and solutions to the Agency for improving the prevention and monitoring of adverse reactions. The main task of the Council is to monitor and assess the reporting of adverse reactions in practice. Further, it proposes recommendations and supports the Danish Medicines Agency's information and communication tasks with regard to adverse reactions for consumers, patients and health care professionals. The most important source of information on adverse drug reactions is spontaneous reports. The Agency recommends that all patients who experience adverse drug reactions not mentioned on the package leaflet should contact their GP. GPs are then required to report all presumably serious or unexpected adverse drug reactions or reactions to medical products to the Danish Medicines Agency. Moreover, GPs are obligated to report any known and non-serious adverse drug reactions within the first two years that a medicinal product is on the market. It is also possible for the patient or the patient's relatives to report adverse drug reactions directly to the Agency.

The pricing of medicinal products is not directly controlled but is governed by negotiations. Generic substitution is one of the tools used to contain the growth of pharmaceutical expenses. Pharmacists are required to substitute the least expensive, or close to the least expensive, generic medicine for the medicine prescribed by the physician when the prescriber does not clearly state to the contrary or the patient refuses substitution. Generic substitution slows down the increasing drug costs in two ways: by the actual change to a less expensive generic drug and by stimulating price competition among interchangeable medicines. Generic substitution is possible among products containing the same quantity of the same active substance, if their biological equivalence has been proven and marketing authorizations granted. During recent years, some important medicines (including citalopram, simvastatin, omeprazol and felodipine) have lost their patent protection. This, along with generic substitution, has led to heavily decreased prices and a relatively small increase in pharmaceutical expenditure. Another approach to controlling pharmaceutical expenditure is through parallel imports of pharmaceuticals, which has been practised since the beginning of the 1990s.

Denmark has a high proportion of generic and parallel import products on the market. Parallel importing of pharmaceuticals has been permitted since 1990. Generic products make up about 59% of the Danish usage of prescribed pharmaceuticals measured as defined daily doses. As the generic products are typically cheaper, the costs ascribed to generic pharmaceuticals only make up around 17% of the total pharmaceutical market costs (Association of Danish Pharmacies, 2010). The use of generic and parallel-imported products was promoted from 1993 through a reference pricing system for reimbursement. Under this system, reimbursement was based on the average price of the two least expensive versions of a specific product. In 2005, the basis for reimbursement was changed to the lowest price paid in the EU.

Reimbursement for pharmaceuticals

Reimbursement for an individual medicine is based on its main indication; however, other secondary indications also warrant reimbursement. Some pharmaceutical products are only reimbursed for certain diseases. The medicine's therapeutic effect, value added, and side-effects are factors considered when deciding on reimbursement. Price comparisons and economic evaluations also form part of the decision-making process.

The Danish Medicines Agency decides on the reimbursement status of each pharmaceutical product. The Danish Medicines Agency is a parallel board to the National Board of Health under the Ministry of Health. It is responsible for legislation concerning pharmaceuticals and medical devices, the approval of new products, clinical trials, deciding which drugs should be reimbursed and licensing companies that produce and distribute pharmaceuticals. The Reimbursement Committee advises the Danish Medicines Agency before they make any decision on whether or not to reimburse a particular drug. In general, reimbursement is granted for drugs that have a definite and valuable therapeutic effect and when they are used for a well-defined indication.

Usually, only pharmaceuticals subject to prescription are eligible for reimbursement. Drugs available without a prescription may be included in the list of reimbursable pharmaceuticals, but in such cases reimbursement is only granted to pensioners and patients suffering from a chronic illness that requires continuous treatment with the drug. A prescription would also have to be issued for the pharmaceutical in question. Even if a drug meets the criteria for reimbursement, certain characteristics of the pharmaceutical, its specific use or the way in which it is prescribed may lead to a non-reimbursement decision.

There are no fixed percentages for the reimbursement of medicines, but reimbursement relates to the patient's annual pharmaceutical expenses. From April 2005, reimbursement is calculated according to the least expensive generic product. Patients with high pharmaceutical expenses are reimbursed for a higher percentage of their expenses. As of 2011, percentage groups were 0%, 60%, 75% and 85%, depending on the amount spent within the year. Expenses below DKK 865 per year are not reimbursed. Complementary VHI covering the cost of medication is quite common in Denmark: approximately 2.1 million Danish citizens are members of the non-profit-making mutual insurance company Health Insurance "danmark" (Health Insurance "danmark", 2011).

The total trade of medicinal products in the primary sector assigned reimbursement in 2009 equalled DKK 10.1 billion (Danish Medicines Agency, 2011). For pharmaceutical products without general reimbursement, an individually based subsidy may be obtainable by submitting an application, through a patient's own physician, to the Danish Medicines Agency. The cost of public reimbursement for medicines in the primary health sector has increased steadily over the years.

2.8.5 Regulation of medical devices and aids

Because of the relatively decentralized health system, there is very limited national information available from hospitals and primary care facilities on existing medical equipment and its use in the Danish health system. According to the 2010 OECD report *Health at a glance*, Denmark had 15.1 magnetic resonance imaging (MRI) units per one million inhabitants and conducted 37.8 examinations per 1000 inhabitants in 2008. Similarly, the number of computer tomography (CT) scanners in 2008 was 21.5 per one million inhabitants and 83.3 examinations per 1000 inhabitants were conducted (OECD, 2010).

2.8.6 Regulation of capital investment

The regional and local authorities are responsible for conducting estate condition surveys. There is no central assessment of overall estate conditions. In the primary health care sector, GPs and practising specialists own or rent their practice as independent contractors. No central or regional estate condition surveys are conducted at this level. The task of ensuring functional sustainability and appropriate space utilization of existing buildings is the responsibility of the decentralized levels and the state is rarely involved. Supervision over fire and safety compliance in hospitals lies with the local authorities.

Regional capital investments are funded through general revenue with the exception of occasional grants, which are provided as direct transfers from the central government to earmarked investments in health areas with special political focus, such as medical equipment to improve cancer care services.

The financing of large-scale buildings is accomplished through a combination of general revenue, savings and loans. However, the central administration sets limitations on the economic activities of the regions regarding the level of expenditure and borrowing. These limitations vary over time and they are generally based on political considerations. From 2007, the Ministry of Health must approve investments above a certain level. A redistribution of funds between municipalities has been implemented to ensure equitable geographic distribution of resources. The influence of the private health care sector is marginal and its size is not regulated.

2.9 Patient empowerment

2.9.1 Patient information

A number of initiatives have been introduced to strengthen patient rights. The National Board of Health is in charge of securing the dignity, integrity and right of self-determination for patients. The Danish Hospital Law and the Danish Law on National Health Insurance, as revised in 1992, had implications for patient rights as the law obliged doctors to inform patients of their condition, treatment options and the risk of complications. It also prohibited doctors from initiating, or proceeding with, any given treatment that is against the will of the patient (unless mandated by law). In addition, the patient also has the right to decline to receive information. This law was extended in 1998 to regulate the basic and general principles of the individual patient's right of self-determination and public security related to the health system and regarding medical examination, treatment and care. Issues covered are the patient's right to continuous information, which is adapted according to age and the disease(s), given throughout examinations and treatment and communicated with respect to the patient. Furthermore, the rules also determine doctors' rights to share information with third parties, to give patients right of access to documents, to hold case records and to have total professional confidentiality. These rights have all been incorporated into the newest Health Act.

A new law regarding the right to interpretation into minority languages has been passed in Denmark and took effect in June 2011. This law states that refugees and immigrants who have resided in Denmark for more than four years (seven years before the new law came into effect) have to pay for assistance from an interpreter by themselves.

Patients can obtain information and guidance on hospital choice and waiting times through their GP and through patient offices, which exist in every region. A number of web sites have been established by the National Board of Health, Danish Regions and the Ministry of Health in order to give patients further access to information. The sites provide information regarding public and private hospitals, specialists and clinics as well as selected hospitals abroad that have existing arrangements with the regions. The typical content of the information includes waiting times in weeks to examination, treatment and after-care in the different hospitals and the number of operations conducted at specific hospitals. Information on quality aspects of hospitals has been published on the home page of the Ministry of Health since November 2006. This information includes ratings (1–5 stars) based on patient satisfaction, and standards of hygiene, safety and so on. This rating system, however, has been criticized for its limited scope, unclear weighting of the different elements and its ratings of hospitals as a single unit rather than as individual departments (see also section 2.7.1).

When a patient is referred to a hospital, the hospital is obliged to send a notice letter to the patient. This letter is to inform the patient of his/her specific examination and treatment and of the hospital's possibility of examining and treating the patient within one month. If the waiting time exceeds one month, then the hospital must also provide the patient with information about the option of choosing another hospital, including those that are private or based abroad.

2.9.2 Patient choice

Since 1973, residents over the age of 15 have been able to choose between two coverage options in the statutory health system, known as Group 1 and Group 2. The default is Group 1 and almost all citizens belong to this group. In Group 1, members are registered with a GP of their own choice, practising within 15 km of their home (5 km in the Copenhagen area); otherwise, a GP's written acceptance of their willingness to carry out home visits during the day is needed. Group 1 members have free access to general preventive, diagnostic and curative services. Patients may consult emergency wards, dentists, chiropractors, ear, nose and throat specialists or ophthalmologists

without prior referral, but their GP must refer them for access to all other medical specialties, physiotherapy and hospital treatments. Consultation with a GP or specialist is free of charge, while dental care, podiatry, psychology consultations, chiropractic and physiotherapy are subsidized in most cases. Patients seeking care from specialists other than ear, nose and throat specialists or ophthalmologists, and without a GP referral, are liable to pay the full fee. An individual in Group 1 has the possibility to change GP after contacting the local authority. In Group 2, individuals are free to consult any GP and any specialist without referral. The region will subsidize the expenses up to the cost of the corresponding treatment for a patient in Group 1. The same rules apply to treatment by podiatrists, psychologists, dentists, chiropractors and physiotherapists. Hospital treatments are free. Only a minority of the population (1%) chooses this group, probably because of the level of general satisfaction with the referral system. Changing group is possible. The first time this can be done without any delay, but if a person wishes to change groups again, the individual has to have been in either Group 1 or 2 for 12 months.

Most hospitals in Denmark are general hospitals. There are very few specialized hospitals other than psychiatric hospitals. A legislative reform in 1993 gave patients the freedom to choose to be treated at any hospital in the country as long as treatment takes place at the same level of specialization. This is in accordance with the fundamental principle that health services should be provided at the most appropriate level of specialization (i.e. less specialized cases should not be referred to more highly specialized units). Since 2003, direct referral to highly specialized services can be made by a medical doctor, independent of his/her place of work. The new legislation states that the patient must be referred to a highly specialized health service if a qualified medical judgement finds that the patient is in need of such treatment. Before this legislation, the county was required to produce an economic guarantee prior to referral to a highly specialized health service, including a secondary examination of the patient by the county's own hospital service. Currently, only patients with strictly defined needs for specialized treatment are accepted at the highly specialized health services. According to a national study, which assessed the impact of the reform, patients prefer treatment close to their place of residence (Birk & Henriksen, 2003).

In 2002, a new act on waiting time guarantees was implemented. Patients who are not offered treatment at public hospitals within two months of referral are free to choose treatment at private hospitals or clinics anywhere in the country and at hospitals abroad. In 2007, this guarantee was changed to one month. The treatment expenses, also for private institutions, are paid by the

patient's region. As a precondition for the use of what has been termed "the extended free choice", the chosen private hospital or clinic has to have an agreement with the region. In the case of cancer and certain other diseases (coronary heart disease), waiting time guarantees are defined for specific procedures, and if the hospital is not able to treat the patient locally within the case time limits, it is obliged to look nationally or even internationally for alternative hospitals. If the hospital is unable to do this, then the case is referred to the National Board of Health for assistance in seeking alternative solutions.

The health system has had difficulties fulfilling the waiting time guarantees. Because of heavy public and political criticism of the failure of these procedures, the Director of the National Board of Health resigned from his post in 2006. Whether the increased public and political focus on the fulfilment of the waiting time guarantees have improved, the percentage of patients receiving treatment within the guarantees is not clear. In any case, the number of treatments has increased, indicating that the diagnostic criteria are gradually changing.

2.9.3 Patient rights

In 1998, the Danish Government agreed on an act regarding a patient's legal position. The act set out comprehensive legislation regulating the fundamental and general principles for the individual patient's rights. The aims of the act were to help to ensure that the patient's dignity, integrity and self-determination are respected; and to support the trust relationships between the patient, the health system and the various personnel involved. The act also contains rules on information about consent and life testimonials, information regarding patient cases and professional confidentiality, and access to health information (National Board of Health, 2011f; Vallgård & Krasnik, 2008).

It is mandated by law that all public buildings in Denmark have to enable physical access for disabled people. This means that access for disabled people to public hospitals is obligatory. As GPs are privately owned, they are not obligated by law to provide physical access for handicapped individuals.

2.9.4 Complaints procedures (mediation, claims)

The National Agency for Patients' Rights and Complaints (*Patientombudet*) was established on 1 January 2011 as an independent government institution. The former Patients' Complaints Board was established in 1988. The National Agency for Patients' Rights and Complaints is responsible for dealing with patients' complaints and for contributing to the prevention of mistakes being repeated within the health services. The Agency, therefore, deals

with complaints about professional treatment in the Danish health service. It is possible to complain about medical treatment, for example the overall treatment procedure, without directing the complaint against a particular health professional. The Agency also deals with complaints about the disregard of patient rights and with complaints about the Patient Insurance Association's decisions over compensation (see below). Furthermore, the Agency administers the system for reporting inadvertent incidents within the health service and offers guidance on the rights to health care in other countries (National Agency for Patients' Rights and Complaints, 2011).

In 2001, the Patients' Complaints Board received 2721 complaints. In 2009, this number had grown to 4235. Compared with the number of patient contacts in the health system, these are relatively few complaints. In round figures, there are more than 1.1 million discharges from hospitals per year, more than 4 million outpatient treatments and more than 34 million patient contacts in public practices. A large proportion of complaints are concerned with doctors, corresponding to 90.9% in 2009. The Board settled 3094 cases in 2009, of which every fifth case ended with criticism of one or more health professionals. In 2009, no cases were sent to the prosecution service with the request to charge for a criminal offence (National Agency for Patients' Rights and Complaints, 2011).

Patients can receive compensation for health care-related harm from treatment at public hospitals through the Patient Insurance Association, which was set up in 1992. The Insurance Association provides compensation to patients or patient's relatives as well as subjects or donors for somatic damages and some psychiatric damages caused during treatment in the health system. In 1995, this insurance was expanded to include damages caused by biomedical experiments in the primary health care sector. In 1999 and again in 2004, the insurance was further extended to cover treatment at all public and private hospitals as well as by specialists and selected hospitals abroad that the regions use in accordance with the 2005 Health Act.

The Patient Insurance Scheme is based on the following principles:

- a patient's right to compensation does not depend on a doctor or any other health person to incur personal responsibility for the damage;
- compensation is provided through an obligatory insurance scheme, which is financed by the hospital owners; and
- the size of compensation is regulated through the law of access to complaint and compensation within the health services.

Other compensation schemes include the Danish Dentist Society Insurance Schemes and the Danish Chiropractor Society Insurance Schemes.

2.9.5 Public participation

Patients' participation takes place in three ways in Denmark: (1) through organized patient groups, nationally, regionally or locally; (2) through patient counsellors; and (3) indirectly through feedback from national and regional surveys. A number of patient groups exist, which are formed around concerns about particular diseases or health problems, such as heart disease, cancer, arthritis, diabetes or sclerosis (see above). Since the mid-1990s, many of these groups have explicitly taken on policy advocacy as an important function. The groups are very active and they influence public debate. Between 200 and 300 active patient groups exist in Denmark. They act as the patients' voices in the media towards the authorities and politicians, frequently giving input on the health debate so that patients' views are not neglected. They also provide information, help and support related to health and sickness, and dialogue with the relevant authorities at all levels. The largest, best-known and most well-funded groups have a strong track record of involvement in health policy. This is often achieved through the formation of coalitions with doctors or across patient groups. Patient organizations that are entirely at the grassroots level and work independently of the health care professional sector tend to be much smaller, with non-paid volunteer staff. It is, therefore, a far greater challenge for them to navigate the different decision-making structures at the national, regional and municipal levels, and to have a greater influence. The larger groups are backed by large membership numbers and operating budgets, which enable them to maintain a professional staff. These organizations are generally invited to participate in parliamentary hearings that are relevant to their causes and concerns, while this is quite rare for the smaller organizations.

Danish Patients is an umbrella organization for 15 patient associations in Denmark representing 830 000 members (Danish Patients, 2011). Danish Patients' aim is to contribute to a patient-focused health system of international standard. Danish Patients develops policy based on documented knowledge and cooperates with authorities, research institutions and other health care organizations in developing the health system of the future based on the interests of the patients. The organization works with a large number of health policy issues; among the most prominent at the moment are integrated health care delivery, rehabilitation, patient safety and user involvement. Danish Patients is structured as a political organization, with the Executive Council as the highest

decision-making organ. The daily work to promote the aim of the organization is managed by experts from the member organizations and the secretariat of Danish Patients.

Every region has a patient guidance system. The system's primary task is patient guidance on provider and treatment choice, complaint and compensation rules and waiting lists, and so on. It is primarily nurses who act as guidance counsellors and problem solvers in close dialogue with patients, relatives and hospital staff. Guidance counsellors are obliged to be neutral and impartial.

In 2009, the Unit of Patient-perceived Quality (*Enheden for brugerundersøgelser*), located in the capital region, conducted a national survey of patient experiences on behalf of Danish Regions and the Danish Ministry of Health (Unit of Patient-perceived Quality, 2011a). The National Danish Survey of Patient Experiences (*Landsdækkende Undersøgelser af Patientoplevelser* (LUP)) is a questionnaire survey for assessing patients' experiences with the Danish health system. The survey was also conducted in 2000, 2002, 2004 and 2006. Since 2009, following a change of concepts, it is carried out as an annual, nationwide survey, investigating the experiences of both inpatients and outpatients in hospitals. LUP is based on retrieval of patients from the National Patient Registry, which holds key information about every contact between Danish citizens and the hospital services. The survey covers both somatic inpatients and somatic outpatients. A few months after discharge from or visit to a hospital, postal questionnaires are sent to patients fulfilling the inclusion criteria. In 2009, the questionnaire was sent to 70 697 inpatients and 160 496 outpatients. The response rate for both patient groups was 54%. The survey shows that nine out of ten inpatients (90%) at hospitals have an overall good impression of their admittance. For the outpatients, 95% state that they have an overall good impression of their treatment. However, the survey also shows that half of all in- and outpatients experience long waiting times at their admittance. Both in- and outpatients judge the written information they receive on treatment and disease very positively, but only 50% obtain the information. Also 25% of all patients experience not having a person in charge of their patient trajectory.

2.9.6 Patients and cross-border care

As mentioned earlier in this chapter, hospitals are obliged to send a notice letter to a patient at the time of referral that informs the patient not only of his/her specific examination and treatment but also of the hospital's possibility for achieving this examination and treatment within the waiting time guarantee. If the hospital is not able to perform examination or treatment within the

guaranteed time frame, the letter must also provide the patient with information about the option of choosing another hospital, including those that are private or based abroad. Patients' rights to treatment abroad are defined in the Danish Hospital Law (specified in departmental order of 20 January 2010 on the right to free choice of hospital). According to this, the regional councils can offer a patient highly specialized, research-based or experimental treatment abroad. However, referral to highly specialized treatment abroad has to be approved by the National Board of Health. The preconditions for obtaining the Board's approval are, among other things, that the treatment in question is not provided at a Danish hospital and that the treatment is not experimental or complementary. A regional council also has the possibility of referring a patient to research-based treatment abroad if this treatment fulfils a number of requirements listed in the Act, for example the general requirements for research-based treatment, is carried out in collaboration with a Danish hospital and is approved in advance by the National Board of Health.

3. Financing

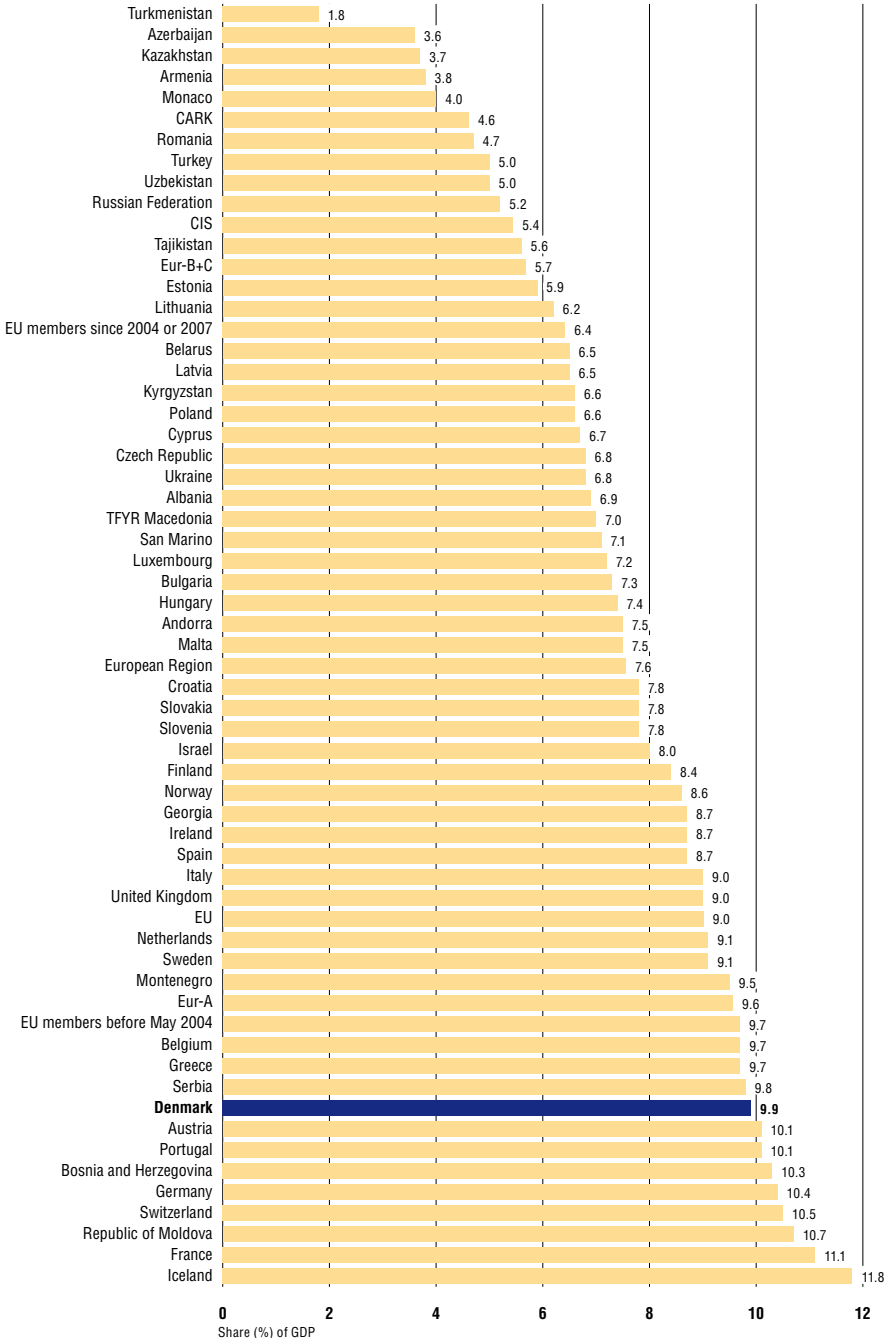
Health care expenditure is slightly higher than the average for EU15 countries. More than 80% of health care expenditure is financed by the state through a combination of block grants and activity-based financing. The importance of out-of-pocket payments differs markedly by service, playing a major role in financing drugs, dental services and glasses, while playing only a minor role for other services. VHI is available for the population. Since 2002, supplementary VHI subsidized by the state has played a small but rapidly growing role in financing elective surgery and physiotherapy – and has been the subject of intense political debate between politicians who argue that VHI contributes to a more effective health care sector or that it introduces inequality in access to care. The municipalities are financed through income taxes (rates set locally, collected centrally) and block grants from the state, while the regions are financed by the state (income tax, VAT, taxes on specific goods, etc.) and the municipalities. The financing structure reflects attempts to control costs through global budgeting and upper limits to private providers' turnover. It also reflects efforts to strengthen health promotion, clinical production and responsiveness to patients by use of free choice of hospital in combination with activity-based hospital financing and by the introduction of reimbursement from the municipalities to the regions, thereby providing the municipalities with a financial incentive to keep their citizens healthy.

3.1 Health expenditure

Danish health care expenditure as a percentage of gross domestic product (GDP) and per capita is higher than the average for EU15 countries (Figs 3.1–3.3). The share has increased consistently and reached a higher level than in comparable countries at the beginning of the present century (Fig. 3.2). It fell slightly

Fig. 3.1

Health expenditure as a share (%) of GDP in the WHO European Region in 2008, the latest available year



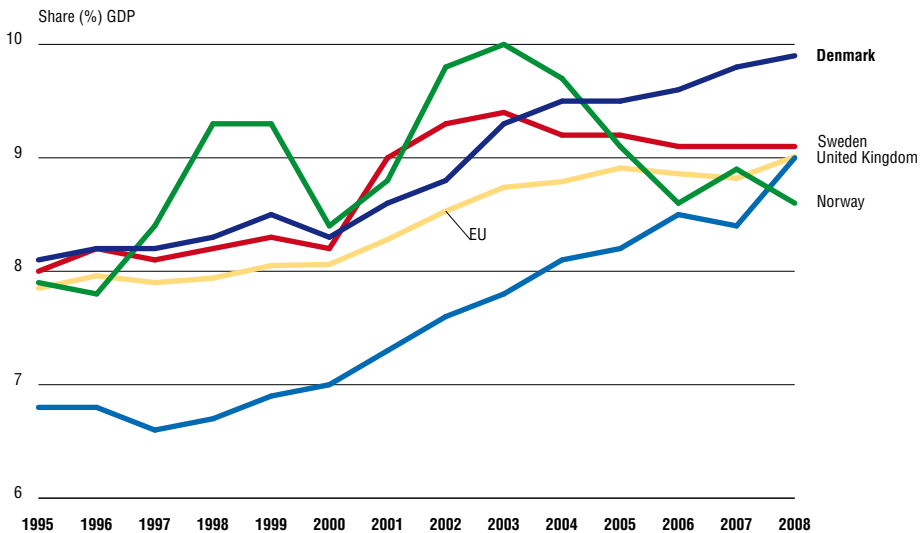
Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

Notes: Eur-A,B,C: Regions as in the WHO list of Member States, last available year; CARK: central Asian republics and Kazakhstan; CIS: Commonwealth of Independent States; TFYR Macedonia: The former Yugoslav Republic of Macedonia.

during the 1980s and the 1990s, followed by a rise from 2000 and onwards (Table 3.1; Schieber, Poullier & Greenwald, 1994; National Board of Health 2010a), although a break in the time series by 2003 complicates interpretations of the data.

Fig. 3.2

Trends in health expenditure as a share (%) of GDP in Denmark and selected countries, 1995 to latest available year

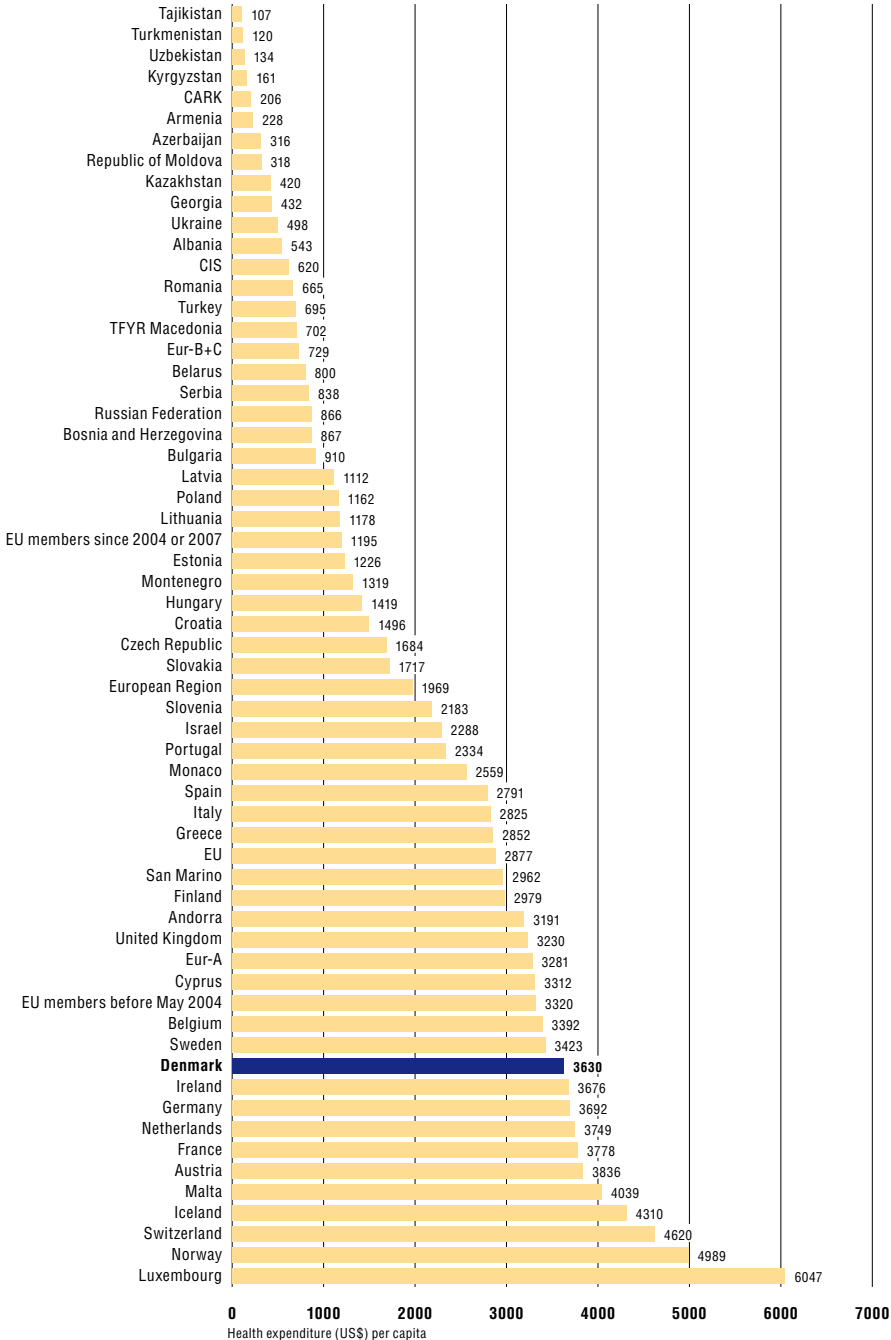


Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

Prior to 2003, “public health expenditures”, according to Danish national definitions, excluded many services for older and disabled individuals. These costs were included in the social sector’s costs. To make Danish figures in OECD *Health Data* comparable to the OECD *System of Health Accounts*, certain parts of the Danish social sector (home care and nursing, nursing homes and residential care and integrated care schemes) were included in health expenditures. However, it is still questioned, whether the OECD data from different countries are comparable (Søgård, 2008). Data from 2003 onwards closely follow the OECD *System of Health Accounts* guidelines and are not fully comparable, particularly at the subaggregate level, with data prior to 2003.

Fig. 3.3

Health expenditure in US\$ purchasing power parity per capita in the WHO European Region in 2008, the latest available year



Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

Notes: Eur-A,B,C: Regions as in the WHO list of Member States, last available year; CARK: central Asian republics and Kazakhstan; CIS: Commonwealth of Independent States; TFYR Macedonia: The former Yugoslav Republic of Macedonia.

Table 3.1

Trends in health expenditure in Denmark, 1995 to 2007

Expenditure ^a	1995	2000	2005	2007
THE per capita (\$US PPP)	–	2378	3152	3540
THE (% of GDP)	8.1	8.3	9.5	9.7
Public expenditure on health (% of THE)	82.5	82.4	83.7	84.5
Private expenditure on health (% of THE)	17.5	17.6	16.3	15.5
Government health spending (% of GDP)	6.7	6.8	7.5	7.8
Out-of-pocket payments (% of THE)	16.3	16.0	15.4	14.4
Out-of-pocket payments (% of private health expenditure)	93.3	91.0	90.7	89.0
VHI (% of THE)	1.2	1.6	1.5	1.7
VHI (% of private health expenditure)	6.7	9.0	9.0	10.5

Source: OECD, 2010.

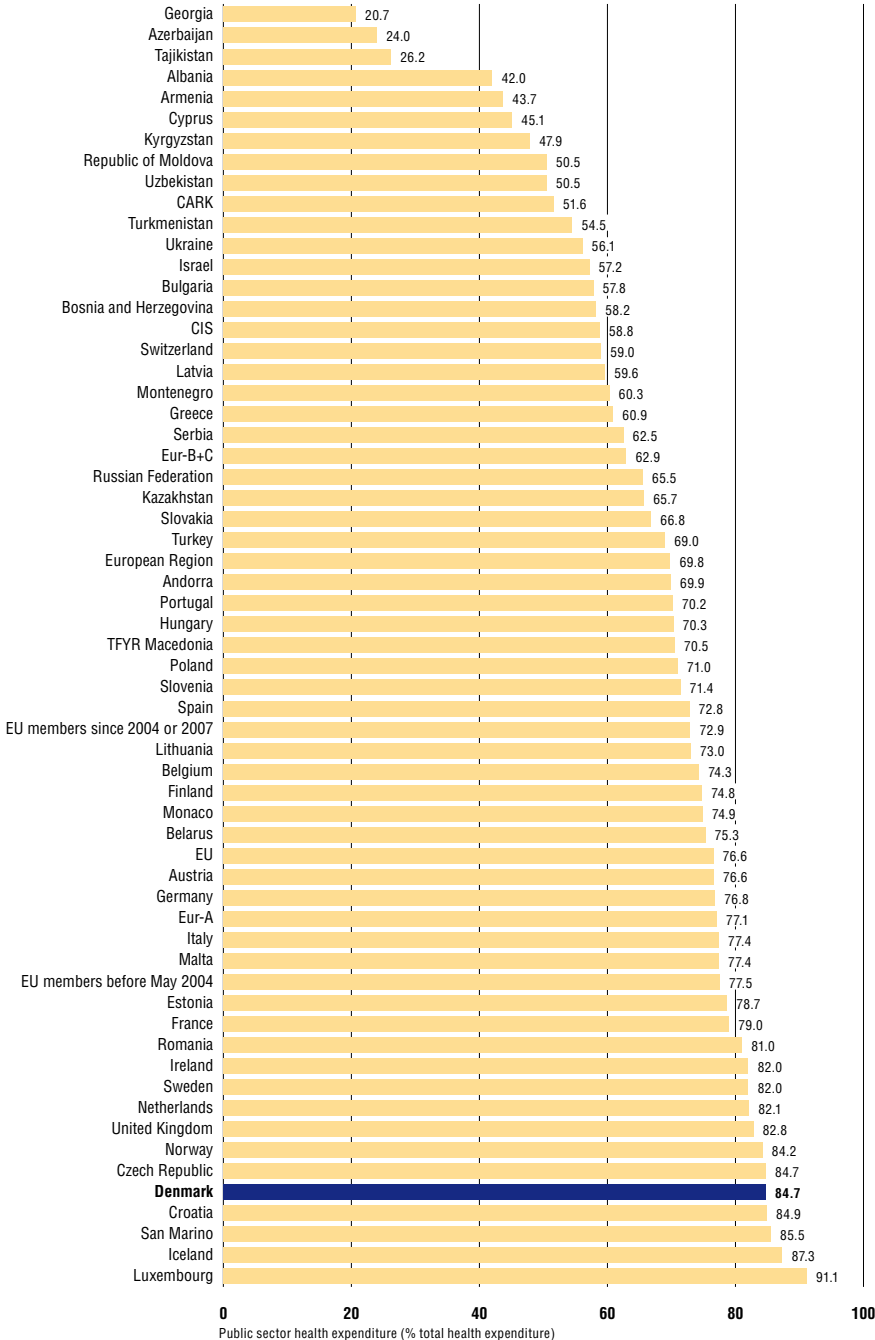
Notes: ^a Public health expenditure data after 2003 are not fully comparable with data prior to 2003 (see the text for explanation); PPP: purchasing power parity; THE: total expenditure on health.

Concerning data validity and reliability, parts of private health expenditure are not included, such as occupational health services and expenditure by non-profit-making institutions serving households, for example the Red Cross and philanthropic and charitable institutions. Data on private investments in medical facilities are not available.

A trend towards rising private expenditure in the 1980s, probably a result of political efforts to contain public health expenditures, was followed by stability in the two sectors' share of health expenditures. Public health care costs as a share of total health care costs are high compared with European standards (Fig. 3.4). Health care expenditure as a share of total government expenditure has also been fairly stable, falling from 26% in 1990 to 24–25% in 2000, followed by a rise to 27% in 2008. Health expenditure has grown faster than government spending as a whole (Table 3.1). In 1995, health expenditure as a share of GDP was the same in Denmark, Norway, Sweden and the EU15, but by 2008 the share was the highest in Denmark – having grown faster than in EU15 and Sweden, and faster and with less fluctuation than in Norway (Fig. 3.4).

Fig. 3.4

Public sector health expenditure as a share (%) of total health expenditure in the WHO European Region in 2008, the latest available year



Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

Notes: Eur-A,B,C: Regions as in the WHO list of Member States, last available year; CARK: central Asian republics and Kazakhstan; CIS: Commonwealth of Independent States; TFYR Macedonia: The former Yugoslav Republic of Macedonia.

The patterns described above reflect a fiscal context where a rapid and uncontrolled growth in public expenditure in general, and in health and social expenditures in particular, during the 1970s was brought to a halt from 1982 and onwards through the introduction of global budgeting, followed by more advanced target and performance management. Denmark has shared the economic shocks faced by the world as a whole during the 1970s and after 2001 and 2007. The Danish economy has been affected by the global financial crisis that started in 2007 (see section 1.2 and Table 1.2) in addition to a low growth in productivity that had commenced even before the financial crisis.

Almost three-quarters of the health care costs for the regions and the municipalities are taken up by the hospitals (Table 3.2). Table 3.2 does not specify data on teaching or training of health care personnel or research. The data on prevention (Table 3.2) underestimates the actual share of resources spent on prevention and health promotion as it does not cover a broad range of preventive efforts, including traffic safety, occupational health care, and so on.

Table 3.2

Public expenditure (regional and municipal) on health by service programme, 2009

	Percentage of public expenditure on health
Hospitals, including medicines	71.3
GPs, specialists, etc.	13.5
Medicines, out of hospital	6.7
Dentistry, municipalities	2.0
Rehabilitation, municipalities	1.7
Prevention, municipalities	0.5
Other	4.3

Source: Ministry of the Interior and Health, 2010a.

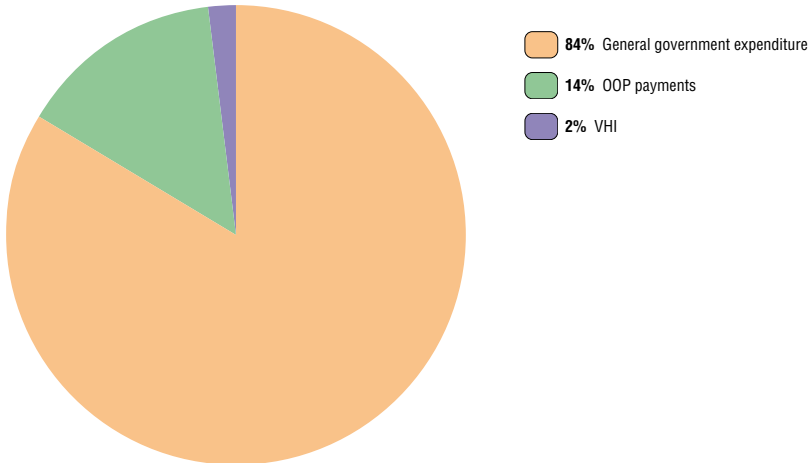
3.2 Sources of revenue and financial flows

The national government derives most of its income from personal income tax payable on wages and almost all other forms of income, including profits from personally owned businesses, a few other taxes on all personal income and VAT.

The municipalities derive their income from a proportional income tax and block grants from the state (Fig. 3.5). Formally, the municipalities set the tax rates themselves, but in reality, the municipal tax rates are set within limits negotiated with the national government.

Fig. 3.5

Health care expenditure by sources, 2007



Source: OECD, 2010.

Note: OOP: Out-of-pocket payments; there is 0% contribution from not-for-profit sources.

The regions, which are responsible for the provision of services by hospitals, GPs, medical specialists, psychologists, physiotherapists and a number of other minor providers, are funded by the national government (82% in 2011) and the municipalities (18% in 2011) through a combination of block grants (86% in 2011) and activity-based financing (14% in 2011) (Ministry of Interior and Health, 2010c) (see section 3.3). Approximately 19% of health care costs are financed through out-of-pocket payments, particularly for drugs (prescribed outside hospital), dental services and glasses.

Citizens may buy VHI to share risk and even out out-of-pocket payments over time, and employers may buy VHI. The employers' costs are partly offset by reductions in company taxes if all employees are covered by VHI.

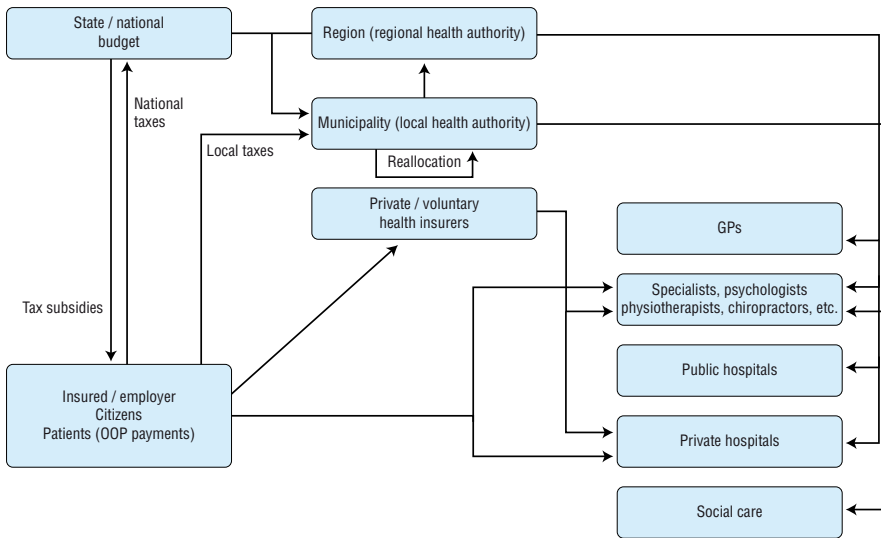
Earmarked taxes play no role in financing Danish health care. Because of the recent rapid rise in the number of people insured by their employer and VHI-costs/insured citizens, the figures presented in Table 3.3 and Fig. 3.6 underestimate private expenditures' share of total expenditure and VHI's share of private expenditure on health in 2011.

Table 3.3
Health care expenditure by expenditure sources, 1990 to 2007

Source of revenue	Percentage of total expenditure on health							
	1990	1995	2000	2003	2004	2005	2006	2007
General government expenditure	82.7	82.5	82.4	83.2	83.0	83.0	83.4	83.8
Out-of-pocket payments	16.0	16.3	16.0	15.2	15.4	15.4	14.9	14.4
VHI	1.3	1.2	1.6	1.5	1.6	1.5	1.6	1.7
Non-profit	0	0	0	0.1	0	0	0.1	0.1

Source: OECD, 2010.

Fig. 3.6
Financial flows



Note: OOP: Out-of-pocket payment.

3.3 Overview of the statutory financing system

The statutory health system is a universal, tax-financed compulsory system. Citizens (and their employers) may buy VHI.

3.3.1 Coverage

Breadth

According to the 2007 Health Act, people resident in Denmark (i.e. people registered with the national registry) are entitled to health care services. Non-residents are entitled to acute treatment but not to elective treatment. Coverage is universal, independent of contributions and not tied to membership of any insurance scheme. Citizens cannot opt out of contributing to the statutory system through taxation (see section 3.2).

Scope

The scope of health care services provided is described in broad terms only in the 2007 Health Act, thereby putting pressure on the regions to take up new interventions without financial compensation from the national government. According to the Health Act, municipalities are responsible for preventive services aimed at the general population and for rehabilitation and home care for patients, while the regions are responsible for the medical care of each patient and preventive services aimed at patients.

On the one hand, the service level offered to patients is regulated by law, by specifying maximum waiting times before the region must offer access to an alternative provider. On the other hand, the scope of the health care services for which the region must provide this service level is not specified.

Three possible major reasons for the absence of a specified benefit package are:

- that the regions would use a positive list as a bargaining tool in the negotiations with the national government, asking for compensation for each new intervention;
- that the hospitals and their departments would use a positive list as a bargaining tool in the negotiations with the region on next year's budget, asking for compensation for each new intervention; and
- fear that a positive list will slow down the introduction of new interventions and the abolition of antiquated practices.

In theory, the regions could provide different service levels, and until the 1990s local and regional variation in provision of services was viewed as appropriate, providing municipalities and regions with an opportunity to adjust services and service levels to people's preferences and to experiment with provision of services. Since the 1990s, local and regional variation has come to be viewed as an indication of problematic quality, service or effectiveness,

and the introduction of free choice of hospital in effect eliminated the regional administrative level's opportunity to select a distinctive service level: if a region declines to provide a service provided by another region, the patient can choose treatment in the other region, which then bills the home region. Furthermore, if a region should want to decline provision of certain interventions, the national government would be highly critical of this decision and the already limited popular support for the regional level would be further eroded. Therefore, even if there is no explicit benefits package, there is a strong pressure on the regions to provide medical care with documented effect.

Cosmetic surgery is not included in the benefit package, unless the inconvenience from the underlying condition is considered by the doctor to be so severe that treatment is indicated.

The process behind the decision on whether a new intervention should be included in the implicit benefits package is opaque. In general, clinicians are free to introduce new techniques if they can stay within their budget and if the intervention is not covered by the national specialty planning. HTA is not used systematically to evaluate all new technologies but has won a greater role in the evaluation of new and expensive drugs, where HTA is used routinely by the regions and the National Health Board for evaluation of the benefits of new drugs (see section 2.7.2).

As indicated above, the introduction of new interventions is often decided by clinicians and then spread to other departments. If new interventions are more costly than interventions already in use, it is likely that the hospital management and the region's administrative and political levels will be involved. If the technology is complicated, it is likely that it will be introduced at highly specialized hospital departments first, whereupon the National Health Board will influence the speed with which the technology is distributed to lower levels of specialization.

Depth

Traditionally, hospital care, including pharmaceutical treatment, has been provided free of charge at the point of delivery, while some services provided outside hospital are paid for by the patient, in part or in full, and other services are paid for by the region or the municipality, in part or in full; a majority in parliament decides which services are subsidized and to what degree. No national policy on out-of-pocket charges has been defined, and there is no logical pattern determining whether a specific health care service is paid for by the patient or the region/municipality: costs for life-saving interventions may be paid by the patients, while non-life-saving services may be paid by the region/

municipality; the size of many user charges and subsidies are independent of the patients' income; and there is no clear relation between when an intervention was introduced and whether they are paid for by the patient or by the region/municipality.

Patients are particularly likely to pay out-of-pocket for dental care out of hospital, and for glasses and drugs obtained out of hospital. Patients also pay for a number of services provided outside the hospital, such as physiotherapy or psychological treatment, but these charges make up a smaller part of total out-of-pocket payments than the three areas mentioned above.

In 2005, the Danish Welfare Commission proposed the introduction of user charges to reduce the demand for health care services and to raise revenue by means other than taxation on income (Danish Welfare Commission, 2005). The proposal included charges on visits to the GP, the GP out of hours, casualty departments, medical specialists, outpatient treatment and inpatient treatment (a per diem charge). These charges would be limited to 1% of the individual patient's yearly income. The proposals were immediately rejected by the former centre-right government, which had set up the Welfare Commission. In the spring of 2011, a similar initiative was proposed by independent health economists, who referred to the Welfare Commission's arguments (Pedersen, Bech & Vrangbæk, 2011), but only the Conservative People's Party (a member of the former coalition government) expressed support for financing a larger share of the health care sector by the use of general user charges (see section 3.4.2 concerning the introduction of user charges for specific services).

3.3.2 Collection

General government budget

The national government derives its income from:

- personal income tax, payable on wages and almost all other forms of income, including profits from personally owned businesses;
- an income tax on all personal income (nominally a health contribution);
- labour market contributions on all personal income;
- property tax;
- corporate income tax;
- VAT;
- taxes on specific goods; and
- energy and excise duties, including duties on pollution and consumption of scarce goods.

The “health contribution” is not a hypothecated tax, as health expenditures are determined independently of the revenue derived from the health contribution, and the revenue from the contribution is not allocated specifically to health care.

Tax rates are set by a majority in the parliament and in the municipal councils. All taxes and duties are collected by the state.

Personal income tax accounts for almost half of the state’s total tax revenue. It is calculated according to a two-step progressive scale, with a basic rate of 3.64% and a top rate of 15% on earned and capital income. The health contribution of 8% and labour market contributions of 8% constitute proportional taxes. A tax ceiling ensures that income taxes collected at state and municipal levels cannot exceed 51.5% of income.

Several existing taxes are partly motivated by health concerns (e.g. excise duty on motor vehicles, spirits, tobacco products, chocolate products, ice cream and soft drinks), and a duty on fatty foods will be introduced in 2011. None of these taxes or duties are earmarked for health care.

Taxes or contributions pooled by a separate entity

The municipalities derive their income from a proportional income tax and block grants from the state. Formally, the municipalities set the tax rates themselves, but in reality, the municipal councils set rates within limits negotiated with the national government. If municipalities exceed the limit on their tax rate, the national government may punish the municipalities individually or collectively, for example by reducing the block grants. In 2011, the average municipal tax rate was 25.0% of citizens’ personal income (the tax base is similar to that of the health contribution).

3.3.3 Pooling of funds

Allocation from collection agencies to pooling agencies

Each year in May and June, the national government negotiates limits to municipal taxation and expenditure, the total size of the block grants and the service level next year with Local Government Denmark – an association of Danish municipal councils – and the regional service level and financial resources with Danish Regions – an association of regional councils (see section 2.3).

Changes in the amount of money distributed from the national government through block grants to the municipalities and regions depend on whether they take on new tasks, whether responsibility for one or more tasks is moved from one administrative level to another, and whether the regions and municipalities increase their service level in agreement with the national government.

The block grants to the municipalities are distributed to the municipalities in proportion to each municipality's tax revenue, but in order to take differences in the inhabitants' taxable income and needs into account, funds are redistributed between the municipalities afterwards in order to ensure that the tax rate in each municipality ideally reflects the municipality's service level and effectiveness, rather than the population's composition and income. The redistribution between municipalities is performed according to a quite complicated formula, which includes a number of objective criteria, including the population's age distribution; the number of psychiatric patients, people with low income, people with basic or no education and immigrants from non-EU countries; the number of people living in socially deprived areas; the rate of unemployment; and the proportion of older people living alone. During the summer and autumn, the municipality councils negotiate next year's budget, including budgets for health care. This process includes a negotiation between the municipality and the region on how much money the municipality and the region expect that the municipality must pay to the region.

The regions derive their income for health care from four sources (Ministry of Interior and Health, 2010c) (see section 3.2):

- a block grant from the national government (79% of the regions' income in 2011);
- activity-based financing from the national government (3% of the regions' income in 2011);
- a contribution from each municipality in the region paid in proportion to the number of inhabitants in the municipality (7% of the regions' income in 2011); and
- activity-based financing from each municipality in the region (11% of the regions' income in 2011).

By 2011, the size of the state's block grants to each region for health care depends on the following sociodemographic criteria (Ministry of Interior and Health, 2010c):¹

¹ The percentages represent each criterion's weight, adding up to 100%.

- the number of elderly people (65+ years) living alone (25%);
- the number of families receiving social security (17.5%);
- the number of children of single parents (15%);
- the number of people living in rented housing (15%);
- the number of lost living years, calculated by comparing with the region with the highest average life expectancy (10%);
- the number of psychiatric patients who have been in contact with a psychiatric hospital department within the latest 10 years (5%);
- the number of patients with a diagnosis of schizophrenia who have been in contact with a psychiatric hospital department within the latest 10 years (5%);
- the average travel time to area with 18 000 inhabitants multiplied by the number of inhabitants (5%); and
- the number of citizens living on islands without a fixed connection to the mainland (2.5%).

The size of the activity-based contribution from the national government to each region depends on whether the region produces a specified amount of health care services. There is an upper limit to the amount of money each region can earn through activity-based financing from the national government. The size of the activity-based contribution paid by the municipality in each region depends on the number and kind of health care services provided to citizens in the municipality.

Allocating resources to purchasers

The pooling and purchasing (payment) functions are integrated, although it is basically the patient or the GP (regarding services provided by hospitals) who chooses the provider (see sections 2.9.2 and 3.3.3).

3.3.4 Purchasing and purchaser–provider relations

The relations between independent private hospitals/clinics and the regions, which are expected to enter into agreement with private hospitals/clinics to enable patients to choose providers with short waiting times, are highly dynamic. Since the introduction of waiting time guarantees of one month in 2007, the relations have been governed by negotiations at the national level between Danish Regions and the private hospitals; by centralized price setting by the national government when negotiation breaks down; and by invitations to tender by individual regions for a specified number of specific examinations

or treatments. The national government has played and still plays a major role in the formalized relationship between private hospitals and clinics. So far there is limited experience with contracting out interventions to private hospitals/clinics and on following up on deviations from the contracts.

Public hospitals owned and managed by the regions work within detailed targets for clinical production, service level and financial resources. If managers at hospital or departmental level deviate from the budgets, they may be fired by the region. If GPs, medical specialists or other providers working independently diverge from the official targets, their representatives may enter into negotiations with the region about the divergences and the reasons behind the divergences.

3.4 Out-of-pocket payments

3.4.1 Cost sharing (user charges)

Patients pay out-of-pocket payments for part of the cost of dental care, physiotherapy, psychological services and other providers outside hospitals, except for GPs. For dental care, the reimbursable amount depends on the procedure performed, but usually only a small part of the total cost is reimbursed, resulting in high co-payments. Inequity in dental status has been attributed to these high co-payments.

Drugs prescribed at hospitals are free at the point of delivery, whereas drugs prescribed by GPs are subject to co-insurance. The degree of co-insurance depends on the individual patient's drug costs in a year. If the individual patient's costs do not exceed DKK 865 (€116), the patient does not receive a refund (although patients under 18 years of age will receive a refund of 60% of their drug costs); patients with drug costs of DKK 865–1410 (€116–189) receive a refund of 50% (patients below 18 years of age, 60%); patients with drug costs of DKK 1410–3045 (€189–408) receive a refund of 75% (independently of their age); and patients with drug costs above DKK 3045 (€408) receive a refund of 85%.

Chronically ill patients with permanent or high drug utilization levels can apply for full reimbursement for any expenditure above an annual ceiling of DKK 3555 (€477). The municipalities may pay part of pensioners' drug costs, the size of the share depending on the pensioner's capital. Pensioners who find it difficult to pay for pharmaceuticals can apply to their municipality for financial

assistance. Patients with very low income can receive partial reimbursement, on a case-by-case basis. In addition, many individuals purchase VHI to spread the risk of high drug costs and level out the cost of drugs prescribed outside hospitals over time.

Pharmacies are required to substitute the least expensive generic drug for the drug prescribed by the GP to reduce drug costs for the public sector as well as for the individual patient.

Out-of-pocket payments are not tax deductible. Limits to costs in drugs but not in other areas (dentistry and other providers outside hospitals) means that user charges in some areas have consequences for individual patients and for equality (see sections 3.7, 7.2 and 7.3.2).

There is no clear pattern behind the utilization of user charges. User charges play a major role in financing dental services, glasses and drugs prescribed outside hospital, as well as some other services provided by independent providers, such as psychologists, physiotherapists and chiropractors, whose services constitute a relatively small share of total health care costs (Table 3.4).

Table 3.4

User charges for health services

Health service	Type of user charge in place	Exemptions and/or reduced rates	Cap on out-of-pocket spending	Other protection mechanisms
Outpatient prescription drugs	Co-insurance		For chronically ill	Co-payment
Dental care	Co-insurance for certain treatments: examination, preventive care, treatment for caries, periodontal disease, root treatment and extraction (local anaesthesia)	Benefit maximum for examination and minor interventions; minor exemptions		
Physiotherapy	Co-insurance	Free for certain patient groups suffering from permanent physical disability		
Psychological services		Benefit maximum for patients referred to psychologist by the GP		

User charges have been proposed as a means to reduce the demand for health care services, to promote a more efficient utilization of the health care sector's resources and to raise revenue. No explicit policy is in place, but decisions on user charges are made by the national government.

Breaking away from the traditional provision of hospital services free at the point of delivery, user charges were introduced for three kinds of hospital care on 1 January 2011: fertilization treatment,² sterilization (DKK 8457 (€1134) for men and DKK 12 984 (€1741) for women) and refertilization (DKK 5949 (€798) for men and DKK 33 933 (€4550) for women). According to the bill, the charges for fertilization treatment reflect three considerations:

- how much money the patients, on average, are assumed to be able to afford to pay;
- the need for revenue for the public sector, facing the actual financial crisis; and
- the costs associated with the interventions (the charges may not exceed the actual costs, as approximated by the DRG charges for the intervention).

Some of these user charges introduced in 2011 by the former government have been abolished by the new government in place.

Employers and individual citizens may take out VHI to spread the risk of paying user charges. VHI is tax deductible for employers if all employees are covered. The data on VHI coverage of the Danish population are very poor (see sections 3.3.1 and 3.5).

3.4.2 Direct payments

Patients pay directly for glasses, over-the-counter drugs and cosmetic surgery. Prices are set competitively.

3.4.3 Informal payments

In Denmark, patients do not pay informal payments for health care.

3.5 VHI

In Denmark, VHI plays a supplementary market role with regard to hospital services and a complementary role with regard to other health care services.

² Insemination DKK 1185 (€159), in vitro fertilization/intra-cytoplasmic sperm injection DKK 5040 (€676), implantation of cryogenically preserved eggs DKK 3024 (€406), donor semen DKK 700–1000 (€93–134), and drugs: up to DKK 15 000 (€2011).

The part of the population covered by VHI has grown in Denmark since the early 1970s in parallel with, and largely driven by, increasing co-payment for services such as adult dental services, drugs and physiotherapy (Pedersen, 2005), mainly covered by VHI provided by non-profit-making associations. Particularly since the early 2000s, Denmark has also seen a remarkable growth in coverage by for-profit VHI. In 2001, fewer than 50 000 persons were covered by a commercial VHI scheme but this had grown to approximately 1 million persons in 2010 (Borchsenius & Hansen, 2010). This development has resulted from the political support for greater VHI coverage – specifically a change in tax rules for commercially based health insurance in 2002 (Kjellberg, Andreasen & Søgård, 2010). Since 1 January 2002, VHI paid by the employer has not been taxable if the VHI includes all the employees. The declared intention was not to substitute tax-financed health care but to supplement and to provide more free choice (Pedersen, 2005). However, since the changed tax rules apply only to policies purchased by employers, it can be seen as an indirect tax subsidy favouring the part of the population that is in employment. The development is, therefore, not unproblematic in terms of basic values of equity and solidarity.

3.5.1 Market role and size

Since opting out of the tax-based financing of the public health care services is not possible, VHI is mainly used as a complementary or supplementary scheme alongside the statutory health system in Denmark. No VHI, non-profit-making or commercial, covers acute care, and therefore health insurance is only relevant for up to 15% of all hospital treatment (Pedersen, 2005). In 2007, the contribution of VHI to total expenditure on health was 1.7% and it provided 10.5% of private health care expenditure (see Table 3.1).

Complementary VHI provides full or partial coverage for services that are excluded from or only partially covered by the statutory health system. The demand for complementary VHI in Denmark may be viewed as a response to the relatively high out-of-pocket payments in a few areas such as adult dental services, drugs, glasses and physiotherapy (see section 3.4) (Pedersen, 2005). To cover such payments, the non-profit-making mutual association Health Insurance “danmark”, the dominant insurer in the complementary VHI market, grew out of the sickness fund system (sick-benefit associations) that was abolished in 1973 (see section 2.2), providing individual insurance policies. Health Insurance “danmark” provides substantial financing (approximately 50% of dental care expenditures and 14% of prescription drug expenditures). Premiums are not tax deductible. It primarily covers co-payments, and, in some cases, it pays for non-publicly reimbursed health care. Four different

categories of coverage are offered (Health Insurance “danmark”, 2011). The first category, Group 1, provides coverage for expenses related to private hospital care, medication, medical aids, chiropractic services, chiropody, physiotherapy, dental treatment, eye care, glasses, contact lenses, funeral aid and visits to sanatoria. Group 2 is designed for people who choose to pay a greater amount of their health expenses in exchange for greater freedom in choice of GPs and specialists. Group 2 members are reimbursed for expenses relating to GPs and specialists, in addition to receiving Group 1 coverage. The third type is called Group 5. It covers: medication, dental care, glasses and contact lenses. This group is mainly aimed at young people, who generally have less need for coverage and the coverage and the premium are lower compared with groups 1 and 2. Group 5 is by far the largest. The fourth category is a Basic Insurance Scheme, designed for people with no need for medical care presently. As a member of the Basic Insurance Scheme, medical costs will not be refunded; however, members may switch to one of the other types of coverage whenever necessary without having to requalify for membership. Complementary VHI is provided through annual or long-term contracts and benefits are paid in cash. Applications for coverage may be rejected if applicants do not fulfil the requirements, which mainly concern health status and are set out by Health Insurance “danmark”.

Supplementary VHI is divided into three categories.

VHI concerning treatment covers costs related to examination and treatment (including surgery and medicines) at private hospitals. Costs associated with cosmetic surgery, preventive interventions, dental care or treatments concerned with pregnancy or sexuality (including treatment for HIV/AIDS) are not covered. In 2009, this kind of VHI covered about 87.8% of all citizens with VHI.

Preventive VHI covers costs related to preventive services by physiotherapists, chiropractors and so on, aimed at reducing the risk that citizens must go on pension prematurely. In 2009, this kind of VHI covered about 10.5% of all citizens with VHI.

Health and prevention insurance covers costs associated with general health examinations but not costs associated with care that is consequential to the results of the examinations. In 2009, this type of VHI covered about 1.7% of all citizens with VHI (Seiersen, Hansen & Borchsenius, 2011).

VHI may include a lump sum in case of “critical illness”.

According to the former national government, the purpose of supplementary VHI is to increase consumer choice and access to different health services (rather than to change the health system's financing). Traditionally, this means guaranteeing superior accommodation and amenities in hospital – rather than improved quality of care – and faster access to treatment that generally has long waiting times, such as elective surgery. This development results from a political initiative to strengthen supplementary coverage. When the former centre-right government came into power in 2001, one of the declared intentions was to change the tax rules for commercial health insurance. In accordance with Danish tax policy for fringe benefits, premiums had been tax deductible for companies, hence reducing company taxation, but the premium was taxable income for the employees. The change that came into effect in 2002 meant that, provided all employees in a company are covered by basic insurance, the premium is tax free for the employees (Pedersen, 2005). Apart from the more favourable tax issue, demand may also have been fuelled by the public debate on the public health system. Quality and waiting times are perceived to be problems in Denmark and insurers have been able to benefit from these concerns.

3.5.2 Market structure

All citizens may take up complementary insurance (children are usually covered by their parents' VHI). Insurers providing complementary insurance may decline applications for insurance if the applicant already suffers – or has suffered – from some disease. Since 1973, the membership has increased from about 270 000 (Pedersen, 2005) to 2.1 million (38% of all Danes) in 2011 (Health Insurance “danmark”, 2011), making complementary VHI the most common type of VHI in Denmark.

Similarly, all citizens may take up supplementary insurance, but nine out of ten citizens covered by supplementary insurance are covered by their employer (Seiersen, Hansen & Borchsenius, 2011). In 2001, fewer than 50 000 persons were covered by commercially based health insurance, growing to approximately 1 million persons in 2009 (Seiersen, Hansen & Borchsenius, 2011). Only a few workplaces in the public sector offer VHI; a large majority of citizens covered by supplementary VHI work in the private sector.

The major provider of complementary VHI, Health Insurance “danmark”, is a non-profit-making mutual health insurance association. Complementary VHI is offered by a few (approximately half a dozen) private, major, dominant, traditional, Danish, public profit-making insurance companies.

3.5.3 Market conduct

Insurance premiums are set competitively and insurers can reject applications from potential customers for insurance. In Denmark, insurers and providers are not integrated. Insurers buy services from private providers in Denmark or abroad, both specialists and hospitals. Published data on the administrative costs of insurance companies are hard to come by. In 2009, the turnover of insurance companies related to complementary VHI was DKK 1.4 billion, while the companies paid DKK 1.3 billion in compensation (Seiersen, Hansen & Borchsenius, 2011). The greatest part of the reimbursement covered costs related to surgery (67%), followed by physiotherapy, chiropractice, and other similar areas (17%) and psychologists, psychiatrists and related areas (16%) (Seiersen, Hansen & Borchsenius, 2011).

3.5.4 Public policy

According to the Danish Financial Business Act, which implements several Council Directives, the Danish insurance companies are regulated by the Danish Financial Services Authority (*Finanstilsynet*). A major part of the Danish regulation of insurance companies is derived from EU regulations.

There is no political debate on complementary VHI. However, since the introduction of the incentive for employers, there has been a quite intense policy debate concerning the effects of supplementary VHI. On the one hand, supporters of supplementary VHI have argued that the introduction of a tax incentive for VHI has raised more resources for health care, thereby increasing the sector's capacity; it has introduced a new financing source and improved ordinary citizens' access to the benefits of VHI, namely access to health care with short waiting times. On the other hand, opponents have argued that VHI does not increase human resources but only the monetary resources, thereby resulting in inflation rather than a greater capacity in the health care sector, and that complementary VHI divides patients into two groups, with patients in employment having better access to treatment than unemployed patients and pensioners. Specifically, the opponents have pointed out that, under certain conditions, specialists outside hospitals get higher payments for treating patients. When a specialist's income from the region exceeds a certain level, the specialist receives a smaller payment for each extra intervention; therefore, the specialist faces a financial incentive to treat patients paid for by the insurance companies rather than patients paid for by the region.

3.6 Other financing

Other financing methods are of marginal importance only.

3.6.1 Parallel health systems

The role of parallel health systems is marginal and limited to a few individual providers operating on their own. Danish ministries such as those for the interior, defence and justice do not run their own health systems. In peace time, soldiers, whether professional or conscripts, are treated by the civilian public health care sector, and prisoners are cared for by the public health system outside prisons, although prisons may enter into an agreement with GPs or voluntarily hire a doctor to provide health care services at the primary level inside the prison for practical reasons (reducing transportation of prisoners under guard and thereby achieving savings on security).

Individual doctors in Copenhagen have set up a single private out-of-hours GP service, a single private service for sick children and one private emergency ward. The market for such services is very small or non-existent – the private emergency ward was closed in the spring of 2011 after two and a half years of service (Outzen, 2011).

3.6.2 External sources of funds

Danish health care is not financed by means of external sources.

3.6.3 Other sources of financing

Except for contributions to VHI, as described above, private and public employers do not provide access to parallel health care, while a minor share of the costly equipment in Danish hospitals has been financed by private foundations or sponsors.

The financing of mental health care does not differ from somatic health care, as the Health Act does not distinguish between somatic and psychiatric health care in describing the tasks for the regions and the municipalities. Nor is long-term care financed independently of general medical services. Long-term care is often provided in the patient's home and, therefore, it is usually a task for the municipality (see section 5.8).

Some patient associations run services aimed at patients with diagnoses relevant to their members. Except for rheumatology and epilepsy, the services provided by most patient associations resemble social services rather than health

care. Whether the services by these few units are funded by the associations, the regions or the municipalities reflects to a large degree political agreements and/or historical precedents rather than a general rule.

3.7 Payment mechanisms

3.7.1 Paying for health services

Financial resource allocation between the integrated purchasers and providers in the hospital sector of the Danish health system has been subject to major changes during the last few decades. The Danish counties experienced massive budgetary deficits in the 1970s until the introduction of global budgeting in 1982, when prospective global budgets decided upon by the regional councils were introduced as the predominant method for allocating resources to hospitals. These budgets were usually based on past performance and modified when new activities were introduced, including changes in the distribution of tasks and changes in capacity.

The system of politically controlled global budgeting and contracts, combined with cost-containment efforts at the regional level, has proved to be an effective way of controlling expenditure on hospital services. However, the system provides limited economic incentives to increase efficiency at the point of service delivery and limited general incentives to increase activity if demand increases, which possibly contributes to waiting list problems for some treatment types. Finally, global budgeting encourages hospitals and departments to view their economic budget as a “right”. It also makes it difficult to establish whether the current resource allocation mechanism is efficient or not, or to reallocate resources between hospitals and departments. A number of different initiatives, at the national as well as the regional level, have been introduced to counter the perverse incentives associated with global budgeting – but the main element of global budgeting has been kept in order to keep the healthy effect of global budgeting on total costs.

During the 1980s and 1990s, after the introduction of global budgeting, the counties developed target and performance management within the global budgeting framework by including non-financial measures for clinical production (e.g. discharges, bed-days and the number of ambulatory visits) and service levels (e.g. standards for various measures of waiting time for patients or servicing GP) in budget assessments for hospitals and hospital departments. Some counties also wanted to include measures of clinical quality but did

not succeed as the proposed measures (typically mortality and reoperation rates) were considered too simple and did not compensate sufficiently for differences in the case mixes between departments. These performance measures supplemented the global budgets, which continued to constitute the main component of the counties' target and performance management system. The supplementary measures did not aim at introducing competition between hospitals, and little emphasis was placed on publishing the hospitals' results to the public. This was probably because of fears that hospital administrations might manipulate performance data or that below-standard performances might create anxiety among voters and encourage patients to choose hospitals in other counties.

Initiatives to increase productivity were characterized by including still more performance measures in hospital budgets and/or by gradually introducing still more market-oriented steering mechanisms into the health care sector. Performance measures varied from county to county and, in some cases, even from hospital to hospital. Although hospital budgets are "soft" in the sense that they are not legally binding and do not include specific sanctions if targets are not achieved, persistent failure to fulfil a budget may result in replacement of managers. Another initiative to improve effectiveness was to delegate management and financial responsibility to lower levels (e.g. from hospital to department level). It was hoped that such initiatives would increase cost awareness and allow better utilization of information at each organizational level.

In the 1980s, many county politicians and managers were highly sceptical of activity-based financing, probably because their counties experienced massive and persistent deficits in the 1970s through the combination of unlimited demand for health care provided free at the point of delivery and very limited extra tax revenue gained by the public sector for treating a greater number of patients. A further reason may be that it would have been a major challenge for a single county to develop the infrastructure for activity-based financing (including the definition of DRGs and the calculation of the number of points associated with each DRG) on its own.

Activity-based financing was eventually introduced at the department and hospital levels in the 1990s by the national (centre-left) government as a typical "new public management" tool. The national government provided the necessary infrastructure (software). At the time of introduction, on 1 January 1999, activity-based financing hospitals were obliged to distribute 10% or more of each hospital's budget through activity-based financing. Since then, the

mandatory share of activity-based financing has been increased by national centre-right governments, at first to 20% by January 2004 and then to 50% by January 2007 (Table 3.5). By 2010, two of the five regions on their own initiative distributed 70% of their hospital budgets through activity-based financing. These increases have meant that the financial consequences of production below a specified level (the individual department's baseline) have become still stronger for the department over time, and it has thereby become more and more important for each department to avoid undershooting the so-called baseline, which is the clinical production (measured by DRG points) associated with the hospital department's expected financial budget. These budgets are fixed through annual negotiations between the regions, hospital administrators and department managers. The procedure varies across the regions and by year.

Table 3.5
Provider payment mechanisms

Providers	Payers			
	Regional health service	Local health authority	Private/voluntary health insurers	Direct payments
GPs	C (1/3), FFS (2/3)			FFS
Medical specialists working outside hospitals	FFS		FFS	FFS
Other ambulatory provision ^a	FFS		FFS	FFS
Public hospitals	Global budgets (30–50%); case-based payments (50–70%)			
Other hospitals			FFS	FFS
Dentists			FFS	FFS
Pharmacies	FFS		FFS	FFS
Public health services			S	
Social care			S	

Notes: ^a Such as physiotherapists, psychologists, chiropractors and dentists; C: capitation; FFS: fee for service; S: salary.

The Danish DRG system was developed from the national health authorities from the Nordic system. DRG rates for inpatients and DAGS rates for outpatients (the Danish ambulatory grouping system (*Dansk ambulat grupperingsystem*)), are calculated once a year by the Ministry of Health, based on the hospitals' accounts and production of health care services (Ministry of Interior and Health, 2011a). In 2011, the Danish DRG system included 678 DRG groups (648 in 2010) and 198 DAGS groups (161 in 2010). The logic in the grouping of services is validated by the medical societies.

Departments and hospitals that produce more DRGs than specified by their baseline will experience a rise in their income; however, there is a limit as to how much the extra income can exceed the income associated with the baseline. This model for activity-based financing combines the advantages of global budgeting with the advantages of activity-based financing. In order to promote efficiency and to compensate for the risk of “DRG creep”, the baseline is raised by several percentage points each year (the percentage differs by region), and if a hospital department exceeds the baseline, next year’s baseline may be increased by a certain share of the activity above the baseline.

3.7.2 Paying health workers

Most providers are financed through fee-for-service mechanisms in order to promote activity. Most fee-for-service mechanisms, however, involve upper limits to turnover to enable the regions to keep their expenditures within their budgets (see descriptions of the various providers in Chapter 5).

Salaries for health workers employed by the regions at hospitals, including doctors, nurses, midwives, physiotherapists, laboratory technicians, psychologists and so on, are negotiated by the Regions’ Board for Wages and Tariffs and the employees’ trade unions. The Board consists of a representative from each of the five regions (each of which must be a member of a regional council), two representatives appointed by Local Government Denmark (each of which must be a member of a municipal council), a representative of the Ministry of Finance and a representative of the Ministry of Health. Individual health workers with special competences and/or in short supply – medical specialists, particularly – may be able to achieve supplementary payments, but most health workers employed at hospitals are paid salaries calculated on the basis of the number of hours worked, with supplements for the number of hours worked out of hours. Consequently, the wages of individual health workers are independent of the clinical production and its quality and the service level at the department and the hospital.

Salaries for health workers employed by the municipalities, including nurses working in nursing homes or in home care and dentists working at school clinics, are negotiated between Local Government Denmark and the relevant trade unions.

Fees for GPs and professionals working as independent businesses are negotiated by the Board for Wages and Tariffs of the Regions and the professional organizations, such as the Organization of General Practitioners

in Denmark. A region may enter into one or more supplementary agreements with representatives of the GPs working in the region on provision and payment of services not included in the national agreement.

GPs derive almost all of their income from the region in which their practice is situated. Their income is derived from a mixture of capitation, which makes up, on average, a third of their income, and fees for services rendered (per consultation, examination, out-of-hours consultation, telephone consultation, e-mail consultation, home visit, etc.), making up the remaining two-thirds. Fees paid directly by citizens for services not covered by the region (e.g. certificates documenting that the citizen is healthy enough for a driver's licence to be renewed, some other health certificates and some vaccinations) constitute a small part of their income only. This combined fee system has evolved over the last 100 years. The Board's (until 2007, known as the Association of County Councils) objectives when negotiating with the GPs include the creation of incentives for the GPs to treat patients themselves, rather than refer patients who could be treated in general practice to hospital, while, at the same time, providing economic security for the regions and remuneration for general services for which fees are not paid. While fees for service should increase GPs' productivity and provide incentives to treat patients themselves rather than referring them to hospitals, capitation aims to compensate GPs for services not compensated by fees, thereby reducing the temptation for GPs to provide unnecessary treatment ("supplier induced demand") in order to secure a sufficient income. In 1987, the Municipality of Copenhagen³ changed from a mostly capitation-based system to the national combined fee system. As a result of this change, the volume of activities that were specifically remunerated increased and referrals to specialists decreased, in accordance with the objective (Krasnik et al., 1990). If a GP's turnover exceeds the average turnover for GPs in the region by a certain percentage, the GP's representatives in the region and representatives of the regional council may discuss the GP's production, but the region cannot order the GP to reduce his or her turnover or activity or to pay back a proportion of the turnover. Therefore, the region's cost control is much weaker than in the hospital sector, where the regions may unilaterally cut a department or hospital's budget.

Practising specialists derive their income from fees paid by the regions for specific services described in the agreement between the Regions' Board for Wages and Tariffs and the Danish Association of Medical Specialists. Practising specialists do not receive capitation. For each specialty, the agreement specifies

³ Until 1995, the Municipality of Copenhagen was responsible for local as well as regional tasks in the municipality, including provision of health care.

a number of services and the fee associated with each service. Each service specified in the agreement is described in broad terms; the service's content, indication and quality standards/indicators are not specified in detail in the agreement, providing room for interpretation of the agreement. If the specialist reaches a specified turnover, the fees for further services provided are reduced by 40%. Until 2008, the payment was reduced at two levels, by 25% at the first limit and by 40% at the second limit, in order to reduce the risk that actual costs exceed the region's budget. However, in order to reduce waiting times at hospitals, the first limit was eliminated on the assumption that this would strengthen the specialists' financial incentives to examine and treat patients, thereby reducing the pressure on hospital departments and the need for re-referral of patients to private hospitals. Little evidence is available on the relation between activity-based financing and production or on the relationship between activity-based financing and productivity, but the persistent challenges for the regions with regard to controlling costs in the primary sector may be interpreted as an indication that activity-based financing provides GPs and medical specialists with an incentive to increase their production.⁴

The agreements reached by the Regions' Board for Wages and Tariffs with other providers such as physiotherapists, psychologists, chiropractors and dentists also specify fees and conditions for provision of services. The agreements do not include capitation fees.

It has proved very difficult for the regions to control costs to providers outside hospitals, probably for several reasons.

- The regions and the providers' representatives are negotiation partners on an equal footing (at least formally). The regions cannot change the providers' financial conditions unilaterally but must enter into a negotiation to reach an agreement, while they may unilaterally reduce hospital departments' financial budgets or increase their activity budgets.
- A large share of the turnover of GPs and, particularly, medical specialists is derived from activity-based financing, making the regions sensitive to small changes in providers' activity.
- GPs treat 90% of the patients showing up in their practice without referring them to hospital. Therefore, if the regions reduce the GPs' financial incentive to treat patients themselves, the GPs may refer more

⁴ As opposed to the "target-income-hypothesis", which states that providers will aim at a certain income – their "target income" – and put more emphasis on spare time when they reach this income level.

patients to hospital. Even if the GPs refer only a small percentage more of their patients to hospital, the number of patients received by hospitals will increase by a much higher percentage.

GPs and other providers working independently employ secretaries and other supporting personnel, such as nurses or laboratory technicians, who are paid fixed salaries in accordance with agreements between employers' associations and the relevant trade unions. It is the stated objective of the national government and the region to encourage GPs to employ more supporting personnel to enable GPs to concentrate on tasks that only medical doctors are authorized to perform.

The income of the proprietor pharmacist is determined by the pharmacy's turnover, the pharmacy's costs and the regulation by the state, which redistributes income from pharmacies with a relatively high turnover to pharmacies with a relatively low turnover. The association between the pharmacy's and the proprietor pharmacist's financial success provides proprietor pharmacists with an incentive to improve the pharmacy's efficiency. Salaries for the staff in pharmacies, pharmacists and pharmaconomists (*lægemiddelkyndig* (pharmacy assistants)), are set through negotiations between employers' associations and the relevant trade unions.

Alternative medicine is not regulated or provided by the national, regional⁵ or local government, apart from acupuncture, which may be provided by some GPs and midwives. Providers set their own fees and are financed through direct payments from patients.

⁵ Acupuncture is provided by some hospital departments by health workers with a special interest in this area – apparently mostly as an analgesic at obstetric departments.

4. Physical and human resources

The physical and organizational infrastructure of the hospital sector has been undergoing change. The number of hospital beds has declined since the late 1980s in the acute, long-term and psychiatric care sectors. Average length of stay has also declined through changes in treatment options, with an increase in outpatient treatments, as well as a policy of deinstitutionalization in the psychiatric sector. A more recent trend is merging of hospitals and the centralization of medical specialties, including a reorganization of the acute care system. Alongside this process, the government has launched a major investment programme in new hospitals and in improvements to existing ones. The use of IT has received increasing attention within the health care sector. Strategies for digitalization of health information have been proposed a number of times, but implementation has encountered problems because of a lack of coordination. Nevertheless, all primary care doctors now use electronic medical records. Ongoing initiatives include a national medication record as well as electronic patient journals within the five regions. Regarding human resources, the number of physicians is slightly increasing but recruitment problems persist, particularly in rural areas. GPs are fairly well distributed throughout the country, but practising specialists are concentrated in the capital and other urban areas. Nurses constitute the largest group of health workers and the number of nurses has increased in recent decades. Since the early 2000s, active recruitment of health workers from outside Denmark has taken place.

4.1 Physical resources

4.1.1 Capital stock and investments

Current capital stock

The number of hospitals can be based on organizational units or sites.¹ In 2009, there were 27 organizational units on 72 sites. The hospitals are situated across the country following population density, with the greatest number of hospitals around the capital, Copenhagen. The hospitals were established in different periods, the oldest operating hospital being from 1755 (*Esbønderup*) and the newest from 1987 (*Skejby*). Hospital size varies from the smallest with 20–40 beds to the largest with 1533 beds (Odense University Hospital) (National Board of Health, 2009a).

Investment funding

Regional capital investments and ongoing maintenance costs are funded through general revenue and occasionally by specific grants (see Chapter 2). Recent capital investments (see below) support a planning strategy that combines a new acute care organization and a continuing trend of centralization of the hospital sector. The financing of large-scale buildings is accomplished through a combination of state grants, regional self-financing and loans. However, the central administration sets limitations on the economic activities of the regions with regard to the level of expenditure and borrowing. These limitations vary over time and they are generally based on political considerations. Despite political interest, there are no public–private partnerships for capital investments.

In 2007, the government set aside DKK 25 billion as part of the 2007 health care reform (see section 6.1) to provide investments in new and improved hospitals. In the financial agreement between the government and the regions in 2010, it was decided that the investment would be approximately DKK 40 billion in total, of which the government would supply approximately DKK 25 billion. This was distributed in two phases: DDK 15 billion was distributed in early 2009 and the remaining DDK 10 billion in late 2010. A panel of experts was appointed in 2007 to recommend to the government which hospitals should receive funding. A total of 16 hospital projects were recommended and approved (Good Hospital Building, 2011). The recommendations were based on the wish to centralize medical specialties at fewer hospitals as well as on the need to support 13 of the 18 hospitals that will make up the new structure for

¹ A hospital organizational unit can have several different land registers or addresses, across a city or across greater distances. Odense University Hospital, for example, has the main facility in Odense but also a large former independent hospital in Svendborg, 30 km away.

acute hospitals, thus reflecting stated policies on how the health system should be organized in the future. The 16 hospital projects include the building of two university hospitals as well as the building or renewal of several somatic and psychiatric hospitals (Ministry of Interior and Health, 2010b).

Large differences exist between capital investments in the different sectors of the health system as a result of differences in ownership and funding. As public hospitals are owned by regions and financed through taxes, capital investments in these hospitals are governed differently to, for example, the primary care sector, where the estates are privately owned. These differences are described in more detail in Chapters 2 and 5.

4.1.2 Infrastructure

The total number of beds has declined since the early 2000s (Table 4.1). The number of beds in acute care hospitals in Denmark has also declined substantially since the 1990s (Table 4.1), reflecting a trend in almost all western European countries, but it remains higher than for other Nordic countries (Fig. 4.1a). There has been a fall in the number of beds from 450 per 100 000 population in 1990 to 298 in 2008 (National Board of Health, 2009a). The relative reduction in the number of beds is most significant in psychiatry, largely because of the policy of deinstitutionalization, whereby beds in long-stay psychiatric hospitals are gradually being replaced by community mental health services where patients are not living in institutions. During the period 1980–1990, the total number of psychiatric beds was dramatically reduced from 8182 to 4906.

Table 4.1

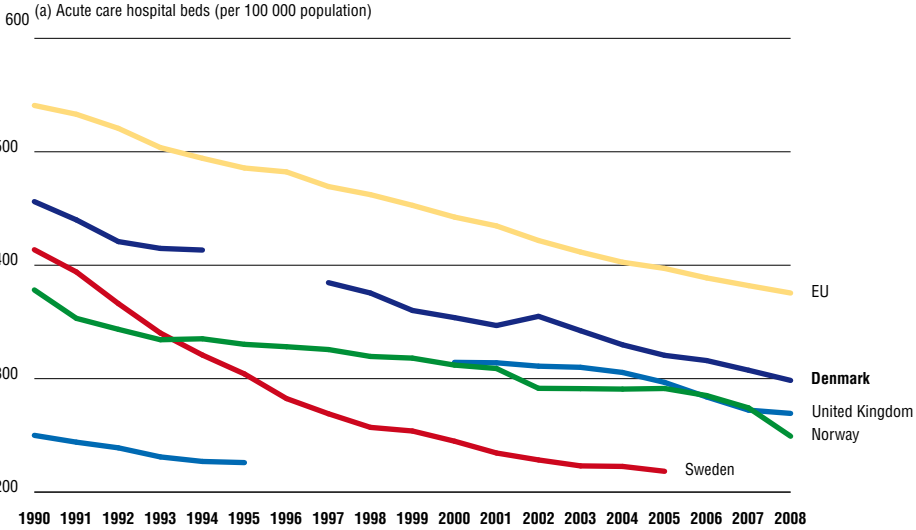
Mix of beds in acute hospitals, psychiatric hospitals and long-term care institutions in Denmark, per 100 000 population, 1990 to latest available year

	1990	1995	2000	2005	2009
Total number of hospital beds	–	–	430	390	350
Acute care beds	460	–	350	320	290
Psychiatric hospital beds	100	80	80	70	60
Nursing and older home beds	1000	900	860	820	840

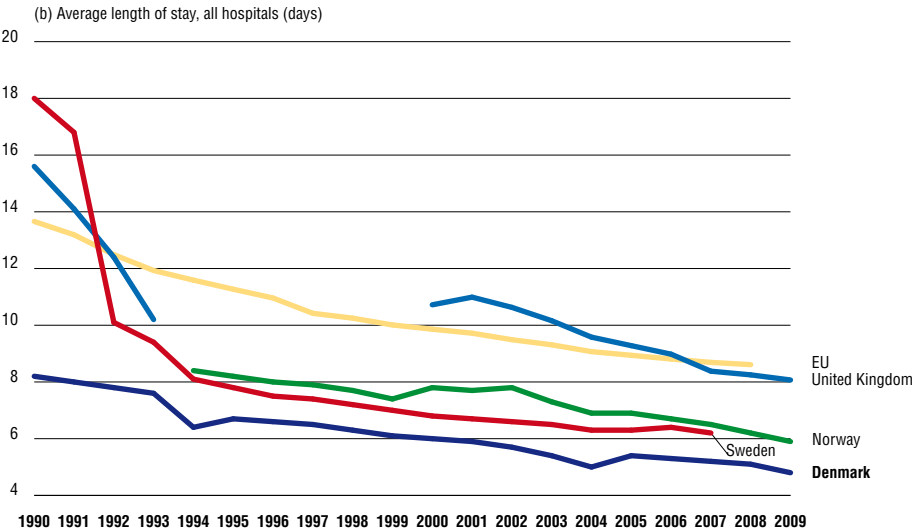
Source: WHO Regional Office for Europe, 2011 (accessed December, 2011).

Fig. 4.1

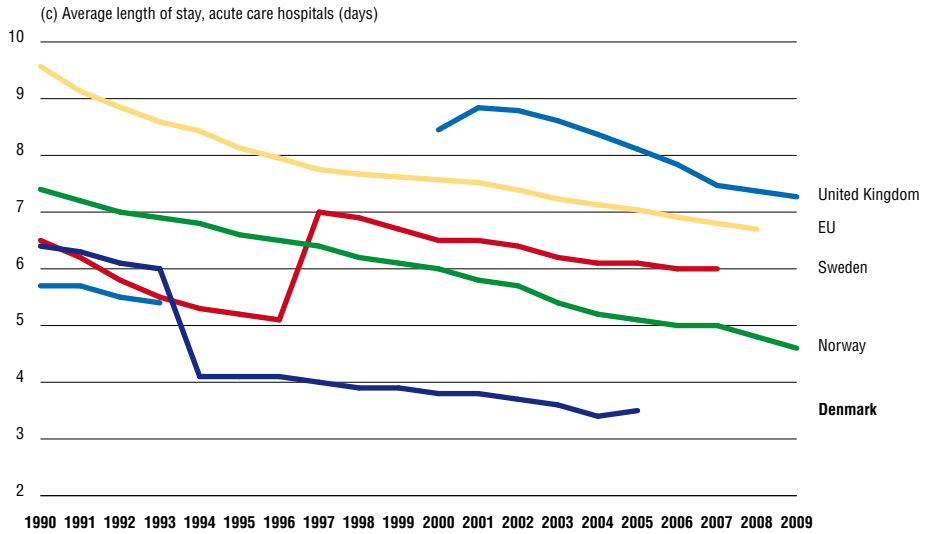
Operating indicators for hospitals in Denmark and selected countries, 1990 to 2009 or latest available year. (a) Acute care hospital beds per 100 000 population. (b) Average length of stay in all hospitals. (c) Average length of stay in acute care hospitals. (d) Bed occupancy rate (%) in acute care hospitals



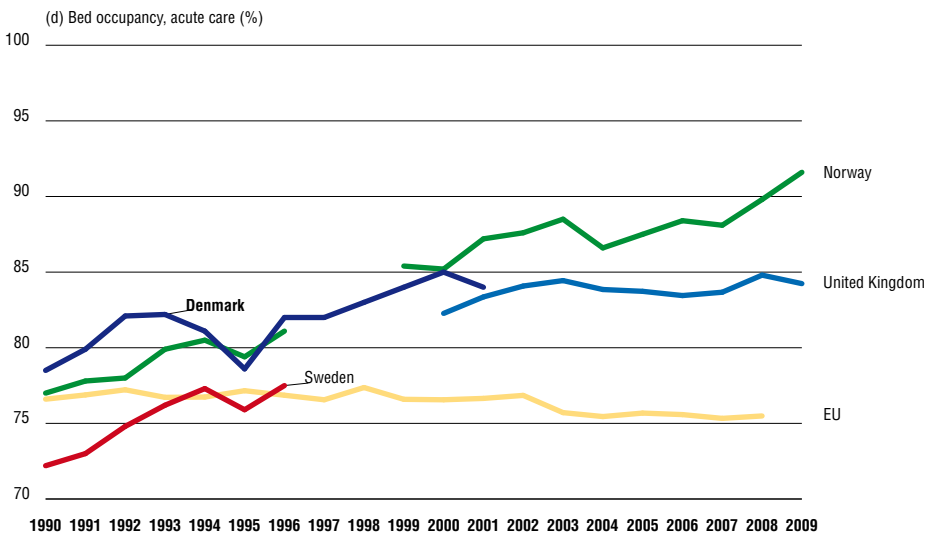
Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).



Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).



Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).



Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

The general decline in the number of beds in both somatic and psychiatric hospitals is associated with a large increase in the number of outpatient visits. Many diagnostic and therapeutic procedures can take place without inpatient admission, or before and after an inpatient stay. Somatic activity has increased since the mid-1990s, parallel with a reduction in the number of hospitals. The number of discharges increased from 1990 to 2009, with an average yearly rise of 1.3%.

The average length of stay decreased by more than 40% from 1990 to 2009 (see Fig. 4.1b,c). This steady decline has occurred as treatments have become more effective and as more treatments have become based in outpatient departments. A similar decline has been taking place throughout the last 100 years as a result of changes in disease patterns and the availability of more effective treatments, among other reasons (Vallgård & Krasnik, 2010). The decline in average length of stay in hospital continued during the last 20 years, as can be seen in Fig. 4.1b. A focus on shortening length of stay through policies of extended free choice combined with the “treatment” guarantee have put pressure on the regions to optimize patient flow during admission (see also Chapter 6). Fig. 4.1b shows that Denmark has the shortest lengths of stay in Scandinavia and around half that of the EU average. Similarly, the average length of stay in acute care hospitals is also significantly lower in Denmark than in other Nordic countries, and has been declining since the 1990s (Fig. 4.1c).

According to Fig. 4.1d, Denmark has similar bed occupancy rates in acute care hospitals to the other Scandinavian countries and the EU average for the years where data are available from WHO. According to the Ministry of Interior and Health, bed occupancy rates in Denmark have been around 90% for the past 10–12 years. The 90% represents an average throughout the year and is subject to significant variation.

4.1.3 Medical equipment

There is very limited national information available from hospitals and primary care facilities on existing medical equipment and its use. Table 4.2 shows the number of MRI units and CT scanners per million population in 2008.

Table 4.2

Items of functioning diagnostic imaging technologies (MRI units and CT scanners), in 2008

Diagnostic imaging technology	Units per million population	
	Denmark	EU average
MRI units	15.4	10.2
CT scanners	21.5	19.2

Source: OECD, 2010.

It is difficult to assess whether the quality and quantity of basic equipment is sufficient. There are waiting times of varying lengths for diagnostic imaging, but the different actors, for example patient organizations and hospital managers, are likely to disagree on whether this means that the capacity is too low. Primary care doctors can refer to diagnostic imaging facilities at hospitals, and in bigger cities there are special facilities for primary care diagnostics, including diagnostic imaging. Until May 2011, primary care doctors were unable to refer directly for CT scans and MRI; before then such referrals could only be made by doctors in secondary care.

4.1.4 IT

In recent years, access to the Internet has generally increased. In 2010, 89% of the population had access to the Internet from home, compared with 46% in 2000 (National IT and Telecom Agency, 2011). Denmark, with 37.7 fast Internet connections per 100 inhabitants in 2010, was among the countries in the OECD with the highest number of fast Internet connections (OECD, 2011a).

The Internet is used increasingly in searching for health information and for contacting GPs or other health professionals. In 2008, around a third of the population had used the Internet to search for health information within a three-month period. By 2010, that number had doubled (Statistics Denmark, 2011).

Sundhed.dk

The Danish E-Health Portal, Sundhed.dk (www.sundhed.dk), is a joint public service established in 2003 by Danish Regions, the Ministry of Health and Prevention, Local Government Denmark and the Association of Danish Pharmacies. The portal allows patients to access waiting list information, schedule appointments at the primary care doctor, review laboratory test results, access medication lists/profiles, e-mail their primary care doctor and renew prescriptions. Several of the options are also available to providers. Patients log in via unique personal signatures and health professionals via their professional

digital log in. All views are logged and unjustified use is a privacy violation and can be punished as such. There has been a large increase in the use of the portal, from 78 000 unique monthly entries in 2004 to 258 000 in 2008 (Danish E-Health Portal, 2011).

Current use of IT in primary care

Health professionals and IT experts have criticized the fact that the former counties have established different electronic health record systems and approaches, which they regard as a serious drawback because of the waste of resources and lack of coordination. Considering the complexity of the problems and the decentralized approaches that have been taken during the initial phases, full and functional electronic health record coverage of the health care sector is not expected at any time in the near future. One of the reasons for the decentralized approach was a hope that competition would improve the quality of the product, together with the fact that lawmakers did not want a monopoly of a single provider. Integrated information systems and electronic health records have been major priorities in the health IT strategies since the late 1990s.

All primary care doctors have and use electronic medical records. Since 2004, primary care doctors have been mandated to use computers and a system for electronic medical records and communication. The system is developed by the Danish Health Care Data Network (MedCom) and allows management of medication lists, clinical progress notes, viewing diagnostic images and laboratory test results and sending reminders to patients. Primary care doctors are connected to specialists, pharmacies, laboratories and hospitals via clinical messaging systems. This allows medical prescriptions and referrals to hospitals and specialists to be sent and received electronically. In 2010, 90% of all clinical communication between primary and secondary care was exchanged electronically. In 2002, approximately 2.4 million messages per month were exchanged in the various existing systems among more than 2500 parties, including hospitals, pharmacies, laboratories and GPs. In 2010, the number had increased to more than 5 million (MedCom, 2011). The share of GP e-mail consultations tripled in the period from 2006 to 2009, from 1.2 to 4.4% of a total of 41 million consultations in 2009. At the same time, the share of telephone consultations decreased from 42.8 to 39.1% (Statistics Denmark, 2011).

In primary care, modern IT is available outside normal working hours, including patient records; contact with hospital, pharmacy or the relevant local home nursing service; and electronic medical records. Some of these

technologies have, however, not been functioning well or supplied with up-to-date information. Information concerning the encounters is sent electronically to each patient's own doctor.

IT in secondary care

Within hospitals, IT systems are used to register patient data such as patient files, patient administrative systems, laboratory systems, blood bank systems and diagnostic imaging and booking systems. More than 10 different systems, however, are in use across the five different regions. These systems differ from the ones used by primary care doctors.

Strategies for health IT

The first national strategy for digitalizing the health system was introduced in 1996 and since then, three more have been developed. The objectives have been different, but a common theme has been to support the different daily activities in the health system. However, the implementation process of the full strategies was not very successful and critics have suggested that the objectives were not met. Subsequently, the newest approach, the National Strategy for Digitalization of the Danish Healthcare Service 2008–2012, was released in 2007.

By the end of 2011, a national medication record, known as the Shared Medication Record, will be implemented. This record will contain updated information on present medication given everywhere in the health sector (e.g. pharmacy and hospital) and will be accessible to relevant providers and citizens via the health professionals' own system or portal (see also section 2.9.1).

Focus is now on creating a common electronic health record system within each of the five regions rather than establishing a common system for Denmark. By the end of 2013, however, all hospitals in the regions must be able to communicate through a national platform, the e-Journal, in order to share relevant information about patients. The sharing of diagnostic images and descriptions has significant potential in relation to improving quality, reducing waiting times and increasing efficiency. The implementation process will take place in 2011.

There is a broad consensus regarding the need for electronic national clinical guidelines in Denmark. Several different approaches have been tried since the mid-1990s, but have so far been unsuccessful. The latest attempt in 2009–2011 was to convert the IT platform and clinical content found in the English system "Map of Medicine", but the attempt was met with significant resistance from the medical community and the Danish regions because it did not meet expectations in terms of content and cost. The initiative was then abolished. See also the discussion of IT in section 2.7.1.

Telecare strategy

A common strategy for the use of telemedicine in the regions has recently been published by Danish Regions (*Regionernes Sundheds-it*). The strategy aims at planning a common strategy for the development of telemedicine in the regions, including a wider and more large-scale use of telemedicine as well as effective knowledge-sharing between the regions based on the different pilot projects that single regions have already carried out. The aim is that telemedicine may be used in patient communication and treatment as well as a means of communication and collaboration between health professionals. The strategy provides 24 concrete recommendations within five areas of the regions' hospital management: the prehospital sector, intra- and inter-hospital issues, internationally, between the hospital and the patient's own home, and in the psychiatric sector (Regions' Health-it, 2011). A new national strategy is also under way at the National Board of E-Health. At the time of writing, a preliminary draft has been submitted for hearing to relevant parties. The National Board of E-Health has also decided to establish a national committee for telemedicine, which will advise different authorities and actors working with telemedicine in the Danish health care system (National Board of E-Health, 2011).

4.2 Human resources

4.2.1 Health workforce trends

Table 4.3 shows the trends in number of health care workers in Denmark. There has been a general increase in the number of workers on a population basis for all professional groups in the last decade or so. Most significant is the increase in the number of nurses.

Table 4.3

Health workers in Denmark, 1990 to latest available year

Health worker	No. physical persons per 100 000 population				
	1990	1995	2000	2005	2007
Physicians, medical group of specialties	34.7	40.8	46.8	52.6	53.4
GPs	–	45.2	64.7	69.3	68.4
Dentists	–	81.8	81.6	82.6	84
Pharmacists	–	41.3	42.0	48.0	47.5
Nurses	–	937.4	1236.9	1438.8	1429
Midwives	–	18.3	22.8	23.7	25.1

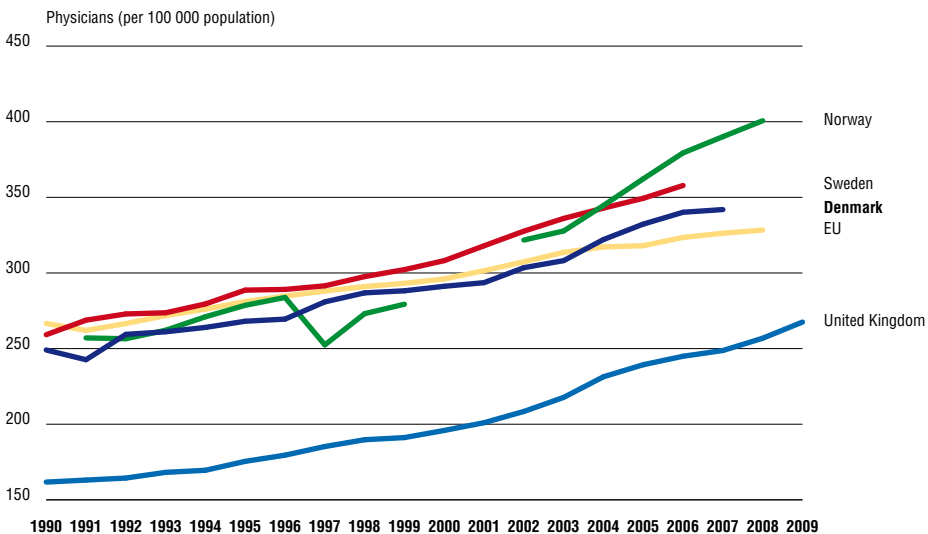
Source: WHO Regional Office for Europe, 2011 (accessed February, 2011).

Doctors

The number of doctors in Denmark is increasing (Table 4.3), albeit at a slightly lower rate than in other EU countries. This slower rate can be attributed to the limited access to medical training programmes in Denmark during the 1970s and 1980s (Fig. 4.2 and Table 4.3). Because of a general shortage of doctors, the recruitment of doctors is increasingly difficult in rural areas.

Fig. 4.2

Number of physicians per 100 000 population in Denmark and selected countries, 1990 to latest available year



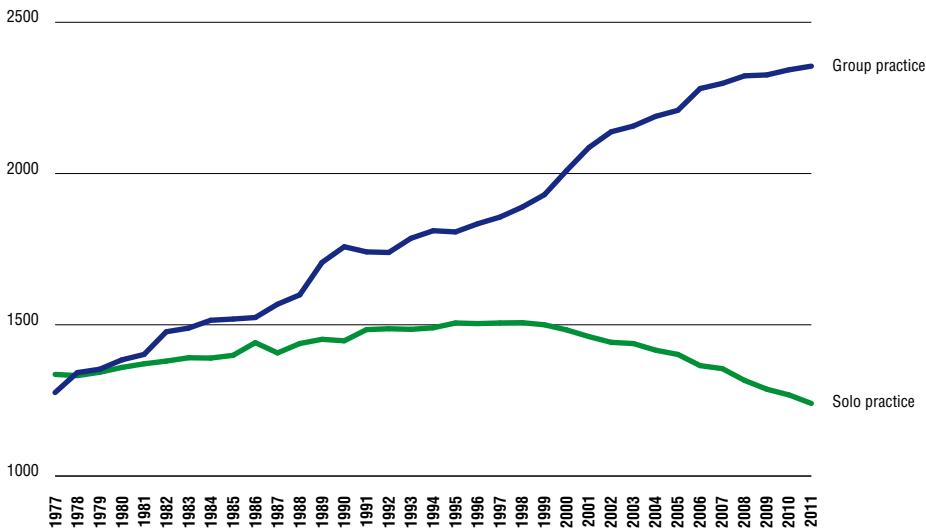
Source: WHO Regional Office for Europe 2011 (accessed February, 2011).

In 2009, 13 886 doctors were employed at public hospitals, which is around 3000 more doctors than in 2001. The average yearly growth rate in the number of doctors employed full-time at public hospitals increased by 2.8% for the entire country during the period 2001–2009. Approximately 45% of doctors employed in hospitals have permanent positions (Danish Medical Association, personal communication 2011). The rest are employed in temporary positions as part of their postgraduate educational programme. Temporary positions are set up in specific hospitals and departments in collaboration with the National Board of Health in an attempt to distribute newly qualified doctors between specialties and geographic areas according to need and capacity. In this way, the National Board of Health is able to control the number of doctors trained in different specialties.

Approximately 3600 doctors are GPs, which corresponds to 1 per 1525 inhabitants. Recruitment of young doctors into general practice has been supported by an increasing recognition of general practice as a formalized specialty with growing scientific activity, improved social and professional environments (with group practices) and an advantageous income compared with hospital doctors. Historically, there has been an increase in joint general practices (Fig. 4.3). Whereas GPs are fairly well distributed across the country, the 1152 practising specialists are concentrated in the capital and other large urban areas (Danish Medical Association, personal communication 2011).

Fig. 4.3

Number of joint and solo GP practices in Denmark, 1977–2010



Source: Organization of General Practitioners in Denmark, 2010.

Approximately 1100 doctors do not work in a clinical setting but are fully employed as medical public health officers or researchers and teachers at public and private institutions. Medical public health officers are responsible for monitoring health conditions in their regions and for supporting public authorities by counselling, along with the supervision of health care professionals on behalf of the National Board of Health.

Nurses

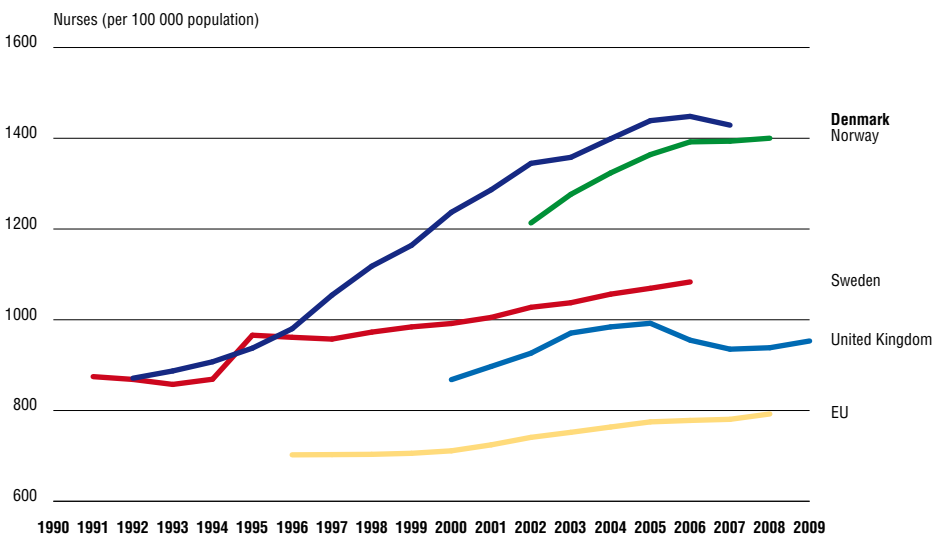
In 2010, the total number of nurses was 63 414, thus forming the largest group of health professionals in the Danish health sector, and 60% were employed at public hospitals. The share of nurses working at hospitals has been stable since

2000. According to the Danish Council of Nurses (*Dansk Sygeplejeråd*), which organizes 90% of all nurses, there were 19 218 nurses working in the health sector outside hospitals, that is, in the outpatient care sector, the social sector and at nursing homes and other institutions (Danish Council of Nurses, 2011; Sørensen & Wang, 2011).

The number of nurses per 100 000 population is higher in Denmark than in other Nordic countries and the EU average (Figs 4.4 and 4.5). Within countries in the WHO European Region, only Finland, Monaco, Ireland and Iceland have a higher number of nurses per 100 000 population than Denmark (Fig. 4.5). As Table 4.3 shows, the number of nurses per 100 000 population has increased since 1995.

Fig. 4.4

Number of nurses per 100 000 population in Denmark and selected countries, 1990 to latest available year

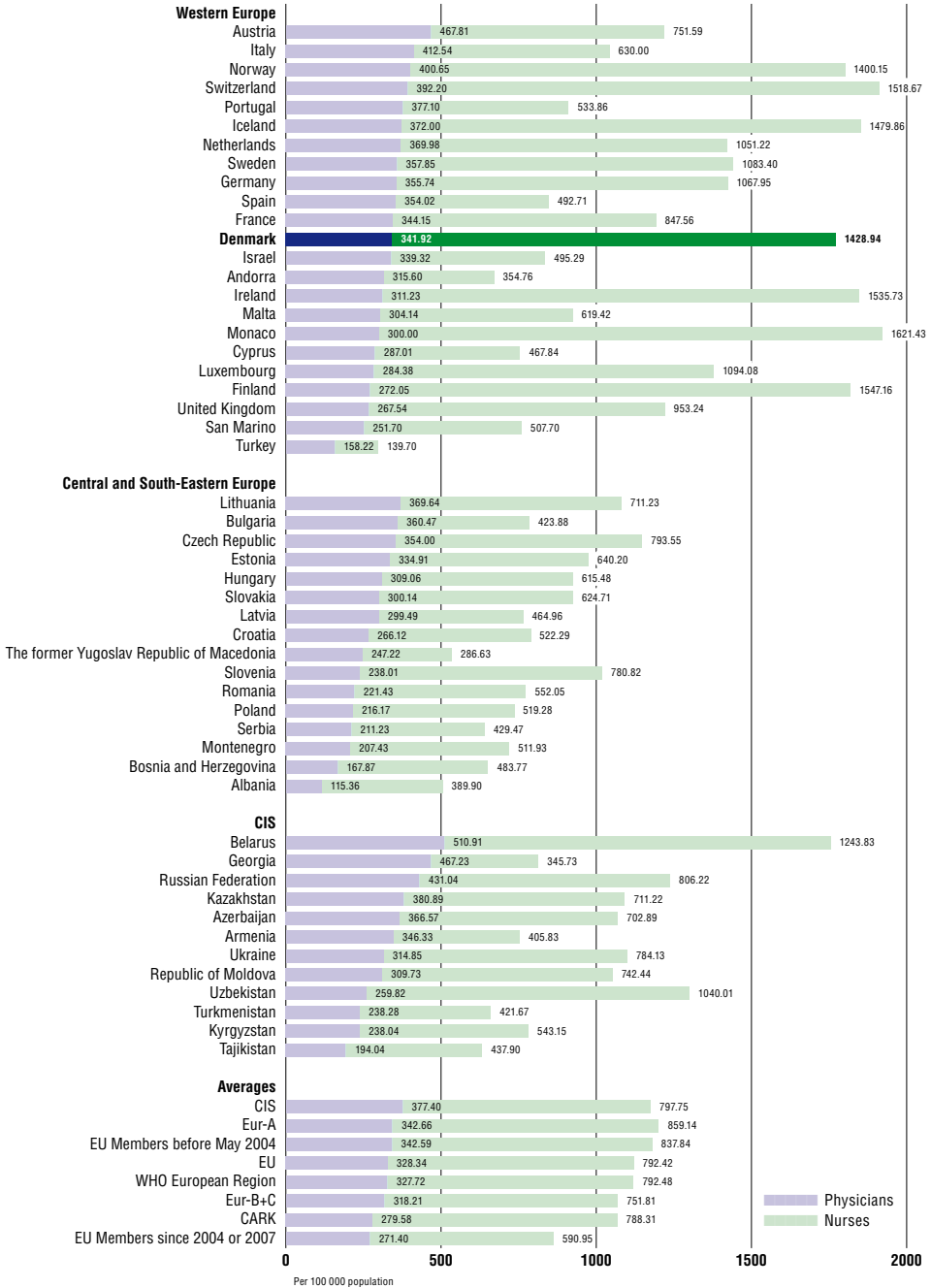


Source: WHO Regional Office for Europe 2011 (accessed February, 2011).

Midwives in Denmark are mainly employed by obstetric departments in hospitals, including decentralized outpatient clinics. In 2010, there were 1506 midwives, compared with 1095 in 1995 (Statistics Denmark, 2011). The number of midwives has increased in the last decade from 18.3 midwives per 100 000 in 1995 to 25.09 per 100 000 in 2007.

Fig. 4.5

Number of physicians and nurses per 100 000 population in the WHO European Region in 2008, the latest available year



Source: WHO Regional Office for Europe 2011 (accessed February, 2011).

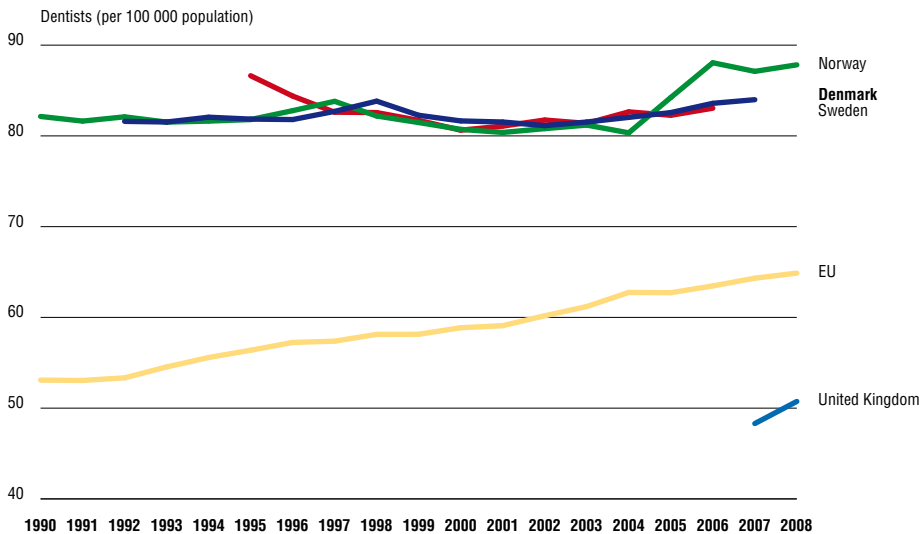
Notes: Eur-A,B,C: Regions as in the WHO list of Member States, last available year; CARK: central Asian republics and Kazakhstan; CIS: Commonwealth of Independent States; TFYR Macedonia: The former Yugoslav Republic of Macedonia.

Dentists

In 2007 there were 5300 dentists; 3300 of them worked in private practice, while municipalities employed 1800. The number of dentists has been relatively steady in the period from 1990 to now. The number of dentists per 100 000 population is similar in Denmark, Norway and Sweden and is higher than the EU average (Fig. 4.6). The number of dentists per 100 000 population has only increased slightly in the last decade (Fig. 4.6 and Table 4.3). Available statistics do not allow for the distinction between dental practitioners (primary care), specialist dentists (working in hospitals) and dental auxiliaries.

Fig. 4.6

Number of dentists per 100 000 population in Denmark and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2011 (accessed February, 2011).

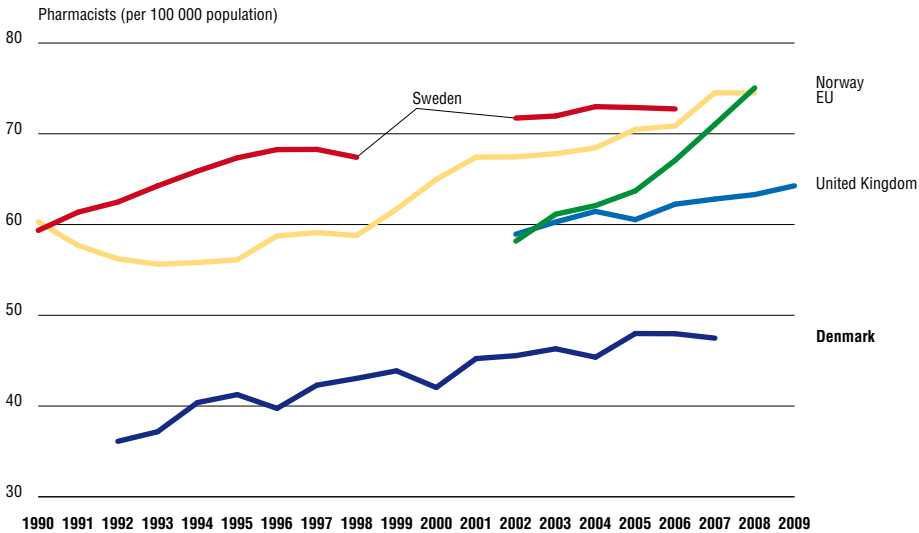
Pharmacists

Pharmacies are privately run but under strict government regulation. In 2010, there were 3646 pharmacists (Association of Danish Pharmacies, 2010). The number of pharmacists per 100 000 population is lower in Denmark than in the other Nordic countries and the UK, as well as the EU average (see Fig. 4.7). However, because of the relatively high population density in Denmark, as well as short travelling distances, this may not be a problem. On average, a Danish citizen has 3.8 km to the nearest pharmacy, while in Norway the

average distance is 7.7 km (Association of Danish Pharmacies, 2010). The number of pharmacists per population has increased since the mid-90s, but not significantly (Fig. 4.7 and Table 4.3).

Fig. 4.7

Number of pharmacists per 100 000 population in Denmark and selected countries, 1990 to latest available year



Source: WHO Regional Office for Europe 2011 (accessed February, 2011).

For more information on the pharmaceutical sector, including number of pharmacies, see section 5.6.

Public health professionals

In Denmark, public health was established during the 1980s as a separate medical specialty with a standardized theoretical and practical training programme, including health management, occupational medicine and social medicine. In 1996, the first Danish postgraduate Master of Public Health programme was established and, in 1999, the University of Copenhagen launched a five-year university programme in public health (Bachelor/Master (*Candidatus*) Education in Public Health Sciences). This was followed by the University of Southern Denmark in 2001.

Every region has a unit of public health medical officers that is part of the National Board of Health. The public health medical officers are medical doctors specialized in public health and have different functions, among them disease prevention. In addition, there are a number of public health professionals

working in the state, regions and municipalities for disease prevention and health promotion (no data on the current number of public health professionals are available given the lack of central registration of data).

Psychologists

In 1993, psychologists gained public professional authorization from the former Ministry of Social Affairs and a special committee was set up to evaluate psychologist qualifications. This authorization gave private practice psychologists access to public reimbursement for referred patients suffering from mental disorders related to serious illness, violence, attempted suicide, bereavement, and so on. The psychologists need a provider agreement with the region to receive public reimbursement. According to the Danish Psychological Association (*Dansk Psykologforening*), there were 6600 registered psychologists in 2009: 4160 were employed in the public sector, 582 privately employed and 1856 had their own private practice (Danish Psychological Association, 2011).

Physiotherapists and chiropractors

Physiotherapists are either private practitioners, who are partly reimbursed by the regions, or public employees at hospitals, other public health institutions and nursing homes. In 2010, 8810 physiotherapists were members of the Association of Danish Physiotherapists (*Danske Fysioterapeuter*; Association of Danish Physiotherapists, 2011).

Chiropractors have had public authorization since 1992. They are primarily self-employed in the primary health care sector; however, in the last couple of years, they have also been employed at hospitals and as consultants within the regions. Members of the Danish Chiropractors' Association (*Dansk Kiropraktor Forening*) can also receive partial reimbursement from the regions. The chiropractors need a provider agreement with the region to receive public reimbursement. In 2010, the Danish Chiropractors' Association had nearly 700 members (Danish Chiropractors' Association, 2011).

CAM medical practitioners

The use of CAM has been increasing in recent years. This is documented through surveys undertaken by the National Institute of Public Health. In the SUSY conducted in 2005, 22.5% had used alternative medicine within the previous year and 45.2% had used alternative medicine at some point in their life.

The CAM area is complex and difficult to get an overview as it ranges from scientifically described treatments to the more or less undocumented treatments. As the area is not regulated, there are no available data regarding

number of people working with CAM. There is, however, a system of voluntary registration with a trade association on the alternative treatment in question. The registration allows for the use of the title “registered alternative practitioner”. The trade association must be registered with the National Board of Health. Herbal medicine must be approved by the Danish Medicines Agency after an assessment of quality, safety and effect based on review of scientific articles. In 1998, the parliament agreed to establish the Knowledge and Research Centre for Alternative Medicine (*Videns- og Forskningscenter for Alternativ Behandling*) as an independent institution under the Ministry of Interior and Health.

4.2.2 Professional mobility of health workers

Since the early 2000s, the regions have actively been recruiting health professionals from outside Denmark. In 2009, 1200 new doctors were registered in Denmark; 353 of them were foreign trained doctors, 108 from the Nordic countries. Similarly, 423 foreign trained nurses were granted authorization to work in Denmark, corresponding to 16% of the total of 2671 newly recruited nurses in 2009. More than 50% of the foreign trained nurses are from the Nordic countries, most notably Sweden (Nordic Council of Ministers’ Working Group, 2009).

4.2.3 Training of health workers

Undergraduate medical education takes place at the Faculties of Health Sciences at the Universities of Copenhagen, Århus, Ålborg and Southern Denmark. The training programme is six years long and takes place at the four universities and most hospitals. For information on regulation of training, see section 2.8.3. After completing the final medical examination, medical doctors have to undergo one year of practical clinical education to obtain permission to practice independently. This consists of two employments of six months in a combination of internal medicine, surgery, psychiatry or general practice.

The Ministry of Health defines the postgraduate training programmes for medical specialties based on advice from the National Board of Health and the National Council for Postgraduate Education of Physicians. The Council, through the three Secretariates of the Medical Training (*Sekretariat for Lægelig Videreuddannelse*), is responsible for the regional planning and coordination of physicians’ clinical training. The National Council gives advice on the number and type of specialties, the number of students admitted to postgraduate training programmes, the proportion of students studying each specialty, the duration and content of postgraduate training programmes, and international

collaboration programmes. At the time of writing there are 38 specialties in Denmark compared with 42 in 2001. Because variation in the quality of clinical training, particularly regarding surgical skills, has been heavily criticized, the National Board of Health has set up an inspection system that includes surveillance of the individual departments responsible for training, as well as advising the departments.

Basic nurse training takes three and a half years, and training is carried out at public schools of nursing in collaboration with hospitals. The training alternates between theoretical and clinical education. Clinical education is located at hospitals and in municipalities. Two shorter theoretical education courses for health and social helpers (14 months) and health and social assistants (extra 18 months) have been established to provide training for basic nursing care functions in hospitals and nursing homes.

Dentists and dental auxiliaries are trained at the Faculty of Health Sciences at the Universities of Copenhagen and Århus. Dentists are offered a five-year independent undergraduate training programme, while dental auxiliaries are trained in two and a half years. There are two dental specialties in Denmark, orthodontics and special surgery, and a National Council for Postgraduate Training of Dentists.

Pharmacists and psychologists are trained at universities.

In recent years, there has been an increase in master's courses within the field of health, as a supplement to the advanced education system. Among these education programmes are the Master of Public Health, Master of International Health, Master of Industrial Medicine Development, Master of Health Pedagogy and the Master of Rehabilitation. These educational training programmes are offered at the Universities of Copenhagen, Århus and Southern Denmark, and at the University of Education in Denmark. Several masters' courses have also been developed within the field of management and administration in the health system. These are, for example, the Master of Public Administration, the Master of Business Administration and the Master of Health Management, and they are offered at both the University of Ålborg and the Copenhagen Business School.

4.2.4 Career paths for doctors

Doctors' career paths very much depend upon a system of postgraduate medical education. Postgraduate medical education comprises pre-registration training, specialist and subspecialist training. The postgraduate medical education structure begins with the clinical basic education (*klinisk basisuddannelse*).

Clinical basic education is pre-registration training, formerly known as “internship”. The newly graduated medical doctors are placed in temporary positions for a year, made up of two six-month stays in a combination of internal medicine, surgery, psychiatry or general practice placements. The objective for clinical basic education is to give the graduates a broad introduction to the health care sector. Placements are distributed throughout the country by a lottery in an attempt to distribute newly qualified doctors between specialties and geographic areas, according to need and capacity.

Clinical basic education is followed by specialist training. Specialist training begins with a 12 month’s “introduction” as a prerequisite to applying for specialist training. The introduction is to the specific specialty and serves as a way of making sure that the specialty is right for the candidate and the candidate is right for the specialty. “Introduction” positions are opened according to agreements between the National Board of Health and the relevant specialty. The candidates are elected by an appointments committee comprising the department director/postgraduate clinical director and a representative of the Medical Association. Applicants are rated by scores in seven categories, so-called doctors’ roles: medical expert, communicator, cooperator, health promoter, leader/administrator, academic and professional (Dehn et al., 2009).

This introduction is followed by specialization in 1 of 38 different medical specialties. Specialist training positions are combinations of placements in different departments for 48 to 60 months. The appointment committee comprises the following representatives:

- one department management representative (usually department director or postgraduate clinical director) from each of the departments in question;
- two to four representatives from the relevant scientific society (e.g. the Danish Society of Cardiologists);
- at least one junior doctor and one specialist on the committee and one member must be appointed by the union (Danish Association of Junior Hospital Doctors); and
- other relevant members can be appointed if necessary.

The Secretariat for Postgraduate Medical Education acts as secretariat for the committee. This structure is put in place to secure the best candidates and to avoid nepotism. Generally all vacancies must be filled using public openings.

Specialization is completed at different locations, usually representing basic and highly specialized departments within the specialty. In this way, doctors in training are moved to different hospitals as part of their specialization.

4.2.5 Career paths for other health workers

Nurses

Postgraduate training of nurses is 30 to 78 weeks of “on the job training”. Completed postgraduate training allows the use of the title “specialist nurse”. Admission requirements are typically at least two years of clinical practice as nurse. Some specialties have specific requirements. The training has both theoretical and systematic clinical supervised units. At the time of writing, there are five nurse specializations: psychiatric care, anaesthesiology, intensive care, hygiene and cancer care. The postgraduate training is regulated by the Ministry of Health and the National Board of Health.

Pharmacists

Over half of pharmacists (65%) work in private industry, typically in production, testing, registration or marketing of drugs. Others are employed in the food industry, environmental or chemical production. A further 20% are publicly employed by universities in research and teaching, or working with clinical pharmacy or production at one of the 10 hospital pharmacies in the country. The last 15% works at the pharmacies either as advisers for patients and doctors or as owners of the pharmacies (Faculty of Pharmaceutical Sciences, University of Copenhagen, 2011).

Dentists

Dentists work in private practice or in public dentistry. Public dentistry includes, among others, municipal dentistry, specialized hospital-based clinics, prison dentistry and clinics connected to universities. Other dentists work in teaching and research at the universities and in the pharmaceutical industry.

5. Provision of services

Public health services are partly integrated with curative services and partly organized as separate activities run by special institutions. Since 1999, the government has launched a number of national public health programmes and strategies focusing on risk factors such as diet, smoking, alcohol intake and physical activity. The primary sector consists of private (self-employed) practitioners (GPs, specialists, physiotherapists, dentists, chiropractors and pharmacists) and municipal health services, such as nursing homes, home nurses, health visitors and municipal dentists. The GPs act as gatekeepers, referring patients to hospital and specialist treatment. Most secondary and tertiary care takes place in general hospitals owned and operated by the regions. Doctors and other health professionals are employed at hospitals on a salaried basis. Hospitals have both inpatient and outpatient clinics as well as 24-hour emergency wards. Outpatient clinics are often used for pre- or post-hospitalization diagnosis and treatments. Most public hospitals are general hospitals with different specialization levels. Community pharmacies are privately organized but subject to comprehensive state regulation on price and location to ensure that everyone has reasonable access, even in rural areas. A collective financial equalization system requires pharmacies with above-average turnovers to contribute to pharmacies with below-average turnovers. Many actors are involved in rehabilitation care within the health care sector, the social sector, the occupational sector and the educational sector, with each sector carrying out a different aspect of work. One area attracting attention within rehabilitation and intermediate care is, therefore, the problem of securing coherent patient pathways. Palliative care has been slowly developing in recent years and national initiatives are being developed at the time of writing. Oral health care for children and adolescents is provided by the municipal dental services. Dental health care for citizens older than 18 years is offered by private dental practitioners. The Danish Institute for Quality and Accreditation in Healthcare (*Institut for Kvalitet og Akkreditering i Sundhedsvæsenet*) manages

the DDKM. The DDKM is based on the principle of accreditation and standards and includes monitoring of quality of care in the primary and secondary sectors. Special population groups have different kinds of access to the statutory health system. Recognized refugees are included in regional health care coverage and have the same rights as inhabitants registered with the Central Person Registry. Asylum seekers are not covered by regional health care and have fewer entitlements. Undocumented immigrants are only entitled to acute treatment. However, a new private clinic for undocumented immigrants that will not require immigrants to register with the authorities has recently been established by the Danish Medical Association, the Danish Red Cross and the Danish Refugee Council.

5.1 Public health

Public health services are partly integrated with curative services and partly organized as separate activities run by special institutions. The 2007 structural reform shifted responsibility for primary disease prevention and health promotion tasks from the regions to the municipalities. Since 2007, municipalities have been responsible for the aspects of prevention, care and rehabilitation that do not fall under hospital admission. Every fourth year, municipalities and regions have to elaborate a mandatory joint health plan in regard to their tasks on disease prevention and health promotion and how these are to be coordinated. Sixty-five of the municipalities and two of the regions are members of the Danish Healthy Cities Network, which was established in 1991 and is an active member of WHO's international Healthy Cities Network. The Healthy Cities Network aims to be a platform for dialogue and collaboration between public health authorities and provides support for members in their disease prevention and health-promoting efforts.

The main responsibility for surveillance and control of communicable diseases rests with the National Serum Institute (*Statens Serum Institut*) and medical public health officers employed by the National Board of Health, who work at the regional level. GPs and hospital doctors are obliged to report instances of certain communicable diseases to medical public health officers. The medical public health officers are also in charge of individual and community interventions to control communicable diseases. While their function is largely advisory, they do have the power to prevent infected children from entering institutions, or even to close institutions to avoid the spread of infection. Other measures to prevent epidemics are in the hands

of a special regional commission for epidemic diseases or, in the case of infectious foodborne diseases, local food control agencies. For information on immunization services and national vaccination programmes, see section 1.4.3.

A special state agency, the Danish Working Environment Authority, which forms part of the Ministry of Labour, is responsible for surveillance and maintenance of standards of occupational health and safety. Through inspection of workplaces, regulation and information, the Authority aims to contribute to a safe, healthy and developing Danish work environment. The provision of these tasks makes the Danish Working Environment Authority an influential actor in the public health arena. Other institutions also regularly perform safety inspections, for example of workplaces, food provision services and the condition of roads and accommodation. The institutions performing these inspections include the Danish Veterinary and Food Administration, the Ministry of Employment, the Ministry of Transport and the Ministry of the Environment.

National public health programmes

Over the past few decades, Denmark has experienced unfavourable trends in average life expectancy in comparison with other OECD countries (see section 1.4). In response to the low increase in average life expectancy, the government in 1999 launched the second 10-year national public health programme. This programme has many similarities to WHO's target-based strategy for the 21st century (Ministry of Health, 1999). The programme lists 17 targets that cover specific risk factors (e.g. tobacco, alcohol, nutrition, physical inactivity, obesity and traffic accidents), age groups (e.g. children, young people, older people), health-promoting environments (e.g. primary schools, places of work, local communities, health facilities) and structural elements (e.g. intersectoral cooperation, research and education).

In 2002, the newly elected government launched the third national public health programme *Healthy throughout Life 2002–2010* (Ministry of Interior and Health, 2002). This programme retained important goals and target groups from the 1999–2008 programme but focused specifically on reducing major preventable diseases and disorders, namely type 2 diabetes, cancer, heart disease, osteoporosis, musculoskeletal diseases, allergy diseases, psychological diseases and COPD. A key aspect of the 2002–2010 programme was to provide individuals with the necessary knowledge and tools to be able to promote their own health status and health care. The programme also targeted the quality of life of the population through systematic efforts in terms of counselling, support, rehabilitation and other patient-oriented measures. Important elements

of the programme were, therefore, the individuals' own contribution, and patient guidance, support and rehabilitation. A list of indicators was developed in connection with the *Healthy throughout Life* programme. The purpose of this list is to ensure regular monitoring and documentation of trends in the population's health status and health behaviour, and of efforts to promote health and prevent disease. Key indicators include life expectancy; the number of healthy life years lost; self-rated health; social differences in mortality; social differences in the quality of life; the prevalence of heavy smoking among children, adolescents and adults; the level of physical activity at leisure and at work among children, adolescents and adults; the prevalence of BMI (exceeding 30 among children, adolescents and adults; and serious occupational accidents, including fatal ones (Ministry of Interior and Health, 2002).

The 2002–2010 *Healthy throughout Life* programme differed from other Scandinavian programmes in that it focused strongly on health-related behaviour and less on social and structural factors that influence health. Political responsibility for the health of the population was also less pronounced in the 2002–2010 programme, compared with both previous Danish public health programmes and those of Norway and Sweden (Vallgård, 2010, 2011).

In 2009, the Danish Government launched the *Health Package 2009* (*Sundhedspakke 2009*), a national strategy for disease prevention that, among other things, focused on the municipalities' role in disease prevention targeting citizens (non-patients). According to the *Health Package 2009*, the government's goal is to increase average life expectancy by three years within the subsequent decade. This goal is to be fulfilled by strengthening health care treatment, by giving the municipalities stronger economic incentives to conduct disease prevention and by introducing 30 disease-preventing initiatives. According to the government, the *Health Package* is a continuation of the *Healthy throughout Life* programme, as the package also focuses on risk factors such as diet, smoking, alcohol intake and physical activity (Danish Government, 2009). The newly elected government has only been in power for a short time at the time of writing, so no new programme for public health has been issued yet.

National screening programmes, antenatal care and sex education

Currently, there are two national systematic disease-specific screening programmes in Denmark; both programmes target women and screen for cervical and breast cancer. The national screening programme for cervical cancer has been operating since 1986. Systematic breast cancer screening (mammography) has been in effect since 2007 and is offered to women aged 50–69 years every other year. The government has decided that a third

national screening programme is to come into effect in 2014. The programme will offer screening for colon cancer every other year to citizens 50–74 years of age (Ministry of Interior and Health, 2010a). The regions are responsible for operating and monitoring all three screening programmes. Other national screening programmes include neonatal screening for hearing disability and for inborn errors of metabolism.

Since 1973, all women over 18 years of age have had access to free-of-charge pregnancy terminations on request within the first 12 weeks of pregnancy. However, a regional abortion and sterilization council can provide dispensation to terminate a pregnancy after the first 12 weeks on special clinical or social circumstances, including the pregnant woman being too young and immature to take care of the baby (Region Zealand, 2011). All pregnant women have direct access to antenatal services provided by GPs, midwives and obstetricians in hospital obstetric departments. These include a number of screening procedures. Rates of utilization of these antenatal services are overall very high. However, there is a lower utilization rate among lower socioeconomic groups and immigrants. Women can choose to give birth at home or in hospital, free of charge. Almost 99% of deliveries take place in hospital (National Board of Health, 2008). In 2010, screening of pregnant women for hepatitis B, HIV and syphilis was made standard procedure (National Board of Health, 2010d).

All parents of infants are offered consultations with health visitors in their home, who also perform health checks. Most parents use this service. Infants and toddlers are offered free health checks by GPs, which is combined with the vaccination programmes. Schools offer all children at least two health checks during primary and secondary school. Health checks are performed by health professionals, typically a nurse trained in examining and monitoring the health of schoolchildren. Schools also provide sex education, including the use of contraceptives, as part of their general education programme. This education often includes a visit to a special clinic offering advice on family planning.

National plan on AIDS/HIV

A key principle of Denmark's AIDS policy is that prevention should be carried out without compulsory measures and, if necessary, based on anonymity (National Board of Health, 2011d). The AIDS prevention programme involves close collaboration between the National Board of Health, the regions, the municipalities and private organizations. The main elements of this programme are general information campaigns on safe sex, psychological assistance to those who are HIV positive and information targeting specific risk groups. From January 2005, a new and more effective HIV surveillance system, called

SOUNDEX, was implemented. This new system decodes last names to letters or numbers and helps to prevent duplicate information. This allows better information to be obtained on the incidence of HIV and the spread of infection in Denmark. The number of new cases of infected people has stabilized during recent years (National Serum Institute, 2011).

In 2009, the National Board of Health launched a new strategy, which recommended that health care personnel proactively offer HIV tests to patients with an increased risk of acquiring HIV, for example men who have sex with men, patients being tested for syphilis or gonorrhoea, patients whose partners are HIV positive, and drug addicts (National Board of Health, 2009b).

Health education

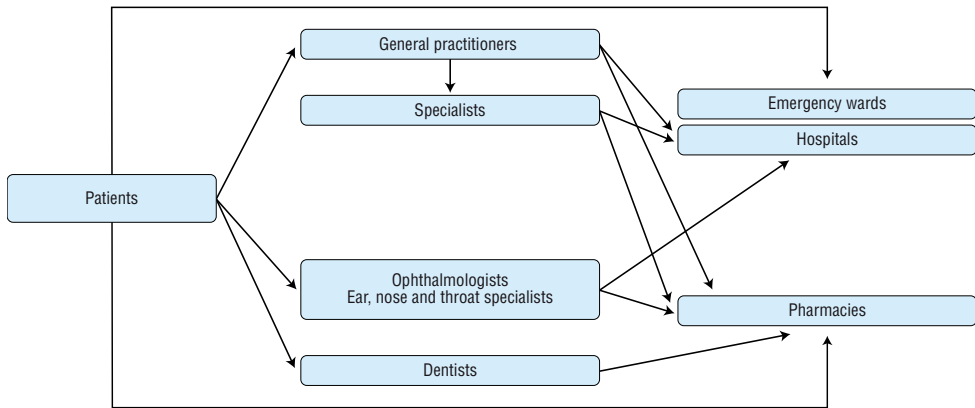
A wide array of private and public institutions as well as nongovernmental organizations provide general health education to the public in the form of mass media campaigns, the most important of these being the Centre for Health Promotion at the National Board of Health, the municipalities, the Danish Committee for Health Education, the Danish Road Safety Council, the Danish Working Environment Authority and the Tryg Foundation, which is a large private foundation. The National Board of Health collaborates with the municipalities when performing national campaigns. The Board develops the campaign for mass media, while those municipalities who are interested perform local activities on the basis of the attention created by the national campaign. Collaboration between the Board and the municipalities differs in intensity, but often the Board offers the municipalities support in terms of inspirational campaign material, courses, and so on (National Board of Health, 2011e).

5.2 Patient pathways

The patient pathway is illustrated in Fig. 5.1. This illustration only pertains to those citizens who choose the Group 1 coverage option (99% of the population) (see section 2.9.2) and is the same throughout the country.

Fig. 5.1

Patient pathways in group 1



GPs act as gatekeepers with regard to referring patients to hospital and specialist treatment. This means that patients usually start the process of seeking health care by consulting their GP, whose job is to ensure that the patient is offered the necessary treatment but also that the patient is not treated at a higher specialization level than necessary. If referral is required, patients are free to choose all public hospitals, provided that the hospital offers the necessary services and is at the level of specialization considered relevant by the referring physician. The GP may advise the patient on which hospital to attend based on information such as waiting time, quality and special needs. The patient can also choose to be treated at a private hospital on a fee-for-service basis; however, he/she will not be publicly reimbursed for these fees. Some people have VHI, which may cover part or all of these fees. If the waiting time for either examination or treatment exceeds one month, the patient can in special circumstances receive the necessary services at private hospitals or clinics and hospitals abroad. However, as a precondition for the use of the extended free choice, the chosen hospital or clinic must have an agreement with the region regarding the necessary treatment.

If the patient is in need of rehabilitation, this rehabilitation is established and it is assessed whether there is a need for additional home care. If rehabilitation or home care is prescribed by the GP or the hospital, it will be provided free of charge by the municipality. GPs receive a discharge summary for each patient from the hospital and are responsible for further follow-up, such as referral to a physiotherapist. Finally, the patient often has a follow-up hospital visit to

check on the outcome of the treatment. Besides referring patients to a hospital or a specialist, GPs refer patients to other health professionals working within a health care service agreement, when needed, for example arranging for home nursing to be provided. GPs and specialists also prescribe medication. The prescribed medication can subsequently be bought at pharmacies. Non-prescription medicine is only available for minor health problems, such as coughing, tenderness or pain in muscles, and so on.

Patients may consult emergency wards, dentists, chiropractors, ear, nose and throat specialists or ophthalmologists without prior referral from a GP; patients that have had an accident or an acute illness can attend, without referral, open emergency wards, often situated at hospitals. Depending on the severity of the injury or illness, patients are examined, treated and medicated, or they are admitted for further examination and treatment and/or surgery. If an accident occurs, the patient must, in principle, attend an emergency ward within 24 hours, otherwise a referral is needed from a GP. Emergency wards are open 24 hours a day and are free of charge. The necessity of open emergency wards without referral is often debated, and, in recent years, several open emergency wards have been transformed into closed wards, where referral is required.

As for dentists, a patient can choose to make appointments on an ad-hoc basis or choose to make a more long-term appointment with a dentist, who will then call the patient in for yearly or other regular dental examinations and check-ups. Dentists who provide services that are reimbursed by the regions are paid a fee-for-service payment to cover part of the expenses.

Patient pathways in the Danish health system are criticized for not being coherent, particularly across primary/secondary care. The lack of continuity in patient pathways is often attributed to lack of mutual understanding between providers and inadequate communication systems. Various initiatives have been implemented in order to improve continuity (see also section 7.1), which are connected to the patient pathway, including a contact person arrangement, pathway coordinators and the Chronic Care Model. The contact person arrangement means that all patients who are admitted to hospital treatment or ongoing ambulatory care are assigned one or several contacts to be approached with any questions. Pathway coordinators are intended to coordinate complex patient pathways, including clinical pathways for cancer and heart disease (see section 6.1). In order to strengthen the coordination between primary care, secondary care and the municipal services for the chronically ill, the National Board of Health launched a national strategy on chronic disease management and developed a generic model for chronic disease management programmes

together with the regions and the municipalities. The generic model for chronic disease management programmes is based on the Chronic Care Model (Improving Chronic Illness Care, 2011) and describes general prerequisites for integrated care, the principles for self-monitoring and treatment by the patients and patient education. Most importantly, the model describes how the provision of services should be coordinated. The generic model thus serves as a template for the joint development of disease-specific disease management programmes by the regions and municipalities. Disease management programmes include ones for diabetes and acquired brain injuries for adults, and ones for children and adolescents. The regions and municipalities are, at the time of writing, also developing disease management programmes for cardiovascular diseases, COPD and musculoskeletal diseases.

The described patient pathway in general does not differ across the five Danish regions. The only difference that can be observed is that open emergency wards at hospitals only exist in the larger cities. Outside the large cities, minor trauma and acute illness are treated by GPs on emergency call.

5.3 Primary/ambulatory care

The primary sector consists of private (self-employed) practitioners – that is, GPs, specialists, physiotherapists, dentists, chiropractors and pharmacists – and municipal health services, such as nursing homes, home nurses, health visitors and municipal dentists (Vallgård & Krasnik, 2008).

GPs

As described in the previous section, GPs play a key role as the first point of contact for patients and as the gatekeepers to hospitals, specialists, physiotherapists and others. There is an even distribution of doctors across the country, with very little variation in the number of inhabitants per GP across regions. For example, in 2008 there were 62.4 GPs per 100 000 inhabitants on a national basis (ranging from 60.5 in Region Zealand to 63.5 in Central Denmark Region). This implies that all patients have a relatively short travel distance to their GP and that generally there is reasonable equity in physical access to GP services. However, some regions have recently had difficulties in replacing retiring GPs, particularly in rural areas. The ratio of patient contacts to GPs has increased since the early 2000s, from approximately 32 million in 2000 to approximately 40 million in 2009. This corresponds to each Danish

inhabitant contacting their GP more than seven times in 2009 against six times in 2000 (National Board of Health, 2010c). For more information on GPs see section 4.2.1.

GPs run private practices, either on their own as solo practitioners (approximately a third of all GPs) or in collaboration with other GPs. The trend at the time of writing shows a decreasing number of solo practitioners and an increasing number of group practices (see section 4.2.1). The Ministry of Health is generally encouraging this trend in order to strengthen the potential for knowledge exchange and quality improvement in primary health care (Ministry of Health and Prevention, 2008). However, in some rural areas, this trend has resulted in patients having to travel greater distances to see a GP. Because of the collaboration between GPs, services are usually available 24 hours a day, as required by the health authorities (see Chapter 2 for more details). GPs derive their income from the regions according to a fee scale that is negotiated by the Organization of General Practitioners (*Praktiserende Lægers Organisation*) and Danish Regions. They are responsible for the costs of their practice, including buildings (rented or owned) and staff. These costs are generally covered by their fee structure. Remuneration for GPs is a mixture of capitation (without risk adjustment), which makes up on average a third of their income, and fees for services rendered (per consultation, examination, operation, etc.). The fee-for-service payments include special fees for after-hours consultations, telephone consultations and home visits. Section 3.7.2 has more detailed information on the remuneration of GPs and on the way in which remuneration influences their activities and section 2.9.2 discusses patients' choice of GP.

Specialists

Only a few specialists work on a fully private basis, without a regional licence, and are, therefore, wholly dependent on direct payments from patients. There are no restrictions as to how much private work specialists employed by public hospitals are permitted to undertake in their spare time, but they are required to meet minimum activity levels for treating public patients if they have a regional licence. That there are no direct restrictions is probably because only a very small number of specialists choose to engage in such activity. The regions also reimburse parts of certain services provided by physiotherapists, privately practising dentists, psychologists and chiropractors, for which there are varying levels of patient co-payment. The amount of patient contact with specialist doctors has increased since the early 2000s, from approximately 4.6 million in 2000 to 5.0 million in 2009. The number of visits per inhabitant varies across

the regions, with inhabitants in the Capital Region of Denmark contacting a specialist 1.3 times on average, whereas the number of contacts per inhabitant lies between 0.6 and 0.8 for all other regions (National Board of Health, 2010c).

Municipal services

The municipalities are responsible for nursing homes, home nurses, health visitors, municipal dentists (children's dentists and home dental services for the physically and/or mentally disabled), school health services, people carrying out home help services, and the treatment of alcohol and drug users. Professionals involved in delivering these services are paid a fixed salary.

Nursing homes are actually categorized as a social service and, therefore, are part of the social and not the health administration. The number of nursing homes has decreased dramatically in recent years. Nursing homes provide both day care and residential services. It is possible for many chronically and terminally ill patients to stay in their homes and to avoid or delay institutionalization because of the combination of day care services, an increased number of home nurses, and extensive home help and GP support. Home help is offered for citizens who, for health-related conditions, are not capable of performing daily living activities (e.g. personal care and hygiene, cleaning and nutritional diet).

Municipal dentists provide free preventive and curative dental care for children and young people under the age of 18 as well as for people with special disabilities.

Outpatient visits

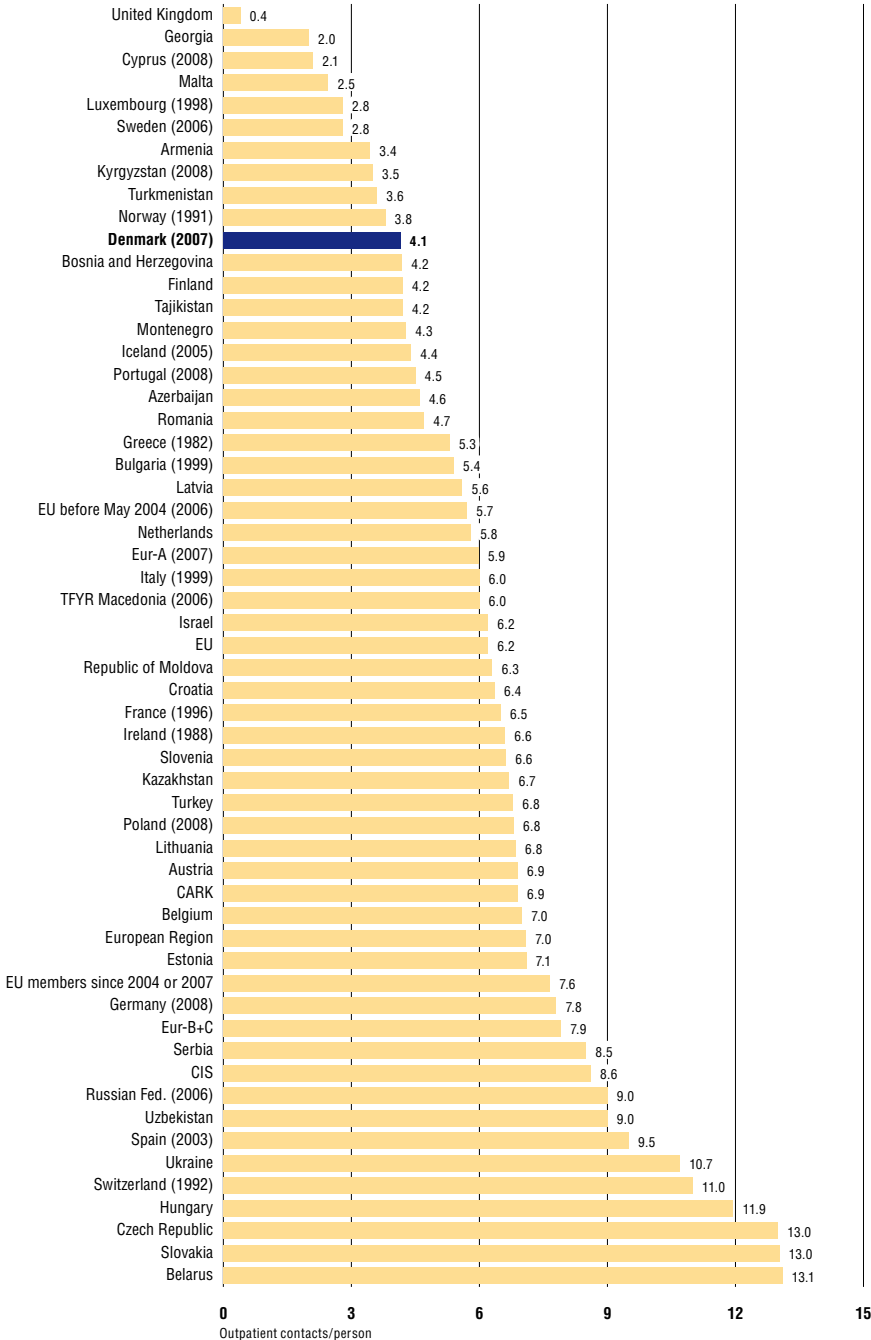
According to WHO data, the number of outpatient visits is lower in Denmark than the EU average (Fig. 5.2). Outpatient activity has increased substantially during recent decades as a result of initiatives to increase the efficiency of patient hospital stays. The average length of stay is now shorter than in past decades, and more diagnosis and treatment take place in outpatient clinics.

National programmes to improve quality

The Danish Institute for Quality and Accreditation in Healthcare manages the DDKM, which is based on the principle of accreditation and standards. In relation to local health care, the DDKM approved 52 standards in January 2011 and the first four municipalities are implementing DDKM at the time of writing. In February 2011, 53 standards for the prehospital sector were approved but are yet to be implemented at the time of writing. As described, ambulatory care takes place at hospitals and is, therefore, partly subject to the same rules and standards as specialized care in terms of documentation and registration of quality in care (for more details on DDKM, see Chapter 6).

Fig. 5.2

Outpatient contacts per person in the WHO European Region, 2009 or latest available year



Source: WHO Regional Office for Europe, 2011 (data extracted February, 2011).
 Notes: Eur-A,B,C: Regions as in the WHO list of Member States, last available year; CARK: central Asian republics and Kazakhstan;
 CIS: Commonwealth of Independent States; TFYR Macedonia: The former Yugoslav Republic of Macedonia.

Until DDKM is fully implemented, little can be actually known about quality of care within primary care, as no official registration or assessments have been completed so far. The Unit of Patient-perceived Quality is, at the time of writing, finishing an investigation of patient-perceived quality of GPs in primary care. The results will be published in 2011 (Unit of Patient-perceived Quality, 2011c).

Major changes and current challenges

In 2004, the Danish Parliament passed a major structural reform of the administrative system. The reform was implemented in 2007. While the main responsibility to provide health care services remained with the regions, the municipalities assumed full responsibility for prevention, health promotion and rehabilitation outside of hospitals. Most observers agree that the strengthening of the municipal level is beneficial; however, others also point out that the municipalities do not have sufficient competences to plan and carry out their new tasks and that they prioritize activities that directly reduce hospital admissions over general, long-term preventive programmes (see Chapter 6 for more details on changes and challenges related to the structural reform).

Primary care, particularly GPs, currently faces a number of challenges, which are shared with the rest of the health system. First, as already mentioned, there is the challenge of securing documentation to cover the quality of the services delivered in primary care. According to the Ministry of Health, there is a need to secure a framework that can effectively support GPs in continuous professional development and in achieving uniform, proactive and high-quality care (Ministry of Health and Prevention, 2008). Second, GPs are self-employed and run private practices, and this type of organization might, by definition, contribute to a more fragmented health system. The Ministry of Health has pointed to the need to make it more clear that GPs form a binding part of a coherent health system, and also to clarify the terms of how they collaborate with the rest of the system. On this basis, the Ministry recommends that GPs in the future form group instead of solo practices, as being one way of securing a more integrated and coherent health system (Ministry of Health and Prevention, 2008). Third, recruitment of GPs to less-populated areas is also expected to be a future challenge. According to the Ministry of Health, this challenge is primarily to be met by supporting possibilities for professional development and a positive work environment in primary care, in order to maintain the sector as a professionally attractive and challenging workplace (Ministry of Health and Prevention, 2008).

5.4 Inpatient care

Most secondary and tertiary care takes place in general hospitals owned and operated by the regions. Doctors and other health professionals are employed at hospitals on a salaried basis. Hospitals have both inpatient and outpatient clinics, as well as 24-hour emergency wards. Outpatient clinics are often used for pre- or post-hospitalization diagnosis and treatments.

Specialist doctors work on a private basis and are reimbursed by the regions. They must have an agreement with the region, however, to receive reimbursement. Free access to private specialists, except for eye specialists and ear, nose and throat specialists, requires a referral from a GP. Like GPs, practising specialists can refer patients to public hospitals. There are also private profit-making clinics and hospitals where patients may go without referral and pay for the care themselves or with the help of VHI.

Most public hospitals are general hospitals with different specialization levels. There is no official classification of hospitals according to the level of specialization, technological equipment or performance. There are very few hospitals treating only one medical specialty and even the number of psychiatric hospitals is decreasing. Contracting is used to a limited extent by the regions. Contracts are entered into either with public hospitals, in the region or in another region, or with private hospitals. There are usually contracts for a number of specific interventions, such as elective surgery. Since Denmark is a small country with good transportation facilities, the location of very specialized services in just a few hospitals does not present a major problem.

The quality of care in secondary and tertiary care is monitored in the DDKM (see sections 2.8.2 and 6.1) where accreditation of the Danish hospitals is under way at the time of writing. Furthermore, a national effort to modernize the hospital sector is being carried out. This includes capital investments as well as centralized national specialty planning (both described in detail in section 6.1).

A general trend since the 1940s has been to reduce the length of stay in hospitals by making care more efficient, changing routines, improving home nursing and increasing outpatient activities pre- and post-hospitalization. On some occasions, the regions have billed the municipalities for patients who were ready to be discharged from the hospital but could not be discharged because the municipalities were not ready to provide them with the necessary outpatient care services; this forced the hospital to prolong the patient's stay more than should have been necessary. Since the mid-1980s, the municipalities have increased the number of home nurses and decreased the number of nursing

homes. Efforts are being made to improve cooperation between GPs and hospitals by appointing coordinators to work closely with hospital departments and report back to the local GPs. The free choice of hospital also seems to have encouraged hospitals to improve information to GPs about discharges and about services in general.

5.4.1 Day care

Day care in Denmark is defined as medical and paramedical services delivered to patients who are formally admitted for diagnosis, treatment or other types of health care, with the intention of discharging the patient the same day. The most common day care is same-day surgery; a special category of within day care is births. As day care takes place at hospitals, it is covered by the DDKM, as described in the previous section and in more detail in Chapter 6.

5.5 Emergency care

Patients who have had an accident or an acute illness can attend, without referral, open emergency wards, which are often situated at hospitals. Depending on the severity of the injury or illness, patients are examined, treated and medicated or admitted for further examination and treatment and/or operation. If an accident occurs, the patient must attend an emergency ward within 24 hours, otherwise, a referral is needed from a GP. Emergency wards are open 24 hours a day and are free of charge. The necessity of open emergency wards without referral is often debated both in the media and on the political level. Many of the open emergency wards, however, have been closed in recent years and patients with minor emergency problems are encouraged to seek after-hours services with the GP instead. Patients without a referral from a GP or a private specialist are generally only accepted at hospitals in emergency situations. Box 5.1 gives a typical patient pathway for emergency care.

Box 5.1**Patient pathway in emergency care episode**

In Denmark, a patient in need of emergency care would take the following steps:

1. The patient (or someone on behalf of the patient) calls 112. In some regions, all calls to 112 regarding acute illness or injury are directed to health professionals able to guide the patient or bystanders until the ambulance arrives. An ambulance, and occasionally a helicopter, will be sent to the address. In the case of a life-threatening situation, a car staffed with further paramedics or a doctor may also be sent as a supplement.
2. Emergency care will be initiated; the patient is stabilized and treatment may be begun at the address or in the ambulance during the ride.
3. The ambulance takes the patient to an emergency ward, where further treatment and referral to other hospital departments is carried out.

Another possibility is that the patient arrives at the emergency ward by himself or herself.

Those with more minor injuries will often be taken to the GP or an emergency care doctor outside regular GP opening hours or a hospital-based emergency room.

5.6 Pharmaceutical care

Distribution of pharmaceuticals

Any pharmaceutical product that has marketing approval from the Danish Medicines Agency can be distributed by community and hospital pharmacies. Denmark has three wholesalers distributing drugs to private pharmacies, in addition to some wholesalers that only distribute drugs for veterinary use. Wholesale profits are fixed through individual negotiations between the manufacturers or importers and the wholesalers; the profit level is generally determined through competition.

Community pharmacies are private entities but subject to comprehensive state regulation to ensure that everybody has reasonable access to a pharmacy, even in rural areas where pharmacies may not be profitable. A collective financial equalization system is in place, under which pharmacies with above-average turnovers contribute to pharmacies with below-average turnovers.

At the end of 2010, there were 316 pharmacies in Denmark. Pharmaceuticals may also be sold in other types of outlet, without pharmacists. Since October 2001, other outlets, such as supermarkets and kiosks, have been permitted to sell a selection of non-prescription drugs. The total consumption of over-the-counter drugs has not changed despite this increased number of outlets. The pharmacies'

share of over-the-counter pharmaceuticals was approximately 90% in 2005 (Herborg, Sørensen & Frøkjær, 2007). Pharmacy outlets (of which there were 126 in 2010) are served only by pharmacists. In rural or scarcely populated areas, shops under the supervision of a pharmacy are allowed to act as over-the-counter outlets (596 in 2010) or delivery facilities (204 in 2010) (Association of Danish Pharmacies, 2011). Pharmacy services are provided by the pharmacy owner and the staff of pharmacists and pharmacists. Their competence includes handling and checking prescriptions, dispensing medicines and the provision of information regarding the pharmaceuticals. Pharmacy owners must ensure that their staff members have the basic education and continuing training to enable them to carry out their tasks properly. In 2010, pharmacies employed 757 pharmacists, 3012 pharmacists and 2608 others, calculated as full-time employees (Association of Danish Pharmacies, 2011). The number of pharmacies and employed pharmacists is decreasing, while the number of pharmacists is increasing. The number of pharmacies in Denmark has also decreased since the mid-1970s (Association of Danish Pharmacies, 2006). Since the early 2000s, the number of pharmacies in Denmark has decreased from 329 in 2001 to 318 in 2010 (Association of Danish Pharmacies, 2011). The number of prescriptions handled per pharmacy (or branch of a pharmacy) was 167 000 in 2005, corresponding to 630 prescriptions per pharmacy per day. The pharmacies sold 57.7 million pharmaceutical packages by prescription in 2010 (Association of Danish Pharmacies, 2011).

The total gross profits of community pharmacies are fixed by the Ministry of Health and the Danish Association of Pharmacists every two years on the basis of current figures and forecasts. In 2010, the total gross profit of the pharmacies was DKK 12.4 billion, exclusive of VAT. The average total gross profit per pharmacy was DKK 49.2 million (Association of Danish Pharmacies, 2011). Prescription pharmaceuticals made up 77.5% of the turnover of pharmacies in 2009. Pharmacies sold a total of 98.5 million pharmaceutical packages in 2009, of which 56.7 million were prescription pharmaceuticals, which is approximately 58% (Association of Danish Pharmacies, 2011).

All community pharmacies provide advice about medicine use, dose dispensing, generic substitution and the administration of individual reimbursement registers. Except for very simple processes, compounding of pharmaceutical materials is centralized at three pharmacies (Herborg, Sørensen & Frøkjær, 2007). Many pharmacies offer BMI, blood sugar, blood pressure and cholesterol measurements, quit-smoking counselling and inhalation counselling for patients who use inhalators; however, only inhalation services are reimbursed, plus quit-smoking counselling in some instances. In 2009,

pharmacies had agreements with 52 municipalities concerning quit-smoking counselling. Approximately 300 counsellors carried out 2859 short counselling talks about smoking and quitting smoking, a 7% increase from 2008 to 2009. In 2009, 43 912 inhalation counselling sessions were carried out (Association of Danish Pharmacies, 2010). Extending services in clinical pharmacy is a priority for all Danish pharmacy organizations. The professional strategy is to use the competence of the pharmacy to take co-responsibility for the pharmaceutical treatment of the patient and for patient safety. Research in pharmacy practice and pharmaceutical care is well established. Research trends tend to focus on collaborative health care, on developing and documenting the value of community pharmacy services, and on optimizing services and strengthening implementation (Herborg, Sørensen & Frøkjær, 2007).

Hospitals can choose to buy drugs from private pharmacies or through hospital pharmacies. Where hospitals buy drugs from private pharmacies, the retail price is negotiated partly based on the hospital's drug purchases in the preceding year. The regions, who own the hospital pharmacies, have established AMGROS, a wholesaler that invites tenders for pharmaceutical contracts. Most hospital pharmacies buy drugs through AMGROS and thereby make use of the opportunity to benefit from lower prices on the basis of large, joint contracts.

The issue of liberalization of the pharmaceutical sector has been subject to conflicting political interests and to lobbying by strong interest groups in the pharmaceutical sector. In October 2001, a minor liberalization of the sale of non-prescription drugs took place. Towards the end of 2010 and the beginning of 2011, the issue of further liberalization was debated politically and put forward as a potential strategy. The Danish Pharmaceutical Association campaigned against this strategy. At the time of writing, the strategy has been redesigned into less state regulation, but is still debated politically.

The Health Act states that the regions pay subsidies for prescription medicines that have been approved by the Danish Medicines Agency. Subsidies may also be given for non-prescription drugs prescribed by a doctor (see section 3.4.1).

In 2009, the average pharmaceutical expenditure per capita was just below DDK 4000. This is lower than all OECD countries except for Poland, New Zealand and Mexico. In 2009, 2.7 billion defined daily doses were delivered; this corresponds to each Danish inhabitant receiving approximately 1.3 defined daily doses per day. The most prescribed types of pharmaceutical are those connected to heart and circulatory diseases (36% of defined daily doses), followed by pharmaceuticals connected to diseases of the nervous system (20%) (Association of Danish Pharmacies, 2010).

5.7 Rehabilitation/intermediate care

Many actors across different sectors in Denmark are involved in rehabilitation work. Rehabilitation occurs within the health care sector, the social sector, the occupational sector and the educational sector; however, each sector carries out a different aspect of rehabilitation, for example training or the development of competences.

Rehabilitation is partly provided by public hospitals, which are the responsibility of the regions. Municipalities have the responsibility of providing training and rehabilitation that are not offered in connection with hospital treatment. A few private clinics provide rehabilitation in the form of physiotherapy, occupational therapy and chiropractic therapy. To improve cooperation between the hospitals and municipalities, rehabilitation is included in the mandatory health care agreements between regions and municipalities. Rehabilitation is provided free of charge at hospitals and in the municipalities.

Increasingly, geriatric departments for rehabilitation of older people are being set up in regional hospitals. If patients cannot be placed in municipal care as soon as they are discharged because of waiting lists, then the municipalities are liable for any extra hospital expenses incurred. It is expected that this liability will encourage municipalities to provide care as quickly as possible.

Municipalities offer different kinds of rehabilitation setting, such as training in the patient's home, in a care centre or in municipality rehabilitation centres. Some municipalities have, in addition to their own rehabilitation centres, an agreement with the regions to provide rehabilitation services as a partnership with joint financing. Training can, therefore, be conducted at a regional rehabilitation centre, a rehabilitation hospital or within a hospital department. This type of partnership enables service provision in a professional environment with a group of competent professionals, such as doctors and physiotherapists.

An area attracting attention within rehabilitation and intermediate care is the problem of securing coherent patient pathways, as rehabilitation takes place in both the social and the health sectors and is carried out by different actors. Therefore, health care agreements between regions and municipalities are to include agreements of this sort. In 2011, the Ministry of Health, the Ministry of Social Affairs and Integration, the Ministry of Employment and the Ministry of Children and Education jointly published a guide on rehabilitation for the municipalities.

5.8 Long-term care

Long-term care facilities are varied and numerous in Denmark. For example, in addition to conventional nursing homes, there are psychiatric nursing homes, small apartments (providing basic medical care and located adjacent to nursing homes), group homes and foster homes.

To initiate long-term placement, the caregiver or community nurse contacts the GP, who in turn visits the patient at home or at the social services office. Upon completion of the assessment, the physician refers the case to a social worker, whose job it is to ensure that the appropriate forms are completed (including a section completed by the family) and then to forward the forms to the social services authorities. In addition to facilitating the application process, the social worker provides information regarding fees for long-term care. If the patient is in hospital at the time of application, the family contacts the GP, who in turn contacts the appropriate professionals within the hospital. The total cost of care depends on the types of service that a patient decides to use.

Municipal level

The municipalities deliver social services including social welfare allowances (sickness allowances and disability pensions), care for older people and care for disabled people and people with chronic diseases, including those with mental disorders. Municipalities are also responsible for providing housing for mentally disabled and homeless people. Such municipal services are financed through taxes and run primarily by salaried professionals employed by the municipal health authorities. Contracting with private non-profit-making agencies, however, is becoming increasingly common in an attempt to provide services that are more cost-effective. Privately contracted services include long-term inpatient care in nursing homes, care in day care centres and social services for chronically ill and/or older people. Some additional services, such as catering and cleaning, have been contracted out to private commercial firms.

Nursing homes

Since 1987, nursing homes have been considered as ordinary housing. The rights and duties of nursing home inhabitants, therefore, closely resemble those of the rest of the population. However, following this legislation, no new nursing homes have been set up, and sheltered housing now provides services according to individual needs. Consequently, the number of nursing home places has fallen quite dramatically – from approximately 27 600 in 2001 to approximately

9400 in 2009. However, the number of housing places available has risen from approximately 69 500 in 2001 to 79 000 in 2009, as protected housing has been set up instead (Ministry of Social Affairs and Integration, 2011).

This change in emphasis has been accompanied by a large increase in the number of home nurses and people carrying out home help services who are employed by municipalities. Many municipalities provide home care around the clock. Nursing home inhabitants are now individually registered with a GP, whereas in the past each nursing home was assigned its own doctor. Nursing homes and protected housing are financed by their inhabitants, according to complex computations of their financial situation. The expenses of low-income inhabitants are paid using a proportion of their old-age pension allowance.

Older people

The demographic development of a proportional increase in the number of older people compared with the total population in Denmark is expected to pose a serious challenge for municipalities. In order to reduce the financial cost of care for older people, health and social authorities are attempting to place more and more emphasis on self-care, increased support for people to remain in their homes for as long as possible, and on effective preventive and health-promoting activities.

Municipalities have developed a wide range of services to accommodate the preference of senior citizens to remain independent for as long as possible in their own homes. These services include care and assistance with cleaning, shopping, washing, the preparation of meals and personal hygiene. Home care can be used to assist or relieve family members who are caring for a sick or disabled person. Two forms of home care are available: long-term and temporary. Long-term care is provided free of charge, whereas temporary home care visits may warrant individual payment, depending on the income of the recipient (Jarden & Jarden, 2002).

Home nurses offer day and night services, such as patient education, care and treatment, and they help in filling out applications for various needs. These needs include a change of residence, aid, emergency help and attendance at senior centres and senior day care facilities, and they are provided free of charge. All disabled or ill individuals can have an emergency or safety phone system installed in their home that provides them with direct 24-hour contact to their public health nurse.

When older people are in need of another living arrangement for health reasons, a more suitable residence is offered. There is an array of possibilities available for this, based on the individual's needs and desires. Senior citizen residences, gated communities, assisted living units and nursing homes are all designed especially for older and disabled people, offering one- or two-room apartments, elevator services, emergency and contact systems, and social activities. These residences often differ in their management and administration, and some are associated with nursing homes that supply health aides as well. Residents' councils provide representation of the residents' needs in these senior citizen units.

A day care centre is offered as an option for those who do not wish to move permanently but who still require extra care. Transportation to and from the day care centre is arranged. There is also the option of using a nursing home for a shorter period as respite for the family. Almost every municipality has beds designated for respite care (Jarden & Jarden, 2002).

5.9 Services for informal carers

A number of services are available for the informal care of a person with reduced functional capability as a result of a severe physical or mental condition or a chronic or long-term illness. Someone who wishes to be an informal carer for a close relative may be employed by the municipality. However, the following preconditions must be fulfilled to do so: (1) the alternative to home care is day and night care outside the home or the quantity of care needed corresponds to a full-time position; (2) there is an agreement between the parties concerning the care arrangement; and (3) the municipality has approved the suitability of the person in question as an informal carer. The informal carer can be employed for up to six months with a monthly salary of DKK 16 556 (Act to Consolidate the Service Law 2011), which corresponds to approximately three-quarters of the average annual Danish income in 2008 of DKK 278 500 (Statistics Denmark, 2011).

A person who takes care of a close relative with a terminal illness can apply for compensation for lost earnings. The application should be sent to the municipality. The preconditions of the compensation are: (1) that a doctor assesses the close relative and deems further hospital treatment to be hopeless; and (2) that the condition of the patient does not demand hospital admission.

This compensation amounts to 1.5 times the amount the informal carer would have been given as sickness benefit. However, exceeding the informal carer's normal salary is not allowed.

5.10 Palliative care

Palliative care is organized at two levels, basic and specialist care. Basic palliative care is directly integrated into the mainstream health system, and it includes GPs, municipality home care and hospital departments. Specialist palliative care includes palliative teams, hospices and palliative units. Legislation determines the general obligations of the municipalities and regions regarding the care and treatment of terminally ill patients in hospitals, nursing homes and their own homes. Legislation specifically states that access to care, compensation, medicine, physiotherapy, psychological assistance, health care commodities and cleaning, among other things, should be provided. According to legislation, the regions are obliged to offer treatment in hospitals, including the treatment of terminally ill patients. Within the last decade, the government has issued and revised the so-called Hospice Law a number of times, the latest in 2010. The different Hospice Laws oblige the regions to establish contracts with hospices concerning a certain number of hospice beds across the country, and to fund the full costs of running these private (self-owning) institutions (the current Hospice Law is part of the Health Act 2010). As a result, the number of hospices has quickly expanded.

In 2011, there were 17 hospices, with a total of 208 beds at their disposal, corresponding to 37.7 hospice beds per million inhabitants; there were two palliative units, with a total of 19 beds at their disposal, corresponding to 3.4 beds per million inhabitants; and there were 23 palliative teams, with a capacity of 1631, corresponding to 295.9 per million inhabitants (Danish Knowledge Centre for Palliative Care, 2010). The palliative units and teams are all organizationally based at a hospital, while the majority of the hospices are private non-profit-making foundations. Some specialist care services have a broad range of health care professionals (social workers, psychologists, physiotherapists, occupational therapists, complementary therapists, speech therapists, etc.) involved in the delivery of palliative care. Volunteers work at all the hospices, while about one out of three palliative teams have volunteers attached.

Almost every municipality has beds designated for respite care, but few of these are reserved for terminally ill patients. A survey conducted by Danish Knowledge Centre for Palliative Care (*Palliativt Videnscenter*) in 2009 found

that 1.64% of all beds designated for respite care among the participating municipalities were reserved for terminally ill patients (Danish Knowledge Centre for Palliative Care, 2009).

Patients with palliative needs fall under the same rules as other patients in the health system when it comes to access to secondary care facilities. They have to be referred by a GP, who functions as a gatekeeper to specialist care and treatment. In principle, however, patients are able to contact some Danish hospices on their own, and to be admitted without referral. When asked about their referral criteria, all hospices and palliative teams and units respond that they use criteria such as being incurably ill and having a complex symptomatology (Danish Knowledge Centre for Palliative Care, 2010).

In 1996, the National Board of Health published guidelines based on WHO recommendations for palliative care, containing organizational instructions for palliative care, and on how to care for seriously ill and terminally ill patients. The guidelines were expanded in 1999 to target health professionals and their respective responsibilities. Overall, there has been slow development in ensuring implementation of the national recommendations for palliative care in both the regions and municipalities. In addition, almost only patients with a cancer diagnosis are admitted to hospices today. Even by 2000, a national cancer plan concluded that the development of palliative care in Denmark lagged behind that of other countries and that resources should be allocated to the improvement of, and education in the field of, palliative care (Cancer Steering Committee, 2000). In 2009, the Danish Multidisciplinary Cancer Group for Palliative Care (*Dansk Multidisciplinær Cancer Gruppe for Palliativ Indsats*) was established. This multidisciplinary group is now developing national clinical guidelines and also runs the national Danish Palliative Care Database, assessing the quality of specialized palliative care. The first results will be published in 2011 (Danish Multidisciplinary Cancer Group for Palliative Care, 2011). In 2010, with Cancer Plan III, the government identified palliative care as a priority area and allocated resources to improve palliative care over the next four years. A clinical pathway for rehabilitation and palliative care at the municipal and regional level is being elaborated in 2011. Access to specialized palliative treatment and palliative guidance at the basic level is to be increased. The total number of hospice beds is to be increased to 250 in 2014, so that the possibility of being referred to a hospice is increased for all patients who are incurably ill (Danish Knowledge Centre for Palliative Care, 2011). Finally, resources have been allocated to the Danish Knowledge Centre for Palliative Care to ensure the development and dissemination of knowledge on palliative care in Denmark.

5.11 Mental health care

In 1976, in connection with the 1970 political and administrative structural reform, responsibility for psychiatric hospitals was transferred from the state to the former counties. This was accompanied by a major decrease in hospital beds, which took place simultaneously with an increase in local and community psychiatric outpatient treatment. The development of decentralized psychiatric care emphasizing outpatient treatment, and the adjustment of those who were mentally ill to the local environment was facilitated by the appearance of modern psychoactive drugs and by a change in the psychological and social treatment of mentally ill people (Ministry of Interior, 1977). This organizational change has, as planned, resulted in many mentally ill people living in their homes. However, their integration into wider society has not always been successful, particularly in the big cities, where some of these people have ended up homeless or living in shelters (Nordentoft et al., 1997).

Full implementation of the organizational change in psychiatric care did not take place until the 1990s, and it was associated with problems relating to coordination and service coherence. The provision of services was divided between counties and municipalities and there were many problems embedded in organizational fragmentation and general management challenges. The counties made a number of subsequent organizational changes in order to secure coordination and coherence of services within and between clinical psychiatry and social psychiatry care.

Public services for patients with mental disorders are provided through cross-sector collaboration between the health and social care sectors. The regions are responsible for psychiatric health care services, and the municipalities are responsible for the social psychiatric services, with the exception of some of the social psychiatric institutions, which are still managed by the regions but financed by the municipalities. Consequently, there are partial overlaps within some of the social psychiatric services that are provided by the regions and municipalities. This further complicates the effort to run an effective, coherent system linking decision competences and financing responsibility. To counter this, psychiatry is also included in the health agreements between regions and municipalities.

Private practising psychiatrists

There were 170 full-time private practising psychiatrists in 2009 (projections from the National Board of Health on the education of psychiatrists; National Board of Health, 2011g). Patient attendance with a private practising psychiatrist

tends to be from two sources: a referral from a GP (financed by the region) or a direct approach from the patient without referral (to be fully paid for by the patient).

Hospital psychiatry

As a result of the policy of deinstitutionalization of the psychiatric sector, there has been a decrease in the number of available beds in hospital psychiatric departments. The number of beds decreased from 4121 in 1996 to 3078 in 2007, corresponding to a fall of around 25%. At the same time, the number of outpatient contacts increased, from 388 542 in 1996 to 732 950 in 2007, corresponding to 89% more outpatient contacts (Danish Regions, 2010).

Community mental health care

A community mental health centre is established locally and provides outpatient care and interdisciplinary psychiatric treatment. The treatment is conducted by interdisciplinary community mental health teams, made up of doctors, nurses, social workers, occupational therapists, psychologists, physiotherapists and other health professionals.

In some regions, these teams are located locally in community mental health centres, which are sometimes physically connected with a day care centre. Other regions have placed the teams in hospital psychiatric departments. The regions also have different district psychiatric services; some strictly provide services only for people with long-term and socially disabling diseases, while others also include services for people with short-term mental illness. The target groups of the different community mental health centres consequently vary. A referral is usually needed for a mentally ill person to seek treatment from community mental health care providers. Some centres, though, have options for acute consultations. The referral can be obtained from a GP, the hospital or, in some cases, the municipal caseworker.

Community mental health care has been criticized for providing insufficient treatment, which may be linked to the reduction in the number of beds without simultaneously increasing outpatient care resources. Almost all of Denmark is served by community mental health care services, with approximately 82 units across the country (data from individuals regions through web sites and phone consultations, June 2011). The current focus is on quality development and implementation of new treatment guarantees and guidelines.

Social psychiatry

The municipalities have the primary responsibility for social psychiatry and the regional authorities are responsible for those services requiring special competencies. In 2002, the counties had 2061 occupied day centre accommodation places (versus 3256 day and night accommodation places). The municipalities are also responsible for the mentally ill at local nursing homes, as well as providing temporary residence and home care arrangements. In 2001, a total of 4979 individuals were included in the support and contact person arrangements of the municipalities (Ministry of Interior and Health, 2004).

Legislation and strategic programmes

From the late 1980s, mental health care has been continually on the agendas of the Danish Parliament and Government, the regions and the municipalities. According to legislation, the regions and municipalities have a considerable degree of freedom in the organization and management of mental health care services.

Treatment in psychiatric departments is regulated by law, which includes details on the patient's rights, loss of freedom and the use of force in psychiatric care. The current legislation, in the Health Act, amended the legislation from 1938 and placed more focus on the rights of patients. According to the current Act, the health authorities are obliged to offer hospital stay, treatment and care, corresponding to accepted psychiatric hospital standards; beds and personnel; possibilities for stays outside of the hospital; and occupational, educational and other activity services. However, the state has had a greater influence on the management of psychiatry by the counties/regions and municipalities through economic and psychiatry agreements made as part of the annual negotiations over budget and expenses (see section 3.3.3).

Another development within the field of psychiatry since the early 2000s is the establishment of new organizational forms, with outreach and interdisciplinary teams for treatment of the mentally ill in their homes or within their living arrangements. Fieldwork teams for psychotic patients and for young schizophrenic patients are some examples of these new organizational forms, which are targeted towards the most challenging group of mentally ill patients in order to create a uniform and coherent service. This service can include treatment and various social psychiatric services, as well as educational services.

The Mental Health Act, which regulates the use of restraint in psychiatry, states that treatment as far as possible must be a collaborative effort between the patient and the professionals. A treatment plan must be prepared and implemented within seven days of admission for all patients. The patient must

be informed of the contents of the treatment plan and the patient's consent must be obtained, if possible. Patients are given access to a list of approved advocates from outside the hospital if the patient is subjected to restraint. An advocate must be appointed for the patient who will assist the patient in initiating and implementing complaints. Although the use of physical restraints is still widespread, it is more common in Denmark than in many other countries; the use of isolation – which is illegal in Denmark – is more widespread in other countries. The Mental Health Act requires that any use of restraint must be recorded and reported to the National Board of Health. A report of statistics on the use of restraint in psychiatry is published annually by the National Board of Health.

Discrimination and social stigma

The National Board of Health, Danish Regions, the five individual regions, Local Government Denmark, the Ministry of Social Affairs and the Danish Mental Health Fund have embarked on a nationwide effort to fight stigma in relation to mental illness. New and existing initiatives aimed at destigmatizing mental illness have been combined in this five-year project, which will run until 2015.

The Danish Mental Health Fund, the primary aims of which are to disseminate knowledge about mental disorders and to minimize prejudice existing within the field, has established a nationwide programme on depression, anxiety disorders and schizophrenia. One of the many goals of these programmes is to focus on discrimination and social stigma in order to minimize the burden of the mentally ill. The programmes are coordinated by the Danish Mental Health Fund and run in collaboration with the municipalities and networks in the regions. A great deal of the nationwide effort against depression has been undertaken through regional and local projects. The projects depend on the needs and situation in the local area, but they generally offer courses, themes, public meetings and activities in the workplace, schools, educational institutions, and so on. As an integrated part of the nationwide effort, the Danish Mental Health Fund runs a project aimed at children and adolescents, primarily those aged 14–19 years. The project is supported by the Ministry of Health from 2010 to 2013.

The Ministry of Health and the Ministry of Social Affairs set out a proposal regarding a common set of fundamental values within the field of mental health. The aim was to establish positive interplay between the services provided in the health and social care sectors for people with long-term mental disorders.

Special efforts are made to provide services that are meaningful and coherent for the users and their families as well as for professional personnel (Ministry of Interior and Health & Ministry of Social Affairs, 2004).

Refugees and asylum seekers

No specific health services are provided to deal with the particular mental problems that are faced by refugees and asylum seekers. Red Cross Denmark, however, offers three hours of psychological consultation per individual. If that individual needs further consultation, they have to apply to the Danish Immigration Service to obtain it. The Danish Immigration Service is quite restrictive in this area and can put the involved individual in a difficult position (see section 5.14).

In the specialty plan for psychiatry (National Board of Health, 2011g), a specific function regarding “traumatized refugees” is defined and will take place at dedicated psychiatric wards, as well as rehabilitation for torture victims. It still remains to be seen how this may influence the treatment options for refugees and asylum seekers. The rehabilitation centres for torture victims are inscribed in the Health Act as privately run special hospitals. In 2008, a special health clinic for immigrants was established in conjunction with the Department of Infectious Diseases at Odense University Hospital (National Board of Health, 2011g).

Families and care

Families are not legally obligated to provide care for fellow family members with mental health problems. Each region assesses the individual situation and decides which arrangements are best for the patient. However, in recent years, the focus has been on creating a set of common values, to be applied nationwide.

Psychiatric beds

The number of beds in hospital psychiatry was 3078 in 2007 (see sections 4.1.1 and 4.1.2). This reduction in number of beds largely resulted from the policy of deinstitutionalization. The general decline in the number of beds in psychiatric hospitals has been associated with a large increase in the number of outpatient visits (see above in the section on hospital psychiatry). Many diagnostic and therapeutic procedures now take place without inpatient admission or before and after inpatient stay. The rate of deinstitutionalization and the insufficient development of community mental health systems are partly responsible for what is known as “revolving door psychiatry” in Denmark. The increased risk of suicide, compulsory hospitalization and abuse among psychotic patients in Denmark can, to a certain extent, be explained by the rate of

deinstitutionalization and patient dropouts in community psychiatry, despite the fact that one of the basic principles in outpatient treatment is continuity (Aagaard & Nielsen, 2004).

Priorities for mental health care

The main priority in Danish mental health care is to provide treatment for the mentally ill according to severity, with first priority given to individuals suffering from disorders such as schizophrenia and severe depression. Mental illness is also part of the mandatory health agreements between the regions and the municipalities. As a minimum, the agreement must describe the following.

- Division of tasks between the region and municipalities in relation to the mentally ill, including efforts towards children and adolescents, and patients with a diagnosed mental illness in combination with drug- or substance abuse.
- How the parties make provisions for the coordination of health care services and social services for the mentally ill.
- How the parties make sure that relevant information is transferred between the hospital, general practice and the municipality in relation to admissions and discharges and that the parties are available for further dialogue and coordination.
- How the parties safeguard that, in relation to discharge from hospital treatment, the patients and his or her needs are evaluated using an interdisciplinary and multisectoral approach. This also includes the timing of the discharge and services in relation to this.
- How the parties make sure that the needs of children in families with a mentally ill parent are assessed and provided for.
- How the parties plan and manage the effort for persons with mental illness.
- How the parties follow up on the agreement.

5.12 Dental care

In Denmark, oral health care for children and adolescents is provided by the municipal dental service. Dental care is free for children and young people below the age of 18 years under the municipal dental health service or with a private practising dentist, who is reimbursed based on fees paid by the municipalities. The municipal children and youth dental care service includes periodic check-ups and treatments (e.g. in connection with caries). The municipal children and youth dental care services can also refer children to orthodontists if necessary.

According to the 1986 Act on Dental Care, the system also provides health promotion, systematic prevention and curative care free of charge for persons under the age of 18 (Danish Parliament, 1986). Dental health for children and adolescents is essentially school based and, as a result of outreach activities, the participation rate is nearly 100%. It includes comprehensive clinical oral care, prevention and oral health education for children and parents. School-based activities encompass oral health education in the classroom, diet control, supervised oral hygiene instructions, fissure sealing of permanent molars and the effective use of fluorides. The Danish Act on Dental Care also obliged municipalities to take on the responsibility to report oral health data to a national recording system (the SCOR system), which is developed and implemented by the National Board of Health. The system was established to evaluate the evolution of oral health status nationally, regionally and locally (Hansen, Foldspang & Poulsen, 2001). Information derived from the register shows that an improvement in dental health among children and adolescents occurred primarily from the late 1970s and throughout the 1980s (Petersen & Torres, 1999).

In Denmark, only fluoridated toothpaste is available on the market. Increased control of dental caries has been observed among children and adolescents of varying social and economic backgrounds and across regional and geographical boundaries. From an overall perspective, considerable improvements have been registered. The prevalence rate of dental caries, the average incidence of caries and the number of children with particularly severe caries have all decreased substantially (Petersen & Torres, 1999).

Dental health care for citizens older than 18 years is offered by private dental practitioners. Citizens are responsible for a substantial part of the payments; however, some of the payments, in particular the preventive services, are covered by the regions. If a person is covered by VHI, for example Health Insurance “danmark”, dental care is further subsidized. Prices are regulated through

negotiations between the Danish Dental Association (*Dansk Tandlægeforening*) and the Health Care Reimbursement Negotiating Committee (*Sygesikringens Forhandlingsudvalg*) every second year (Health Care Reimbursement Negotiating Committee & Danish Dental Association, 2004).

There is no direct monitoring of the quality of dental health services in Denmark. However, the dentist has to negotiate with the regions, which look at the services provided and assess the overall composition of services. Complaints about the quality of a dental service are sent to the National Agency for Patients' Rights and Complaints or the region in which the dentist has a practice (Danish Dental Association, 2011). The National Board of Health does not generally monitor dental health services, but it does take action against the dentist concerned if there has been a substantiated complaint. Since 2010, the dental complaint system has been heavily criticized in the media by the public, but also by Health Insurance "danmark" and the Danish Consumer Agency. The criticism revolves around the lack of transparency of the dental complaint system; it is also argued that mistakes are being made in the assessment of the complaints and that there are impartiality problems built into the system. At the time of writing, the Danish Dental Association and Danish Regions are developing a new complaint system that aims to take the described criticism into account (Andersen, 2011).

5.13 CAM

In Denmark, a wide choice of CAM techniques is available, including zone therapy, osteopathy, homeopathy, acupuncture and herbal medicine. CAM is partly accepted by the biomedical profession. Chiropractic is no longer considered an alternative treatment. The provision of CAM is regulated by a medical law regarding quackery, but it can be practised freely as long as the law is respected. The law states that authorization is required, and that a penalty will be incurred if an individual without professional qualification calls him/herself a doctor or performs surgery. Acupuncture is considered a surgical operation and, therefore, can only be conducted by an authorized doctor or under the supervision of and after delegation by a doctor. Alternative medical products are also governed by regulations. As a response to EU directives regarding the production and sale of homoeopathic medicine, these regulations have been revised in Denmark. All alternative medicines sold in Denmark have to be approved by the Danish Medicines Agency, which sets out regulations on

production standards, safety and product efficacy (Johannessen, 2001). In 2004, legislation introduced a voluntary self-administrated registration arrangement for CAM practitioners.

A Knowledge and Research Centre for Alternative Medicine was established in 2000. In the future, it is expected that the Centre will continue to explore CAM to raise knowledge of such therapies and their effects and to engage in dialogue with health care providers, CAM practitioners and health care consumers.

In 2001, approximately half of the GPs in Denmark used some kind of CAM in their practices (Johannessen, 2001). Physiotherapists, psychologists and chiropractors also use CAM to some extent. Although some kind of CAM is used in 31% of Danish hospitals, in 97% of the hospitals this is only acupuncture (Knowledge and Research Centre for Alternative Medicine, 2011). There are no authorized clinics or hospitals specializing in CAM, but a number of clinics for integrated medicine exist. At these clinics, therapists with government-approved therapist education cooperate with CAM therapists of varying education and therapeutic specialties.

In 2005, a nationwide study showed that 22.5% of the population had used CAM during the previous year, which was almost the double the number identified in 1987, and that 45.2% had used CAM at some point in their lives. The typical user is a woman between 25 and 64 years of age with 13 to 14 years of education. The study also showed that massage/manipulation was the most used CAM (13.2%), followed by zone therapy (6.1%) and acupuncture (5.4%) (Ekholm et al., 2006). The only CAM that is reimbursed by third-party payers is acupuncture practised by a licensed doctor. The regions and Health Insurance “danmark” provide contributions to this treatment. CAM therapists are, otherwise, reliant on out-of-pocket payments, details of which are not available.

5.14 Health services for specific populations

Special population groups have different kinds of access to the statutory health system. Recognized refugees are included in regional health care coverage and have the same rights as inhabitants registered with the Central National Register. There is no national regulation concerning preventive examinations and vaccination programmes for refugees and family reunion refugees. It is up to each municipality to decide whether to implement screening services or preventive initiatives and up to each GP to make sure that sufficient vaccinations are provided.

Asylum seekers are not covered by regional health care and are only directly entitled to certain services: (1) primary health care provided by the operator at the asylum centre and financed by the Immigration Service; (2) hospital care in case of emergency; and 3) the first three consultations with a psychologist or psychiatrist, the first five treatments at selected specialists (e.g. ophthalmologists and midwives) as well as some paraclinical tests for diagnostic purposes. If an asylum seeker has a chronic disease, Red Cross Denmark can apply to the Danish Immigration Service for economic support. According to the Danish Immigration Service, this support can only be provided if the treatment is necessary to relieve pain or to deal with a life-threatening situation. The application is assessed by a medical consultant and case officers from the Danish Immigration Service. Special services exist for pregnant women. Asylum seekers are all offered a volunteer screening examination by Red Cross Denmark. This examination is a general health check-up as well as an offer to perform an HIV test and chest radiology for at-risk groups. Children are examined for their vaccination status.

Undocumented immigrants are only entitled to acute treatment. Immigrants also have the possibility of registering with the authorities and thereby obtaining the same rights and duties as asylum seekers, given that they live up to certain conditions such as living at an asylum centre. This will in many cases not be an option for the undocumented immigrants. Even when seeking acute care, undocumented immigrants may often be afraid of being reported to the authorities if they attend the health services for acute care. In Denmark, a network of doctors exists that treats undocumented immigrants. In September 2011, the Danish Medical Association, the Danish Red Cross, and the Danish Refugee Council established a new private clinic for undocumented immigrants which will not require registering with the authorities. The clinic is regarded as progress in terms of securing health care for undocumented immigrants, but as the clinic will most likely only deal with acute illness, treatment for chronic conditions remains a problem.

Commercial sex workers living illegally in Denmark can also obtain anonymous help in two permanent clinics and a number of mobile clinics financed by nongovernmental organizations, which treat them for sexually transmitted infections and other problems. If they contact the authorities, they can also obtain the same rights and duties as asylum seekers, as described above. Access to health care services is generally affected by various barriers, such as lack of knowledge regarding the health system's functions, language problems, and cultural and structural barriers.

Psychological diseases are a major problem among asylum seekers and refugees. They have often been traumatized by war, been tortured or experienced other events that have had a profound impact on their lives. Red Cross Denmark offers three hours of psychological consultation free of charge. To receive further free consultation, the asylum seeker has to apply to the Danish Immigration Service. Furthermore, traumatized refugees have the option of receiving care free of charge at specialized centres for traumatized refugees.

6. Principal health reforms

Recent reforms include legislation on free choice of hospitals as well as waiting time guarantees, together with reforms and initiatives connected to the organization of the administrative structure and the hospital sector. The political objectives of many of the initiatives have had to do with standardization and cost control. The major structural reform of 2007 changed the administrative landscape of Denmark by creating larger municipalities and regions and redistributing tasks and responsibilities. Modernization of the hospital sector has included a restructuring of acute care, with centralization of units in so-called “joint acute wards”. Other initiatives include the introduction of national clinical pathways for cancer and heart disease and national planning of the distribution of specialties across hospitals. The DDKM, based on a process of accreditation, has also been established and is to be implemented across the entire system. No major reforms are scheduled for the future, but a series of specific issues are on the political agenda of the newly elected government. Future concerns pertain to three key areas: prioritization of resources; solving the problem of a declining workforce; and the organization of the health system.

6.1 Analysis of recent reforms

Table 6.1 shows an overview of major reforms and policy initiatives within the health system since 1970. The most recent reforms are described and analysed here, but section 2.2 has more information on the earlier organizational reforms.

Table 6.1

Overview of major reforms and policy initiatives that have had a substantial impact on the health system, 1970–2011

Year	Description
1970	Political and administrative structural reform: responsibility for a large part of the health care sector is placed with 14 new counties and the municipalities of Copenhagen and Frederiksberg. The National Board of Health has responsibility for approving county hospital plans
1970–1980	The responsibility of state hospitals and those financed by the state are assigned to the counties (with the exception of Rigshospitalet (the then “national hospital”))
1972	The municipalities are obliged to offer free dental care for children; this is extended in 1994 to include older and disabled people
1973	Counties and municipalities are given responsibility for negotiating agreements with practising health professionals
1980	Annual budget negotiations between the state and the counties and between the state and the municipalities are introduced
1982	Introduction of global budgeting in the publicly financed health sector
1985	Hospital plans developed by the counties no longer need approval by the National Board of Health but only need to be presented to the Board
1989	The first coherent national prevention programme for health is developed in cooperation with relevant sectors
1990	Budget agreements between the state and the counties increasingly include specific objectives and demands
1993	Free choice of hospital is mandated by law, including all counties and the municipalities of Copenhagen and Frederiksberg
1994	Counties and municipalities are obligated to coordinate plans for health care services
1995	The Copenhagen Hospital Cooperation (H:S) is formed. All hospital-related tasks in the cities of Copenhagen and Frederiksberg as well as Rigshospitalet are transferred to H:S
1999	As part of the 1998 budget agreement, full DRG group payments for treated patients are introduced to finance use of hospitals outside the home county (under the 1993 free choice scheme); 10% of hospital budgets are allocated according to activities by DRG
2002	A waiting time guarantee, named the “extended free choice”, is introduced. Patients with waiting times of more than two months can choose between a number of private facilities and facilities abroad, provided the patient’s county has an agreement with them
2003	The 1999 reform is extended to include activity-based financing (20% of budget) in hospitals from 2004
2005	The new Health Act states the objectives, general purposes and instruments of the health care sector in one comprehensive bill. The bill comprises the legal framework for the health sector that had previously been described in 15 separate bills on particular areas of health care legislation. The bill describes the changed health care sector included in the structural reform. The Health Act was passed in 2005 and enacted in 2007
2007	The waiting time guarantee is reduced from two months to one month
2007	The structural reform is implemented: the former counties and H:S are abolished and five regions are established instead. Municipalities are merged from 271 to 98. New allocation of responsibilities between state, regions and municipalities regarding decisions, financing and tasks
2007	Restructuring and modernization of the hospital sector (an ongoing process) and establishment of “joint acute wards”
2008	Mandatory clinical pathways for cancer and heart diseases are passed as part of the 2008 budget agreements
2008	A waiting time guarantee of two months and “extended free choice” of hospital is passed in child and adolescent psychiatry for diagnostics. The right is expanded to include treatment in 2009 and extended to include adult psychiatry in 2010
2009–2011	The DDKM is established
2010–2011	National specialty planning for hospitals is implemented

Source: Based on data in the Danish HiT 2007 (Strandberg-Larsen et al., 2007) and updated.

Free choice of hospitals and waiting time guarantee

A series of policies since the mid-1990s has aimed at strengthening the incentives for the counties to reduce waiting times for treatment and increase responsiveness by introducing competition among public hospitals and by providing a framework for a larger role for private providers. An Act on free choice of hospital for patients was introduced in 1993. Once referred by a GP, patients may choose among all public hospitals in Denmark and some private non-profit-making hospitals with the same level of specialization. An “extended free choice” in combination with a waiting time guarantee was introduced in 2002 to include a number of private facilities and facilities abroad for patients with expected waiting times for treatment (after established diagnosis) exceeding two months. The patient’s choice is limited to private hospitals that have an agreement with their region, which include only a few hospitals abroad, mainly in Sweden and Germany. The waiting time guarantee was reduced from two months to one month as of 1 October 2007.

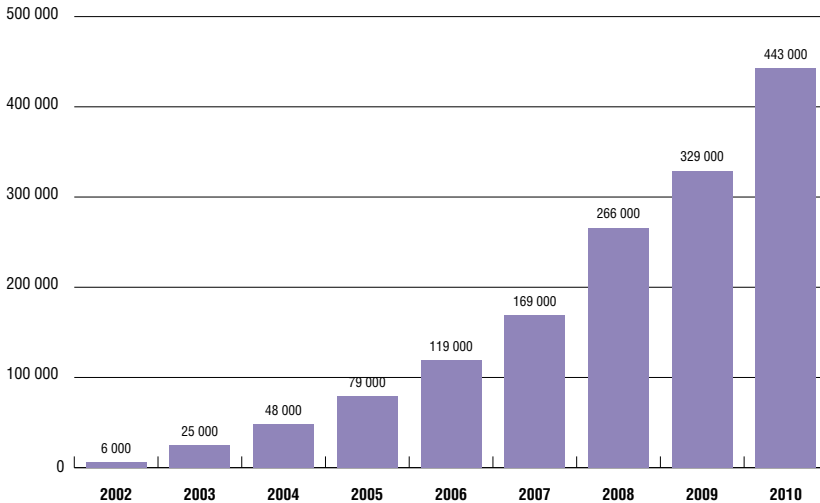
Since its inception, more than 440 000 patients have used their right to be treated at private hospitals and clinics. A great increase in the number of patients using extended free choice took place from 2002 to 2009 (Fig. 6.1). Although variations in waiting times persist, the limited utilization of this opportunity reflects the generally short waiting times in Denmark. Travel costs, limited information on quality matters, traditions and patient preferences for treatment close to home may be other explanatory factors for this utilization pattern (Vrangbæk 1999; Birk et al., 2007).

The “extended free choice” was suspended from 7 November 2008 to 30 June 2009 to deal with a bulge in the waiting lists generated during a strike by nurses and other health personnel concerning a pay settlement in the spring of 2008. On 1 August 2008, a waiting time guarantee of two months was introduced in child and adolescent psychiatry. Since then, children and adolescents under the age of 19 who have been referred for diagnosis in a public hospital have had the option to choose a private hospital or clinic if the expected waiting time exceeds two months. As of 1 January 2009, that right was expanded from including only diagnostics to including treatment. Similarly to the free choice laws of 1993 and 2002, the patient’s choice is limited to hospitals that have an agreement with the region.

On 1 January 2010, a similar waiting time guarantee of two months for treatment was introduced in adult psychiatry.

Fig. 6.1

Total number of patients using “extended free choice”, 2002–2010



Source: Ministry of Interior and Health, 2011b.

The current government has proposed the introduction of a differentiated waiting time guarantee based on the severity of the condition.

Structural reform, modernization of the hospital sector and establishment of joint acute wards

The Danish Parliament passed a major structural reform of the administrative system in 2005. The reform was implemented in 2007, with 2006 as a transition year. The reform reduced the number of regional authorities from 14 counties to five regions (0.6–1.6 million inhabitants per region) and the number of municipalities from 275 to 98 (37% of the new municipalities have more than 50 000 inhabitants; 38% have 30 000–50 000; 18% have 20 000–30 000; and 7% have fewer than 20 000). Both levels are governed directly by elected politicians. The main responsibility of the regions is to provide health care services, but some environmental and regional development tasks have also been maintained at this level. Most other tasks of the previous counties have been moved to either the state or the municipalities. The new municipalities have assumed full responsibility for prevention, health promotion and rehabilitation outside of hospitals.

From an economic point of view, several important changes have been implemented. First, the regions' right to tax was removed. Health care is now financed by a combination of municipal and national taxes, including the national health tax. A total of approximately 80% of the regional health care

activities is financed by the state via block grants and some activity-based payments (approximately 5%). The remaining public financing for regional health care activities comes from municipal contributions, which are paid as activity-based payments related to the use of services by the citizens of the municipality (see Chapter 3 for more details). The idea behind the municipal co-financing is to create incentives for municipalities to increase preventive services in order to reduce hospitalization. The government stated objective behind the new state health contribution is to create greater transparency for taxpayers with regards to their health contributions and priorities. However, since the national health tax is not earmarked for the health system, the effect on transparency can be questioned. A further political goal in having only two tax-raising levels is more cost control. The size of the block grants from the state is calculated according to a formula that includes the expected health care needs of the population as a central component. The expected need is assessed by combining the number of inhabitants in different age groups and across certain socioeconomic status levels (Strandberg-Larsen et al., 2006).

The structural reform passed through the parliament with a small majority. This is unusual in Denmark, as the norm has previously been that major structural reforms have needed a broad consensus between the government and the opposition. Two of the parties behind the reform, including the Conservative Party, which was part of the previous government coalition, have been in favour of dismantling the counties/regions for a number of years. The main arguments for the reform were related to standardization and cost control, even though significant implementation costs have been invested. Another main driver of the reform was the perception that larger catchments areas were needed to support future specialization and to secure structural adjustments. Many observers have pointed to the ambiguous evidence on the benefits of scale and specialization in health care (Christensen et al., 2005). Other observers have pointed out that the counties were performing well in terms of controlling expenditure levels, increasing productivity and making gradual structural adjustments (Søgaard, 2004), and that the evidence behind benefits of scale in hospital treatment is unfounded. It has not been documented whether standardization and cost control have really taken place after the reform. A formal evaluation has not been carried out and other initiatives besides the reform may have played a more important role in facilitating standardization and cost control. There is some evidence that the municipalities do not have sufficient competences to plan and carry out their new tasks and that they prioritize activities that directly reduce hospital admissions over general long-term preventive activities. No

independent experts have argued in favour of the changes in the financing scheme (Pedersen, Christiansen & Bech, 2005). The current government has made an evaluation of the structural reform as part of their programme.

Further centralization of the hospital sector followed the 2007 structural reform and the first major planning task for the new regions was to redesign the hospital structure based on guidelines from the National Board of Health. The National Board of Health envisaged that the number of acute care hospitals should be reduced from around 40 in 2006 to between 20 and 25 in 2015. That goal was primarily based on an assumption that a catchment area of between 200 000 and 400 000 persons was needed in order to secure quality and allow for sensible staffing.

The National Board of Health issued a report in 2007 describing the future of acute care. The report aimed at guiding the regional planning process of acute care, including prehospital treatment. Among many different initiatives, the establishment of the so-called “joint acute wards” at acute care hospitals and the placement of four trauma centres across the country were described. In these joint acute wards, emergency and acute patient admissions are organized in one ward. This is a change from the more specialty-oriented to a more process-oriented admission, transcending professional as well as specialty barriers.

In August 2007, the government set aside a DKK 25 billion (€3 billion) fund for capital investment in new and improved hospitals and formed an expert committee to make recommendations to the government on granting the resources based on their review of plans from the regions (see section 4.1.1).

National specialty planning

The National Board of Health issues binding guidelines on specialty planning. The 2007 Health Act gave the Board the authority to approve or reject applications from health care providers, public or private, to perform specialized treatments or diagnostic procedures. In practice, each region and each private provider submits a specialty plan detailing the placement of different specialized functions (treatment or diagnostic procedures). A total of 1100 different specialized functions has been identified. The specialty planning guidelines are based on reports to an advisory committee from groups of representatives from the relevant medical societies and the regions. The committee then advises the National Board of Health on the distribution of specialized functions. The National Board of Health monitors the functions and has the possibility to revoke approvals.

The policy is implemented to secure the highest quality of care by centralizing specialized interventions into fewer centres. The idea is that each centre must perform a minimum number of the intervention in question to maintain a high level of expertise. It is based on the assumption that there is a positive correlation between high frequency of a given intervention and the quality with which it is being delivered. There are also minimum requirements in terms of staffing to secure qualified staff, both doctors and nurses, in sufficient number. Moreover, hospitals must be able to maintain the service 24 hours a day all year when relevant – as a rule of thumb, at least three doctors must be able to perform the intervention in question.

For each clinical medical specialty in the hospital sector and hospital dentistry (family medicine, public health and forensic medicine are not included in the specialty plan), a division is made to group interventions/treatments in basic, regional and highly specialized interventions. Basic interventions take up, on average, 90% of the functions, but this number varies largely. Thoracic surgery, for example, has only highly specialized interventions while geriatrics has none. A guiding principle has been to have regional functions performed at one to three hospitals in each region and highly specialized functions at one to three hospitals in the country. Some diseases are so rare that they cannot be treated or even diagnosed with adequate experience in a small country like Denmark. For these patients there is the possibility of receiving treatment outside the country (see section 5.2).

One consequence of the process of specialty planning has been a further centralization of specialized functions; this has resulted in the closure of smaller facilities and longer distances for citizens to travel to providers. Despite these issues and popular dissatisfaction, there has been broad political and professional support for the process of speciality planning and the guiding principle of the need for centralization for quality reasons.

Clinical pathways for cancer

In 1998, a Cancer Steering Group was established. Its objective was to advise the National Board of Health on matters relating to cancer. At that time, Denmark had poorer health outcomes for cancer patients than other Nordic countries. The reasons are not clear, but it may reflect a combination of poorer health condition and/or differences in diagnostics and treatment. Waiting times were also considered to be high and these issues led to a political initiative for improvement.

Cancer policy in Denmark has, since the early 2000s, been dominated by national cancer plans (Box 6.1) (National Board of Health, 2011h). These are products of consultations with relevant organizations such as the Ministry of Health, the regions, the medical societies, patient organizations, the Organization of General Practitioners, and so on. The National Board of Health has issued two national cancer plans and a “technical paper”, which subsequently formed the basis for a political agreement resulting in the National Cancer Plan III (National Board of Health, 2011h).

Box 6.1**Developments in the National Cancer Plan, 2000–2011**

National Cancer Plan I in 2000. This had 10 general recommendations for improving cancer treatment. It led to a marked increase in capacity of scanners and radiotherapy and in the education of health care personnel.

National Cancer Plan II in 2005. This focused on tobacco prevention, better organization of care and a strengthening of the surgical part of cancer treatment.

Update of National Cancer Plan II in 2007. The update focused on integrated care and on improving coordination between departments, hospitals and the primary and secondary sectors. National integrated cancer pathways were defined as a key concept.

National Cancer Plan III in 2010. This stage focused on early diagnostics, screening, rehabilitation and palliation.

In October 2007, an agreement between the government and Danish Regions on the implementation of integrated cancer pathways was reached. A cancer pathway is a predefined course where future steps of diagnostics and treatment are planned and booked ahead when the patient enters the pathway. The pathways include clinical guidelines and time standards for the different steps from diagnostics to treatment, and an organizational overview includes a flowchart depicting the movement of patients through the system. There are a total of 22 different cancer-specific pathways, including a pathway for “metastasis with unknown primary tumour”, encompassing 34 significant types of cancer (National Board of Health, 2011a). Furthermore, as a part of Cancer Plan III, a special diagnostic fast track pathway for patients with unspecific symptoms of serious disease that could be cancer is currently being implemented by the regions. The political impetus for this action was to develop binding integrated cancer pathways as organizational and clinical standards for the diagnosis and treatment for most types of cancer. By January 2009, these integrated cancer pathways were implemented in the Danish health system.

A specific monitoring system for the cancer pathways, based on data from the National Patient Registry and the Cancer Register, is set up and overall cancer trends are being monitored, such as the time from referral to hospital to initiation of treatment.

Clinical pathways for heart disease

Following the implementation of cancer pathways, four pathways for heart disease were developed, to cover unstable heart spasms and blood clot in the heart, heart failure, heart valve disease, and stable heart spasms. These pathways, following the same framework as the cancer pathways, were implemented in 2009. Little is known about the effects of the clinical pathways for heart disease and cancer. Problems regarding registration mean that very few data are available for evaluation. Section 7.4.2 has more information on health service and health outcomes.

The DDKM

In 2002, the national and regional authorities agreed to implement a national model for quality assurance in health care. The idea was to integrate a number of previously national and regional projects – including clinical databases, clinical guidelines, accreditation schemes and national patient satisfaction surveys – into a comprehensive scheme covering all areas of the health sector. The main components of the model were the development of standards (e.g. general, process related; specific, diagnosis related; and organizational) and measurement indicators. Standards and indicators are intended to support internal quality assurance, benchmarking and external accreditation.

The Danish Institute for Quality and Accreditation in Healthcare was established in 2005 and manages the DDKM, which was established in 2009. The Institute refers to a board of directors, including representatives from the Ministry of Health, the National Board of Health, Danish Regions and Local Government Denmark. The DDKM is based on the principle of accreditation and contains:

- 104 standards for the regional health care sector (i.e. hospitals)
- 52 standards for the local health care sector
- 53 standards for the prehospital sector
- 42 standards for the pharmacies.

The standards are divided into three categories:

- organizational standards, such as quality, risk management, hygiene and recruitment;
- standards related to care coordination, such as patient involvement, referrals and safe medication;
- disease-specific standards, such as guidelines for treatment of diabetes, stroke, etc.

The Danish Institute for Quality and Accreditation in Healthcare is an accredited organization of the International Society for Quality in Health Care, which provides accreditation for the standards.

At the time of writing, most Danish pharmacies have implemented the DDKM or are in the process of implementing it. The standards for the local health care sector were approved in January 2011 and the first four municipalities are implementing the DDKM at the time of writing. Regarding the hospital sector, the first Danish hospitals have been accredited and the process of accreditation is expected to continue until 2012. The process is taking place region by region. The approximately 50 private hospitals with agreements with the regions regarding “extended free choice” are also required to undergo accreditation. The standards for the prehospital sector were approved in February 2011 but were yet to be implemented at the time of writing. The Joint Commission International has accredited the hospitals in the former Copenhagen Hospital Cooperation (H:S), now a part of the capital region since 2002, and the Health Quality Service has accredited hospitals in the former County of Southern Jutland.

DRG and activity-based financing

A Danish DRG system and diagnosis-related costs were developed in the late 1990s and play a major role in financing health care providers in the Danish health system. Details on the DRG system and the activity-based financing structure are given in Chapter 3.

6.2 Future developments

Current political and policy debates

The current political and public debate on health care particularly centres around three interrelated topics: prioritization of resources; how to solve the problem of a declining workforce within the health system; and how to organize

the health system in the future. The topics are interrelated in that they stem from demographic and financial challenges, with an ageing population with more chronically ill and problems of supply and demand in health care.

Prioritization has traditionally been somewhat taboo in the Danish debate about health care, but recently, probably because of issues such as the economic crisis, prioritization has emerged as a topic for political discussion. The focus on prioritization is evident in a number of policy initiatives that are being discussed or developed at the time of writing. For example, the creation of a national institute for priority setting is being debated, inspired by NICE, the British National Institute for Health and Clinical Excellence.

The introduction of user fees on some health services is also being debated and have already been implemented for in vitro fertilization treatment, sterilization and refertilization treatment.

Different government and opposition parties have proposed the establishment of multidisciplinary diagnostic centres to improve quality and reduce the time spent on diagnostics. The continued existence of the regions as an administrative level has been debated since they were established and, during the election campaign of 2011, the former government proposed abolishing the regions by replacing them with three regional health authorities controlled by the Ministry of Health. The question of the role of private hospitals in the Danish health system is a point of disagreement between the current government and the opposition.

Recently announced reforms

The previous government had decided that a national screening programme will come into effect in 2014 that offers screening for colon cancer to citizens 50–74 years of age, every other year (section 5.1 has more information on national screening programmes). A number of new IT solutions are also expected, including the common medication card.

On 15 September 2011, the centre-left opposition won the general election and formed a minority government coalition of the Social Democrats, the Socialist People's Party and the Social-Liberal Party, with support from the Red-Green Alliance. The leader of the Social Democrats leads the government. The new government carried out a major restructuring of the ministries and, in the process, the Ministry of Interior and Health was abolished and replaced by the Ministry of Health.

At the time of writing (October 2011), the new government has laid out plans for new health policies, but none of these has yet been signed into law. The policies emphasize financial incentives at different levels, continuity of care, quality improvement, digitalization and telemedicine – particularly for the chronically ill – and prehospital treatment, as well as more emphasis on preventive activities. The government is also planning a modernization of the service of the community pharmacies. Many of the proposed policies are continuations of the policies of the previous government (Danish Government, 2011). Some of the proposals, which have been described in more detail, are listed below.

- The government is considering options to improve long-term financial planning in the regions and municipalities by making it possible to budget for longer than the following year. The government is also looking into expanding the possibilities for the regions to finance capital investments.
- The government will set national goals for the Danish population's health status and will attempt to achieve the goals by putting more emphasis on prevention nationally and in the municipalities.
- Taxes on tobacco, alcohol, sugar, fat and other unhealthy foods will be increased.
- Prevention programmes will target vulnerable groups.
- The government will abolish the one month treatment guarantee and introduce a differentiated waiting time guarantee based on the severity of the condition.
- In addition, the government has set a goal of diagnosis within one month for patients with unspecific symptoms of serious disease.
- No-show fees for diagnostic procedures and treatments will be introduced, combined with electronic reminders and improved opportunities to cancel or reschedule appointments.
- Employers will no longer be able to deduct the cost of VHI from their tax liability; consequently, the financial incentive for employers to pay for VHI for their employees will be reduced markedly.

Expected future developments

The organizational structure of the health system, in particular concerning the hospitals, is a topic that has been in focus in recent years (see section 6.1). Issues discussed are centralization of care in fewer bigger hospitals as well as the new structure in the acute area. These are topics that are likely to continue to be debated and developed in the years to come.

The financing of the health system may also undergo changes as discussed above, with initiatives towards prioritization and user fees.

Specific areas where developments are planned are the acute area and palliative care, which is scheduled to undergo a significant expansion in the coming years. Coordination across sectors and coherent patient pathways also continue to be areas receiving political and public attention. Diagnosis for patients with nonspecific symptoms is also an area receiving increasing political interest. In order to improve diagnostics, standardized clinical pathways aimed at patients with nonspecific symptoms have been proposed, as well as diagnostic centres.

7. Assessment of the health system

Health legislation formally provides residents with the right to easy and equal access to health care and entitles patients to choose treatment after referral at any hospital in the country. Financing mainly takes place through taxation at the state (progressive tax) and the municipal (proportional tax) levels. There is a rather stable level of out-of-pocket payments in Danish health care – about 14%. These are mostly related to payments for pharmaceuticals, dental care and physiotherapy, with an impact on access for low-income groups, particularly regarding dental care. The expansion of VHI is motivated by the wish by large population groups to reduce these co-payments and spread the risk, but also to ensure access to the small private hospital sector if needed. Continuity of care is a concern in the rather fragmented and decentralized Danish health care structure. Various initiatives have been implemented in order to improve continuity, but lack of integration of care is still a major issue, particularly regarding chronic care.

Denmark is still lagging behind other Nordic countries with regard to general mortality and some cause-specific mortality figures; this probably results from a combination of health care, environmental and health behaviour factors. Health inequalities between educational, occupational and ethnic groups are an issue. This might to some extent reflect inequalities in utilization of some services, as there are clear socioeconomic and geographical inequalities in the use of preventive services, but there are also differences in the use of some curative services because of co-payments and geographical distribution of practising specialists.

The reduction in waiting times plus the waiting time guarantee and the “extended free choice” of hospital ensure access to health services within relatively short periods (one month). Patient satisfaction surveys continue to demonstrate remarkably high levels of satisfaction with both GPs and hospital services. A stated objective of the structural reform in 2007 was to create

incentives for the municipalities to place more emphasis on prevention, health promotion and rehabilitation outside of hospitals. Incentives have not yet shown significant effects in the municipalities, and the recent financial crisis has contributed to very tight municipal budgets and difficulties in finding means for new preventive initiatives.

Transparency of the health system has increasingly been a political priority during recent decades. Initiatives for improving this transparency have included quality indicators on clinical performance becoming available on the Internet. Information for the public on actual waiting time for admission to public hospitals has been ensured in order to facilitate the use of right to free choice by patients. There is generally a high level of awareness of general rights such as waiting time guarantees and free choice in the general population. Accountability of payers and providers, however, is largely ensured by hierarchical control within political–bureaucratic structures at national, regional and municipal levels.

In recent years, the hospital sector has shown a gradually higher productivity, with a 5.6% increase from 2009 to 2010; however, the stated objective of the structural reform in 2007, involving merging of municipalities and incentives for more health-related activities, has not yet shown significant effects on general productivity and efficiency of municipalities within the health field.

7.1 Stated objectives of the health system

Danish health legislation (the Health Act of 2005) formally provides the right to easy and equal access to health care for all citizens in Denmark; the right to choice of health provider; and the patient's right to information and self-determination. Stated objectives also include general ones regarding high quality of care, continuity of care (coherent and linked services) and transparency of the health system.

Legislation regarding access and free choice ensures that patients are entitled to choose to be treated at any hospital in the country. This has been a right since 1993, as an effect of changes in the health legislation, but the effect has been moderate and slow as most patients still seem to be in favour of treatment in a place close to their residence. The process regarding choice of other hospitals, however, has been accelerated by the policies regarding waiting time guarantees, which provide the right to treatment within one month after referral, the region having to pay the costs at a private hospital or clinic if their

public hospitals are not able to meet this time limit. In 2006, 87% of patients admitted to hospital for planned procedures were actually aware of their right to choose, and in 2009, around 10% of planned operations took place according to the waiting time guarantee (Ministry of Interior and Health, 2010b).

The issue of easy access is also related to user fees, geographical availability and communication. Implementing new user fees is publicly debated but is still not officially seen as an option regarding access to GP and specialist care for the general population. In spite of the stated objectives of easy access for everyone, the former government implemented a new fee for using interpreters for immigrant patients with more than seven years of stay in Denmark.

Ensuring availability of health care in all parts of Denmark is increasingly seen as an issue. In primary health care, GP shortage in some areas, and the latest contract between the Regions Board for Wages and Tariffs and the GPs, has created an opportunity for regions to set up their own clinics with publicly employed GPs in outlying areas, but also allows GPs to establish branch facilities staffed with employed physicians.

Quality of care is a continuous issue, and a series of initiatives has taken place, including the monitoring of quality in the DDKM, the introduction of the national accreditation system of hospitals and the launching of the Danish National Indicator Project (*Nationale Indikator Projekt*). This will be integrated as an element of the DDKM alongside annual surveys on patient-experienced quality, thus creating a better basis for assessment and quality improvement.

An important objective is continuity of care, which is a major issue in the fragmented Danish health care structure. Various initiatives have been implemented in order to improve continuity. Formal health agreements between the main actors are seen as a key tool and are evaluated and have been approved by the National Board of Health since 2007. Pathway coordinators have been introduced, and a special fee for GPs to act as coordinators of care for specific groups of patients with chronic illness has been included in the GP fee structure. A common electronic “medication card” is planned for introduction in 2012, which will provide information for all health care staff on prescribed drugs for individual patients. These initiatives are important steps but still have to prove effective as tools for better continuity of care. The efforts to ensure a common electronic patient file for all hospitals and GPs have been accelerated with the National Board of Health and the regional health authorities as the main actors, but is still not in place. Continuity of care is, therefore, still a major issue in Danish health care in spite of the many efforts to solve the problems.

Transparency is mainly ensured by the DDKM, which will provide publicly available quality indicators in addition to the information from the national registries on activities in general practice, practising specialists and hospital admissions and interventions.

A new system of electronic monitoring of clinical data for patients with chronic illness, diagnostic measures and interventions (“data capture”) in general practice has recently been agreed between the regions and the GPs, which will also add to the transparency of activities and quality of primary health care.

7.2 Financial protection and equity in financing

7.2.1 Financial protection

The whole population in Denmark with permanent residency is covered by the public health care system. The role of private financing, however, is changing because of the fast-growing private health insurance market, which is partly supported by labour market agreements for groups of employees and has been stimulated by the fact that these benefits have not been subject to taxation during recent years. The new government, however, is planning to eliminate this incentive by removing the tax exemption. The widespread membership of VHI (i.e. particularly the non-profit-making Health Insurance “danmark”) is to a large extent motivated by the wish by large population groups to reduce co-payments and spread the risk. According to OECD data (see Table 3.1), there is a rather stable level of out-of-pocket payments in Danish health care (about 14%), which are not tax deductible. These are mostly related to payments for pharmaceuticals, dental care and physiotherapy. There is still some debate about introducing more co-payments for some health services, such as patient fees for GP consultations (as suggested by the Danish Welfare Committee), which might reduce so-called unnecessary consultations and might even allow the reduction of co-payments for dental care and physiotherapy. The new government, however, has claimed that it does not favour user charges for visits to the GP. New user charges for hospital services were introduced in 2011 by the former government, conflicting with the traditional and generally well-recognized principle of public hospital services being free of charge at the point of use. These new user charges were established for fertilization treatment and sterilization, after a heavy debate reflecting different views of user charges in general, priority-making and of fertility as a health issue. The

new government has already decided to eliminate some of these user charges and is clearly less inclined to introduce new co-payments in health care, but it might look into the distribution of co-payment across various services. Whether this can be seen as a change in the general perspectives over time on health care services with and without out-of-pocket payments in Denmark is still an open policy question and will depend very much on the future composition of the Danish Parliament and the general state of public finances.

7.2.2 Equity in financing

Until 2007, the Danish health system was financed through progressive general income taxation at the national level and proportional income and property taxes at the regional and the municipal levels. The national-level tax revenue was redistributed to the municipalities and to the counties via block grants based on objective criteria and some activity-based financing for hospitals. The system was designed to support solidarity in financing and equity in coverage (Wagstaff et al., 1999; Gundgaard 2006). Since 2007, financing has taken place through a mixture of proportional and progressive taxation at the state level and proportional taxation at the municipal level. Most of the state revenue is redistributed to the municipalities via block grants based on objective criteria (social and demographic indicators as well as some health indicators; see section 3.3.3), which, in turn, have to pay regions partly on the basis of population size and partly based on hospital admissions. From 2012, the co-financing of hospital expenses by municipalities is changing and will focus more on activity-based measures. The municipalities also receive block grants in proportion to their own tax revenue; this is to some extent redistributed according to social, demographic and health-related characteristics but is also affected by the service level and effectiveness of their services. Thus, the public system continues to be based on principles of solidarity and redistribution across the population according to a mixture of social and health-related characteristics. Increases in private financing of health services since the early 2000s may threaten the general principles of solidarity and equity in the mainly tax-based financing of health care services, but recent changes in government and policies might reverse these trends during the coming years.

7.3 User experience and equity of access to health care

7.3.1 User experience

User experience and satisfaction is investigated in the LUP, which has been carried out in 2000, 2002, 2004, 2006, 2009 and 2010. The LUP is conducted under an agreement between the Danish Government and the regions. The Unit of Patient-perceived Quality in the Capital Region of Denmark is responsible for carrying out LUP, but it is financed by all the regions. Since 2009, the LUP has been carried out as an annual, nationwide survey that investigates the experiences of both inpatients and outpatients on four different levels: national, regional, hospital and unit. The LUP investigates topics such as patient co-involvement, patient experiences of error, written and oral information, and overall impression of a hospital visit (Unit of Patient-perceived Quality, 2011b; see section 2.9.5). Other surveys on user experience are also conducted, including investigations of specific users and patient groups (e.g. ethnic minorities, chronically ill, psychiatric patients) as well as specific topics (e.g. intersectoral collaboration, general practice).

The 2010 LUP found that patients who answered the survey were generally satisfied with their overall experience of the Danish health system; 93% of inpatients and 96% of outpatients answered that their overall impression of their visit was positive or very positive. The report also gave an indication of what areas may be lacking, which in this case were issues related to how health professionals handled errors, the reception of written information, uncertainty about the importance of lifestyle on health and the contact person arrangement (Unit of Patient-perceived Quality, 2011a; see also section 2.9.5 for more details on the survey results).

Patient confidentiality is protected by the Act on Processing of Personal Data as well as by professional total confidentiality. This means that personal information regarding the patient cannot be surrendered to next of kin, other health professionals or for other purposes, such as scientific research. A number of exceptions exist, however, including instances where acute treatment is needed. New technologies such as the electronic health record and the common medication card may have consequences for this confidentiality as they render information more readily available for different health professionals.

The Health Act establishes that no treatment can be initiated or continued without the patient's informed consent. This means that patients have to be informed continually about their condition, treatment options, risk of

complications and adverse effects, as well as the consequences of not undergoing treatment. Patients also have the right to ask not to be informed (see section 2.9.1). Furthermore, patients have the right to be informed about the content of their patient file, unless the interests of the patient or other private interests argue against it.

Patients have access to information on waiting times to treatment through their GP and through patient offices, which exist in all regions, as well as through a number of web sites established by the authorities. A waiting time guarantee of two months was established in 2002 and changed to one month in 2005. This means that patients with more than one month waiting time for a hospital treatment can choose to be treated at another hospital, including a private or foreign hospital (see section 2.9.2). This standardized waiting time limit has been subject to much debate as it reduces the possibility of prioritizing more serious conditions, and the new government will introduce a more flexible regulation regarding waiting times for hospital care.

User experience has been sought for some of these reforms and initiatives. The waiting time guarantee is one such initiative. The impact of this reform, according to one national study, has, however, been limited, as patients generally prefer treatment close to their place of residence and, therefore, do not make much use of the possibilities of choosing to be treated at other hospitals (Birk & Henriksen, 2003). Another initiative is the establishment of mandatory regional health care agreements (see section 2.6), which seems to have improved the possibilities for a more coordinated health system (Strandberg-Larsen, Nielsen & Krasnik, 2007).

7.3.2 Equity of access to health care

Although utilization patterns vary somewhat across the regions, the general objectives regarding equal access for equal need have largely been met. In practice, some groups (such as the homeless, the mentally disabled, immigrants, and drug and alcohol abusers) appear to have a more unstable utilization pattern than other groups (National Board of Health & University of Copenhagen, 2011). The ongoing centralization of hospitals will be accelerated in the coming years as a consequence of national plans and investments in bigger and more centralized hospital buildings, which was recommended by a national governmental expert committee, but this will also lead to longer travelling times for hospital care for many people. This has already created fears of possible delays in acute care for life-threatening situations, leading to intense political debate between national and regional politicians, the latter complaining that local and regional

decisions are overruled by national planning. The use of private practising specialists reveals a general geographic and social bias, as services are mostly established in affluent urban areas (National Board of Health & University of Copenhagen, 2011). The lack of GPs in remote areas is also increasingly seen as an issue involving longer travelling and, therefore, poorer access to primary health care for some population groups (Arendt et al., 2010).

The high individual cost of dental care for adults results in social inequity in the utilization of this kind of service, which has also led to social differences in dental health status. Similarly, many migrant groups show lower utilization of dental services, but higher utilization of GP and hospital and specialist services – even after controlling for socioeconomic status and need variables such as health (Jensen, Nielsen & Krasnik, 2011). The new user fee for using interpreters (see section 7.1) would probably have affected these patterns among some immigrant groups but has been abolished by the new government. Political discussions had also taken place before the change of government regarding general rights for new immigrants in general, suggesting special user fees for use of GP and other services by newcomers. Undocumented migrants are seen as a particularly vulnerable group, without access to health care (apart from emergency care), but new initiatives are being taken by the Danish Medical Association, the Danish Red Cross and the Danish Refugee Council, to establish a special clinic to provide some care for this group without formal rights.

The right to free choice of hospital might easily favour patients with higher education and stable employment (Siciliani & Verzulli, 2009). There is some speculation that the increasing use of activity-based financing will divert investments and activities away from areas such as internal medicine and geriatrics and towards areas where increases in activity are easier to demonstrate. However, the evidence base for this claim is still limited.

Equal access and utilization of services according to need will probably remain a high priority in the Danish health sector in the near future. However, ever increasing demands as a result of new technology, and expected changes in age distribution and disease patterns of the population, might foster political initiatives to reduce access through new financial and structural reforms.

7.4 Health service outcomes and quality of care

7.4.1 Population health

The trends in population health in Denmark are similar to those in most western European countries, although life expectancy has been lagging behind the countries that Denmark is normally compared with, as well as OECD and EU averages (see section 1.4). Major health issues are chronic and lifestyle diseases, as well as diseases that accompany relatively long lifespans. The three main causes of death are cancer, heart disease and other circulatory diseases (National Board of Health, 2010b). In recent decades, there has been an increase in the number of people who report suffering from long-standing illness and chronic disease. However, the number of people considering their health to be good or very good is generally high compared with most EU countries (Ekholm et al., 2006; see also section 1.4).

Risk factors of importance are obesity, tobacco, physical inactivity and alcohol, among others. The occurrence of obesity has increased in the last years, as it has in other European countries. A recent regional study indicated that it may be as high as 16% of the population (Larsen et al., 2011). A so-called “fat-tax” has been adopted and was implemented in October 2011. The tax makes foods high in fat more expensive and has been much debated by the Danish food industry. Whether the tax will make any difference to population behaviour and health is yet to be seen. The use of tobacco has decreased since the end of the 1990s, to around 20% of the population being daily smokers in 2010 (National Board of Health, 2011b). This is lower than OECD and EU15 averages (National Board of Health, 2010a). This could be connected to legislation implemented in 2007 (Law on Smoke-free Environments) that banned smoking in workplaces, schools and public institutions, as well as restaurants and bars of a certain size, with the aim of reducing the effects of passive smoking. Alcohol consumption is high in Denmark; in 2008, the average consumption per inhabitant over the age of 15 years was 10.9 litres of pure alcohol. This is similar to the EU15 average (10.8 litres) but higher than the OECD average and the average for other Nordic countries (National Board of Health, 2010a). The public health effort continues to focus on general campaigns in this area, which have been counteracted by a reduction in alcohol taxes. Section 1.4 contains more detailed information on risk factors, including information on diet and physical activity. The increase in obesity and related diseases such as diabetes has become a public health issue in recent years, but major interventions are yet to be put into practice.

The contribution that the health system has made to the health of the population is difficult to assess. It depends on the measure of health utilized and the time span under consideration. For example, the decline in mortality rates stagnated in Denmark during the 1950s and, at the same time, health care costs started to increase substantially. However, in recent decades, deaths from heart disease have declined remarkably, partly because of better survival among patients with heart disease. A recent benchmarking project by the Ministry of Health (Ministry of Health and Prevention, 2010), compared different quality indicators in Denmark with the OECD average and selected countries (Sweden, Norway, Finland, the United Kingdom and the Netherlands). Generally, the results showed low life expectancy in Denmark, but relatively low mortality for some selected patient groups after hospital admission (i.e. coronary infarctions). But at the same time, a relatively high five-year mortality gap was found for several groups of cancer patients (colon cancer and cervical cancer), comparing with the OECD average or the individual countries included in the benchmarking. The indicators for cancer had, however, been clearly improving since the early 2000s and would still not reflect the effects of the new national initiatives regarding accelerated cancer patient clinical pathways. The OECD Health Care Quality Indicators (HCQI) project has gathered data on survival rates for different diseases, including cancer. According to these data, in the time period 1997 to 2009, Denmark has seen improvements in the survival rate for breast cancer as well as for colorectal cancer, whereas that for cervical cancer has somewhat declined (Table 7.1). When compared with the average for the OECD countries, the survival rates for the three types of cancer in the period 2004–2009 are generally lower in Denmark than the OECD average.

Table 7.1

Five-year survival rates for breast, cervical and colorectal cancer for 1997–2002 and 2004–2009

Cancer type	Five-year relative survival rate (1997–2002)		Five-year relative survival rate (2004–2009)	
	Denmark	OECD average	Denmark	OECD average
Breast cancer	76.2	78.7	82.0	83.7
Cervical cancer	65.4	64.2	64.3	66.6
Colorectal cancer	50.1	54.6	55.5	59.9

Source: OECD, 2011b.

Amenable mortality refers to deaths that are potentially preventable by timely and effective medical care. Depending on which causes of death are included, a recent OECD report has calculated that Denmark has a rate of approximately

75 to 90 amenable deaths per 100 000 deaths (Journard, André & Nicq, 2010). This rate is smaller than the one for the United Kingdom, for example, but greater than those from Norway and Sweden (Nolte & McKee, 2011).

Denmark is still lagging behind other Nordic countries regarding general mortality and some cause-specific mortality figures; this probably reflects a combination of health care, environmental and health behaviour factors. There is reason to believe that people's functional abilities and quality of life have improved because of enhanced surgical and pharmaceutical treatments.

7.4.2 Health service outcomes and quality of care

Quality of care

The quality of preventive care can be indicated by looking at the rates of vaccination among children and older people. Denmark has a national children's vaccination programme (see section 1.4.3) that covers vaccinations against diphtheria, tetanus, pertussis, polio, Hib infection, pneumococcal disease, MMR and diseases caused by the human papilloma virus. In 2008, 89% of Danish children were vaccinated against measles; this is a smaller figure than the OECD average or the EU15 average. The rate of influenza vaccinations among older people (above the age of 65) is also below OECD and EU15 averages, at 53.7% in 2006 (National Board of Health, 2010a). The vaccination for diphtheria, tetanus and pertussis is given as part of a vaccination package that also includes vaccination against polio and Hib. The vaccination rate for this particular vaccination is around 90% (National Serum Institute, 2010) and has not changed substantially during recent decades.

The quality of care for chronic conditions can be examined by looking at avoidable hospital admission rates for asthma, COPD, congestive heart failure, hypertension and diabetes-related complications, as these admissions potentially could have been avoided by timely access to primary or ambulatory care. These rates have been gathered as part of the OECD HCQI project, with all data referring to people aged 15 years and older. According to data from this project, the admission rate for asthma was 43 per 100 000 in 2007. This is lower than the OECD average of 54.6 but is still significantly higher than the rate in Sweden of only 24.6. The hospital admission rate for COPD was 319.5 per 100 000 in 2007. This is markedly higher than most of the countries included in the OECD HCQI project. The average is 201.4 and in France, for example, it was just 79.1. These gaps might not be caused just by health care differences but can also reflect differences in the incidence of COPD. The other Nordic countries also have admission rates below the level of Denmark. For

congestive heart failure, however, Denmark has an admission rate well below the average: in Denmark, it is 165.3 per 100 000, compared with an average rate of 229.7 in the OECD HCQI. The admission rate is also smaller than those in the other Nordic countries. For hypertension, the admission rates documented in the OECD HCQI project vary widely, from 11.2 to 412.7 per 100 000. The admission rate for Denmark is 85, which is higher than both Sweden (61.4) and Norway (69.9). The admission rate for diabetes-related complications can be divided into rates for lower extremities amputation and for diabetes acute complications. The diabetes lower extremities amputation rate for Denmark was 20.9 per 100 000 in 2007. This is amongst the highest rates in Europe. The rate for admissions for acute complications from diabetes was 20.11 in 2007, which is slightly higher than the average in the OECD HCQI project. All in all, Denmark's avoidable admission rates are for the most part lagging behind when compared with the other Nordic countries and in some instances also when compared with OECD HCQI averages (OECD, 2009).

Quality of care for acute exacerbations of chronic conditions, as expressed in in-hospital mortality rates (deaths within 30 days of admission) following acute myocardial infarction, haemorrhagic stroke and ischaemic stroke, are outcome measures for the quality of acute care. The in-hospital mortality rate for acute myocardial infarction was 2.9% in 2007. This was similar to Sweden and lower than the EU15 average, as well as lower than all the other OECD countries apart from Iceland. The in-hospital mortality rate for haemorrhagic stroke was 16.7% in Denmark in 2007. This rate lies below the EU15 and OECD averages but is higher than the rates in the other Nordic countries. The in-hospital mortality rate for ischaemic stroke was 3.1% in Denmark in 2007. This is lower than in all the other Nordic countries and the EU15 and OECD averages, which are both 5%. The in-hospital mortality rates for the diseases in question are, therefore, generally relatively good compared with EU and OECD averages (National Board of Health, 2010a).

There is no centralized systematic use of patient-reported outcome measures in the Danish health system. They feature in some clinical databases as well as in some scientific studies. The service aspect of health care and patient satisfaction is included in the LUPs (see sections 2.9.5 and 7.3.1), but patient-reported measures are not systematically in use for clinical outcome measures. There seems to be a lack of sufficient early interventions among patients with chronic diseases, but also insufficient rehabilitation activities. Whereas the former is mainly the responsibility of the regional health care services (hospitals and GPs), the responsibility for rehabilitation is mainly in the hands of the municipalities since the 2007 structural reform. The municipalities

have not yet been able to establish the necessary competencies and facilities for providing the necessary services related to rehabilitation. Another area of concern is psychiatry, which has received less additional funding during recent years than somatic health care. There is some general concern that the quality of psychiatric care is not optimal because of the limited capacity to cope with increasing needs and demands. This has been recognized by the new government, which has explicitly stated that it will give higher priority to psychiatric care in order to ensure better access and higher quality of care.

A number of different initiatives have been set up in an effort to improve health service quality since the early 1990s, including the DDKM as well as initiatives to improve patient pathways (see section 2.8.2). The effect of these initiatives is, however, difficult to assess, but ensuring quality rather than only productivity is increasingly seen as a challenge by policy-makers, managers and health professions and subject to major considerations regarding lack of sufficient evidence and incentives. There are still indications of regional variations and substandard levels of care in specific areas, such as certain psychiatric services, diagnostic activities for cardiovascular diseases and caring for patients with COPD.

Patient safety

As part of the OECD HCQI project, patient safety indicators have been established for a selected number of adverse effects. In 2009, the patient safety indicator rates were reported for Denmark, Norway, Sweden and the United Kingdom (Table 7.2). As the table shows, the rates for Denmark pretty much follow those from other Scandinavian countries and the UK, although some variety is found for some indicators.

Table 7.2

Patient safety indicator rates for Denmark, Norway, Sweden and the United Kingdom, reported in 2009

Patient safety indicator	Rate (%)			
	Denmark	Norway	Sweden	United Kingdom
Foreign body left in during surgical procedure	0.002	0.000	0.002	0.005
Catheter-related bloodstream infection	0.033	0.026	0.013	0.090
Postoperative pulmonary embolism or deep vein thrombosis	0.271	0.438	0.170	0.754
Postoperative sepsis	0.240	–	0.474	0.276
Accidental puncture or laceration	0.045	0.000	0.085	0.129
Obstetric trauma for vaginal delivery with instrument	6.043	3.768	11.950	5.731
Obstetric trauma for vaginal delivery without instrument	2.582	2.021	3.342	1.837

Source: OECD, 2009.

Since the early 2000s, there has been a series of national and regional initiatives aimed at reducing health care-related harm, such as a national reporting system regarding adverse effects and analysis of identified causes and feedback to inspire preventive interventions. The reporting system for adverse effects has revealed a large number of unintended adverse effects, such as wrong medication and infections, but the outcome of these initiatives is hard to evaluate because of difficulties in identifying the real incidence of health care-related harm. Consequently, patient security is still a major issue in policy discussions and in the public debate regarding Danish health services.

7.4.3 Equity of outcomes

The socioeconomic gradients regarding smoking and obesity seem to be widening presently, and there is a clear need to target interventions differently in order to support better dietary habits, physical activity and smoking cessation among the less-affluent population groups with lower education. These interventions probably need to include more structural approaches rather than the mainly individually oriented so-called KRAM initiatives (acronym corresponding to the first letter in Danish for each of the four risk factors nutrition, smoking, alcohol and exercise) that have been launched by national and local health authorities during recent years.

Health inequalities between educational and occupational groups are an issue in Denmark, as in many other western European countries (Mackenbach et al., 2003). This might to some extent reflect inequalities in utilization of some services, as there are clear socioeconomic inequalities in the use of preventive services and in the use of private practising specialists, which is partly related to their uneven geographical distribution (National Board of Health & University of Copenhagen, 2011). The fact that VHI has been growing fast in recent years also creates further socioeconomic inequalities in quick access – and maybe even in indications for interventions such as surgery for hip and knee operations. Lack of resources in psychiatric services is to some extent a special problem for low-income groups and thus also adds to socioeconomic inequalities in health, unless this is counteracted through the new policies stated by the new government.

There is very little research regarding inequity in treatment and outcomes of treatment. A report by the Danish Heart Foundation in collaboration with the National Institute of Public Health shows some social, regional and gender differences regarding heart disease. For example, there are regional differences in admission rates for heart disease and social differences in admission rates,

use of medicine and mortality rates, as well as gender differences in use of medicine and provision of diagnostic treatment and bypass operations (Nissen & Rasmussen, 2008). A recent study also showed that there was up to a 20% lower treatment rate for women compared with men for treatment of coronary thrombosis (Hvelplund et al., 2010). Survival of cancer among low-educated groups is clearly worse than among those with the highest level of education; this may reflect personal health behaviour and environmental factors, but may also be caused by variations in care and rehabilitation. However, data are generally scarce and more information is needed.

The ongoing initiatives regarding national clinical guidelines are aiming at enhancing quality and reducing variations in quality and outcomes between different geographical areas and health care providers. Similarly, the new data collection programme for general practice (“data capture”) is aiming at providing more insight into the variations in chronic disease control in general practice, thus creating a basis for more uniform care. The stronger role of the National Board of Health after the structural reform in 2007 regarding guidelines and approval of health plans and highly specialized units can also be seen as a tool to ensure less disparity across regions and municipalities. It is too early to assess whether these initiatives are really addressing unacceptable variations in outcomes and health inequalities.

7.5 Health system efficiency

7.5.1 Allocative efficiency

In general, current resource allocation for health care meets the needs of the population. The reduction in waiting times, along with the waiting time guarantee and “extended free choice” of hospital, ensures access to health services within relatively short periods. The waiting time guarantee ensures access to treatment in the public system or at private facilities in Denmark or abroad if expected waiting times exceed one month, but this might change in 2012 under changing policies by the new government regarding waiting time guarantees. Patient satisfaction surveys continue to demonstrate remarkably high levels of satisfaction with both GPs and hospital services.

However, international comparisons of survival rates among some patient groups (i.e. patients with lung cancer and ovarian tumours) seem to indicate that the efficiency of some diagnostic and curative services is not optimal. This may be because of a lack of staff, equipment or skills, or because of structural

problems in the Danish health system related to service coordination and specialization (Frølich, 2011). There are indications that national and regional policies towards better diagnostic services will lead to implementation of so-called diagnostic centres and thereby ensure faster and more effective diagnostic procedures. The national programmes on quality indicators are gradually providing information on quality of care related to the different units and interventions, but these indicators are still not taken into account in the allocation of resources.

Explicit priority decisions excluding certain services from public funding are almost non-existent apart from the requirement for regional approval of coverage for new drugs in hospitals, which to some extent takes costs versus effects into account, and a specific service, artificial fertilization and sterilization, which was recently subject to the introduction of a new and quite substantial user fee, although this has now been abolished by the new government (see section 3.4.1). Public debates, however, have been initiated recently by the political and administrative levels regarding the need for clear and transparent priority-making in the future and the role of politicians versus health professionals in such procedures. Different service levels in different regions are counterbalanced by free choice. At national level, specific priority programmes regarding the use of different pharmaceuticals also exist.

Recent years have seen specific emphasis placed on common life-threatening diseases, such as cancer and heart problems. Psychiatric diseases and treatments for musculoskeletal ailments are given low priority despite general statements to the contrary in national health policy. There is no evidence of significant shifts in the balance between primary, secondary and tertiary care. However, a stated objective of the structural reform in 2007 was to create incentives for the municipalities to place more emphasis on prevention, health promotion and rehabilitation outside of hospitals. As the effects of these kinds of intervention on hospital utilization in the immediate future are not clear, and may not exist, the incentives have not yet shown significant effects in the municipalities. The recent financial crisis has also contributed to very tight municipal budgets and difficulties in finding means for new preventive initiatives.

7.5.2 Technical efficiency

The health system is, in general, considered to provide good “value for money”. Consecutive government reports have indicated that the relationship between overall expenditure levels and service levels, including available indicators on waiting times and quality, is acceptable in comparison with other European

countries (Ministry of Interior and Health, 2004; Ministry of Health and Prevention, 2010). Efficiency in this area results from many different initiatives over several decades, aiming at controlling expenditure, raising productivity and improving quality.

The use of global budgeting and hard budget constraints is a pervasive feature of the system. In recent years, this has also been combined with internal contracts and increasing use of activity-based payments in order to encourage higher activity and stronger productivity. A recent government report highlighted the gradually improving productivity in the sector, with a 5.6% increase from 2009 to 2010 (Ministry of Health, 2011). Productivity is measured at the system level and for the individual units on an annual basis as the relationship between DRG production values (output) and expenditure (input).

Hospital productivity is compared with average productivity at national, regional and county levels (Ministry of Interior and Health, 2005). There is limited information on the efficiency of the primary care sector; however, it is generally assumed that the combined per capita and fee-for-service payment mechanisms provide incentives to optimize both activity levels and the composition of specific diagnostic, preventive and curative services offered (Krasnik et al., 1990). Fees are negotiated with the public authorities on a regular basis and activity profiles are monitored regularly. GP “gatekeeping” has been a significant feature of the Danish health system for many years, along with the general principle of treating patients at the lowest effective care level, rather than providing free access to units that are more specialized.

There is a general policy to promote the generic substitution of pharmaceuticals, and all regional authorities have implemented policies that monitor and influence the use of drugs in their health facilities. Efforts to reduce the general costs of drugs have not been particularly successful, in spite of some positive results in terms of drug pricing. Any potential savings have been more than counterbalanced by wider use of new and more expensive drugs and by changes in the treatment indications for hypertension, high cholesterol and so on. The most important efficiency drive has been a massive, and largely successful, effort to convert inpatient treatment to outpatient or ambulatory treatment, similar to trends in many other European countries.

7.6 Transparency and accountability

Transparency of the health system has increasingly been a political priority during recent decades. Initiatives for improving this transparency have included quality indicators on clinical performance of individual hospital departments, which are gradually becoming available on the Internet. Information for the public on actual waiting times for admission to public hospitals has been provided on the Internet in order to facilitate the use of the right to free choice by patients. There is generally a high level of awareness of general rights, such as waiting time guarantees and free choice, among the general population. Patient participation in policy decisions mainly takes place indirectly through lobbying by patient organizations; however, there are large differences in impact between more powerful organizations, such as the Danish Cancer Society, and organizations with fewer resources, such as the Danish Society for Rheumatic Diseases. Priority decisions regarding specific health services rarely take place in the public domain; however, the need for more clear and explicit priority-making has been voiced recently by some politicians and regional health managers. Annual budgeting within health care in the public sector mainly occurs with little public transparency by reproducing previous budgets, with only marginal changes subject to public debate. Larger changes (such as the centralization of hospital services and geographical placement of new hospitals), however, are generally publicly debated and, therefore, very visible – sometimes as a subject of major conflict between national and regional politicians. The small private hospital sector does not allow public insight into the financial status of the private hospitals. Consequently, comparisons of costs and productivity between public and private providers are difficult, and transparency regarding the basis for price negotiations between regional health authorities and private hospital providers is limited and has been subject to an intensive public debate. The newly introduced basis for price negotiations (the costs of similar services in the 25% most efficient public hospitals) is, however, a step towards more transparency regarding agreements and costs relating to the private hospital sector.

Accountability of payers and providers is largely ensured by hierarchical control within political–bureaucratic structures at national, regional and municipal levels. The budgeting and economic management processes include accountability assessments at all levels. Annual negotiations between the state and the regional and municipal authorities involve a detailed evaluation of needs, results and new activity areas. Regional and municipal public management is based on contracting, incentives and surveillance measures to control the

performance of hospitals and other public organizations. The activities of practising primary and secondary care doctors are monitored and are funded under the nationally negotiated fee schedules by the regional authorities.

Quality is monitored by national measures of patient satisfaction and various national and regional initiatives to develop standards, clinical guidelines and clinical databases. All hospitals have been included in the general Danish model for quality assurance since 2007, and external accreditation takes place at regular intervals. A national system for reporting inadvertent events has also been established. HTA has become an integrated part of the system, along with other types of evaluation at local or regional level. Evaluations may be performed by local or regional initiatives in addition to the nationally mandated quality assurance programme. Patient rights have been extended and formalized during recent years. These rights are generally respected and there are mechanisms in place for sanctioning professional misconduct and abuse.

8. Conclusions

A series of key findings can be highlighted from the different chapters included in this report. Generally, the organization of the Danish health system can be described as relatively decentralized, with specific health care activities being carried out at the local and regional level. However, during recent years, there has been an increasing focus on national centralized governance, and intersectoral coordination has been developed. The reforms and policies since the early 2000s have, therefore included both (re-)centralizing and decentralizing elements. A recurrent characteristic of recent initiatives is the establishment of greater units within the system providing health care. Recent years have also seen the introduction of more activity-based financing in the public health system, which is combined with more traditional global budgeting in an effort to provide incentives to increase production as well as to stay within the budget; however, incentives promoting higher activity do not necessarily promote higher productivity as well.

The Danish health status is generally good, with decreases in many mortality and morbidity rates over the last 10–20 years. However, Denmark is still lagging behind in some areas compared with the other Nordic countries, for example with regard to life expectancy and some lifestyle factors with detrimental health effects, together with the level of socioeconomic inequalities in health. When it comes to the outcomes of the health system, it is difficult to establish what can be ascribed directly to the health system. However, improvements have been seen in recent years, as mentioned above, and nationwide initiatives to monitor the quality of health care (such as the DDKM) have been established.

The most recent health system changes, including the major structural reform of 2007, provide a great learning potential. It is still not clear, however, if a more decentralized or a more centralized structure is preferable. What is clear from the latest major reform is that any major structural reform may

bring about a transition period where little is actually done, as organizations, employers and employees spend time positioning themselves according to the new reform and await more concrete decisions on implementation.

A number of challenges in the Danish health system remain. They can be characterized around three main themes: economics, organization and public health. The economic challenges are linked to the demographic changes, with an ageing population with a growing demand for health care and an accompanying change in disease patterns, with an increasing number of people suffering from long-term and chronic diseases. There are also the increasing costs related to medicotechnical development. The shifts in disease patterns are not only a financial challenge but also gives rise to concern as to how the health system should be organized in the future. Patients who suffer from several different chronic diseases make new demands on the health system in terms of coordination of patient pathways and intersectoral cooperation. A further organizational challenge concerns the education of health care professionals and sufficient staffing in the health system, which is particularly a problem in the more rural areas of Denmark. Public health also remains a challenge for the Danish health system. As mentioned above, Denmark still lags behind in some areas when compared with the other Nordic countries, and the health system has generally had much more focus on curing disease and on improving advanced treatment and less focus on the prevention side. It remains to be seen how these challenges will be solved in the future.

9. Appendices

9.1 References

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9.2 Useful web sites

Association of Danish Physiotherapists: www.fysio.dk

Danish Association of the Pharmaceutical Industry: www.lifdk.dk

Danish Cancer Society: www.cancer.dk

Danish Chiropractors' Association: www.kiropraktor-foreningen.dk

Danish Dental Association: www.tandlaegeforeningen.dk

Danish Healthcare Quality Programme: www.ikas.dk

Danish Institute for Health Services Research: www.dsi.dk

Danish Medical Association: www.laeger.dk

Danish Medicines Agency: www.laegemiddelstyrelsen.dk

Danish Psychological Association: www.dp.dk

Danish Regions: www.regioner.dk

Health Insurance "danmark": www.sygeforsikring.dk

Legal Information of the Danish State: www.retsinformation.dk

Local Government Denmark: www.kl.dk

Ministry of Education: www.uvm.dk

Ministry of Interior and Health: www.sum.dk

National Agency for Patients' Rights and Complaints: www.patientombuddet.dk

National Board of Health: www.sst.dk

National Institute of Public Health: www.niph.dk

National Serum Institute: www.ssi.dk

Statistics Denmark: www.dst.dk

9.3 HiT methodology and production process

HiTs are produced by country experts in collaboration with the Observatory's research directors and staff. They are based on a template that, revised periodically, provides detailed guidelines and specific questions, definitions, suggestions for data sources and examples needed to compile reviews. While the template offers a comprehensive set of questions, it is intended to be used in a flexible way to allow authors and editors to adapt it to their particular national context. The most recent template is available online at:

<http://www.euro.who.int/en/home/projects/observatory/publications/health-system-profiles-hits/hit-template-2010>.

Authors draw on multiple data sources for the compilation of HiTs, ranging from national statistics, national and regional policy documents to published literature. Furthermore, international data sources may be incorporated, such as those of the OECD and the World Bank. The OECD Health Data contain over 1200 indicators for the 34 OECD countries. Data are drawn from information collected by national statistical bureaux and health ministries. The World Bank provides World Development Indicators, which also rely on official sources.

In addition to the information and data provided by the country experts, the Observatory supplies quantitative data in the form of a set of standard comparative figures for each country, drawing on the European Health for All database. The Health for All database contains more than 600 indicators defined by the WHO Regional Office for Europe for the purpose of monitoring Health in All Policies in Europe. It is updated for distribution twice a year from various sources, relying largely upon official figures provided by governments, as well as health statistics collected by the technical units of the WHO Regional Office for Europe. The standard Health for All data have been officially approved by national governments. With its summer 2007 edition, the Health for All database started to take account of the enlarged EU of 27 Member States.

HiT authors are encouraged to discuss the data in the text in detail, including the standard figures prepared by the Observatory staff, especially if there are concerns about discrepancies between the data available from different sources.

A typical HiT consists of nine chapters.

1. Introduction: outlines the broader context of the health system, including geography and sociodemography, economic and political context, and population health.

2. Organization and governance: provides an overview of how the health system in the country is organized, governed, planned and regulated, as well as the historical background of the system; outlines the main actors and their decision-making powers; and describes the level of patient empowerment in the areas of information, choice, rights, complaints procedures, public participation and cross-border health care.
3. Financing: provides information on the level of expenditure and the distribution of health spending across different service areas, sources of revenue, how resources are pooled and allocated, who is covered, what benefits are covered, the extent of user charges and other out-of-pocket payments, voluntary health insurance and how providers are paid.
4. Physical and human resources: deals with the planning and distribution of capital stock and investments, infrastructure and medical equipment; the context in which IT systems operate; and human resource input into the health system, including information on workforce trends, professional mobility, training and career paths.
5. Provision of services: concentrates on the organization and delivery of services and patient flows, addressing public health, primary care, secondary and tertiary care, day care, emergency care, pharmaceutical care, rehabilitation, long-term care, services for informal carers, palliative care, mental health care, dental care, complementary and alternative medicine, and health services for specific populations.
6. Principal health reforms: reviews reforms, policies and organizational changes; and provides an overview of future developments.
7. Assessment of the health system: provides an assessment based on the stated objectives of the health system, financial protection and equity in financing; user experience and equity of access to health care; health outcomes, health service outcomes and quality of care; health system efficiency; and transparency and accountability.
8. Conclusions: identifies key findings, highlights the lessons learned from health system changes; and summarizes remaining challenges and future prospects.
9. Appendices: includes references, useful web sites and legislation.

The quality of HiTs is of real importance since they inform policy-making and meta-analysis. HiTs are the subject of wide consultation throughout the writing and editing process, which involves multiple iterations. They are then subject to the following.

- A rigorous review process (see the following section).
- There are further efforts to ensure quality while the report is finalized that focus on copy-editing and proofreading.
- HiTs are disseminated (hard copies, electronic publication, translations and launches). The editor supports the authors throughout the production process and in close consultation with the authors ensures that all stages of the process are taken forward as effectively as possible.

One of the authors is also a member of the Observatory staff team and they are responsible for supporting the other authors throughout the writing and production process. They consult closely with each other to ensure that all stages of the process are as effective as possible and that HiTs meet the series standard and can support both national decision-making and comparisons across countries.

The review process

This consists of three stages. Initially the text of the HiT is checked, reviewed and approved by the series editors of the European Observatory. It is then sent for review to two independent academic experts, and their comments and amendments are incorporated into the text, and modifications are made accordingly. The text is then submitted to the relevant Ministry of Health, or appropriate authority, and policy-makers within those bodies are restricted to checking for factual errors within the HiT.

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- to highlight common challenges and areas that require more in-depth analysis; and
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Key

All HiTs are available in English.
When noted, they are also available in other languages:

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^e German

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HiTs are in-depth profiles of health systems and policies, produced using a standardized approach that allows comparison across countries. They provide facts, figures and analysis and highlight reform initiatives in progress.