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An Introduction to the Financing and Organisation of the Danish Health Care Sector

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1 Introduction

During the last twenty years health care policy has received increasing focus on the political agenda of many western countries. Up to the beginning of the seventies, most health care systems in western countries were characterised by political decisions being formulated and perceived as technical questions merely to be answered by health care professionals working in the field – first and foremost by doctors. The participation of politicians and the community in the political debate on health care services was therefore fairly limited.

However, today on the edge of the new century, the political scene of health care has completely changed. A large part of the debate on health care services is now characterised by contributions from a variety of different contributors. Politicians, patients, citizens, and different groups with professional backgrounds – both medical and administrative, as well as professionals within alternative health care - now set the agenda. Still medical opinion plays a large part in the allocation of health care resources and policy, however they are now a part of a broader dialogue.

Throughout developmental countries, public health care services have gone through major changes within the established decentralised structure. Firstly services have been expanded considerably as health care services treat more and more patients every year. Furthermore technological development continuously improves ways of providing treatment, as well as the implementation of completely new treatments, including to new patient groups. Secondly, allocation of responsibilities between different sectors within the health care system are constantly being changed as of interaction between political priorities and the development of both old and new technologies. Thirdly, the attitude of the individual has changed considerably, from focus on the patient role, to seeing the individual as a user and a next-of-kin as well.

Regardless whether a health care system is based on public or private funding or combination of these two, the overall objectives are: good health, equity and satisfaction. However these goals can be achieved in different ways. Both the Danish and the Australian health care sectors are regarded among the best working health care systems in the world even though they are very different regarding structure, funding and administration.

The aim of this working paper is to give the Australian reader a brief introduction to the general structure and management of the Danish health care sector. Hereby presenting the structure based on a model that can be applied to other countries' health care systems in order to explain the overall effectiveness or the lack of it. Secondly, to present expenditure within the Danish health care sector alongside the Australian health care sector, hereby providing a description of ways of financing the two countries' health care systems. Thirdly, to give some indications of how the future of the Danish health care system may look.

This working paper is written for Australian readers, which is the reason why references from the Australian health care system are found at times. This solely occurs in order that the reader may have something to compare with. This is in no way a comparative analysis of the health care systems of the two countries.

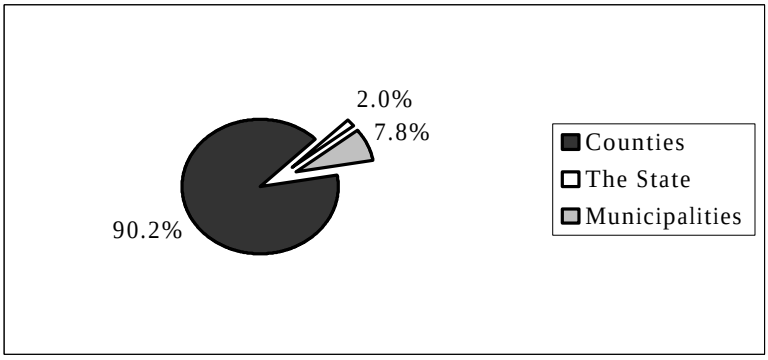
2 Health Care Sector Resources

The objective of this chapter is to provide an overview of economy and activity in the Danish health care sector and an insight into the general health status of the Danish population. The focus is on funding, the development in expenditure and international comparison in the health care sector during the period from 1988 to 1998 [DMH, 1999B]. The reason for choosing this period is a new calculation method, which was introduced as of 1988. The description of the development in health care services expenditure is, however, based on the period from 1992. The figures before and after 1992 are not immediately comparable due to a change in collective agreements in 1991.

2.1 Funding of health care expenditure

The public sector in Denmark finances 81.0 per cent of the Danish health care sector. In 1998, total public health care expenditure amounted to AUS$ 12.7 billion[1], of which central government (the state) accounted for 2.0 per cent, the regional government (counties) 90.2 per cent and the local authorities (municipalities) 7.8 per cent. The distribution is seen in figure 2.1.

Figure 2.1 Funding of health care in Denmark, 1998 (%).



Source: DMH (1999B).

2.2 Total health care expenditure

In 1998, total health care expenditure amounted to AUS$ 15.7 billion, of which the public sector's health care expenditure amounted to AUS$ 12.7 billion and the private health care expenditure amounted to AUS$ 3.0 billion, corresponding to 81 and 19 per cent respectively. From 1997 to 1998 total health care expenditure increased by 4.2 per cent. The largest contributions to growth are hospital expenditure, which contributed 2.1 per cent (per annum) to the growth in total health care expenditure. From 1988 to 1998 total health care expenditure grew on average 2.2 per cent per year, hereby increasing expenditure by around AUS$ 3.0 billion - an increase that primarily occurred after 1992.

Hospital expenditure fell slightly from 1988 to 1991. Hereafter hospital expenditure increased rapidly with yearly growth rates above 2 per cent, except in 1995. In 1998 hospital expenditure increased 3.5 per cent compared to the previous year. A similar development is observed for the individual health care services, which primarily consist of public health insurance and local authority health care services. The decrease from 1988 to 1990 is caused by a decline in public

[1] An Australian Dollar (AUS$) equals 5,0 Danish Kroner (DDK).

pharmaceutical expenditure as a result of the so-called *DKK 800 schemes*.[2] From 1991, pharmaceutical expenditure increased dramatically resulting in a heavy increase in public health insurance expenditure.

Expenditure on individual health care services was adversely affected by the integration of local authority services in 1993. It meant that there was no longer a clear distinction between staff working in elderly care institutions and staff working as visiting nurses. These arrangements meant that a number of tasks, which were previously placed under visiting nursing, were now being coordinated with other elderly care services and therefore stated in the social sector budget.

Private health care expenditure increased by an average of 3.6 per cent per annum from 1988 to 1998. In 1998, private health care expenditure increased by as much as 6.4 per cent and thereby contributed 1.2 per cent to the increase in total health care expenditure. Since the annual increase in private health care expenditure exceeded the annual increase in public health care expenditure, the share of contributory payment within the health care sector increased. Private health care expenditure include, among others, expenditure on pharmaceutical, doctors, and dentists.

Table 2.1 Total health care expenditure 1988-1998, 1998-prices in AUS$ millions.

	1988	1990	1995	1997[3)]	1998[3)]	Average change per year (%)
Public health care expenditure[1)]	10,566	10,445	11,671	12,253	12,708	1.9
Hospitals, etc	8,000	7,921	8,629	9,052	9,371	1.6
Individual health care services	2,401	2,340	2,810	3,026	3,075	2.6
Administration	113	143	173	169	181	4.8
Miscellaneous[2)]	60	43	60	6	39	-4.2
Private health care expenditure	2,092	2,341	2,570	2,805	2,986	3.6
Total health care expenditure	**12,658**	**12,786**	**14,241**	**15,058**	**15,694**	**2.2**

Source: Adopted from DMH (1999B).

Note: Total health care expenditure is based on Statistics Denmark's national accounts, including depreciation and calculated civil servant pensions.

1) The development in public health care expenditure is influenced downwards by the introduction of integrated schemes in visiting nursing in 1993.

2) The steep drop from 1995 to 1997 is caused by reduction of stock at the National Serum Institute.

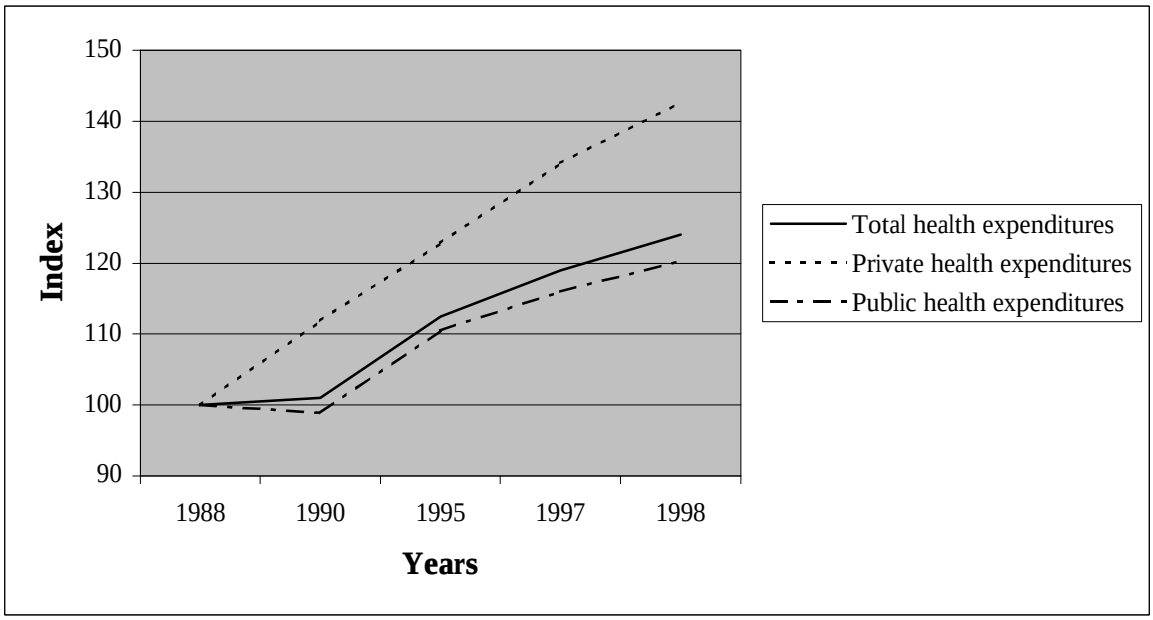
3) Preliminary figures.

2.3 Development in health care expenditure

The Danish health care sector budget consists of three major items; hospitals, public health insurance and private health care services. As seen in figure 2.2, growth of private health expenditure since 1988 has exceeded both hospital and public health expenditure growth. From 1988 to 1998 private health insurance expenditure increased 42.7 per cent, whereas public health expenditure increased 20.3 per cent. Still, in 1998 public health expenditure was 81.0 per cent of the total public health care expenditure.

2 The *DDK 800 Scheme* meant that below and up to DDK 800 (AUS$ 167), everybody had to pay for their medicine themselves, without any means of subsidies. The 1st of March 2000 a new Scheme was put into force.

Figure 2.2 Development in health care expenditure from 1988-98, 1998 prices (1988=100).



Source: Statistics Denmark

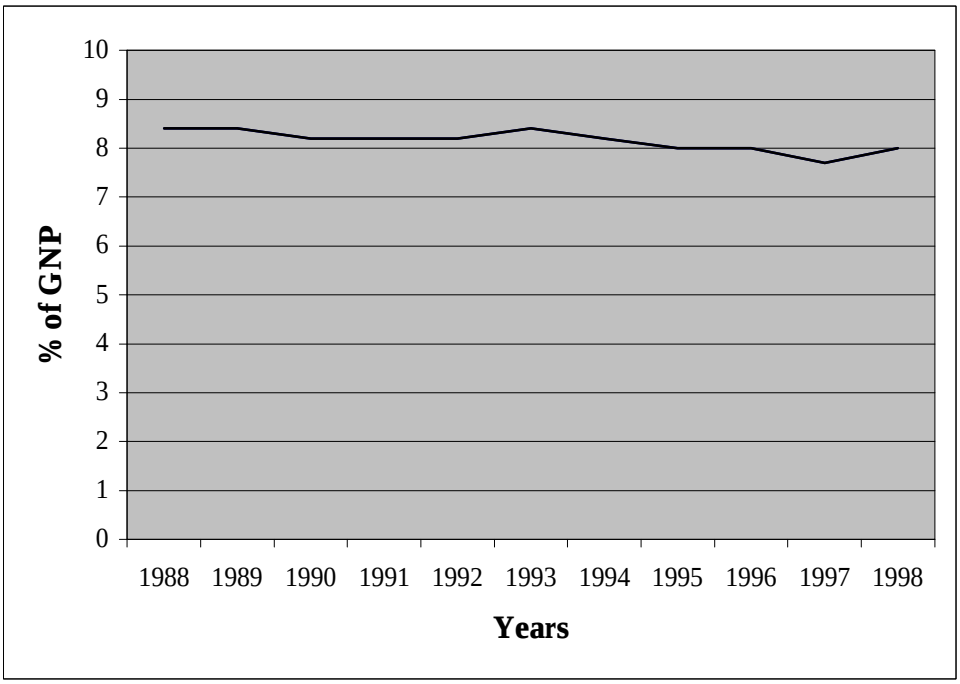
From 1992 onwards, private health care expenditure and public health insurance expenditure increased at the same rate. Public health insurance services are financed partially by public grants and partially by contributory payments made by private individuals. A considerable share of private health expenditure thus consists of contributory payment to public health insurance services. As a result, the development in private health expenditure very much equals that of public health insurance expenditure.[3]

2.4 Per cent of GNP

The share of health size expenditure on the gross national product (GNP) reflects the development in the sector's relative size. In 1988 the Danish health care expenditure accounted for 8.4 per cent of GNP and in 1998 this share had dropped to 8.0 per cent. The decreasing share of health expenditure is caused by a (relative) strong economic growth from 1994 and onwards.

[3] This does not apply when regulations on subsidised pharmaceutical changed in 1989/90.

Figure 2.3 Total health care expenditure as percentage of GNP, 1988-1998

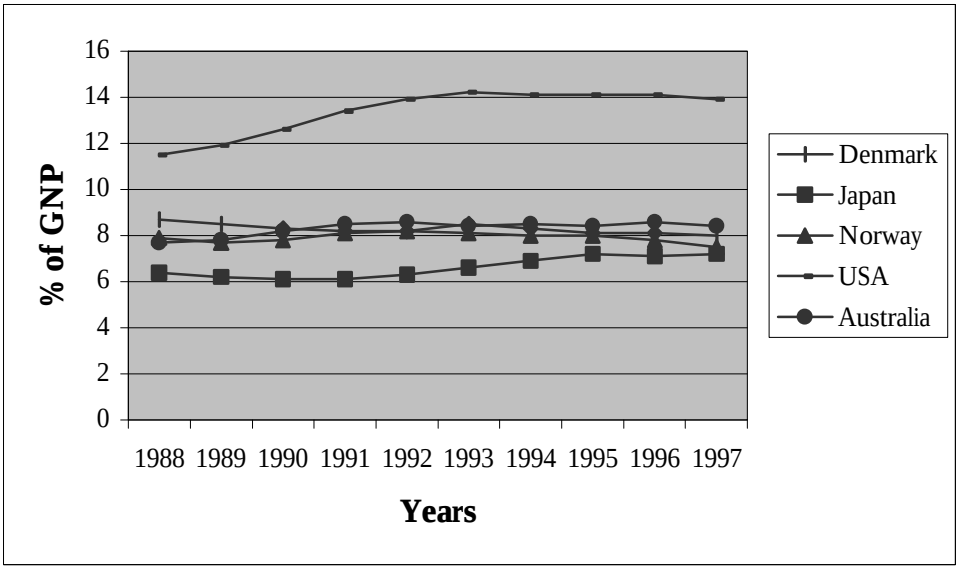


Source: OECD Health Data.

2.5 An international perspective

Each year, the OECD calculates the share of the gross national product (GNP) spent by its member countries on their health care sector. According to the last figures, Denmark spent 8.0 per cent on its health care sector in 1998. In comparison Australia spent 8.4 per cent.
The OECD attempts to render the figures internationally comparable, given that each country defines its health care sector differently. Comparison between countries is subject to uncertainty because of differences in health care sector definitions. This is mainly due to different organisational structures. An example could be visiting nursing. Where most countries, besides Denmark, include visiting nursing in the health care sector, visiting nursing in Denmark is regarded as public social sector expenditure. A share of the visiting nursing expenditure has therefore been added to Denmark's public health expenditure in order to match this item with numbers obtained in other OECD countries.

Figure 2.4 Development in health care expenditure 1988-97, percentage of GNP, selected OECD countries.



Source: OECD Health Data 1999.

2.6 Health care service expenditure by item

County health insurance expenditure increased from DKK 9 billion (1998 prices) in 1992 to DKK 12.1 billion in 1998, corresponding to an annual increase of 5.1 per cent. The highest annual increase was seen within pharmaceutical (10.3 per cent) and other public health insurance services (10.5 per cent), which covers, among others, expenditure on psychologists and physiotherapy. Expenditure on general practitioners, specialists, and dentists also went up, albeit not nearly as much. The reason for dentist costs only to increase a little was that the share of contributory payment increased for a number of services during the period. The distribution of expenditure in the individual items changed from 1992 to 1998. The share of expenditure on general practitioners thus dropped from 44.3 per cent in 1992 to 37.3 per cent in 1998. The share of expenditure relating to subsidise pharmaceutical, on the other hand, raised from 26.1 per cent in 1992 to 35.0 per cent in 1998.

Table 2.2 County health care service expenditure, 1992-98, 1998 prices AUS$ millions.

	1992	1997	1998	Distribution 1992 (%)	Distribution 1998 (%)	Average change per year (%)
General practitioners	833	937	942	44.3	37.3	2.1
Specialists	267	311	315	14.2	12.4	2.8
Pharmaceuticals	492	821	886	26.1	35.0	10.3
Dentists	198	219	220	10.5	8.7	1.8
Other health care services	91	149	165	4.8	6.5	10.5
Total expenditure	**1,881**	**2,437**	**2,528**	**100.0**	**100.0**	**5.1**

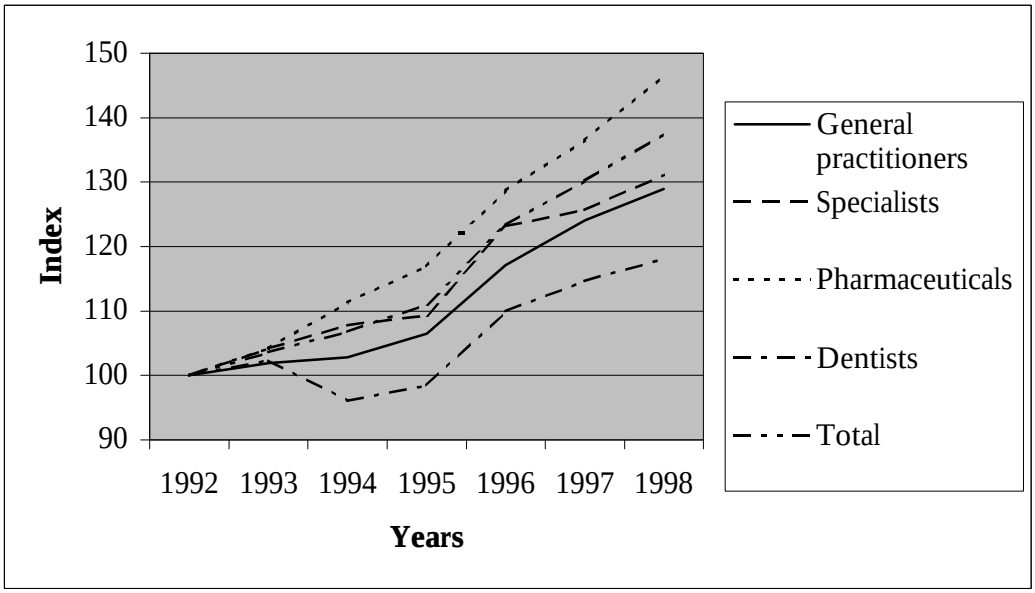
Source: Local government accounts.

2.7 Public insurance expenditure

Public health insurance expenditure on general practitioners rose on average by 0.9 per cent on an annual basis from 1988 to 1998. Costs incurred for specialists measured in 1998 prices rose even more than costs for general practitioners, i.e. by an average annual growth of 1.5 per cent. Public health insurance expenditure on dentists rose on average by 0.6 per cent on an annual basis from 1988 to 1998, albeit with yearly fluctuations. Costs incurred for subsidised pharmaceutical rose by an average annual growth of 10.3 per cent measured in 1998 prices. The share of total health insurance expenditure relating to subsidised pharmaceutical rose from 26 per cent in 1992 to 35 per cent in 1998.

In 1992, a new collective agreement for general practitioners, specialists, and dentists came into force, which meant that payment for some services was changed, and in some cases the structure of payment changed as well. It is therefore impossible to compare public health insurance expenditure before and after 1992. As a result, the development in public health insurance expenditure is shown from 1992 onwards.

Figure 2.5 Development in public health insurance expenditure on various services, 1992–1998, 1998 prices (1992=100).



Source: Local government accounts.

3 Organisation of the Danish Health Care Sector

The Danish health care sector is distinguished from other health care sectors in the following areas [Pedersen, 1999]:

- the total expenditure is low when measured as a percent of the GNP
- the ordinary Dane has an overall satisfaction with the health care sector, which is close to, being the highest in the world
- the health care sector, has not been subject to the eagerness for implementing reforms that have characterised other health sectors, for example Great Britain, Sweden, Holland, USA and Australia.

However, these observations seem anomalous, considering the bad reputation the health care sector has in Denmark as well as it is often portrayed in the press and in light of the conclusions reached in a SWOT (Strength-Weakness-Opportunity-Threat) evaluation of the Danish health care sector undertaken by a group of foreign experts [Christiansen, 1999].[4]

The location of the Danish health care sector on the satisfaction scale seems paradoxical in view of the adverse media attention that surrounds waiting lists, patient matters, lack or absence of quality in health care etc. During the last years there have continuously been demands for more money for the health care sector. Lately a controversial book was published, demanding that Danish hospitals, in order to live up to people's demands, would need an 'injection' of at least AUS$ 2 billion [Høiby, 1999]. In order to place this demand in perspective, the yearly costs for Danish hospitals are around AUS$ 40 billion.[5] The demand in itself and its proportions were, as all too often, made without any means of documentation. Since a comprehensive reform during the seventies, the overall structure of Danish health care sector has remained almost the same.

3.1 The chief players

In Denmark the public health care sector is divided into three main sectors: hospitals, public health (general practitioners, specialists, pharmaceutical, dentists etc.), and health care services provided by local authorities. The counties and the Copenhagen Hospital Cooperation (also called H:S) are all together responsible for running hospitals in the regional areas and the Copenhagen area, respectively. The local authorities are responsible for visiting nurses, child dentistry etc. As mentioned in the beginning of chapter two, in 1998 the total public health care expenditure in Denmark amounted to DKK 12.7 billion. Figure 3.1 shows an overview of the chief players of the Danish health care sector divided into political and administrative levels.

Figure 3.1 Political and administrative levels. Expenditure 1998 ($AUS).

National			0.3 billion
The Folketing (Parliament)	→	Legislation	
The Danish Ministry of Health	→	Guidelines	
	→	Monitoring	
Counties			11.5 billion
14 county councils	→	Public health security service	
H:S	→	Hospital sector	
Copenhagen and Frederiks-Berg Municipalities	→	Preventive health care	
Local			1.0 billion
275 Municipalities	→	Visiting nurses	
	→	Preventive health care	
Expenditure, total			12.7 billion

Source: Adapted from DMH (1999B).

[4] The Danish health care sector is often regarded by outsiders as one of the best health care systems in the world. On the contrary, within Denmark the health care sector is often portrayed as unorganised and inefficient. At the same time Danes are among the people who value the health care system as one of the highest in the world!

[5] To some people 2 billions $AUS more out of a budget of 40 billion $AUS may not appear a very large figure. However, just giving more money may not always (or ever!) do the trick. It has been pointed out that the problems within the Danish health care sector merely are caused by an inappropriate structure.

3.2 The structure of the Danish health care sector

In order to understand why the Danish health care sector differs with regard to level of expenditure, satisfaction and implementation of reforms, we have to look at the basic strengths in the Danish health care sector. To do this, let us look at the large-scale reforms that took place during the 1970's.

In 1970 the government carried out the Reform of Local Government (kommunalreformen) that also included the health care sector. The responsibility for the primary and hospital sectors was given to the counties, which became responsible for both the operation, economy and planning of health care. In 1973 the Sick Funds lost their importance as the government introduced a system that was based on tax funding. The system was called 'the Public Health Security Service' (PHSS) and was meant to cover the whole population. This new system is administrated by the counties and the Association of County Counties, the latter being responsible for negotiations with GPs and practising specialists in setting regulation and charges. In year 2000 it is estimated that the overall expenditure within the PHSS will be around 2.5 billion $AUS. The system implies that all citizens in Denmark are entitled to receive health care services. PHSS insures that citizens have free access to GP and specialists. Furthermore it is possible to provide reimbursement concerning pharmaceutical, dentist care, physiotherapy, help for chiropractor services and help for psychologist services. In addition all Danes are covered by the PHSS when travelling inside the European Union.

After 1973 the PHSS was split into two groups (group I and II). Individuals in the Danish population can choose between memberships of these groups. In 1990, around 97 percent of the population had chosen membership in group I (no fees for attending the family GP or practising specialists if referred by the GP, with financial support for pharmaceutical, dental treatment, physiotherapy, etc.). Group II members are free to choose their own GP or practising specialist without prior referral but have to pay a user charge. For members of group I the GP receives the capitation fee only. However, group I members are not allowed to change GP within the first year.

3.2.1 Responsibilities and organisation

In principle the present political and administrative organisation of the Danish health care system, dates back to the reform adopted in 1970. Responsibility for the Danish health care services can be divided into the following main areas:

1) Prevention of disease,
2) Examination and diagnosis,
3) Treatment and care, and
4) Education and research.

In addition a useful distinction is made between:

- Executive tasks, consisting of concrete health care services for individual patient and citizens.
- The overall management and planning tasks, which comprise establishment of political goals for the activities of the health care system, legislation, budgeting, planning etc.
- Politically and organisationally the responsibilities of health care services can, in general, be described as follows.

The state is responsible for establishment of the overall political values and goals for the public health care services nation-wide. Based on this, the Danish Parliament performs the legal regulation of health care services in terms of legislation, and the finances of the sector are likewise subject to an overall social management.[6] Furthermore, the government authorities – in collaboration with countries, municipalities, and other parties within this field – exert influence on the development of the Danish health care system through agreements, advice, information etc.

Counties are responsible for running hospital services, and also for the administration of the Health Care Reimbursement Scheme. Thus counties are responsible for a major part of the activity in the public health care services. Each county council (16 in all) prioritises activities and determines the local service level within the framework put down in the legislation.[7] Figure 3.2 shows an overview of services that are under the counties' control.

Figure 3.2 Services under the counties' control.

Hospitals:	**Health Care Reimbursement Scheme:**
• Secure free access and free choice of hospitals placed within the given county • Secure free ambulance service • Secure co-operation between hospitals, GP's and specialists • Secure district psychiatry	• Administer reimbursement concerning: - General practitioners - Specialists - Dentists - Physiotherapists, chiropractors - Psychologists - Optometry - Contribution toward funeral expenses • Administrate reimbursement for people who needs health care when travelling within the EU

The Copenhagen Hospital Co-operation (H:S) is responsible for hospitals in the City of Copenhagen and the City of Frederiksberg, whereas the two cities are responsible for activities under the Health Care Reimbursement Scheme. The Board of the Copenhagen Co-operation determines the service level in The Copenhagen Hospital Co-operation together with the two cities and the Danish State.

The local authorities are mainly responsible for home nursing, dental care and a number of preventive health schemes for children and young people. In addition, the local authorities handle administrative tasks for the Health Care Reimbursement Scheme such as issue of health care reimbursement cards. The local authorities also prioritise the activities and determine the local service within the framework laid down in the legislation.

Operationally, health care services are organised either as public institutions and clinics or as liberal professions with public subsidy as per agreement with the authorities. The public hos-pital services mainly consist of hospitals owned by the county. However, the suppliers in the primary sector – general practitioners, dentists, physiotherapists etc. own and run their own clinics, but they are, to a varying degree, financed by the counties according to agreements made between the Health Care Reimbursement Scheme and the unions of various professionals groups.

6 The State decides the budget to be spend within the health care sector for the next year. This implies that the state also decides how much money the countries can spend during the next year.

7 All these activities, however, must be carried out within the given budget.

Seen as a whole the Danish health care services are characterised by a relatively clear distribution of labour between the Danish State, the counties, the Copenhagen Hospital Co-operation, and the municipalities. However, it is a prerequisite for the co-ordination of such a large number of services that there is close co-operation between the sectors, authorities and institutions.

3.2.2 Public and decentralised

Danish health care services are, as mentioned, publicly managed, and the public expenditure for health care is financed through taxes.

The individual's financial status, attachment to the labour market, or personal insurance does not affect access to health care services in Denmark as opposed to conditions in many other countries.[8] In an international perspective, Danish health care services are characterised by a very decentralised structure. The responsibility for funding, planning, managing, and operating the public health care services (the part, which the citizens are in direct contact with) is, as described, in general, allocated to counties and municipalities. This entails that the individual county and municipality council have a dual political responsibility, as they have to balance and decide on both service and tax levels. Decentralisation aims at giving local needs, wishes, and priorities a decisive influence on solution of the tasks of the Danish health care services.

Management of the national economy, however, requires overall management and prioritisation of resources in the public sector as a whole. Every year during the months May to June the state, the counties, and the local authorities therefore negotiate the financial framework for the activities of the counties and local authorities for the coming year. The agreements on the county economy have in later years included decisions made by the centralised and decentralised authorities on implementation of various political goals in the health care sector.

The Danish health care sector has always been based on GPs. In Denmark the GP has the role as a 'gate keeper' to the public health care sector, by deciding whether the patient should be treated in his own practice or if the patient needs to be transferred to either, a practising consultant (specialist), or to hospital. In addition the GP's role is to act as a 'family' doctor. That is, a family (living in the same household) can choose the same doctor and furthermore the population has the possibility to keep the same doctor over a longer period of time.[9] The main objective is to encourage continuity in the Danish population's overall health care and thereby to increase the likelihood of good quality health care.

3.2.3 Basic values and stated goals

Often the political debate within the Danish health care sector is based on subjects and questions that give rise to different opinions and attitudes. However, behind all these disagreements there is an understanding and agreement of basic values, which are helping to shape the structure and adjustment of Danish health care services.

First of all, there is a consensus that it is the Danish society's responsibility to help citizens with their health problems. This is a fundamental principle underpinning the Danish health care

8 In other words "free access" to health care.

9 This is also the case for countries such as Australia, Canada and USA.

system, that all citizens should have **free** and **equal** access to health care services. Furthermore there is a consensus that this task should be solved within **the public health care system** jointly financed by taxes. Although there are different opinions concerning the extent to which the private sector can and should supplement public health care services.[10] The third basic value behind the majority of activities in the Danish health care services, is **self-determination**, which both applies to prevention and to treatment. In recent years there has been increased emphasis on ensuring the legal status of patients in relation to the health care services.[11] Only in special cases concerning serious diseases and certain infectious diseases has it been agreed that society can use coercive measures both in order to protect the individual, and/or protect society. **Freedom of choice** is the fourth basic value and has become increasingly important regarding the structure of the Danish health care system throughout the 1990's. There is wide support in society for the implementation of free choice of hospitals and improved options to change general practitioner reflect this development.[12]

In addition the Health Committee of Parliament in 1992 stated that the official goals for the public health care sector should be:

- high quality services
- efficient use of resources
- geographical equality of access.

High quality service means a high level of professional standards, high level of quality in all services, patient satisfaction etc. and does not need any further explanation. However, the efficiency concept is not quite so clear. Efficiency can be viewed in two ways. First it can be influenced through the way the health care sector is remunerated. In this sense we are talking about productive efficiency in the sense of trying to remunerate in a way that is conducive to least cost production. If we instead adopt the views of the patients, efficiency is about consumption which means choices made in view of the economic costs to the individual, hence trying to come closer to a demand situation as witnessed in ordinary market transactions. However, within the health care sector these choices will rarely, if ever, be made as in a free market scenario. Because of this the effects cannot be expected to be the same

The objective of geographical equality means that in some cases hospitals, pharmacies and GPs provide their services in a geographical locality where there may be no economies of scale. In a way these services are provided in an 'inefficient' way as to make sure that the local population has access to some elementary health care services. This form of equity-efficiency trade-off is inevitable in all health services.

In addition another objective is often being pursued. Cost containment is pursued in a variety of ways. In reality the objective is about containing the growth in health care expenditure. When operating with all these objectives, a trade-off often has to be made. In recent years the cost

[10] Whether the private sector should in part be responsible for providing health care in Denmark is discussed lively. So far the only private aspect within the Danish health care sector are private hospitals where people have to pay themselves. It is possible to insure oneself to get treatment in private hospitals in a private health care insurance company called 'Danmark'. The main reason for people to pay for this insurance is the long waiting lists within the public hospitals. So far not many people have taken advantage of this form of private insurance.

[11] In 1998 the Act on patients' legal status, an overall legal legislation in the area, was established.

[12] As mentioned earlier in this paper people in the health care reimbursement scheme group I are not allowed to change GP within the first six months. People in-group II are free to change all the time, however this is not free of charge.

containment strategy has won over the geographical equality objective strategy in Denmark as several small hospitals in rural districts have been closed. In other countries the concept of equity has similarly been under attack reflecting an increasing interest in efficiency, low expenditure and taxation.

Similar and more detailed statement of goals and values are to be found in the planning programs of each individual county. However, each county is free to formulate it's own health policy covering local hospitals and public health security services. In addition, it is the responsibility of every single municipality (275 in all) to formulate its own policy concerning care of the elderly, dental care for children and visiting nurses.

3.3 A simple model

During the past two decades it has become increasingly common for countries to undertake reforms. Where Danes almost have to apologise for their lack of reforms, Australia has undertaken several reforms during the 1990's [DHAC, 1999].

Objectively reforms in health care sectors around the world aim at increasing efficiency. What characterises most reforms is that they all, to a certain degree, are based on, the concept of the market. Concepts like 'internal markets', 'buyer versus seller', 'competition', 'quality' and 'cost-effectiveness are just some of the terms being used freely.

Every health care system can be described by a triangle of three actors and the relationship between them, figure 3.3 [Reinhardt, 1989]. There are differences from country to country, but the underlying logic is the same: which are three parties, three economic mechanisms, and three main objectives.

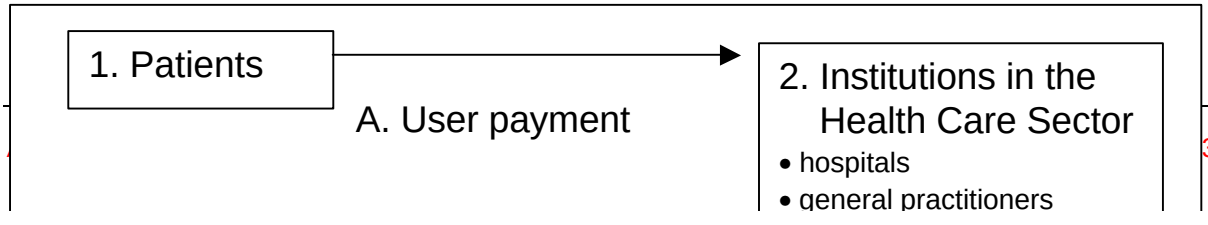
The three main parties are:

1) **Patients, who** seldom have to pay very much for the treatment they receive. Furthermore their contribution to the financing of the health care sector is largely independent of their utilisation, that is tax and insurance-based contributions are independent of health status and utilisation.

2) **Institutions within the health care sector** receive the greatest part of operating and investment funds from one or more third parties. The majority of hospitals are public (i.e. non-private) owned and administrated. Usually they are non-profit institutions. In many countries the primary sector, e.g. general practice (GP), is privately owned and administered, but financed by a third party.

3) The **third party** or **the financing system** covers the organisational set-up of the system for more or less collective financing of the health care sector. The term 'collective' indicates that the funds for the health care sector are collected on a more or less compulsory basis independent of utilisation (actual or expected) and health status, but usually based on the ability to pay, e.g. taxable income. In Denmark the finance of the health care sector relies on taxes whereas in Australia the funding is based on a combination of taxes, non-governmental funding and health insurance.

Figure 3.3 Basic structure of every health care sector.



Source: Adapted from Pedersen (1999).

The most important aspect in figure 3.3 is the third party and the attached economic mechanisms (*A* and *B)*. The structure of the form of settling between the financial third party and the institutions within the health care sector has a substantial effect on both the economic efficiency within institutions in the health care sector and on the general control of costs. In Denmark the third party are the counties and the mechanism of settling has so far had two forms (when talking about hospitals): either fixed budgets or contracts. In several other countries the form of settling is based on a rate per bed-day or a rate per finished treatment and the third party are public or private insurance companies.

Normally there exist some kind of political or organisational mechanism that ensures the link between the system of settling and financing part; 'whoever pays for the music wants to have a say on what is being played'. This is a logical part of operating with a third party and explains to a certain degree the 'politicising' of the health care sector, that we see in many countries.

In Denmark it is up to the politicians what and how much should be paid to the health care sector and at the same time how much the population should pay in taxes in order to cover these costs. In Australia the Commonwealth has the financing role in health matters, whereas the States and Territories are largely responsible for the delivery of public sector health services and the regulation of health workers in the public and private sectors. The Commonwealth is also responsible for collecting income tax and other charges, including a health levy (the Medicare levy).

The concrete structure of this linking process will basically determine the overall level of costs for the health care sector as well as the health services offered via the third party to the population (members). It is here the prioritising and services occurs.

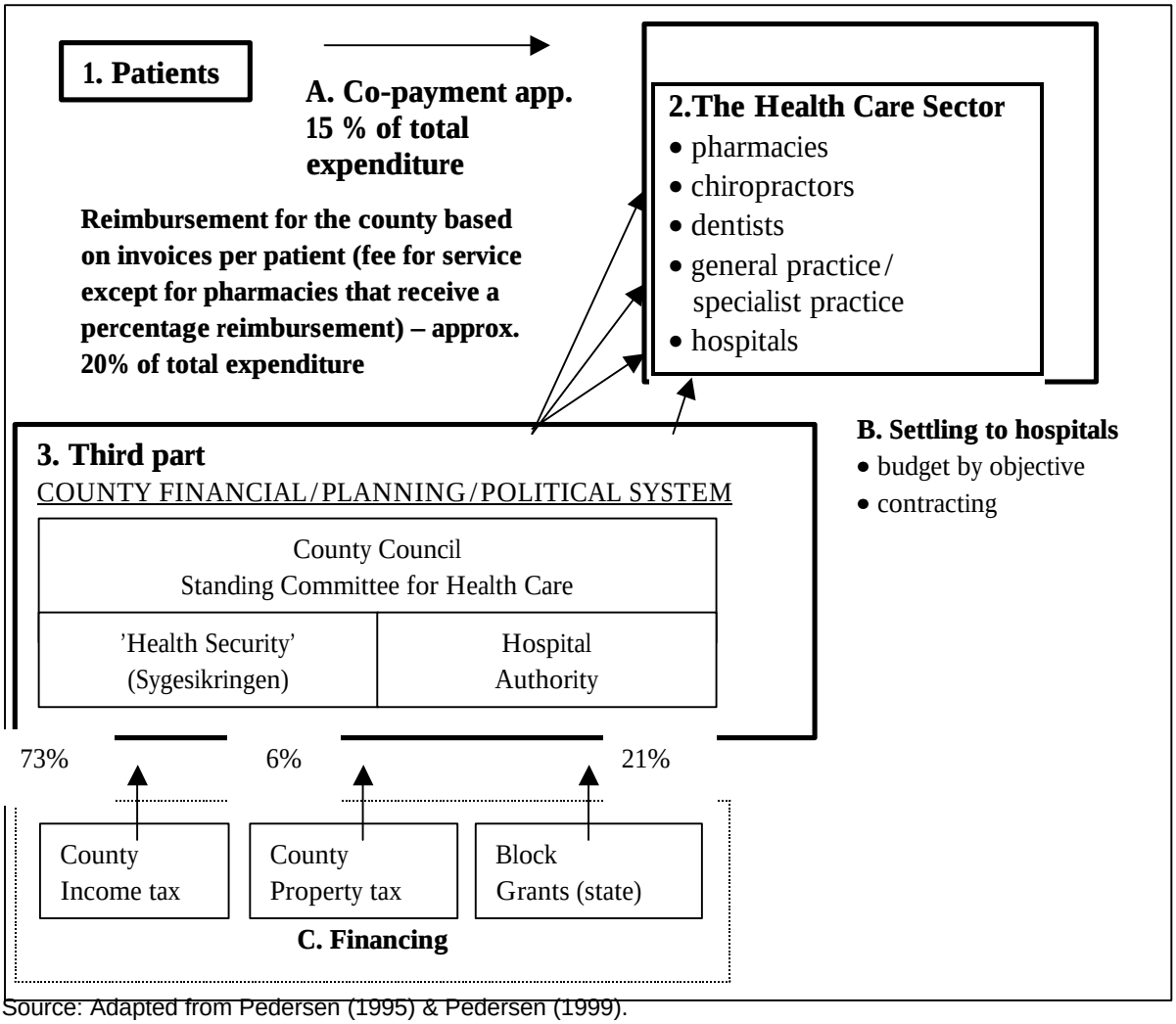
The Danish health care system is often referred to as integrated. This means that the third party not only finances the institutions, but also does the administration part and finally owns them. From a technical point of view this is referred to as vertical integration, which is the case of the hospitals. In general the third party may have an incentive to own and run those institutions that it is paying for. One incentive could be that it is believed that cheaper services can be obtained from one's own institutions, where oneself is the dominant customer and thereby either receiving a larger part of the premium, if it is a commercial insurance company, or cheaper premiums, if it is a competitive market or a non-profit company.

To a certain degree one can postulate that Denmark operates within a 'buyer-seller' model, as the counties buy the services from the general practitioners. The circumstances are determined in connection with the annual negotiations (the budget co-operations). The difference is that there is no dimension of competition, that is there is no alternative to general practitioners.

3.4 An example – The Danish health care sector

The Danish health care sector is described by using the model in figure 3.4. That is, figure 3.4 resembles the possible configuration of the general model illustrated in figure 3.3. Objectively figure 3.4 illustrates a rough picture and should only be interpreted as a starting point in order to put forward an assessment of strong and weak elements of the model. Taking offset in the third part the Danish health care sector is run by one government, the counties, which have the overall political, administrative and economic responsibility for all essential parts of the health care sector – a direct result of the Reform of Local Government of 1970.

Figure 3.4 The Danish Health Care Sector presented within 'the model'.



Source: Adapted from Pedersen (1995) & Pedersen (1999).

This is a potential strength[13] that in reality is not present in other countries. The alternative will either be a fragmented system such as the American health care sector, which consists of several levels. A part of the strength is that there is only one instance, which has the ability for collecting taxes and at the same time making the ability to prioritise who is to receive what. Seen from a superior level this gives the ability to make a collective control of the economic frames in question. Opponents to this kind of thinking will naturally not consider this as a strength.

Another aspect of the system lays within the form of 'one-stringed settling', that is an institution e.g. a hospital or a GP, who receives the greater part of the 'income' from one source - the county. That hinders – for better or worse – the institutions, to play off one financing agency against another and/or to enter into different agreements with possible financing parties. The focus is open towards one party – the county – and the budget or the contract settled on. It is commonly believed that the existence of a single budgetary unit generates the likelihood of cost control. Denmark appears to achieve this.

[13] And a potential weakness, if administrated wrong, that is if one is not capable of taking advances of the relationship that one is able to co-ordinate, prioritise and plan for the whole health care sector.

This kind of settling is however only a strength, in so far it is combined with an appropriate form of settling. This form of arrangement provides an incentive to be both economical and economic controllable. The Danish health care sector has been using 'budgeting by objective' and 'contracting' as forms of settling, which are effective tools from a perspective of controlling costs.

Up to the 1990's the budgeting by objective was the form of settling between the hospitals and the counties. A budget by objective is characterised by listing the (production) targets of the hospital and forcing them to meet a given budget. It is not stated how much that has to be produced, kind of quality and level of service etc. Without any doubt, with this form of settling, the economy (within the hospital) can easily be anticipated and controlled, but does not always provide appropriate incentives to run a hospital. During the 1990's several counties have adopted the idea of contracting. This form of settling can be described as a written contract between the county and the hospital in question. The contract deals with number of patients, level of service, quality specifications and finally a budget constraint that replies to the range of demands and wishes.

A potential strength is the form of settling with GPs, which consists of a fixed capitation payment per enrolled patient and a payment per service (consultations etc.). This is a strength as this form of settling provides an incentive to produce those services that are demanded, as a constraint does not exist. This is a necessity as GP's normally confront a potential demand without any kind of waiting time. On the other hand the GP does not have to be motivated by the size of the salary in question, as there exists an independent determination of the payment. However, total payment is determined by demand as patients decide themselves which doctor they want to visit (enrolled at). It is unclear how this 'undecided' competition regarding patients means to the GP.

The Danish health care sector is decentralised, that is there exists 16 counties, which have the ability to custom the health care sector according to local conditions and try out different solutions. The responsibility of running and planning is decentralised as goes for the economy.[14] This gives flexibility and a possibility to let the health care sector be adapted to local conditions. This decentralisation happens within the counties, where the size of the populations is around 250,000-500,000 people, which is seen as an appropriate foundation. Decentralisation can be problematic to handle in so far it leads to self-sufficiency i.e. absence or lack of collaboration across counties. In Denmark there has been evidence of this.

The hospital sector is supply- and cost-controlled. From a patient point of view this is a potential weakness. From the taxpayers perspective it is a balance between increasing taxes and a demand for services of high quality. Cost-controls have lead to prioritisation, which among other things has led to waiting lists for different kinds of surgery, a slower introduction of new technologies than in other countries and a partly worn-down apparatus. The control of costs has led to control of supply at the expense of demand-orientated, in order to oblige manifesto demands from patients as well as possible ways of treatment.

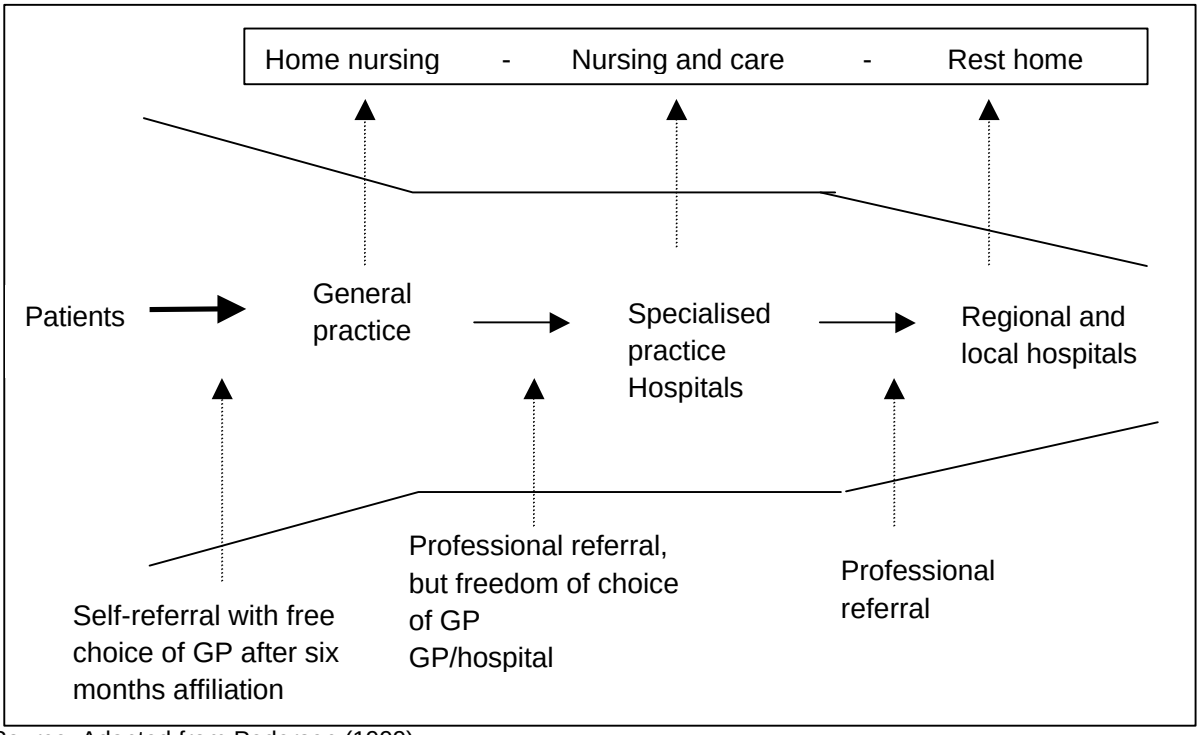
[14] Besides the yearly negotiations with the state.

Anyway, regardless of a lack of orientation towards demand, there is a considerable degree of freedom of choice within the Danish health care sector. This side control is important from a psychological point of view, but it also gives dissatisfied patients the ability to renounce (i.e. visit another doctor). In central areas there is a freedom of choice. At present, after six months affiliation to a GP. One has always been able to select a specialist, but normally one needs a reference from a GP. In 1992 the free choice of hospital was introduced for treatment at hospital base level.[15]

By looking at the different institutions in the health care sector (cf. figure 3.4), one can see that there is an appropriate – but not necessarily optimal – specialisation and division of labour – both from a professional as from an economic perspective. The fundamental idea appears from looking at figure 3.4. General practice plays a central and crucial role. It is the first contact link that the patients are confronted with within the health care sector. In addition general practice handles the examination of patients with regard to forwarding within the health care sector and at the same time finishes around 90 % of all enquiries. If this is going to work in practice, it is important with the already mentioned form of settling.

Figure 3.5 is an illustration of the fundamental idea behind the LEON-principle (i.e. lowest-effective-level of care). All treatment and enquiries should happen at the lowest level within the hierarchy of treatment of care, where it is professionally and economically justifiable. The fundamental idea behind placing the GP as gatekeeper, is that it ensures the LEON-principle, in so far there exist qualified GPs and an appropriate structure of incentives e.g. an appropriate level of individuals per GP. That has to be combined with 'single-controlling' e.g. one and the same authority has the ability to influence the rules that surrounds referral – and hereby the division of labour between the different levels within the health care sector.

Figure 3.5 The fundamental idea behind the LEON-principle.



Source: Adapted from Pedersen (1999).

[15] Before 1992 there was no free choice of hospital.

3.5 Results from a SWOT-evaluation

The Danish health care sector has recently been evaluated by a group of foreign experts within a so-called SWOT (Strength-Weakness-Opportunity-Threat) scenario.[16] The results from this evaluation were presented at a meeting in autumn 1998. One of the most debated issues at that meeting was that the expert group (and others) advertised for information regarding outcome i.e. results concerning the health-related outcome.
The following is a presentation of some of the most important results of the expert group's assessment of the Danish health care sector. The results are presented in a systematic way following the three-part model illustrated in figure 3.3 (and figure 3.4) in which the main results are split into strengths, weaknesses, opportunities and threats [Christiansen, 1999].

3.5.1 Patients and the third party

Strengths. It is the understanding of all members of the expert group that the protection, in cases of illness, is universal i.e. covers the whole population and has a wide coverage. Furthermore it is a strength that the system of financing is (almost) one-stringed, as financing is mainly provided by taxes. Such a system encourages different ways of control and the costs of administration are minimised. In addition the system is easy to administer and where financing terms of equity are taken into consideration.

Weaknesses. In general there was an agreement in the group that health care costs as percent of GNP are non-suitable for assessing whether the level of expenditure is appropriate or not, because of differences in definitions of health care sectors in other countries. As for health care sectors in general, there is no normative justification for an increase in the health care budget just because a country's expenditure is below a certain average compared with other OECD-countries. In the relationship between patients and the third party, there may exist a political 'pitfall' in so far that local interests may hinder a merging of hospitals to an optimal size.

Opportunities. The expert group proposes an investigation that examines the willingness to pay for health care services among the general population and what the population is willing to do without, in so far they are informed of which health care services the money could be spent on instead. In other words it is recommended that preferences of patients are to be considered in a larger scale.

Threats. It is recognised as a threat that the population may demand more services from the health care sector than they are willing to pay for through taxes. The alternative is either user-payment or rationalising of the kind of services or the volume of services. It is important to be aware of the willingness to pay for health services among the population, in order to comply a possible increase in the financing of the private sector.

3.5.2 The structure and role of the third party (the financing part)

Strengths. There is a consensus that the responsibilities of the counties as both providers of services through financing and payment for services are a strength. The counties have strong possibilities in limiting costs. The role of the state when laying down the budget for the counties and the municipalities at the yearly meeting is looked upon as a strength in relation to the goal of

[16] Members of the expert group were: Karen Davis, Jeremy Hurst, Richard Janssen and Gavin Mooney.

limiting costs. In addition it is a strength that the counties are controlling both budgeting within hospitals and the Reimbursement Scheme gives good possibilities in limiting costs.

Weaknesses. It seems difficult for the expert group to adjust the structure of the hospitals, that is the counties, when wanting to shut down hospitals when it is appropriate both from an economic point of view as well as from a medical own them. Even though the system is good, it is not fully exploited.

Opportunities. Increasing collaboration across counties as an alternative to real changes in the overall structure. Using a county-based process of planning and strong strategists can ensure a higher degree of allocative efficiency. In addition more concern about local preferences.
Treats. Increased preferences among patients regarding freedom of choice can threaten the monopoly of the counties. That is, patients may want treatment at a hospital in another county.

3.5.3 Relations between the third party and the institutions

A. In general

The relationship between the third party and the contributors is based on a set of regulations. It is noticed that there exists a national culture, which to a high degree is based on discussions and consensus instead of detailed regulations. The goal of controlling costs has been reached – except from pharmaceuticals. There is a need for a national monitoring of institutions. The establishment of a national institute of Health Technology Assessment (HTA) and a national centre for evaluation of hospitals is a start.[17]

B. Relation to hospitals

Strengths. Budgets by objective and contracting are seen as positive ways of encouraging management autonomy in relation to a more specified budget. It is looked upon as an advantage with contracting that it sees to be able to reduce the problem of asymmetry of information between the political authorities and the contributors – as politicians had trouble to see through activities within hospitals.

Weaknesses. The group acknowledge that there is budgeting by objective and a lack of build-in stimulus for high productivity and at the same time a lack of monitoring productivity inside hospitals. There will still be an asymmetry regarding information within contracting between the political authorities and the professionals. The consequence is a weakening of the public governments ability to control costs etc. It is considered illogical that planning and strategy focuses on waiting lists instead of what is really achieved.

Opportunities. Here several options exist: either to extend the method of using contracting with a specification of goals, which corresponds to the present development in Denmark, or adopting market elements, as seen in the UK. The latter implies location of hospitals outside the political arena (just as the primary sector) in contrast to the present vertical integration.

[17] Danish Institute for Health Technology Assessment (www.mtv-instituttet.dk) and The Danish Centre for Hospital Evaluation (Evalueringscentret).

3.5.4 Structure and function of the institutions

A. In general

Strengths. Among the strengths the group acknowledge a composition of the personnel with a relative high degree of people holding a high education. In addition the personnel is characterised with a high degree of motivation and commitment.

Weaknesses. Among the general weaknesses is mentioned a strong split up between disciplines and sectors and that the collaboration across institutions in general is insufficient.

Opportunities. Improved collaboration between disciplines and sectors as focusing more on the progress of patients, among this internal in hospitals and external in relation to home nursing.

B. The hospital sector

Strengths. A high standard and a high satisfaction among patients/non-patients combined with low costs of administration. Considerable improvements have been achieved with regard to the quality of hospital management and focus upon economic aspects has increased. The hospitals have undergone a considerable increase in productivity during the last twenty years, mainly as part of a shortening of bed-days and at the same time more treatment at an ambulant level.

Weaknesses. The hospitals are under pressure as part of increasing demand, increasing expectations from patients and limited resources – all conditions that hospitals themselves are unable to influence – and that can be the reason for many of the often-stated problems that exist within the hospital sector. The optimal productivity within Danish hospitals is according to the group not sufficiently monitored and there is a lack of data regarding quality and effectiveness. In this context the group noted waiting time for surgery, insufficient co-ordination. Each patient is confronted by too many doctors and treatment is not always well co-ordinated. There is a lack of incentive to improve the quality of services. In addition it is seen as a weakness that information technology (IT) has not yet been standardised, either within or outside hospitals.

Opportunities. In order to confront problems within the hospital structure, changes are needed. One possibility is to create a network or collaboration between large and small hospitals. An increase in collaboration across hospitals would have a considerable effect on the overall effectiveness. An increased monitoring of effectiveness (and quality) within hospitals, which could be a national job.[18] Improvement of quality can be reached by establishment of 'learning loops' and 'peer group review' (collegial assessment).

Threats. The increase in sub-specialisation will lead to an end of the small hospital in its present form. Another threat will be the employee's demotivation. The improvements in productivity have so far been achieved through shorter bed-days. However, this way of improving productivity is coming to an end. This will inevitably lead to demands of more means (achieved by higher taxes or increased co-payment) or an increased rationing (access or extent of services).

C. Research

Strengths. The establishment of the National Danish Institute of Health Technology Assessment.
Weaknesses. There is a need for more research within the field of health care services. The strategy would be: to what increased value can Danish financed research contribute to the Danish

[18] In 1999 The Danish Centre for Hospital Evaluation (Evalueringscentret) was established.

health care sector? Furthermore there is a need to look into different models regarding the provision of services and the meaning of waiting lists. Furthermore there is a need for a central brain trust in order to establish expertise in planning methods.

Opportunities. The opportunities for local try-outs of different methods of structuring the health care sector have not been exploited, as they ought to be the case in a strong progressive health care sector.

3.6 Health Technology Assessment

The Danish Institute for Health Technology Assessment was founded in 1997 within the framework of the National Board of Health. Reasons for this establishment were that the Institute should promote the use of health technology assessment. Included in the Institute's work area were provided: Information, advice, education and training concerning health technology assessment as well as contributing to quality development within the Danish health care system [DIHTA, 2000].

Among other things, the HTA Institute shall carry out research and make assessments in relation to new and existing equipment, pharmaceuticals, and methods of examination, investigation, treatment and care, methods of rehabilitation, health education and preventive health care work. Furthermore, the HTA Institute shall establish and maintain contacts with the different players within the Danish health care sector, the Danish health authorities, universities, research institutes, societies and associations.

During the last three years, activities in the Danish Institute of Health Technology have resulted in several HTA reports, focusing on aspects such as low back pain, interferon-beta treatment for multiple sclerosis, management of gallstone and a lot more.

In Australia the Medicare Services Advisory Committee (MSAC) handles the concept of HTA, which is the latest of Australia's official bodies to undertake HTA. The responsibility of MSAC is to assess and recommend items for listing on the Commonwealth Medical Benefits Schedule. This can be seen as a parallel process to the Pharmaceutical Benefits Advisory Committee's assessment of drugs of listing on the Pharmaceutical Benefits Scheme (PBS).

3.7 Concluding remarks

The Danish health care sector may not be the best in the world, but its performance is relatively good by international standards. However, there is obvious room for improvement and it is important to continuously have to on improving the services and also the quality.

Based on assessment within the general population the Danish health care sector is quite good. Furthermore it is also documented that the health care sector is doing quite well with regard to cost-control. It is hard to assess quality – whether that may be quality of treatment or patient satisfaction of specific health care services. However, based on what is documented the present situation of the health care sector is satisfying.

The foundation of the health care sector is healthy and strong. Furthermore the concept that the responsibility for running, planning and financing is all at the same level within the hospital sector and the primary sector has been a considerable strength. Together with using budgeting by objective and contracting, this has been contributed to a more mitigated development in costs.

The collaboration between general practice and the rest of the health care sector is of decisive importance and one of the most important strengths in the Danish health care sector. Therefore it is important to guard and continue to develop general practice, for example by means of obligatory continued education in order to ensure a high level of quality.

The Danish health care sector has a decentralised structure. This kind of structure makes room for local adjustment and for experimenting within the frames of the considerable autonomy, which the counties have in the Danish health care sector. During the last years, one has been witness to an increased tendency regarding state interference; for instance arrangements about the economy of the counties, has become much more detailed.

As well as the Danish health care sector, the Australian health care sector has been relatively successful in controlling overall health care expenditure.[19] Furthermore the Australian health care sector has managed to provide universal access to high-quality medically necessary care, which is guaranteed with financing, linked to ability to pay.

Although the concept of HTA has widely been adopted in Denmark, one may not forget the fact that the majority of all decision-making still is made without any means of a HTA. The main reason for this is that performing a thorough HTA is very time consuming and at the same time very costly. However, more information such as HTAs is necessary in terms of making the 'right' decisions regarding allocation of health care resources. In the future it is crucial that the performance of HTAs not only takes place at a national level, but also is established at a county level, as it is here where most of the decision-making takes place.[20]

In the future, both the Danish and Australian health care sectors may experience a higher pressure from patients with regard to quality as well as the size of services. In order to meet this increase in demand there will probably be a need for seeking alternative forms of financing. Such forms with regard to the Danish health care sector could be an increase in co-payment and for the Australian health care sector higher (more) taxes.

4 Future Trends

We can only predict how the futures of the Danish and the Australian health care services may look like. However, it is widely recognised that the future will bring higher demand from the population regarding quality, technology and access to health care services. Fundamental to any future development is a continued commitment to investing resources in health strategies to address priority health problems. This chapter presents different scenarios to how the future of the Danish health care sector may look.

4.1 The frame(s) of the Danish health care sector in 2010

As in all western countries the need for health, treatment and care will rise in the future. Firstly, because we will demand more health as welfare grows, secondly as part of the growth in the elderly population and thirdly because of new ways to diagnose and treat disease. To a certain

[19] Measured as per cent of GNP.

[20] Several counties have at time being at different levels adopted HTA as part of the decision-making process.

degree an adjustment of the supply within the health care services can restrain this growth in demand, but not without problems.[21]

The future users of the Danish health care system will to some degree see themselves less as patients and more as consumers demanding the same service and freedom of choice as in other areas. The choice therefore could get down to deciding on issues like higher taxes, more user payment or a more incentive way of prioritising between allocation of health care resources, which may result in individuals failing to get what they expect. In connection with this, the gap is likely to get larger between, what is technically possible and what, from an economic point of view, seems reasonable to carry into effect.

At present the Danish health care sector, builds upon the idea of being curative from medicine, where a few years ago care was, in fact, what the health care sector had to offer. This can be seen in contrast to the fact that more and more users of the health care sector suffer from chronic diseases. The care issue will probably come to the foreground again. A contributory factor to this is new technology, which can "automate" a number of outputs, whereas more time can be spent on care. The contribution from the health care personnel will to an increasing degree be that of handling human relations in connection with providing an optimal utilisation of the modern medical and digital technology. In the long run it is likely that areas such as the promotion of health and prevention will dominate the contribution of health care services. The great possibility that lies within gene-technology and health care informatics supports this view.

The assumed increase in future productivity in the Danish health care sector will especially take place as knowledge will be exploited and passed on in a better way. Areas such as information technology and telemedicine are the available means for this. As the health care sector is extremely information intensive, there is a great potential for productivity gains in this area. However, this exploitation yields a more flexible form of organisation as well as a change in behaviour.

The learning organisation is predicted as the future organisation and the Danish health care sector's professional tradition for continuously 'on-the-job' education and professional development is a strength to build on. Experiences from other countries points in the direction that large investments in information technology (IT) or changes within organisations, do not solve many problems, in itself, in so far the behaviour among doctors and other professionals does not also chan-ge. A way of changing this behaviour could be through in-service training and adaptation of atti-tude.

Committed co-workers are a must in terms of the future of the Danish health care sector. In the future there will be a lack of doctors, for which reason it becomes important to ensure that the health care sector is an attractive workplace that is capable of holding onto its employees and still being able to meet the wishes of young people regarding a meaningful and stimulating job.[22] Because of that, management and not least staff management will probably have an increasing role in the future Danish health care sector.

[21] This should not be interpreted as a constraint on supply of health care services. Instead that development of new technologies in the future may help adjust the supply of health care services.

[22] It is seen more and more that the doctors move towards the private hospitals.

4.1.1 Four different futures

A workgroup under the Danish Board of Health has proposed a model containing four different scenarios of how the Danish health care sector may look in the future. This model is shown in figure 4.1. The driving forces behind the four different directions, the Danish health care sector, can develop in, are:

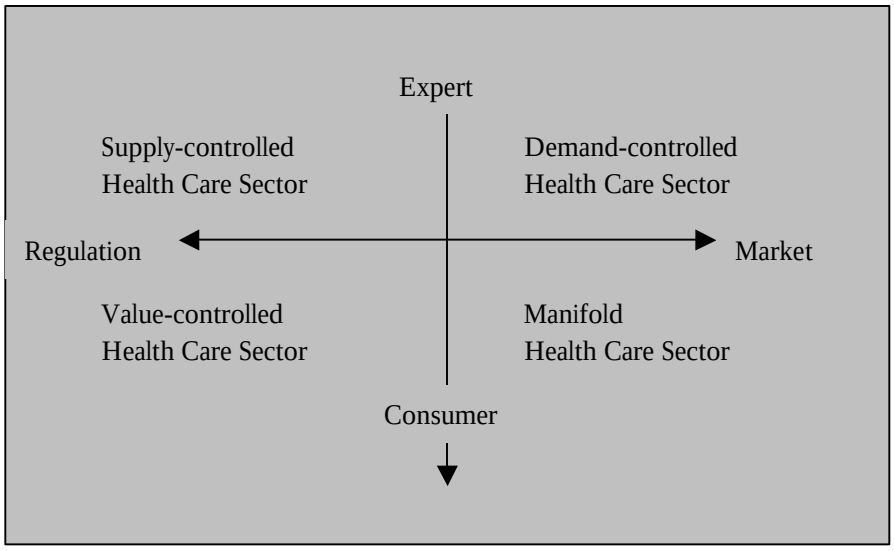
Market orientation:
- are larger varieties of users with a greater variation regarding needs?
- Internationalisation, which may have a great effect on both the supply and the demand sides
- a change in the understanding of what role of the welfare society should have as well as the main political tasks

The collective health care sector:
- polarisation and an increased individualisation, means that a large and increasing part of the consumers of the Danish health care sector will need care and a social assistance
- the health care sector is 'knowledge-based' and a coherent, national IT-network can be looked upon as the driving force behind the future health care sector
- the possibilities of resisting a strong pressure on the budget, as of new ways of treatment, will be most successful within a collective health care sector

Consumer focus and consumer involvement:
- more educated, self-responsible consumers with a larger access to knowledge and possibilities regarding self-care
- more chronic ill patients, suffering from lifestyle diseases and an increased weight on prevention, can make it appropriate to focus more on consumers own competence to act and on those possibilities that lies within support 'outside the system' in the civilian society and in different kinds of networks.

Expert and system focus:
- the increasing knowledge of the functioning of the human body and hereby mapping of the human gene can increase the confidence in that everything can be treated within the 'device-failure-model' and increasing the gap in knowledge between the expert and layman
- relative more singles and people weak on resources, which are not able to take care of themselves as the rest of the Danish population, can contribute to the cementation of a national strategy of treatment and care.

Figure 4.1 Future scenarios for the Danish health care sector in 2010.



Source: Adapted from Centre for Future Research (1999).

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