

HEALTH CARE IN DENMARK



MINISTRY
OF HEALTH
AND PREVENTION

Health Care in Denmark

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Ministeriet for Sundhed og Forebyggelse

Slotsholmsgade 10-12

1216 København K.

Telefon: 72 26 90 00

Telefax: 72 26 90 01

E-post: sum@sum.dk

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Introduction

This publication gives an overview of the scope and organisation of the Danish health service.

Provision of health care in Denmark is to a considerable extent a public task as around 85% of health care expenses are financed by public funds.

The responsibility for running the public health service is decentralised and thus divided between regions and municipalities, whereas the state is in charge of legislation, national guidelines, supervision, monitoring, general planning and the overall framework of the health economy.

A list of addresses is included at the end of the publication to provide readers, who are interested in more comprehensive or in-depth knowledge, with the possibility of acquiring further information.

Ministry of Health and Prevention

August 2008

Chapter 1. Organisation of the health care sector

1.1. The health care sector

The health care service can for practical purposes be divided into two sectors:

- Primary health care and
- The hospital sector.

The primary health care sector deals with general health problems and its services are available to all. This sector can be divided into two parts:

- One which chiefly deals with treatment and care: general practitioners, practising specialists, practising dentists, physiotherapists etc. (the practice sector) and district nursing;
- The other part which is predominantly preventive and deals with preventive health schemes, health care and child dental care.

When contracting an illness, the citizen normally first comes into contact with primary health care.

The hospital sector deals with medical conditions which require more specialised treatment, equipment and intensive care.

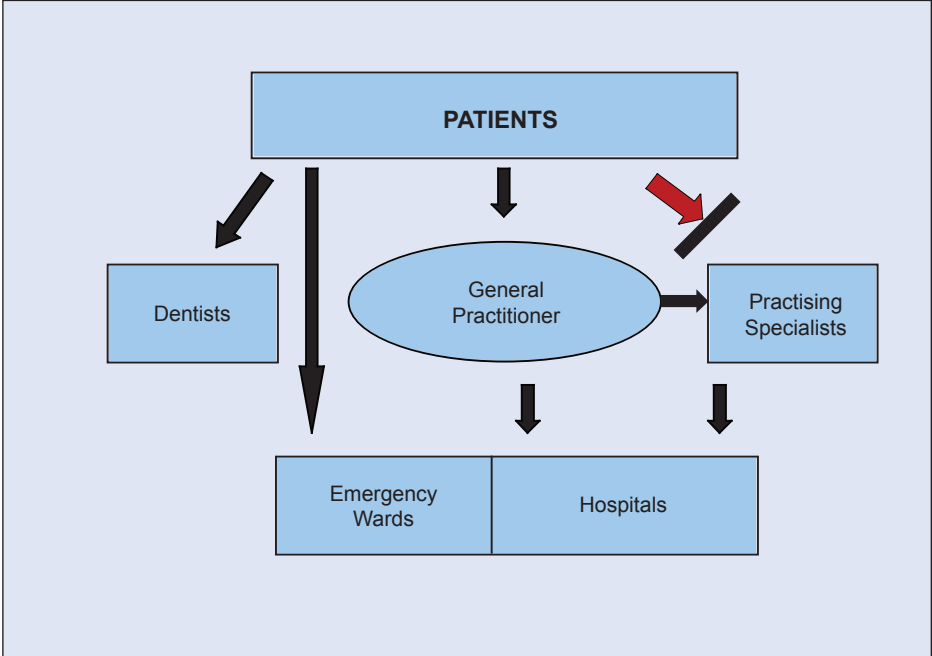
In addition to the treatment of patients, both general practitioners and hospitals are involved in preventive treatment as well as in the training of health personnel and medical research.

In the health care service, the general practitioners act as “gate-keepers” with regard to hospital treatment and treatment by specialists. This means that patients usually start by consulting their general practitioners, whose job it is to ensure that they are offered the

treatment they need and that they will not be treated on a more specialized level than necessary.

It is normally necessary to be referred by a general practitioner to a hospital for medical examination and treatment, unless it is a question of an accident or an acute illness. It will also normally be necessary to be referred by a general practitioner for treatment by a specialist.

Figure 1.1 The health care service organisation seen from the patient's point of view

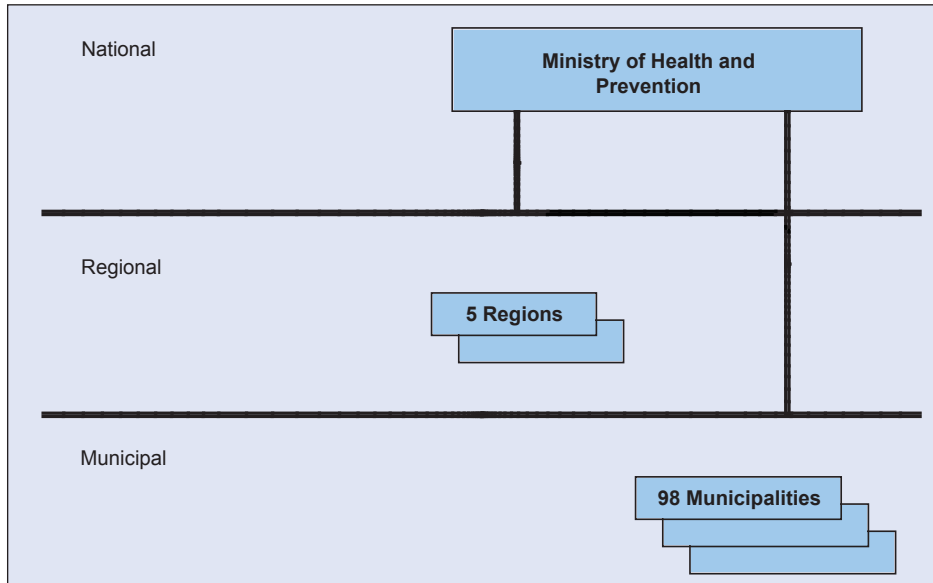


Besides referring patients to a hospital or a specialist, the general practitioners refer patients to other health professionals working under agreement with the health care service, and arrange for home nursing to be provided. (For more information on the hospital sector and the primary health care sector, see chapters 3 and 4)

Like Denmark as a whole, the health care sector has three political and administrative levels: the state, the regions and the municipalities (national, regional and local levels). The health care service is organised in such a way that responsibility for services provided by the health service lies with the lowest possible administrative level. Services can thus be provided as close to the users as possible.

With the local government reform, which came into effect on 1 January 2007, the old system of 15 counties (including the metropolitan area) and 271 municipalities was replaced by five regions primarily focused on the health care sector and 98 municipalities responsible for a broad range of welfare services¹.

Figure 1.2 Administrative levels



1.2. The municipalities

The 98 municipalities are local administrative bodies. The municipalities have a number of tasks, of which health represents one part. In the health field, the municipalities are responsible for home nursing, public health care, school health service, child dental treatment, prevention and rehabilitation. The municipalities are also responsible for a majority of the social services, some of which (subsidised housing for older people in the form of non-profit housing, including homes for elderly people with care facilities and associated care staff) have to do with the health care service and they are of great importance to the functioning of this service.

1.3. The regions

As the running of hospitals requires a larger population than that of the majority of the municipalities, this responsibility lies with the five regions.

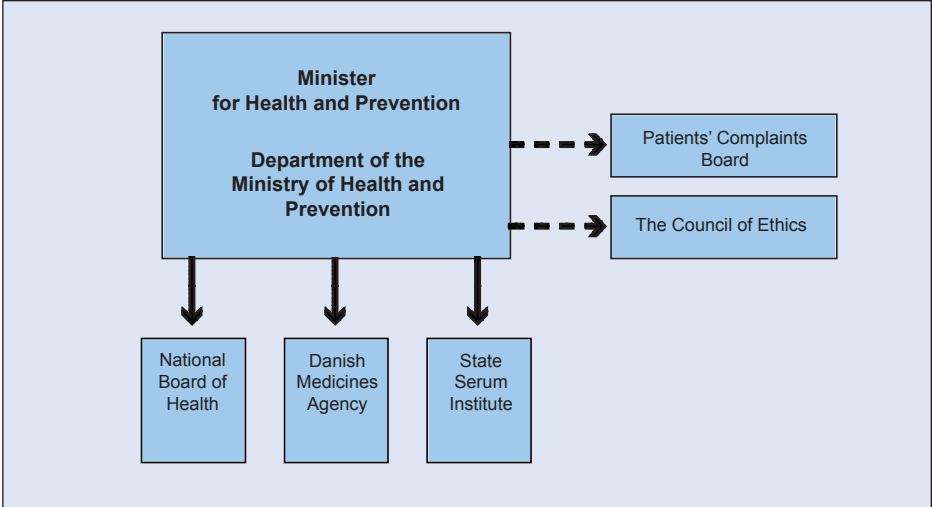
¹ For further information on the local government reform please refer to the publication "The Local Government Reform - in Brief" which can be downloaded at http://www.ism.dk/publikationer/government_reform_in_brief/index.htm.

The regions are also responsible for the practice sector. The regions organise the health service for their citizens according to regional wishes and available facilities. Thus, the individual regions can adjust services within the financial and national legal limits according to needs at the different levels, enabling them to ensure the appropriate number of staff and procurement of the appropriate equipment.

1.4. The state

The task of the state in health care provision is first and foremost to initiate, coordinate and advise. One of the main tasks is to establish the goals for a national health policy.

Figure 1.3 Ministry of Health and Prevention (extract from organisation chart)



The Ministry of Health and Prevention, in its capacity of principal health authority, is responsible for legislation on health care. This includes legislation on health provisions, personnel, hospitals and pharmacies, medicinal products, vaccinations, pregnancy health care, child health care and patients' rights.

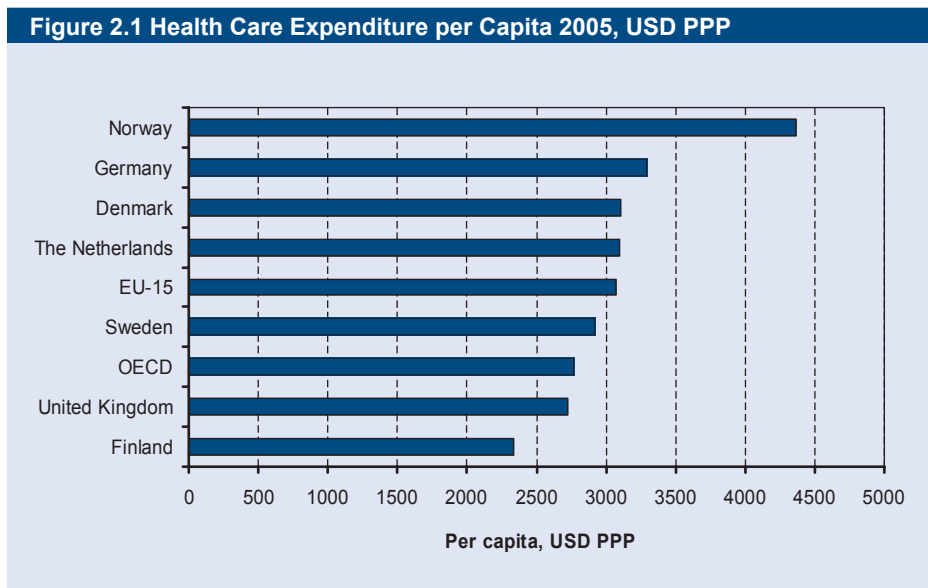
The Ministry of Health and Prevention's legislation covers the tasks of the regions and the municipalities in the health area. The Ministry also sets up guidelines for the running of the health care service. This is mostly done through the National Board of Health. Moreover, the Ministry of Health and Prevention supports efforts to improve productivity and efficiency by e.g. the dissemination of experience and the professional exchange of information and by the introduction of economic incentives and activity-based payment.

Chapter 2. Financing of health care

2.1. Financing health care services

The Danish health care system is based on a principle of free and equal access for all citizens. Thus, the vast majority of health services in Denmark are free of charge for the users.

In 2005 total health care expenditure in Denmark equalled approximately 16.8 billion USD (PPP). This equals 3,108 USD (PPP) per capita, which places Denmark well above OECD average. Figure 2.1 shows per capita health care expenditures in Denmark compared to the OECD and EU15 averages and a number of countries that are comparable to Denmark.



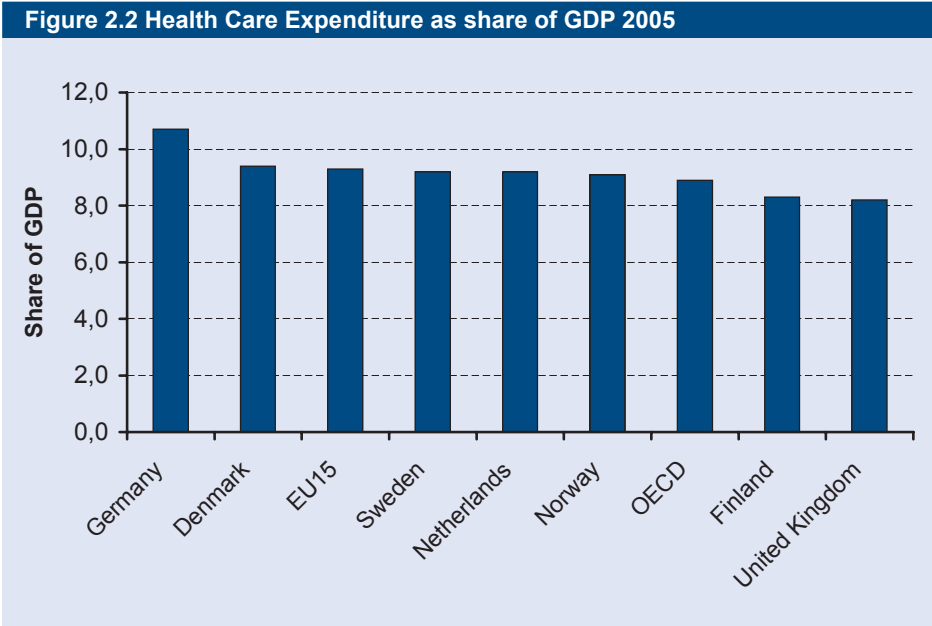
Source: OECD Health Database

In 2005 the public expenditure constituted 84% of the total health expenditure and private expenditure constituted 16% of total health expenditure. Private health care expenditure mainly covers out of pocket expenditure for pharmaceuticals and dentistry.

For financing of the majority of the regional and local health care expenditure, the state imposes a health care contribution tax. The health care contribution is 8% on taxable income.

In 2005, Danish health care expenditures as share of GDP constituted 9.4%. This places Denmark above the OECD average and above countries such as Sweden, The Netherlands, Norway, Finland and the United Kingdom.

Figure 2.2 shows health care expenditures in Denmark as share of GDP compared to the OECD and EU15 averages and a number of countries that are comparable to Denmark.

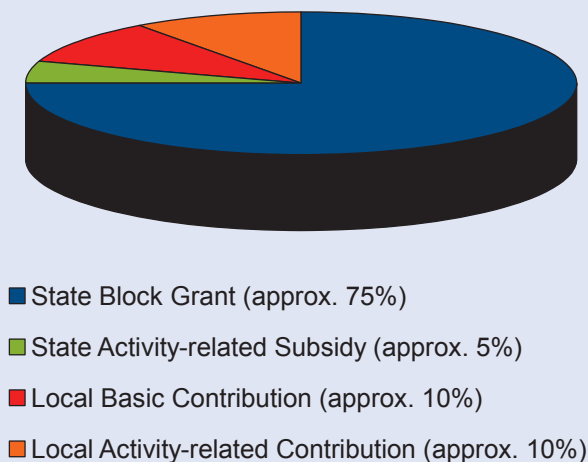


Source: OECD Health Database

2.2. Financing of health care in the regions

Health care in the regions is financed by four kinds of subsidies: A block grant from the state, a state activity-related subsidy, a local basic contribution and a local activity-related contribution (see figure 2.3).

Figure 2.3 Composition of the Revenue of the Regions within Health Care



Source: Bill on financing of the regions.

The state block grant constitutes the most significant element of financing – approx. 75%. In order to give the regions equal opportunities to provide health care services, the subsidy is distributed by a number of objective criteria that reflect expenditure needs (e.g. demography and social structure of each region).

Furthermore, part of the state financing of the regions will be a state activity-related subsidy. The activity pool may constitute up to 5% of the health care expenditure of the regions. The purpose of the pool is to encourage the regions to increase the activity level at the hospitals.

A novelty is that the municipalities following the local government reform contribute to financing health care. When considering the new local health care tasks (preventive treatment, care and rehabilitation), the municipalities have acquired a more important role within health care. The purpose of the local contributions is to encourage the municipalities to initiate efficient preventive measures for their citizens with regard to health issues.

Local financing consists partly of a basic contribution and partly of an activity-related contribution. Together they constitute approx. 20% of total financing of health care in the regions.

The basic contribution is determined by the regions. The max. limit is fixed by statute (DKK 1,500 per inhabitant at the price and wage level of 2003). The municipalities (min. 2/3 of the municipalities in the region) are able to veto a region's proposal to increase the contribution in excess of the price and wage development. The local basic contribution is initially fixed at DKK 1,000 per inhabitant.

The activity-related contribution depends on how much the citizens use the regional health services. It will primarily reflect the number of hospitalisations and out-patient treatments at hospitals as well as the number of services from general practitioners. In this way the municipalities that succeed in reducing the need for hospitalisation, etc. through efficient measures within preventive treatment and care will be rewarded.

As a part of the activity-related contribution to the regions, the regions have to redistribute the contributions to the hospitals. For 2007, in accordance with the agreement between the government and Danish Regions concerning the economy of the regions, 50% of the hospital budgets will depend on activity-related contribution.

Under the Health Care Reimbursement Scheme services are provided by self-employed professionals such as general practitioners, specialists, dentists, etc. who are licensed by the state. These services are provided in accordance with collective agreements between the regions and the relevant unions. Collective agreements include prices of individual services which are covered by the Health Care Reimbursement Scheme.

Chapter 3. The hospital sector

3.1. Introduction

The hospital sector is the responsibility of the five regions. The regions must provide free hospital treatment for the residents of the region and emergency treatment for persons in need who are temporarily resident.

The obligation to provide its citizens with hospital treatment is fulfilled in the vast majority of the cases by the individual region's own hospital and to a certain extent by hospitals in other regions. Private hospitals are used to a certain degree, especially specialist hospitals which have an agreement with one or several regions.

3.2. Hospital services

The hospitals are responsible for specialised examinations, treatment and care of somatic and mental illnesses which it would not be more expedient to treat in the primary or social sector because of the need for specialist knowledge, equipment or intensive care and monitoring.

The principal framework for how the region provides hospital services is prescribed in a plan setting out the organisation and preparation of the regions' activities in the health sector.

The Ministry of Health and Prevention through the National Board of Health contributes to health care planning in the form of guidance and regulation regarding the basic and specialised treatment and functions within the hospital services and information on how different forms of treatment should be organised, including coordination of the different levels of treatment. (See chapter 3.4 for more information).

The regions are obliged to make agreements between themselves regarding the use of highly specialised departments with a view to ensuring the inhabitants equal access to necessary specialised treatment. This reflects the fact that the individual region cannot be expected to cover all hospital treatment in its own hospitals.

Furthermore, the regions may, after the authorisation of the National Board of Health, refer patients to highly specialised treatment abroad paid for by the state. The regions also have the possibility of referring patients to approved hospitals abroad and paying for the services themselves.

Apart from treating illnesses, the hospital service gives diagnostic support to the practice sector in the form of laboratory analyses and scanning and X-ray diagnoses etc. Furthermore, another important element is the hospitals' state of readiness in that an appropriate number of hospitals are generally manned around the clock in order to deal with acute illnesses and accidents.

The hospital service plays an important role regarding the training of staff for the entire health care service and in the field of research; and it is normal in the hospital service that research results are put into clinical practice.

The hospital service is expected to coordinate closely with the primary sector regarding both the admission of patients and the discharge of patients back to the primary health care sector and the social sector (rehabilitation, care). The legislation prescribes formal coordination between the regional councils and the municipalities in the different regions.

3.3. Freedom of choice

Since 1 January 1993, citizens who are in need of hospital treatment have the possibility, within certain limits, of choosing freely which hospital they wish to be treated in. The citizens may choose among all public hospitals which offer basic treatment and a number of smaller, specialist hospitals owned by associations which have agreements with the regions. If a citizen after a medical evaluation is judged to need treatment on a specialist level, he has a further choice between hospital departments which offer treatment on a highly specialised level.

From 1 July 2002, the citizens may choose among private hospitals or clinics in Denmark or abroad if the waiting time for treatment exceeds two months and the chosen hospital has an agreement with the regions' association regarding the offer for treatment. From 1 October 2007 this waiting time was reduced to one month.

3.4. Specialisation and the future hospital structure

With the local government reform the National Board of Health has been bestowed with increased leverage regarding the planning of specialist functions. There is an on-going process in which the National Board of Health – in a continuing dialogue with the

medical associations and the regions – are formulating new and revised standards regarding the basic treatment and regulation regarding specialist treatment (specialised and highly specialised treatment).

This planning, which also involves the planning of emergency functions, will undoubtedly result in changes in the hospital structure. This development is part of an international and national trend towards more specialised and thus qualitatively improved treatment.

Chapter 4. The primary health care service

4.1. The health care reimbursement scheme

All residents in Denmark are entitled to public health care benefits in kind. The citizens do not pay any special contributions to this scheme as it is financed through taxes. The Regions administer both the public hospitals and the primary health care scheme, whereas local administration of the primary health care service lies with the municipalities.

4.1.1. Health care scheme groups

Any person who has the right to public health care benefits can choose between being covered in Group 1 or Group 2. With regard to many of the services, the person's rights will depend very much on which group he has chosen, cf. 4.2.1 and 4.2.2. The person may change between Group 1 and 2 by notifying the local municipality. Children under the age of 15 must, however, have the consent from the person who has the custody of the child. When young people reach the age of 15 they are covered independently in Group 1, unless they choose to be covered in Group 2. Nearly everyone (98.5%) chooses to be covered in Group 1².

4.1.2. Health cards

All those who have the right to public health care receive a health card.

4.1.3. Regions' Board for Wages and Tariffs

All general practitioners, specialists, dentists, physiotherapists, chiropractors etc. are licensed by the state. The public health care scheme subsidises treatment for persons covered in Group 1 which is given by general practitioners, specialists etc. who have made collective agreements with the public health care scheme.

The Regions' Board for Wages and Tariffs enters into collective agreements with the organisations which represent the different professions.

² Source for statistics on public health care scheme: National Board of Health, Provider Register 2007

The Regions' Board for Wages and Tariffs is composed of persons appointed by the regions, LGDK (the national association of local authorities in Denmark), the Minister for Health and Prevention and the Minister for Finance.

4.2. Treatment and subsidies

4.2.1. General practitioners

The general practitioners occupy a central position in the health service. This is due to the fact that general practitioners are the patients' primary contact with the health service. The general practitioner must ensure that the patient is given the right treatment and sent to the right professionals in the health service. The general practitioner is thus the coordinator and the person with professional responsibility for referring patients to hospitals, specialists and other professionals.

There are about 4,100 general practitioners, who take part in the collective agreement with the public health care scheme³. Each general practitioner has about 1,300 patients. Persons covered in Group 1 have to register with a specific general practitioner, and persons in Group 2 have the right, but not the duty, to register with a specific general practitioner of their choice. Children under the age of 15 generally register with the same general practitioner as their parents. Persons covered in Group 1 have the right to free medical help from their general practitioner or his substitute. They may also, free of charge, visit another general practitioner when they are temporarily staying outside their own general practitioner's area in case of sudden illness, aggravated illness, accidents etc. Persons insured under Group 2 have to pay part of the cost of medical help from a general practitioner. The subsidy they receive corresponds to the cost of similar medical help from a general practitioner for persons in Group 1.

4.2.2. Specialists

The public health care scheme pays for all or part of the treatment given by specialists. There are approx. 1,200 practising specialists with agreement under the public health care scheme. Persons in Group 1 have the right to free medical help from specialists when they are referred by their general practitioner. Persons in Group 2 have to pay part of the cost of medical help from specialists. The subsidy corresponds to the cost of similar medical help from a specialist for persons in Group 1. However, persons in Group 2 may visit any specialist without visiting a general practitioner first.

³ *Registry of Health Care Providers (under The National Health Insurance Service), National Board of Health 2007 - source of all statistics in chapter 4.2*

4.2.3. *Dentists*

All residents in Denmark are free to choose their own dentist. There are approx. 4,600 authorised dentists. Around 2,500 dentists take part in the collective agreement with the public health care scheme. For those who are 18 years old or more, the public health care scheme partly pays for preventive and other dentistry treatment. Reference from a general practitioner is not required. Children under the age of 18 receive free dental care. Furthermore, there are special arrangements, with limited user payment, for those who due to low mobility or mental or physical disability have difficulties using the ordinary public dentistry services.

4.2.4. *Physiotherapists*

There are approx. 2,100 physiotherapists. The public health care scheme partly pays for treatment by physiotherapists, but persons who have serious physical disabilities due to illness may receive physiotherapy free of charge. The treatment is only subsidised if it has been prescribed by a general practitioner.

4.2.5. *Chiropractors*

The public health care scheme partly pays for treatment by chiropractors. It is not necessary to be referred by a general practitioner in order to receive a subsidy. There are approx. 300 chiropractors who have an agreement with the public health care scheme.

4.2.6. *Home nursing*

All citizens in a municipality are entitled to home nursing. When prescribed by a general practitioner, the municipalities must provide home nursing free of charge. Moreover, the municipalities are obliged to provide all necessary appliances free of charge. Home nursing provides treatment and nursing at home for people who are temporarily or chronically ill or dying.

4.2.7. *Other forms of treatment and subsidies*

The municipalities offer rehabilitation free of charge for persons who are discharged from hospital when the requirement for rehabilitation is well-founded from a medical point of view.

The public primary health care service also subsidises treatment by a chiropodist to patients suffering from diabetes and patients suffering from severe chronic polyarthritis. Treatment by psychologist in the primary sector is subsidized for particularly endangered groups of persons.

Children under the age of 16 needing glasses will receive a subsidy. It is not necessary to have a referral from a general practitioner.

When a person dies who had the right to public health care services prior to death, the municipality will pay a funeral grant. The funeral grant is calculated according to the financial circumstances of the diseased person if he/she was aged 18 or above.

4.2.8. Medicine

Most medicine is sold by pharmacies which are authorised by the state. It is the Ministry of Health and Prevention which decides the number of pharmacies and where they may be situated. There are approx. 300 pharmacies. Some OTC products (over the counter; medicines which can be bought without a prescription) are sold in shops which have been approved by the Danish Medicines Agency.

According to the Danish Health Care Act a general reimbursement is granted for the costs of medicinal products which have been authorised for reimbursement by the Danish Medicines Agency. In general, reimbursement is granted for medicinal products which have a certain and valuable therapeutic effect when used on a well-defined indication. Furthermore, the price of a given medicinal product must be proportionate to the effect of this product.

All reimbursable medicinal products have an equal status from the point of view of reimbursement. The reimbursement system is based on individual needs, and the reimbursement rate for reimbursable medicinal products depends on a given patient's prior consumption of medicine within a reimbursement period of one year.

The reimbursement will be calculated on the basis of the price of the cheapest medicinal product among the different products with the same effect and the same active ingredients. The pharmacy is obligated to give patients the cheapest product, unless the price difference is negligible. Only if the doctor makes a specific note on the prescription, the pharmacy will give the patient a more expensive medicinal product.

If a patient is chronically ill, the patient may incur very large expenses for medicine. A ceiling is put on the patient's expenses if the patient is granted reimbursement for the chronically ill by the Danish Medicines Agency.

Dying patients who choose to spend the remainder of their life in their own home or in a hospice should not be left in a worse position than patients remaining hospitalised.

Therefore, they get all their medicine for free when they have been granted a reimbursement for the terminally ill by the Danish Medicines Agency.

Some OTC medicines will only be subsidised if the medicinal product is dispensed according to a prescription for a pensioner or for people suffering from specific diseases. Otherwise, reimbursement is not given for over-the-counter medicinal products.

4.2.9. Interpreter assistance and allowance for travelling expenses

If a doctor, in connection with a consultation, considers interpretation necessary, the public health care service covers the costs. Normally a person must arrange for his own transport to and from the general practitioner or specialist, but in some cases travelling expenses will be covered for persons insured under Group 1.

Chapter 5. Preventive health care and health promotion

5.1. Introduction

Over the last 10-15 years, preventive health and health promotion have been given a higher priority in Denmark. This is due to recognition of the fact that lifestyle related diseases like cancer and cardiovascular diseases dominate the pathological picture today. Only a limited part of total preventive health care and health promotion lies within the health sector and thus with the central health authorities. Developments in the environment, the working environment, the housing sector, traffic, safety and product safety (and more indirectly in the educational and social sector) are of great importance to the general health status of the population.

Policies and initiatives either supported or put forward by the government have since 2002 been part of the government's public health and disease prevention programme "Healthy throughout Life". The programme is based on the targets of the former government's programme and will maintain a clear focus on the risk factors – tobacco, alcohol, accidents, eating habits, and too little physical activity - but will, furthermore, broaden the scope to also include preventive treatment of the major preventable diseases, e.g. asthma, allergies, diabetes, cardiovascular diseases and osteoporosis. One of the aims of the programme is enhanced quality of life, also for the elderly and for people with chronic diseases. The programme stresses the responsibility of the individual, but also underlines that the individual must be able to make well-informed choices. The programme enhances the role of the civil society – the social networks, the workplace, private organisations etc. Lifestyle cannot be changed without regard for the social context in which people live.

The government has with its extensive reorganisation of the public sector and the new health legislation given the municipalities the primary responsibility for preventive health and health promotion from 2007. The government, thereby, aims to use the already established and close contact between the municipalities and the citizens as well as the

large amount of knowledge about local conditions to make preventive health and health promotion more effective.

As part of the new Government platform 2007 the Danish government will launch two new large initiatives to follow up on “Healthy throughout life”. Firstly, in January 2008 the government appointed a committee consisting of experts in the field of health promotion and disease prevention programme, health economics and representatives from both the public and private sector. The committee shall deliver its recommendations in the beginning of 2009 as to how health promotion and disease prevention in Denmark can be done even better than previously. Secondly, the government will on the background of the committee’s recommendations publish a new public health and disease prevention programme in 2009 including clear aims for the future effort.

5.2. Prevention of the most important lifestyle related diseases

The point of departure for the prevention of the important diseases such as cancer, cardiovascular diseases, allergies and musculoskeletal disease must be lifestyle factors. A large consumption of tobacco and alcohol, very little or no exercise and a deficient diet are the most important lifestyle factors behind the development of these illnesses.

5.2.1. Tobacco

In May 2007, the Danish Parliament adopted the Smoke-free Environments Act. The purpose of the Act is to promote smoke-free environments with the aim of preventing harmful health effects from passive smoking and involuntary exposure to tobacco smoke.

The Act applies to all public and private workplaces, institutions for children and adolescents, educational institutions, indoor facilities to which the public has access, including means of public transport (the public space) and hospitality establishments. As a general rule, smoking is not permitted indoors at these premises. The Act includes a wide range of exceptions. In general, it is permitted to establish smoking booths and special rooms for smoking at workplaces, educational institutions, in the public space, at hospitality establishments etc. In addition, there are exceptions for: Work rooms that serve as a workplace of one person only, small restaurants with a licence to serve alcohol, a serving area of less than 40 square metres, drop-in centres for the socially exposed, accommodation or rooms for residents at nursing homes and the like.

In 2002 an Act prohibiting tobacco advertisements came into force. On the basis of an EU directive, legislation on manufacture, presentation and sale of tobacco products

also came into force in 2002. This Act includes limit values for the tar, nicotine and carbon monoxide content in cigarettes and rules on the labelling of tobacco products including health warnings.

In 2004 it was prohibited by statute to sell tobacco and alcohol to persons under the age of 16.

In 2008 the age limit for selling tobacco to persons was lifted to the age of 18.

These legal changes have been accompanied by a number of public campaigns to prevent smoking and encourage smoking cessation. Local tobacco addiction treatment clinics have been established in many municipalities.

As is also the case with alcohol, the customs duty on tobacco products is relatively high in Denmark. One of the reasons for this is that a high price for such stimulants is considered to have a limiting effect on consumption, especially the consumption of tobacco and alcohol by young people. The outcome is a declining number of daily smokers in Denmark – from 43% in 1990 to 25% in 2006. Especially encouraging is the limited number of young smokers, but there is still a considerable number of Danish women who smoke compared with other countries.

5.2.2. Alcohol abuse

The main effort to combat alcohol abuse is made by the regions and the local authorities. Many private organisations work on a voluntary basis to combat alcohol abuse, often in close cooperation with public authorities. It is a task of the health service to monitor developments with regard to alcohol in order to gain a scientific basis for prioritising present and future activities. The health service is also the central authority responsible for the prevention of alcohol abuse and for developing information, teaching material and preventive campaigns.

The average consumption of alcohol per inhabitant doubled over a 14-year period in the years from 1960 to 1973. Since then the annual sale has remained constant at approx. 12 l. of pure alcohol per person above the age of 14.

In 2004, Parliament passed a law which banned the sale of alcohol to people below 16 years of age. At the same time an identity card for young people over the age of 15 was introduced.

5.2.3. Exercise

Regular exercise prevents musculoskeletal diseases - either exercise in the form of sport or exercise not organised by a sports club and other physical activities in connection with everyday life. In addition, sport and exercise have a positive effect on a number of other illnesses: cardiovascular diseases, diabetes, obesity and mental illnesses. The most important condition for central preventive initiatives is an appreciable local involvement by the local authority and not least by the local sports clubs, as most of the practical preventive work is initiated and carried out in the local environment and society where people live. This is one of the reasons why the municipalities with the reorganisation of the public sector and the passing of the new health legislation have been given the primary responsibility for the prevention of physical inactivity from 2007.

The government and the National Board of Health also contribute by attempting to generate and preserve awareness and knowledge of the advantages of exercise.

The National Board of Health estimates that about 35% of adults do not live up to the Board's recommendations – that is 30 minutes of physical activity at moderate intensity daily. Furthermore, it is estimated that about 45% of all children and young people between the age of 11-15 years do not live up to the recommendations – that is 60 minutes of physical activity at moderate intensity daily.

5.2.4. Nutrition

The objective of the Danish nutrition policy is to encourage the population to opt for a diet which promotes and preserves health, and prevents sickness. The highest priority within this objective is to reduce the amount of fat consumed by the population. Another objective is to promote the intake of foodstuffs rich in complex carbohydrates and fibres, both having a significant impact on the prevention of cardiovascular diseases and certain types of cancer. It is especially important to ensure that children, young people and the elderly receive an optimal diet. People's diets are recorded through a nationwide diet survey so that these objectives can regularly be adapted to the present needs. The most recent survey was carried out in 2005 by the National Institute of Public Health.

Achieving the objectives of the nutrition policy is primarily based on information campaigns. Information on nutrition is partly the responsibility of the central authorities and partly the responsibility of local authorities. Furthermore, private health associations, foodstuff producers and retailers publish information on healthy food. It is hoped that this large amount of information can be coordinated so that contradictory infor-

mation is not distributed to the consumer. In addition, great efforts are made to highlight the importance of nutrition schemes in public institutions, such as hospitals, homes for elderly people, and institutions for children etc., which provide about 500,000 meals daily.

5.2.5. Obesity

The prevalence of overweight and obesity has gone up significantly within the last few decades - in Denmark as in the rest of the western world. According to the National Institute of Public Health 6.1% of the Danish population was obese in 1987. This figure has risen steadily since then to 11.1% in 2005. Overweight is defined as a BMI over 25 and obesity as a BMI over 30.

Prevention and health promotion are since 2007 primarily the responsibility of the municipalities.

5.3. Other preventive measures

Part of the prevention effort is aimed at particular areas where the state has an obligation to inform and propose preventive measures. The National Board of Health is currently preparing a national action programme aimed at the prevention and treatment of obesity.

5.3.1. HIV/AIDS

The Danish AIDS policy is based on the principles that there should be no compulsion and that anonymity can be preserved. Open, direct, and honest information is available, which is intended to enable the individual to refer freely to the health authorities. Furthermore, an important element is to avoid any form of discrimination.

Information and motivation are very important elements in the AIDS policy. It is an essential part of the policy that all sexually active people are responsible for and have the possibility of avoiding HIV. As a result, an information strategy is employed which promotes safe sex and warns against any behaviour likely to jeopardise other people's health.

Financial support is extended to the private organisations, which seek to limit the spread of HIV and offer psychosocial help to HIV-positive persons through telephone counselling and active preventive activities in groups which are primarily for homosexuals.

The number of diagnosed new HIV cases has stabilized in Denmark in recent years and today amounts to about 300 per year. The number of new AIDS cases is decreasing and currently stands at 50 per year. The government also seeks to prevent other contagious diseases through measures which include information campaigns organised by the central authorities.

5.3.2. Narcotic drugs

In October 2003, the government presented “The Fight Against Drugs” which is a specific action plan against drug abuse. Besides 36 concrete initiatives, “The Fight Against Drugs” has a chapter identifying the underlying premises for the drug policy.

As of 1 January 2007, the responsibility for carrying out prevention as well as for the social and medical treatment of drug users has been transferred from the counties to the municipalities. As the municipalities are also responsible for (other) social services and support, the new structure makes it easier to coordinate the social and health-related efforts within the field of drugs.

The National Board of Health is centrally responsible for the prevention of drug abuse, the development of information and education material, and countrywide prevention campaigns. The most important effort, however, takes place at local level, and is aimed at vulnerable young people who experiment with cannabis, heroin and other drugs. The National Board of Health therefore supports local prevention initiatives and is promoting evidence on effective prevention methods.

The total number of drug abusers is estimated at 27,000, defined as abusers of any kind of illegal drugs (heroin, stimulants, cannabis etc.). Of these drug abusers, approx. 6,300 are under substitution treatment.

5.4. Preventive health schemes

A number of preventive health schemes are available to people resident in Denmark free of charge.

5.4.1. Guidance on methods of contraception

The local authorities must ensure that anyone who is interested can receive free guidance on the use of contraceptives from general practitioners. Guidance can be offered to people below the age of 18 without parental consent.

5.4.2. Pregnancy and maternity

Preventive examinations and treatment are offered by general practitioners, midwives, and at hospitals in connection with pregnancy and childbirth. The regions are responsible for free health check-ups by doctors and midwives before and immediately after pregnancy. In connection with the medical examination, the doctor or the midwife must advise the pregnant woman on her lifestyle, including her work, diet, use of stimulants etc. and help her prepare for the birth as well as advise her regarding the care of a new-born baby.

Many pregnant women are scanned with ultrasound during their pregnancy. If there is any suspicion of the foetus having contracted certain specific illnesses or having any serious defects, the pregnant woman and all pregnant women over the age of 35 have the right to an amniocentesis. In case of abnormalities, the pregnant woman has the possibility of seeking advice and having an abortion. Pregnant women can choose whether they wish to give birth at home or at a hospital.

5.4.3. Preventive health schemes for children and young people

All children under school age are entitled to 7 free preventive health examinations by a general practitioner. The aim of the examination is to give the child the best conditions for developing healthily - physically, psychologically and socially. The costs are covered by the regions.

Through the health visitors the local authorities, as part of their health care programme, are responsible for giving free advice, assistance and health examinations to check the functional deficiencies of school children until the end of their compulsory education. The local authority health service also covers a health examination by a doctor of all children in the first year of school, and an examination of all children before leaving school. Furthermore, there are examinations by a doctor or a nurse throughout the school years of children who are considered to need such examinations.

5.4.4. Child and adolescent dental care

All children and adolescents under the age of 18 have the right to free preventive dental care and treatment provided by the local authority. The dental care is provided in public clinics or by practising dentists, who have an agreement with the local authority. Adolescents of 16 and 17 may choose whether they wish to attend the municipal dental clinic or prefer to attend a private practising dentist. Children and adolescent under the age of 16 have the right to choose their own dentist whether he is practising or working in a public clinic. Then they have to pay 35 percent of their own for the treatment.

5.4.5. Vaccinations

All young people below the age of 18 who are Danish nationals or who are resident in Denmark can be vaccinated against whooping cough, diphtheria, tetanus, polio, measles, German measles, mumps and Haemophilus influenza type b. Furthermore, all children below the age of 2 who are Danish Nationals or who are resident in Denmark can be vaccinated against pneumococcal disease (PCV 7) and all females over the age of 12 who are Danish nationals or are resident in Denmark may be vaccinated free of charge against cervical cancer (HPV vaccination). All females over the age of 18 who are Danish nationals or are resident in Denmark may be vaccinated free of charge against German measles. Every child under the age of two years, whose mother suffers from chronic hepatitis B and is a Danish national or resident in Denmark, may be vaccinated against hepatitis B free of charge.

All intravenous drug abusers can be vaccinated against hepatitis B free of charge. A combined hepatitis A/B vaccine is used for the vaccination, so that protection against hepatitis A is provided at the same time. Furthermore, persons who live together with a person with chronic hepatitis B, as well as steady sexual partners of a person with chronic hepatitis B can be vaccinated free of charge against hepatitis B. Only hepatitis B vaccine is given in these cases.

Persons aged 65 years and above and from 2007 also persons with some chronic diseases and persons, who have taken early retirement, can be vaccinated against influenza, free of charge.

The costs are covered by the regions.

Chapter 6. Quality improvement and patient safety

6.1. Quality improvement

It is a central agenda of the government to create a more transparent and accountable public sector. This aim is viewed in close conjunction with our efforts to improve the quality of our public services. Several steps have been taken with the aim to improve the quality of health care.

6.1.1 *The Danish Model*

The regions being the primary health care providers have also traditionally been the starting and focal point of quality management initiatives. However, in 2001 it was decided to introduce the Danish Quality Model – an initiative designed to integrate and systematize existing quality initiatives. A central goal is the accreditation of all hospitals according to general standards for optimal patient treatment and flow. Subsequently, the model will be applied to private practitioners, municipal health service, and pharmacies as well.

The Danish Institute for Quality and Accreditation in Healthcare has been established to create Danish standards and indicators and to conduct the accreditation of Danish health care. The basis for the evaluation will in the first place be the following three categories: A general category which covers e.g. medication and information of patients, an organisational category covering e.g. hygiene and quality management, and lastly a category for specified diseases.

Data generated through the Danish Model is to be made available to health professionals and the general public. This transparency will help set high standards in the health care system and provide patients with information they can use when choosing among hospitals. The National Indicator Project, which is integrated into the Danish Model, has already made available data on treatment of selected disorders, e.g. apoplexy, lung cancer and schizophrenia.

The results are available on the integrated web portal for health matters in Denmark www.sundhed.dk which serves both professionals and the general public. On the web portal citizens can, by using a digital signature, view their own medical record (treatment at hospitals) and the prescription medication they have purchased. (See section 7.3 for more information on www.sundhed.dk).

6.1.2 Website on hospital quality and service

In 2006, the National Board of Health and the former Ministry of the Interior and Health launched the website www.sundhedskvalitet.dk. The aim of the website is to communicate information on quality and service at the different hospitals. The information must be easy to comprehend for the citizens and should also help the citizens when choosing a hospital.

The website has information on both the clinical quality, e.g. information on the number of complications, on the quality experienced by patients expressed through national surveys of patient experiences, and on the organisational quality, which among other things expresses the standard of hygiene and the hospitals' observance of agreements.

On the website patients can compare information on different hospitals. For a number of treatments it is possible to see how the different hospitals are placed in relation to each other and compared to the national average, by choosing information on length of stay in hospitals, number of rehospitalisations, waiting time for treatments, hygiene, etc.

6.1.3 Patients' experiences in hospitals

Every second year the Danish Regions and the Ministry of Health and Prevention conducts a survey of the patients' experiences in hospitals. The objective of the survey is to compare patient experiences at hospital level and at medical specialities level. Also, it is the aim to compare patient experiences over time. The survey includes questions on clinical services, patient safety, patient and staff member continuity, co-involvement and communication, information, course of treatment, discharge, inter-sectoral cooperation, physical surroundings, waiting time and free hospital choice.

The survey made in 2006 showed that the patients' overall impression of the hospitalisation process is positive. It also showed areas where the patients experience a potential of improvement.

6.2. Patient safety

6.2.1. The patient safety system

In January 2004, a national reporting system for adverse events was established. The purpose of the system is to improve patient safety and health care. The system is based on the Danish Health Care Act.

The reporting system aims to collect, analyse and communicate knowledge of adverse events in order to reduce the number of adverse events in the health care system. The act obligates health care professionals to report any adverse events they become aware of in connection with patients' treatment or stay in hospitals. It obligates the hospital owners to receive records and analyse reports of adverse events and report to the National Board of Health. On the basis of the received information the National Board of Health is obligated to advise the health care system concerning patient safety.

All types of adverse events, including potential adverse events, occurring in the hospitals must be reported.

6.2.2. Handling adverse events at regional level

Representatives from the region, the hospital and the department are involved in collecting data on and analyzing adverse events. Many regions have a patient safety unit, which is often integrated with the regional quality department.

The regional patient safety unit receives the reports from the hospital in order to take action at regional level and also to ensure that the data is anonymized before it is sent to the National Board of Health.

In the regions the reports are categorized in:

- Adverse drug events
- Adverse events in connection with surgical or invasive procedures
- Fall
- Suicide and suicide attempts
- Adverse events in connection with procedures of anaesthesia
- Mistakes and confusion or miscommunication
- Break of continuity
- Heart failure or unexpected death
- Other adverse events, which are at risk of reoccurring

The system is designed as a bottom up process, where the majority of the work is locally rooted. The rationale is that adverse events that are rooted locally should be

analysed and corrected locally. This is also thought to have a positive impact on the development of a safety culture.

6.2.3. The role of the National Board of Health

The National Board of Health runs the register for adverse events. After receiving the analysed and anonymized reports from the regions, the National Board of Health looks for common patterns and trends and provides feedback and knowledge to the regions regarding specific risk situations. The information is distributed by the National Board of Health in newsletters, alerts and reports on specific subjects, for example medication errors. Furthermore, the National Board of Health publishes an annual report on overall issues and results. All publications are available on the website www.dpsd.dk.

6.2.4. Protection of health care professionals

The Act contains an important protection of health care professionals. Health care professionals reporting an adverse event will not as a result of the reporting be subjected to disciplinary investigations or measures by the employing authority, supervisory reaction by the National Board of Health or criminal sanction by the courts. The reporting system is sanction-free.

It is not mandatory for a reporting health care professional to state his/her name or other identifiable information when reporting, but anonymity makes the collection of further information difficult for the analyzing team. The reporting system is strictly confidential, meaning that the regions are not allowed to disclose information about a reporting health care professional's identity.

6.2.5. Results from the reporting

The number of reports has increased from 5,740 in 2004 to 15,556 in 2006. The increase probably reflects that the reporting system has become known and accepted by the health care professionals, and that a change of safety culture has taken place focussing on the potential of learning from adverse events.

6.2.6. Evaluation and expansion of the system

In 2006 an evaluation of the system was carried out. The evaluation showed that generally the reporting system functions very well at local, regional, and central level. However, less well-functioning aspects were pointed out. The evaluation showed that not all adverse events are reported, and different reasons were mentioned. Some professionals are unsure of the definition of an adverse event and others pointed at the lack of time and resources.

The evaluation showed a wide support of the expansion of the reporting system to cover adverse events occurring in the primary health care sector, including the pharmacies, and to facilitate patient reporting to the system. As a result of the evaluation an expansion to the primary health care sector and to patients and their relatives is planned to take place during 2009. After this expansion the reporting system of adverse events will cover all sectors of the health care system.

Chapter 7. IT in health care

7.1. Strategic perspective

By 1st January 2008, the new National Strategy for Digitalisation of the Health Sector 2008-2012 was adopted. The strategy was developed by the newly established organisation “Connected Digital Health in Denmark”. The overall governing principles in the strategy are outlined in three goals:

1. Digitalisation - a tool for the employee to create quality and productivity
2. Better service for and inclusion of citizens and patients
3. Stronger cooperation will create digital connectivity

The vision is that data shall follow the patient across organisational and sectoral boundaries to the benefit of patients and healthcare professionals.

The organisation Connected Digital Health is responsible for the implementation of the strategy, which is a stable overall governing tool, to be implemented by a number of dynamic action plans, consisting of various programmes and projects.

7.2. Governance structure

The organisation Connected Digital Health is aimed at ensuring the coherent development of digital solutions at a national level. Some of the governing principles are transparency, inclusion and openness.

Connected Digital Health has a board in which the regions, the municipalities and the state are represented. With around 20 employees, the organisation is responsible for developing and supporting national projects that contribute to ensuring digital connectivity.

This organisation has no formal authority but aims at stimulating and supporting successful national projects and, when possible, scaling them to be national solutions. Furthermore, it is responsible for the establishment of a national infrastructure in relation to IT architecture, standards and security principles.

There is a strong belief that a prerequisite for success is good collaboration with the various interested parties. Therefore, all projects must have a strong connection with all relevant stakeholders. Solutions developed are always addressing specific identified needs.

Another issue is a strong emphasis on the international dimension. Maximal utility must be derived from the experiences made by other comparable countries. Exchange of knowledge concerning the use of standards, architecture and security principles are all aspects that will be developed with input from international experiences.

7.3. Implementation perspective

A fundamental principle in relation to the present strategy is that it is a stable overall governing tool. The strategy does not operate with a fixed number of initiatives to be carried out during the strategy period because the environment in which the strategy operates is dynamic, and needs in the sector change over time.

The strategy is implemented through programmes that are dynamic and changes over time as the development phases are completed.

The strategy builds on incremental digitalisation of the whole health sector. Solutions will be developed that fulfil specific needs, and with the overall vision of a digitally connected health sector in mind.

Initially, Connected Digital Health has five programmes governing a number of projects. These are:

1. National Patient Index
2. Medicine Profile
3. IT architecture and security
4. Standardisation
5. Telemedicine

A project in one of the five programmes covers access to x-rays with descriptions between hospitals and secondary and primary care. Another example is the evaluation of international standards in relation to national needs. The two examples serve as an illustration of projects resulting in a functionality targeting specific needs in the sector, as well as projects aiming at the establishment of a national infrastructure i.e. the establishment of a portfolio of standards addressing specific issues.

It is envisaged that the projects in the strategy period will be concentrated on either the establishment and maintenance of a national infrastructure in relation to architecture, security and standards, or projects aimed at supplying service to clinicians.

Infrastructure - The health care data network

Regions, local authorities and other organisations have secure intranets. Earlier, the local networks comprised the “logical” health care data network. This was made possible by agreeing on uniform technology and communication standards in order to avoid problems with communication across the regions. The networks were then considered as a closed private network where no encryption was utilised. Nowadays, these networks are linked by the health care data network (Internet based) through VPN connections after entering a cooperation agreement with MedCom.

The penetration and rates of use of the Healthcare Data Network are as follows:
General practitioners: 97%, specialists (full time): 74%, pharmacies and hospitals: 100%, local authorities: 44%.

The types of eHealth services delivered through the network include at present:

- Referrals and discharge summaries
- Prescriptions
- Teleradiology - teledermatology services
- Look up of laboratory results through the National Health Portal

e-Message standardisation

More than 4 million standardized medical documents are sent as EDI (Electronic Data Interchange) per month, which represents 80% of all communication in the primary health care sector.

Since 1996, MedCom developed EDI standards based on the EDIFACT syntax. All these standards have also been developed in an XML version for future hospital communications. MedCom tests and approves computer systems for the reception and dispatch of EDIFACT and XML documents as well as XML web service solutions.

National e-Health Portal

The National e-Health Portal, Sundhed.dk was launched in December 2003. It acts as a single access point to health care services for both citizens and professionals.

Through their digital signature, citizens can log on to the personal web space and use a variety of services such as booking general practitioner appointments; ordering

medications and renewing prescriptions; reviewing their medication and health data; or communicating with health care authorities. Citizens can also register their wishes in a Living Will and become an organ donor. In addition, the portal offers directory services, general and disease-specific health information, access to national guidelines, basic information regarding hospitalisations etc.

By using special security certificates, health care professionals can access patient data and laboratory results in the context of providing care, as well as utilise various resources (guidelines, clinical pathways, etc).

7.4. Future activities

ePrescription - Medicine Profile

The Medicine Profile is an electronic overview of the purchase of prescription medications. All purchases are automatically registered and gathered in an individual, personal medical profile for every citizen. This is achieved by substituting earlier EDI-based prescription messaging by XML -messages sent directly to the National Health Portal.

The personal profile can be accessed by the citizen, the treating physician and by the pharmacies authorized by the patient. The project aims to improve quality of drug therapy, while giving a valuable overview of patient compliance. Also, a national prescription server has been set-up to enable the patient to pick up prescribed medicine at any pharmacy.

The next step is to complement the personal medical profile with medications from hospital treatment in order to complete medication information.

e-Journal project: Standardised extracts of patient data

The purpose of eJournal is to make extracts of registered patient data available across regional boundaries through look-up, for instance in the case of a patient receiving treatment in a region other than the one in which he resides. Communication takes place in encrypted form on the MedCom secure network, either via local user control or through the National Health Portal.

The plan is to expand communication beyond hospitals and provide access to selected EPR data to citizens, general practitioners, specialists and the home care services of local authorities.

Multinational e-Health co-operation

Expansion to cross-border networks, as demonstrated, for example, in the Baltic eHealth project, is a future target. The objective of Baltic eHealth, which is co-ordinated by Med-Com, was to facilitate the use of telemedicine (x-rays with descriptions) across national borders in the Baltic Sea region.

Having established a secure Internet-based infrastructure between Denmark, Norway, Sweden and hospitals in Estonia and Lithuania, the next step could be to further consolidate the infrastructure and increase the number and type of services available through the networks between countries.

Concluding remarks

Denmark has a history of e-health strategies ranging back to 1996 when the first strategy was launched. The present strategy 2008-2012 is the fourth.

The specific goals of the strategies have been different, but at the same time, the core element of the strategies has been to make value to the patients and the professionals in the health care sector.

Use of the strategies has been important for the rather satisfactory results achieved for citizens, patients and professionals in Denmark.

Core resources

- National Strategy for Digitalisation of the Health Sector 2008-2012 and action plans et cetera, available online at: <http://www.sdsd.dk>
- National Board of Health: <http://www.sst.dk>
- MedCom - The Healthcare Data Network et cetera: <http://www.medcom.dk>
- Sundhed.dk - The National Health Portal: <http://www.sundhed.dk>

Chapter 8. State of health

8.1. Introduction

In an international perspective, health status in Denmark can generally be characterised as good. Surveys show that the population continues to consider their own health as being good. In a questionnaire survey from 2005, 79% of the population perceives their own health status as “very good” or “good”. Not surprisingly the percentage is falling with age, but in the group of people of 65-79 years of age, more than 71% answered “good” or “very good”⁵.

To give a more comprehensive description of the health status, the development of three important indicators will be reviewed below: life expectancy, mortality and morbidity.

8.2. Life expectancy

The Danish life expectancy is rising again after a period of stagnation in the '80s. Since the mid-90s the Danish life expectancy has been improving although still being behind the EU average.

A comparison of the development of life expectancy in Denmark from 1960 to 2005 with the development in a number of other countries (see tables 8.1 and 8.2) shows that life expectancy in 1960 was relatively high in Denmark for women as well as for men, where Denmark had the highest life expectancy.

In 2000, women in almost all the member states of the European Union had a higher life expectancy than Danish women. The life expectancy of Danish men on the other hand was more in line with the other countries and on the level of Finland and Ireland. However, from 1995 onwards the life expectancy in Denmark increased at a higher speed than in most other OECD countries. From 1995 to 2000 the Danish life expectancy increased by as much as in the previous 21 years and the increase continues in 2005.

⁵ Source: Ekholm et al. (2005): *Health and Morbidity in Denmark*

The former Ministry of the Interior and Health has carried out a large survey in order to reveal the causes of the less favourable developments in Denmark. The survey concluded that first and foremost it is the health status of women which is lagging behind. Thus, mortality, especially among the 35- to 64-year old women, has been higher in Denmark. Middle-aged women in Denmark have a 40 to 50% higher mortality rate in comparison with the other EU countries. Especially the development in the incidence of cancer amongst women (breast cancer and lung cancer) gives cause for concern. However, cardiovascular diseases and alcohol-related diseases in women have also contributed to accentuating this development. The development of the mortality rate amongst Danish men is parallel with that of men in other EU countries.

Table 8.1 Life expectancy, females at birth

	1960	1970	1980	1990	2000	2005
Nordic countries						
Denmark	74.4	75.9	77.3	77.7	79.3	80.2
Finland	72.5	75.0	77.6	78.9	81.0	82.3
Iceland	75.0	77.3	79.7	80.5	81.8	83.1
Norway	75.8	77.3	79.2	79.8	81.4	82.5
Sweden	74.9	77.1	78.8	80.4	82.0	82.8
Other European Countries						
Austria	71.9	73.4	76.1	78.8	81.1	82.2
Belgium	73.5	74.2	76.8	79.4	81.4	81.6
Bulgaria	-	73.6	74.0	75.0	75.1	76.3
Cyprus	-	-	-	-	80,2	-
Czech Republic	73.4	73.0	73.9	75.4	78.4	79.1
Estonia	-	-	-	75.0	76.3	78.2
France	73.6	75.9	78.4	80.9	82.7	83.8
Germany	72.4	73.6	76.1	78.4	81.0	81.8
Greece	72.4	73.8	76.8	79.5	80.5	81.7
Hungary	70.1	72.1	72.7	73.7	75.9	76.9
Ireland	71.9	73.5	75.6	77.6	79.1	81.8
Italy	72.3	74.9	77.4	80.1	82.5	83.2
Latvia	-	74.1	74.2	74.6	76.1	76.6
Lithuania	-	74.8	75.4	76.4	77.6	77.4

Table 8.1 Life expectancy, females at birth						
	1960	1970	1980	1990	2000	2005
Luxembourg	72.2	73.4	75.9	78.5	81.1	82.3
Malta	-	73.0	72.9	78.4	80.3	81.4
Netherlands	75.4	76.5	79.2	80.1	80.5	81.6
Poland	70.6	73.3	74.4	75.2	78.0	79.4
Portugal	66.8	70.8	75.2	77.4	80.0	81.4
Romania	-	70.3	71.9	73.1	74.8	75.8
Slovak Republic	72.7	72.9	74.3	75.4	77.4	77.9
Slovenia	-	-	-	77.9	80.0	80.9
Spain	72.2	74.8	78.6	80.3	82.5	83.9
Switzerland	74.5	76.9	79.6	80.7	82.6	83.9
United Kingdom	73.7	75.0	76.2	78.5	80.2	81.1
Other countries						
Australia	73.9	74.2	78.1	80.1	82.0	83.3
Japan	70.2	74.7	78.8	81.9	84.6	85.5
USA	73.1	74.7	77.4	78.8	79.5	80.4 ¹

¹ Data from 2004

Source: OECD countries: OECD Health Database 2007, Non-OECD countries: WHO

Table 8.2 Life expectancy, males at birth						
	1960	1970	1980	1990	2000	2005
Nordic countries						
Denmark	70.4	70.7	71.2	72.0	74.5	75.6
Finland	65.5	66.5	69.2	70.9	74.2	75.5
Iceland	70.7	71.2	73.7	75.4	78.4	79.2
Norway	71.3	71.0	72.3	73.4	76.0	77.7
Sweden	71.2	72.2	72.8	74.8	77.4	78.4

Table 8.2 Life expectancy, males at birth

Other European Countries	1960	1970	1980	1990	2000	2004
Austria	65.4	66.5	69.0	72.2	75.1	76.7
Belgium	67.7	67.8	70.0	72.7	75.1	75.8
Bulgaria	-	69.1	68.5	68.3	68.5	-
Cyprus	-	-	-	-	75.6	-
Czech Republic	67.9	66.1	66.8	67.6	71.6	72.9
Estonia	-	-	-	64.7	65.4	67.3
France	67.0	68.4	70.2	72.8	75.3	76.7
Germany	66.9	67.2	69.6	72.0	75.0	76.2
Greece	67.3	70.1	72.2	74.6	75.4	76.8
Hungary	65.9	66.3	65.5	65.1	67.4	68.6
Ireland	68.1	68.8	70.1	72.1	73.9	77.1
Italy	67.2	69.0	70.6	73.6	76.6	77.6
Latvia	-	65.4	63.8	64.2	64.9	65.4
Lithuania	-	66.6	65.4	66.5	66.8	65.4
Luxembourg	66.5	67.1	69.1	72.3	74.8	76.2
Malta	-	68.0	67.9	73.8	76.0	77.2
Netherlands	71.5	70.8	72.5	73.8	75.5	77.2
Poland	64.9	66.6	66.0	66.2	69.7	70.8
Portugal	61.2	64.2	67.7	70.4	73.2	74.9
Romania	-	65.7	66.6	66.6	67.8	68.8
Slovak Republic	68.4	66.7	66.8	66.6	69.1	70.1
Slovenia	-	-	-	69.9	72.3	74.0
Spain	67.4	69.2	72.5	73.3	75.8	77.4
Switzerland	68.7	70.7	72.8	74.0	76.9	78,7
United Kingdom	67.9	68.7	70.2	72.9	75.4	76.9
Other countries						
Australia	67.9	67.4	71.0	73.9	76.6	78.5
Japan	65.3	69.3	73.4	75.9	77.7	78.6
USA	66.6	67.1	70.0	71.8	74.1	75.2 ¹

¹ Data from 2004

Source: OECD countries: OECD Health Database 2007, Non-OECD countries: WHO

8.3. Mortality

The most common cause of death in 1985 was heart diseases. Since 2000, the most common cause of death has been cancer. The overall mortality in 2005 in Denmark was 682 per 100,000, while the EU average was 678.

The figures about mortality are all the deaths per 100,000 inhabitants standardised using the standard European population as done by the WHO. The Danish figures as well as the EU averages are from 2005.

8.3.1. Cancer

Though it is the most common cause of death in many EU countries, mortality as a consequence of cancer has decreased over the last decade. In Denmark the cancer mortality rate has decreased by 6% from 219 persons per 100,000 inhabitants in 2001 to 206 persons per 100,000 inhabitants in 2005. In comparison the EU average in 2005 was 180 persons. Breast cancer in women is one of the most common types of cancer and caused the death of 32 out of a 100,000 women in Denmark in 2005. Since 2001 this number has decreased significantly by 12% from 36 out of a 100,000 women. The EU average was 25 in 2005 and has only experienced a decrease of half the size of that of Denmark from 2001. That is a decrease of 6%. Cancer in lung, trachea and bronchus caused the death of 51 out of 100,000 people in Denmark and 38 on average in the EU in 2005. Both rates have remained unchanged since 2001.

8.3.2. Cardiovascular diseases

During the last decades there has been a significant fall in the mortality rate due to cardio-vascular diseases in Denmark. The same pattern is seen in other EU countries. In Denmark mortality due to cardiovascular diseases has decreased by 36% from 1994 to 2005. In 2005, 202 out of 100,000 inhabitants died from cardiovascular diseases in Denmark, while the EU average was 273.

8.3.3. Diseases of the respiratory system

Mortality as a result of diseases in the respiratory system has been decreasing in most EU countries over the past decades. In Denmark a decrease of 15% has been seen from 1994 to 2005. In 2005 61 persons out of 100,000 died from diseases in the respiratory system in Denmark. The EU average was 48 in 2005.

8.3.4. Suicide

The frequency of suicide amongst Danes keeps decreasing and in 2005 it was 10 out of 100,000, which is a decrease of 16 percent since 2001. This is slightly lower than the EU average of 11 per 100,000 in 2005.

8.4. Morbidity

Research into morbidity amongst Danes shows that nearly 40% of the adult population had at least one prolonged illness (defined as six months or more) in 2005. This is a slight increase since 1987, where only 32% of the population had a prolonged illness. In 2005, 29% of the people with at least one prolonged illness find that the illness obstructs their everyday life, while 36% finds that the illness does not affect their daily life at all.

The most common of the prolonged illnesses are muscular and skeletal diseases, cardiovascular diseases, diseases of the respiratory organs, neural diseases and sensory diseases.

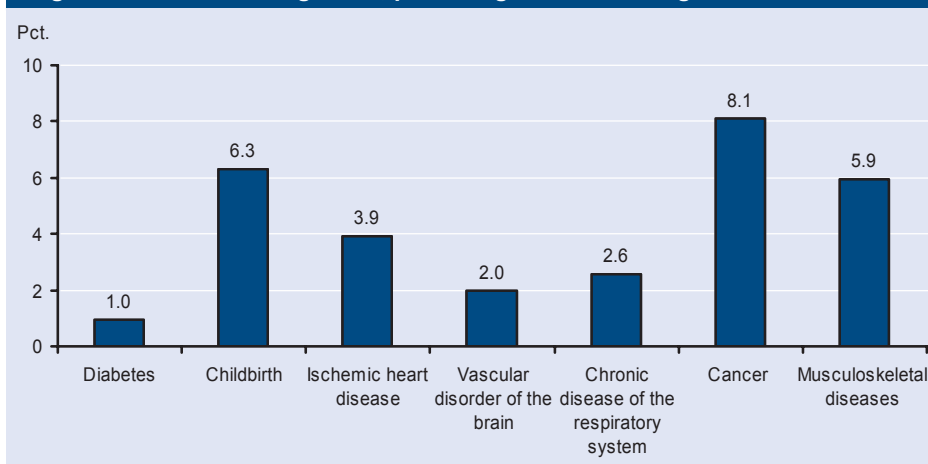
Looking at illness on the shorter term, the most common complaints and symptoms during a 14-day period were pains or aches in the neck or the shoulders; pains in the limbs, hips or joints; pains or aches in the back or the small of the back; tiredness; headaches; sleeping problems; and colds, head colds or coughing in 2005⁶.

The level of activity at Danish hospitals shows that there has been a change in the pattern of illnesses over the past years. More and more people develop cancer, and as figure 8.1 shows 8.1% of all discharges at the somatic hospitals were cancer related in 2007. Three common cancers are: cancer in stomach and intestines (18.1% of all cancer discharges); breast cancer (10.3% of all cancer discharges); cancer in lung and bronchi (9.5% of all cancer discharges). Disregarding births, the second most dominant illness treated at hospitals are musculoskeletal diseases. Other dominant diagnoses are ischemic heart diseases and chronic diseases of the respiratory passages, see table 8.3.

Childbirth accounts for 6.3% of the total number of discharges. The past years there has been a major increase in the number of caesarean sections, which accounted for more than 20% of all childbirths in 2007.

⁶ Source for figures about morbidity and illness on the shorter term mentioned just above: Ekholm et al. (2005): *Health and Morbidity in Denmark*.

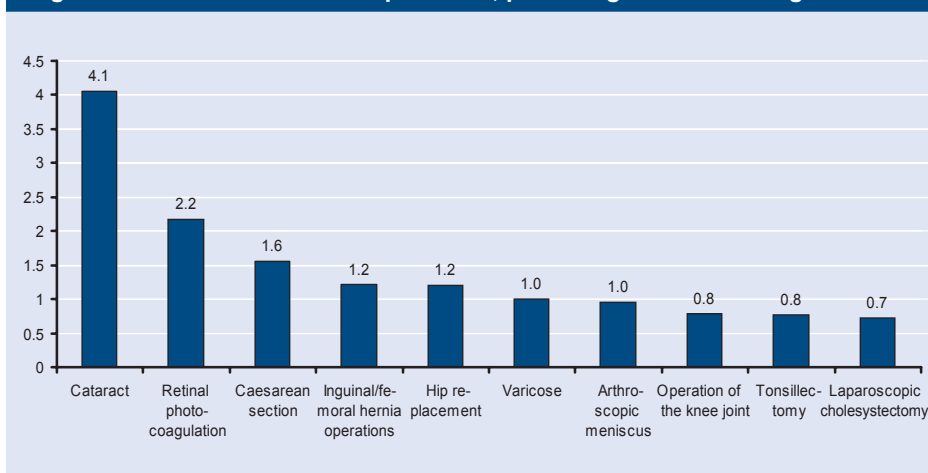
Figure 8.1: Selected diagnoses, percentage of all discharges 2007



Source: National Patient Register
Note: For more details see table 8.3

The National Board of Health follows 23 operations - the so called indicator operations. Of these operations the cataract operation is the most common, see table 8.4. From 1997-2007 the amount of the indicator operations has risen 27%. Over the same period the number of caesarean sections has gone up 72%. On an overall basis the total number of operations has increased 58%.

Figure 8.2: Selected indicator operations, percentage of all discharges 2007



Source: National Patient Register
Note: For more details see table 8.4.

Table 8.3 Selected discharges 2007

Diagnose	Discharges	Pct. of total discharges	ICD10
Cancer	80,762	8.1	C00-C97
- Stomach and intestines cancer	14,641	1.5	C15-C26
- Breast cancer	8,343	0.8	C50
- Bronchi and lung cancer	7,707	0.8	C34
- Prostate cancer	4,316	0.4	C61
Childbirth	62,835	6.3	O80-O84
- Caesarean section	13,064	1.3	O82
Chronic disease of the respiratory system	25,838	2.6	J40-J47
Diabetes	9,570	1.0	E10-E14
Ischemic heart disease	39,265	3.9	I20-I25
Musculoskeletal diseases	59,164	5.9	M00-M99
Vascular disorder of the brain	19,868	2.0	I60-I69
Total discharges	998,358		

Table 8.4 Selected operations 2007

Diagnose	Operations	Pct. of total operations	ICD10
Cataract operations	36,185	4.1	CJC-CJE, CJF00, CJF10
Retinal photocoagulation	19,455	2.2	CKC10, CKC15, CKE40
Caesarean section	13,842	1.6	MCA
Inguinal/femoral hernia operations	10,810	1.2	JAB, JAC
Hip replacement (total and partial)	10,788	1.2	NFB, NFC
Varicose operations (excluding. sclerosing)	8,968	1.0	PHD, PHB10- PHB16
Arthroscopic meniscus operations	8,558	1.0	NGD01, NGD11, NGD21, NGD91

Operation of the knee joint (total and partial prostheses)	7,049	0.8	NGB, NGC
Tonsillectomy (including adenotonsillectomy)	6,890	0.8	EMB10-EMB20
Laparoscopic cholecystectomy	6,512	0.7	JKA20-JKA21
Hysterectomy	5,673	0.6	LCD, LCE, LCC10-LCC20
Transurethral resection or coagulation of bladder tumour	5,517	0.6	KCD02, KCD32, KCD98
Discectomy (including decompression operations, excluding spondylodesis operations)	4,979	0.6	ABC
Appendectomy	4,833	0.5	JEA
Sterilisation of men	4,764	0.5	KFD46
Removal of a tumour in a breast and other resections	4,641	0.5	HAB
Knee arthroscopy	3,555	0.4	NGA11
Sterilisation of women	2,945	0.3	LGA
Reconstructions of the tendons of the knee, open and arthroscopic (including collateral ligaments)	2,679	0.3	NGE41-NGE56
Mastectomy	2,283	0.3	HAC10-HAC25, HAC99
Operations on the thyroid gland	1,757	0.2	BAA20-BAA60
Total and partial lung resection (including total removal of the lung)	1,013	0.1	GDB-GDD
Prostatectomy (excluding transurethral operations)	766	0.1	KEC, KED00, KED06
Total number of indicator operations	174,462	19.5	
Total number of operations	892,682	100.0	

Chapter 9. Health professions

In Denmark anyone can, in principle, offer treatment to people who are ill. However, there are a number of treatments and health services which are reserved for those who, via their training, have obtained the authorization to practice a particular profession.

For example, a person who is not an authorized doctor can be punished if he treats people who are ill and thereby exposes them to discernible danger. In particular, a person who is not an authorized doctor may not perform surgery, anaesthetize, and treat infectious diseases. Nor may he use pharmaceuticals which must be prescribed.

Furthermore, within the authorization system the titles of doctor, physiotherapist etc. are reserved for those who are authorized.

Education in health professions is regulated centrally by the Ministry of Education and the Ministry of Science, Technology and Innovation in cooperation with the Ministry of Health and Prevention, the National Board of Health and others, and is provided at universities, nursing colleges, specialised schools etc.

Further training in the health sector, e.g. for specialists and nurses, is the responsibility of the Ministry of Health and Prevention, and is adjusted continually to meet the needs of the health sector as regards subjects, contents, and capacity.

Table 9.1 below shows the composition of actively practising staff in the health sector in 2005. As indicated in the table, more than 70% of staff in the health sector is employed in the hospital sector. Approx. 17% are employed in the practice sector, which include both general practitioners and specialists.

There were approx. 3.3 practising physicians and 7.8 practising nurses per 1000 population in 2005. The ratio of practising nurses to practising physicians was 2.4.

Table 9.1. Staff in the health sector (2005)

Hospitals	TOTAL	PR 1000 POPULATION
Physicians	12,366	2,29
Nurses	35,201	6,69
Other trained nursing personnel	12,166	2,25
Other health personnel	14,792	2,73
Total	75,525	13,96
Private Practice⁷		
Physicians	5,421	1,0
Nurses	1,755	0,32
Other trained nursing personnel	498	0,09
Other health personnel	5,627	1,04
Total	13,301	2,45
Other Health Sector⁸		
Physicians	100	0,02
Nurses	4,529	0,84
Other trained nursing personnel	480	0,09
Other health personnel	5,850	1,08
Total	10,959	2,03
Total		
Physicians	17,887	3,31
Nurses	42,485	7,85
Other trained nursing personnel	13,144	2,43
Other health personnel	26,269	4,85
Total	99,785	18,44

Source: The National Board of Health; Labour Register for Health Personnel

⁷ Mainly private clinics (e.g. general practitioners, dentists etc.) reimbursed by the Health Care Reimbursement Scheme.

⁸ Mainly staff in municipalities (e.g. dentists and their assistants, health visitors, district nurses etc.).

Chapter 10. Patients' rights

In order to ensure patients' legal rights, a number of laws have been passed regulating patients' rights and the possibility of making complaints and receiving compensation for injuries caused by the health care system. The aim of these laws is to create a set of rules to ensure patients the best possible treatment and care in all situations. The main parts of patients' legal rights are gathered in the Health Care Act and in the Act on the Right to Complain and Receive Compensation within the Health Service.

Doctors are obliged to inform the patient about the illness, the possibility of treatment, the side effects etc. with a view to gaining the patient's consent to the treatment, the so-called "informed consent".

It is also possible to set up a "living will", informing doctors about one's wishes regarding pain, treatment and prolongation of life treatment if one is no longer able to communicate.

Patients have a right to see their own medical records free of charge, and doctors or other medically trained staff have the obligation to interpret case records if the patient so wishes.

Medical staff must not divulge any information regarding an individual patient. Such information can only be passed on to another authority/doctor according to the provisions in the Health Care Act.

A complaints system was established in 1988 regarding professional treatment in the health service. The Patients' Complaints Board is an impartial public authority, which may express criticism of health care professionals not acting in accordance with commonly agreed professional standards or submit particularly serious cases to the public prosecutor with a view to bringing the cases before a court.

Patients may seek compensation for injuries caused by examination or treatment in hospitals or by authorized health care professionals in private practice through the Patient Insurance Scheme, which was set up in 1992.

According to the Act on the Right to Complain and Receive Compensation within the Health Service compensation will be granted in the following situations: If it may be assumed that an experienced specialist would in the given circumstances have acted differently thereby avoiding the injury; if the injury is due to the malfunction or failure of technical instruments; if the injury might have been avoided using another available and just as effective treatment technique or method; or if the injury occurs as the result of examination or treatment in the form of infections or other complications that are more extensive than the patient should reasonably have to endure.

Patients may also receive compensation for injuries caused by medicinal products.

Subsequently it is possible, easier and faster to receive damages for loss of pay, loss of economic capacity as well as compensation for permanent disability and for pain and suffering. A special damages agreement has been established for HIV positive haemophiliacs and those infected through transfusions.

Chapter 11. Research and ethics

11.1. Health science research

Health science pursues three important epistemological questions:

1. What is the function of the human organism, and how is it affected?
2. What is illness, the cause of illness, and how should it be treated?
3. What are the environmental and social conditions needed to enable people to remain healthy and avoid illness?

These questions are closely connected and interdependent.

Health science has close affinities with natural science, technical sciences and the humanities. It continually receives inspiration and knowledge from these and other scientific areas.

The research is characterised by the fact that it is carried out under the auspices of many different bodies: in universities and establishments of higher education, in the hospital service, in the primary health sector, in ministerial research institutions and in private firms. This means that the responsibility for and financing of health science research is divided among a number of official authorities and private firms.

The overall responsibility for health science research and funding lies with the Ministry of Science, Technology and Innovation. However, being responsible for the health service as such, the Ministry of Health and Prevention plays an important role in Danish health research. In cooperation with other relevant authorities, universities and private organisations the Ministry participates actively in formulating strategic priorities for Danish health research. Furthermore, the Ministry has resources to give funding to minor research projects in priority areas.

Health research is also part of the ministerial organisation. The National Serum Institute which is a part of the ministerial organisation carries out research in infectious diseases, biological threats and congenital disorders. Furthermore, the National Serum Institute is responsible for monitoring, advising and teaching on incidence prevention and treatment of infectious diseases and congenital disorders.

11.2. The research ethics committees

At the end of the 1970s, a research ethics committee system was set up. In 1992 a legally binding framework for the work of the committee system was established.

According to Danish law, all research projects in Denmark involving human beings or any kind of human tissue, cells etc. need permission from an ethics committee. In case of trial projects involving medicinal and medical devices, the Danish Medicines Agency must give its approval before the project can be initiated.

In March 2006, the Parliament adopted an act amending the act on a biomedical research ethics committee system in order to give further access to making clinical trials involving medicinal products on incapacitated trial subjects etc.

The committee system is made up of eight regional committees and the Danish National Committee on Biomedical Research Ethics.

The regional committees usually have seven members, i.e. four laypersons and three specialists. The committees' term of office follows the regional council elections. The regional council appoints the members. The lay members are generally regional politicians, whose appointment is based on political considerations. The region also appoints the specialists subject to prior approval by the three research fora at the universities in Copenhagen, Aarhus and Odense. This procedure ensures that specialists have insight into research, e.g. by being active researchers. The committee elects its own officers.

Under Danish law, it is the task of the regional committee to approve trials, monitor approved trials and contribute to the ethical debate in the region. The bulk of the committee's efforts consists of approving trials.

The regions administer the committee system. According to the law, the regions have considerable freedom regarding the number of committees, their position and the organisation of the work in the individual committees.

The Danish National Committee on Biomedical Research Ethics consists for the time being of 22 members. The Minister for Health and Prevention appoints two members, including the chairperson, and the Minister for Science, Technology and Innovation appoints two members. Furthermore, the committee consists of 18 members appointed by the Minister for Health and Prevention on the recommendation of the eight regional committees - two from each regional committee.

The special tasks of the Danish National Committee on Biomedical Research Ethics include:

- coordination of the work in the regional committees,
- laying down guidelines
- giving opinions on issues of a fundamental nature, if this is not related to the approval of a concrete research project,
- acting as an appeals committee in connection with findings in the regional committees and deciding on matters where members of the regional committees disagree,
- monitoring the development of research within the health sector and furthering the understanding of the ethical problems resulting from the development in relation to the health services and the biomedical research environments;

11.3. The Council of Ethics

The Council of Ethics was established in 1988 to provide the Parliament, official authorities and the public with ongoing advice and information about ethical problems raised by developments within the national health service and the field of biomedicine.

The purpose is to ensure that advice and information concerning ethical problems arising from developments in the health service and the biomedical field are continuously submitted to the Parliament, the public authorities and the public at large.

A parliamentary committee on The Council of Ethics was set up to safeguard the close relations between the Parliament and The Council of Ethics. The parliamentary committee influences the composition of The Council of Ethics by appointing a certain number of its members. Furthermore, the parliamentary committee follows the work of the Council and can call on it to take up certain topics within its terms of reference.

The Minister for Health and Prevention has no instructional powers over The Council of Ethics and likewise the Minister has no obligation to follow the recommendations of The Council.

According to law, the Council must give recommendations to the Ministry of the Health and Prevention on the establishment of rules and provisions in statutes on fertilized eggs, genetic experiments on reproductive cells, new techniques for prediagnosis and other issues.

From January 2005, the Council also gives advice and information on the ethical issues related to biotechnologies pertaining to human beings, nature, the environment and foodstuffs to the Parliament, the public authorities and the public.

The Council consists of 17 members; a mixture of experts and laypeople with publicly substantiated knowledge of the ethical, cultural and social questions of importance to the work of the Council.

The Minister for Health and Prevention appoints the members according to the following rules:

- The Parliamentary Committee on the Council of Ethics appoints nine members,
- The Minister for Health and Prevention appoints four members,
- The Minister for the Environment, the Minister for Food, Agriculture and Fisheries, the Minister for Science, Technology and Innovation and the Minister for Economic and Business Affairs appoint one member each.

Furthermore, the appointments shall ensure equal representation of men and women.

Addresses and links

Ministry of Health and Prevention

Slotsholmsgade 10-12
1216 Copenhagen K
Tel: +45 72 26 90 00
Fax: +45 72 26 90 01
Web site: www.sum.dk

The National Board of Health

Islands Brygge 67
P.O. Box 1881
2300 Copenhagen S
Tel: +45 72 22 74 00
Fax: +45 72 22 74 11
Web site: www.sst.dk

The National Board of Health assists the Ministry of Health and Prevention and other authorities with professional consultancy on health issues. In addition, the National Board of Health performs a number of administrative tasks, including supervision and inspection.

The Danish Medicines Agency

Axel Heides Gade 1
2300 Copenhagen S
Tel: +45 44 88 95 95
Fax: +45 44 88 95 99
Web site: www.dkma.dk

The Danish Medicines Agency administers legislation relating to medicines, pharmacists, and medical devices.

State Serum Institute

Artillerivej 5
2300 Copenhagen S
Tel: +45 32 68 32 68
Fax: +45 32 68 38 68
Web site: www.ssi.dk

The State Serum Institute is a public enterprise, which prevents and controls infectious diseases, biological threats and congenital disorders. The institute produces vaccines and blood products.

The Patients' Complaints Board

Frederiksborggade 15
1360 Copenhagen K
Tel: +45 33 38 95 00
Fax: +45 33 38 95 99
Web site: www.pkn.dk

The Patients' Complaints Board deals with complaints against health care professionals.

The Patient Insurance Association

Nytorv 5
1450 Copenhagen K
Tel.: +45 33 12 43 43
Fax: +45 33 12 43 41
Web site: www.patientforsikringen.dk

The Patient Insurance Association makes decisions regarding compensation claims from patients injured in connection with treatment etc. in the health service or injured by a drug.

The Patients' Injury Appeals Board

Vimmelskiftet 43
1161 Copenhagen K
Tel.: +45 33 69 00 44
Fax: +45 33 69 27 09
Web site: www.patientskadeankenaevnet.dk

The Patients' Injury Appeals Board functions as a board of appeal for decisions made by The Patient Insurance Association.

Knowledge and Research Center for Alternative Medicine

Jens Baggesens Vej 90 K, 2. sal

8200 Aarhus N

Tel.: +45 87 39 15 30

Fax: +45 87 39 03 50

Web site: www.vifab.dk

The centre is an independent institution under the Ministry of Health and Prevention. Its purpose is to increase knowledge of alternative treatment and its effect, to promote research and dialogue between authorized health personnel and alternative therapists and users.

The National Committee on Biomedical Research Ethics

Slotsholmsgade 12

1216 Copenhagen K

Tel.: +45 72 26 93 70

Fax: +45 72 26 93 80

Web site: www.cvk.im.dk

The committee acts as an appeals committee in connection with findings in the regional committees, issues guidelines, considers submission of recommendations to the Minister for Health and Prevention regarding specific new fields of research etc.

The Council of Ethics

Ravnsborggade 2-4

2200 Copenhagen N

Tel.: 35 37 58 33

Fax: 35 37 57 55

Web site: www.etiskraad.dk

The Council gives advice to the Parliament and public authorities on the ethical issues related to genetic engineering and biotechnology and it also initiates debates in the public.

Institute for Quality and Accreditation in Health Care

Olof Palmes Allé 13, 1. th.
8200 Aarhus N
Tel.: +45 87 45 00 50
Web site: www.kvalitetsinstitut.dk

The Institute is an independent institution which administers and develops the Danish health care quality assessment model.

The National Institute of Public Health

University of Southern Denmark
Øster Farimagsgade 5 A
1399 Copenhagen K
Tel: +45 39 20 77 77
Fax: +45 39 20 80 10
Web site: www.si-folkesundhed.dk

The primary purpose of NIPH is research into the health and morbidity of the Danish population and the functioning of the health care system. NIPH also carries out reviews and consultancy for public authorities and participates in postgraduate education.

The Danish Medical Research Council

c/o Danish Agency for Science Technology and Innovation
Bredgade 40
1260 Copenhagen K
Tel.: +45 35 44 62 00
Web site: www.fist.dk

DMRC provides research-based advice within the council's scientific area of expertise and it funds specific research activities based on researchers' own initiatives.

Danish Regions

Dampfærgevej 22
2100 Copenhagen Ø
Tel.: +45 35 29 81 00
Fax: +45 35 29 83 00
Web site: www.regioner.dk

Danish Regions is the national association of the five regions in Denmark.

Local Government Denmark

Weidekampsgade 10

P.O. Box 3370

2300 Copenhagen S

Tel.: +45 33 70 33 70

Web site: www.kl.dk

LGDK is the national association of municipalities in Denmark.

Statistics Denmark

Sejrøgade 11

2100 Copenhagen Ø

Tel: + 45 39 17 39 17

Web site: www.dst.dk

Statistics Denmark publishes statistical information on the Danish society.

