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# Nordic collaboration in health services

A feasibility study on the potentials and barriers towards an open market for health services in the Nordic countries



Study conducted by Oxford Research for the Nordic Innovation Centre

# Nordic Collaboration in Health Services

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## FINAL REPORT

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### About the report

This report is built on research carried out from May to September 2008, by the Scandinavian consultancy Oxford Research A/S on behalf of the Nordic Innovation Centre.

This report, as well as a summary version of this report, is available for free download at [www.nordicinnovation.net](http://www.nordicinnovation.net).

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# Preface

A number of new developments – advanced technology, increased mobility within the skilled labour market, increased demand for specialisation and EU citizens right to seek healthcare in another country etc. – challenge the national health care systems. Healthcare might in some instances be better provided in another member state, for rare conditions or specialised treatment. This may also be the case in border regions where the nearest appropriate facility may be situated in another country.

On this background, Oxford Research conducted a feasibility study of the potentials towards an open market for health care services in the Nordic Countries.

Oxford Research visited four interesting Nordic regions and carried out more than 50 interviews with high level experts within the health care sector.

Our task was to maintain focus on the *potentials* of a more integrated Nordic health care system, leaving all the obstacles behind. This is difficult in practise, and we finally included some of the barriers and downsides of international health care. However we succeeded in keeping the main focus on the potential benefits. The result is this report.

So please keep in mind that we are focusing on the potentials and not the obstacles when reading this report.

Oxford Research would like to thank all of the experts who willingly found time to feed our project team with valuable inputs.

**Oxford Research**

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# Summary

In the following section the main findings from the study will be presented. The findings are based upon desk research and interviews with 51 experts from the health care sector, that is, representatives from public and private hospitals, researchers, organisations and different levels of the public authorities – municipalities, regions and national authorities. The four case studies are conducted with the expert interview as a point of departure.

## Equal challenges, common possibilities

The health care systems in the Nordic countries share a number of similarities as well as a number of challenges in financing, maintaining and developing a public financed health care system with equal access for all citizens. These challenges are related to new sophisticated technology, ageing population, and increasing costs for public health care. Moreover, the mobility of personnel is increasing in the age of globalization, and demanding citizens have the right to the best available health care and are increasingly willing to travel to get it. The EU integration will probably affect the Nordic health care integration, as it is likely that Nordic patients will choose treatment in other Nordic countries, when receiving health care abroad. Equally, there is a general lack of capacity in the Nordic health care sectors.

These common challenges make up framework conditions for further Nordic cooperation. It is also a solid framework condition that there amongst the Nordic countries already is a tradition of cooperation, albeit not systematic in all areas.

## Drivers towards a further Nordic integration

On the basis of in-depth desk research into Nordic and European literature, articles and official documents on the health care sector, five different drivers towards increased Nordic cooperation have been identified. In this context a driver is an either endogenous or exogenous factor, which historically, presently and in the future can facilitate a deeper integration of the Nordic health care system. The five drivers are:

### 1. *Economies of scale, including:*

- *Capacity:* A larger Nordic market for health care services could foster better use of the given resources, especially in the specialised treatment areas. However, it is important to be aware, that at the present there is a general lack of capacity in the Nordic countries, which at the moment makes it difficult to use other country's capacity, especially within the area of mass treatments.
- *Competencies:* A larger and more integrated Nordic market for health care services provides an increased scope for establishing Nordic regional centres, which can attract the most skilled doctors and researchers. These Nordic regional centres of excellence could function both as providers of specialised treatment, and also as centres of research and development.
- *Price:* A larger and more integrated Nordic market for health care provides a scope for providing specialised treatment at the most cost effective level. An increased flow of patients seeking specialised treatment across borders calls for good coordination in regard to scarce or excess capacity.

- *Quality*: By creating specialized units, which serve a larger geographical area, it is possible to provide better and more cost effective treatment for rare and complex diseases. In order to provide the highest quality of treatment for rare diseases it is cardinal that doctors experience constant practice within the field, and that demands a certain size of population.
  - *Large scale technology investments*: Specialisation and investments in new, advanced technology amount to considerable costs. Therefore it can be advantageous to make common technological investments in order to keep up with the technological development.
2. *Information Communication Technology*: The advances over the last decade within the area of ICT have been tremendous. This development has also affected the health care sector in various ways and will continue to do so in the future. A specifically interesting area which the ICT development has given birth to is E-health. E-health is very likely to be an important driver of integration, and is subject to extensive discussions both at the European and Nordic levels. The Commission views e-health as something that can improve access to healthcare and boost the quality and effectiveness of the services offered. Nordic initiatives on e-health include e-recipes, consultation from specialists via video conferences, electronic and transferable charts and even "tele-dialysis".
  3. *Demand driven healthcare*: the demand driven part of health care plays a prominent role in relation to the potentials for an integrated Nordic health region. Traditionally focus has been on the supply side when discussing Nordic Health care. However, this focus has changed in recent years towards a more demand driven conception of healthcare. In short, demand driven health care is the concept that incorporates the empowerment of the patients into the co-ordination and organization of health care. The reason for this shift in the conception of health care is that especially strong patient groups do not take the provision and quality of health care for granted anymore. One outcome of the more demand driven conception of health care is the increased use of the *private health sector*. Historically, the Nordic market for private medical treatment by hospitals, clinics etc. has not been very large. However, during the last decade we have experienced an upsurge in private health services. Another outcome of the more demand driven conception of health care is the increase in the new phenomenon *Health Travel (or Health Tourism)*. By health travel is meant going aboard with the primary purpose of medical treatment.
  4. *Global workforce*: The Nordic countries have a tradition of cooperation in health care mobility, which has been proactive in relation to the EU legislation. There is a high degree of mobility of health care personnel in the Nordic countries. But a high flow of health care personnel between the Nordic countries does not necessarily solve any bottleneck problems. Instead, the tendency we see today is that doctors and nurses go where the pay-checks are highest. The high inflow of Nordic health care personnel in Norway is to a large extent due to the high wages in Norway.
  5. *Policy*: There exist numerous policy initiatives both at European as well as Nordic level, which are aimed at increasing the European and Nordic health care cooperation. The initiatives are aimed at different areas such as patient mobility, mobility of personnel, education, research and development, e-health etc.

### **Potentials and current degree of cooperation – findings from the case studies**

The four case studies concern both scarcely and densely populated areas, which provide different angles in relation to the question of economy of scale. Among the densely populated areas are the Oslo-Gothenburg region and the Oresund region, and among the sparsely populated areas are Iceland and the North Calotte Region. If one considers the

densely populated city areas such as the Oresund region or the Oslo-Gothenburg region, the main driver is the economy of scale, understood as the gathered capacity and know how, the possibility to reach millions of patients within a short time limit, and the possibility for health care employees to commute on a daily basis. Conversely, in the scarcely populated areas in Iceland and the North Calotte region, the main driver is the lack of economy of scale, and hence there is a need to further cooperation.

Another general and very important experience from the case studies is that cross border cooperation often takes necessity as a point of departure. Cooperation is carried out when the need to take common action is obvious. Many cooperative initiatives are bottom initiatives from the health care personnel on the basis of personal network, which seeks pragmatic solutions to common challenges.

1. *Technological investments:* Preconditions for common technological investments are geographical proximity and availability. The examples of common technological investments are not many, but it is assessed that the potential is there in the long run, and moreover, that the potential is increasing, given the further process of specialisation and technological development.
2. *Specialisation and international centres of excellence:* The further specialisation can move the development in the direction of global centres of excellence in the Nordic region. In the Oresund region, the diabetes cluster is for instance a prominent centre of excellence, concerning both the medical industry and the hospital care, as well as cross border and cross sector cooperation.
3. *International market for health care services – health care tourism:* Iceland views the centres of excellence and a higher degree of labour division as a market possibility – to brand Iceland and the other Nordic countries with a Nordic brand based on quality and clean environment. Iceland already attracts health care tourists within certain treatment areas, such as psoriasis, and other hospitals in the Nordic countries, including public hospitals, treat patients from all over the world. There is an interest in this perspective across the countries, but one main obstacle at the present time is the lack of capacity in all Nordic countries. Some experts think that the private health care sector has to be the first mover in the international health care market in the North. However, there is the Sahlgrenska International Care AB who offers health care treatment for foreign patients when capacity is available, but the numbers are small at the moment.
4. *Mobility of personnel:* There are different models of sharing expertise between countries. Both in the dense and the sparsely populated areas, doctors move permanently to the region. Iceland educates an over-capacity of doctors, and it has not been a problem to attract these doctors back to Iceland, given that the positions are there. This is different in the North Calotte region, where there is a constant lack of health care personnel. In the densely populated areas, i.e. Oresund, commuting is also common. Moreover, another way of sharing expertise is to have shared positions, where the specialist/physician travels about. There has been an example of this in the Oresund region, and the model has been used in Iceland as well, where the physicians occasionally travelled to rural districts, or where an international specialist went to Iceland to perform transplantations. In the Oresund region, the opening of the Øresund Bridge in 2000 has pushed forward the mobility of personnel in the region, so infrastructure obviously plays an important role.
5. *Mobility of patients within specialised treatment areas:* It is important to distinguish between mass treatment areas and highly specialised treatment areas. The potential to cooperate on specialised treatment areas/small patients groups is huge, and, given the further specialisation of health care, also growing. There has already been established a more or less systematic cooperation in the field of specialised health

care, such as children's heart diseases, transplantations and other highly specialised clinical operations. However, the picture remains that the overall systematic approach to cooperation is lacking, as the cooperation often takes place within certain areas and/or is based on bottom up initiatives.

6. *E-health*: E-health means that it is possible to have, for example, a specialised physician's opinions, even though the physician is thousands of kilometres away. This is especially attractive in the scarcely populated areas. Due to this, the possibility of e-health is often used, also across borders, but there are also limitations to the use of e-health. In the North Calotte region, the national health system has an advanced use of e-health, but there is not synchronisation between the national e-health systems (i.e. electronic journals, recipes and distance counselling). There are however international projects looking at the potential to find new tools and products for long distance treatment. Iceland views electronic prescriptions as an area that is advantageous to cooperate on, and has started a pilot project with Sweden in this field.
7. *Quality development*: Quality development is a potential area of cooperation, as the common and sophisticated indicators of quality are currently lacking. Some actors emphasize that common indicators of quality can be a driver toward further cooperation.

Most of the **barriers** concern tradition and the organisational unwillingness to give up mandate – patients, clinics, equipment, or treatment areas. Such barriers are common in the health care sector (and other sectors dominated by professionals as well), and they are not necessarily related to an unwillingness to cooperate on an international basis, as these barriers are also well known in regional planning processes. The professional culture obviously also plays a role, as doctors in general are reluctant to send patients to other doctors, be it in another region or another country. These organisational barriers are mainly a hindrance to the further division of labour and planning of centres of excellence across the Nordic countries.

# Chapter 1. Introduction to the health care sector in the Nordic countries

The objective of the feasibility study of the health care sector is to provide a platform and knowledge that enables a further and more detailed analysis of potentials for exchange and mobility of health care services between the Nordic countries. The purpose of the study is not to provide a comprehensive analysis, but merely an overview as a foundation for further studies.

The study will include expertise from the Nordic countries from academia, private sector and public administration, including hospital management.

The scope of the study includes the following areas:

- Cooperation between the Nordic health care systems,
- Patient and labour mobility across borders,
- Regional potentials in an open health service market,
- Potential improvement of quality in an open market for health care services.

## 1.1 Methodology

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Oxford Research has combined methodology that includes statistical analysis and personal interviews with experts. This study is based on two phases:

### Phase 1: Mapping of the health care sector

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The aim of this mapping is to present an updated insight report on the development within health services at a Nordic and European level. This phase has to be done by providing figures and statistics as well as using additional literature and reports on these sectors. This is combined with expertise within the use of analytical maps where statistical data is combined with geographic maps to provide an easy overview.

This is necessary in order to establish a common understanding of the process so far. This step will produce answers to the following questions:

- What is the main scope of the Nordic health care integration, recent trends and developments?
- Who are the most important stakeholders within the sector?
- What are level of the mobility of patients and health service providers in the Nordic countries?
- What is the current situation regarding the implementation of the EU service directive and the exclusion of the health sector? And more important: what is the estimated future situation based on future regulations at EU level and other actions in the pipeline?
- To what degree are the Nordic countries today an open market for health services?
- What are the barriers for health services already identified at the academic level in the Nordic countries?

The personal interviews have two dimensions. First, to provide an overview of potentials and barriers at the regional level based on the four regional case studies. Second, to provide insights and reflexions on the potentials for opening up the health sector in the Nordic countries.

The 51 experts and practitioners have provided valuable knowledge on a wide range of obstacles and potentials in implementing a more integrated health service between the Nordic countries. These include aspects such as:

- Juridical and legal issues,
- Political obstacles,
- Impact of cultural and language differences,
- Bureaucratic issues,
- Views on specific health areas (basic or more advanced services),
- Views on various forms of increased service (labour mobility, patient mobility etc.),
- Economies of scale within health services.

The 51 experts and practitioners have been selected from the four suggested regional areas as marked in figure 3 below. As a supplement to their general input on the topic the experts and practitioners have been asked to estimate and evaluate the regional potentials of an enhanced exchange and mobility of health services.

## **Phase 2: Information compilation based on interviews**

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To fully understand the deeper barriers and potentials of an opening of the Nordic health services, phase 2 takes us around the Nordic countries to obtain perspectives and perceptions from health experts and practitioners from all five countries representing public administration, academia, social partners, private actors, and hospital and health centre management.

The aim of the sector studies is to provide knowledge from all five Nordic countries using both statistical measures, existing literature and qualitative interviews.

The purpose is to answer the following questions:

- What are the main issues concerning health care cooperation between the Nordic countries/border regions/hospitals?
- Who are the stakeholders and cooperation partners?
- What kind of cooperation is present today, examples? (state-state/region-region/hospital-hospital)
- What are the aims of those initiatives: economic (efficiency, organisation etc.), clinical & patient activities, skills and labour exchange, education, R&D, quality assurance etc?
- What are the *benefits* of the existing cooperation?
- What are the *obstacles* for the existing cooperation?
- How can those obstacles be solved? What actions need to be taken?
- In which area(s), are there, according to you, most potential for cooperation?
- If there were no borders, how would you perceive the cooperation at the Nordic/regional/hospital level?
- In which area(s), would there be most potential for cooperation?
- How do you think the cooperation will look in the future (5-10 years)?
- How would you *like* the future cooperation to look like?

Interviews have been undertaken in order to collect qualitative information for the study. One great advantage of adding this method to the process of gathering and analysing

quantitative data is the crucial close contact with stakeholders that it provides. Another benefit of interviewing is that the subject matter can be properly explored in-depth, due to the careful observation that is enabled through personal contact with the interviewee.

Exploratory interviews with a few central actors and stakeholders have been carried out in the initial part of the study in order to structure and delimit the work at an early stage. This technique has enabled an overview, helps in the testing of the analytical framework, and supports the clarification of definitions relating to the actual field of study. These consist of both phone and personal interviews.

Also at the initial stage of the research the “snowball” interview technique is applied, in order to ensure that no relevant stakeholders are omitted. Through this process the stakeholders’ own knowledge has helped assess which other actors from their context would be important to the present study. Moreover, by means of this procedure we have swiftly gathered the background knowledge necessary for the successful undertaking of the project under discussion.

Semi-structured interviews are undertaken so as to achieve data regarding a set of issues defined prior to the interviews. The process is based on an existing list of questions (please see appendix), but leaves room for additional input from the interviewee.

## **1.2 The Nordic welfare systems – theoretical approach, main challenges and central concepts**

There is no well-established definition of health care. According to European Observatory on Health System and Policies, health care is defined as “any type of services provided by professionals or paraprofessionals with an impact on health status”. The term health care is used more or less similar in the Nordic Countries. For example in Sweden, the Health and Medical Service Act (Hälsa- och sjukvårdslagen, 1982:763) defines health care as measures for medical prevention, investigation and treatment of disease and injury. Ambulance services and dental care are included in the term. In Denmark, health care includes investigation, diagnostic, treatment, rehabilitation, preventive medicine and delivery help according to the Danish Health Act (Sundhedsloven, 95 of 07/02 2008). In Iceland, the Health Service Act (Lög um heilbrigðisþjónustu, 40/2007) includes primary healthcare, medical care, nursing, general and specialised hospital care, transport of patients, medical-aids service, and service from health personnel within and outside health-care facilities provided in order to promote health, to prevent, diagnose or treat illness, and to rehabilitate patients. Hence, the term *health care* used in this report refers to primary care and service provided by hospitals.

Another key term in this report is “market”. There exist different types of markets. Economists use to refer to four principal models of market structures, monopoly is one of them. In a monopoly a single producer sells undifferentiated products. In the Nordic countries most health care providers are public, but private practitioners and hospitals exist. Both public funds and private insurance finance the private health care. The Nordic health care market is not a monopoly, however it is relatively regulated.

Before going into the development of the Nordic health care system and market in following chapters, we will give a short background of the Nordic welfare systems compared to other systems and the challenges they face.

There exist no global welfare state model illustrating the relation and the interdependency between the individual and the market regarding social protection and health care. Three well-established models will be presented below. The models cover different geographical areas; the Nordic countries, the Anglo-Saxon countries (Australia, Ireland, New Zealand, the United Kingdom and USA), the Conservative/Christian model (Austria, the Benelux countries, France, Greece and Italy) (Sapir 2006; Esping-Andersen, 1999).

The Nordic welfare state model has expanded since the Second World War. Both previous to and after the war, the governments have mainly been social democratic. This model is based on solidarity among different social groups and mutual dependency between the state and the citizen, meaning, in a simplified manner, that high tax income gives high level of social security (Esping-Andersen, 1999). The health care system in the Nordic countries is characterized by a large extent of public service, a universal coverage and an egalitarian target in their health policies. Most hospitals are public, even if private ones exist. There are both public and private general practitioners and primary care physicians. The private are under contract with the county councils or municipalities. The health service is, to a high degree, financed by public funds. Most of the public financing comes from national, regional or local taxes, however state subsidies and private insurance also finance a part of the health service. All Nordic countries have generally a well-developed health care with a well-established system of primary health care. Some of the countries have a system with family doctors contracted by the municipalities. The Nordic health care system also provides free preventive service for mothers and infants and school health (Nordic Statistical Yearbook 2008; Swedish Association of Local Authorities and Regions, 2005; Lahelma, Lundberg, Manderbacka and Roos, 2001).

In contrast to the Nordic welfare state model, the Anglo-Saxon model has a much higher degree of private elements. The public health care and social insurance, in general, only cover basic needs. This model has less solidarity among different social groups and is more dependent on individual economic situation (Sapir, 2006; Esping-Andersen, 1999).

The Conservative/Christian model is founded on Christian values and the importance of the core family. The social protection system is twofold, both a general, public insurance and insurances related to a specific occupation (Sapir, 2006; Swedish Association of Local Authorities and Regions, 2005, Esping-Andersen, 1999).

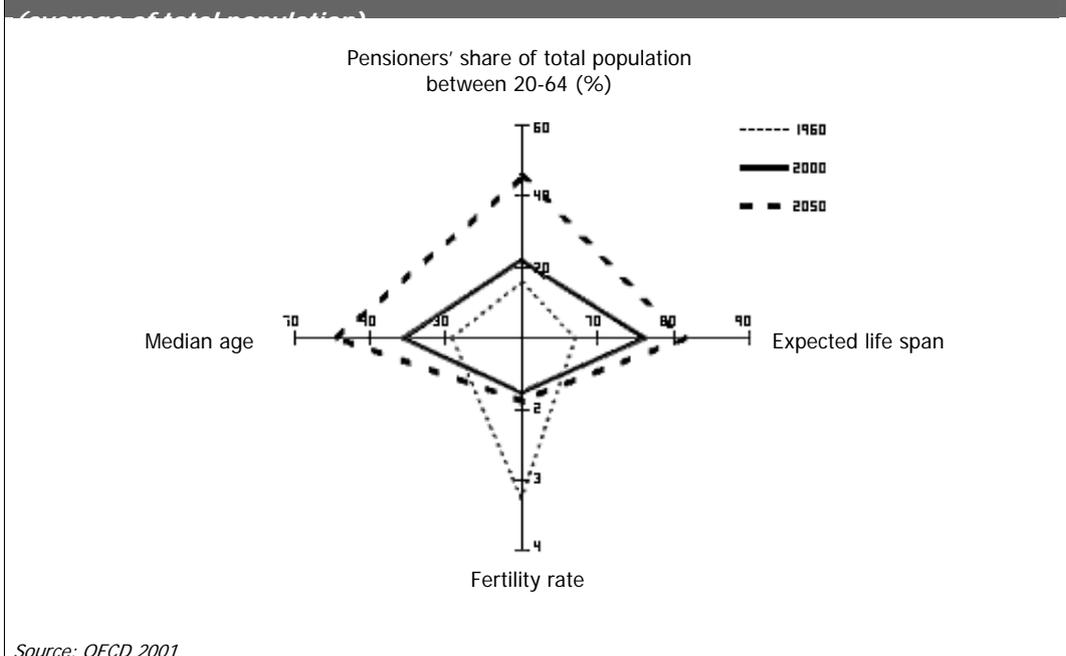
The welfare state research indicates that national welfare systems are primarily affected by internal post-industrial challenges, such as slower productivity growth, the expansion of public spending, demographic changes, and the transformation of the household and labour market (Esping-Andersen, 1996, 1999; Pierson, 2001; Nordlund, 2002; Swedish Association of Local Authorities and Regions, 2005 etc.).

*Lower growth:* Since the 1970s there has been an increase of the service sector at the expense of the production sector. One problem with service dominated employment is that the services do not generate the same increase of productivity as manufacturing, especially in labour intensive jobs such as education, child and elder care, medical care etc. This implies, in general, that a lower growth in productivity gives lower economic growth. Less growth results in a smaller wage increase and thereby less tax income and spending by the state, etc (Pierson, 2001; Iversen & Cusack, 2000.). In addition, the transformation to a service dominated economy has contributed to a major challenge to the contemporary welfare states, the so called 'trilemma' of the service economy, i.e. the state has problem in reaching three important political objectives: financial balance, equal income levels and employment growth. According to the leading researchers it is only possible for a government to reach two out of the three objectives (Iversen & Wren, 1998).

*Increased public spending:* Post-war government spending has increased gradually, due to the increased scope of public commitments to social insurance and benefits, health care, pensions etc. Within the OECD countries, the pensions have increased both in real numbers and in percentage, for example between 1960 and 1990, the pensions increased from 4,6 % to 8,5 %. This has created huge financial challenges for the governments (Pierson, 2001). However, the spending on health care as a proportion of GDP seems to be stabilized the last years in the OECD countries. There is still an annual growth in health care spending, but the growth rate has slowed down since the beginning of the 21<sup>st</sup> century. Since 2003 the annual average growth rate has been 3,6 % (OECD, 2008a)

*Demographic development:* The basic challenge for the welfare systems is a combination of a growing ageing population and low fertility rates, i.e. smaller number of young people have to support more elderly people (please see figure below). A prognosis made by OECD up until 2050 demonstrates that the expenses for health care and pensions will increase twice or threefold. An ageing population is not necessarily a problem. It depends on long term productivity and growth. OECD believes that an annual growth of 0,5-1,2 % in average will be sustainable to deal with future expenses (OECD, 2001).

**Figure 01.1: Demographic development in OECD countries 1960, 2000 & 2050**



The major trend in economic development right now is globalization and internalization, a trend that cannot be ignored. Increased mobility of people and labour, services, products, capital, and new EU-directives, WTO agreements etc. also play a crucial role and affect the Nordic welfare systems. There are two aspects that affect the Nordic Health cooperation. Customers are used to purchasing goods and services from all over the world without any effort or bureaucratic interference. Thus, the first important aspect is that people are more **mobile** across the national borders. The frontiers in the world are gradually vanishing in influence. Increasingly, according to the experts Oxford Research has spoken to, this will also be true for health care services. Of course, they argue, the health care sector is unique, with very specific characterizations. Nevertheless, health care will not remain unchanged by this process. Another important trend that our experts

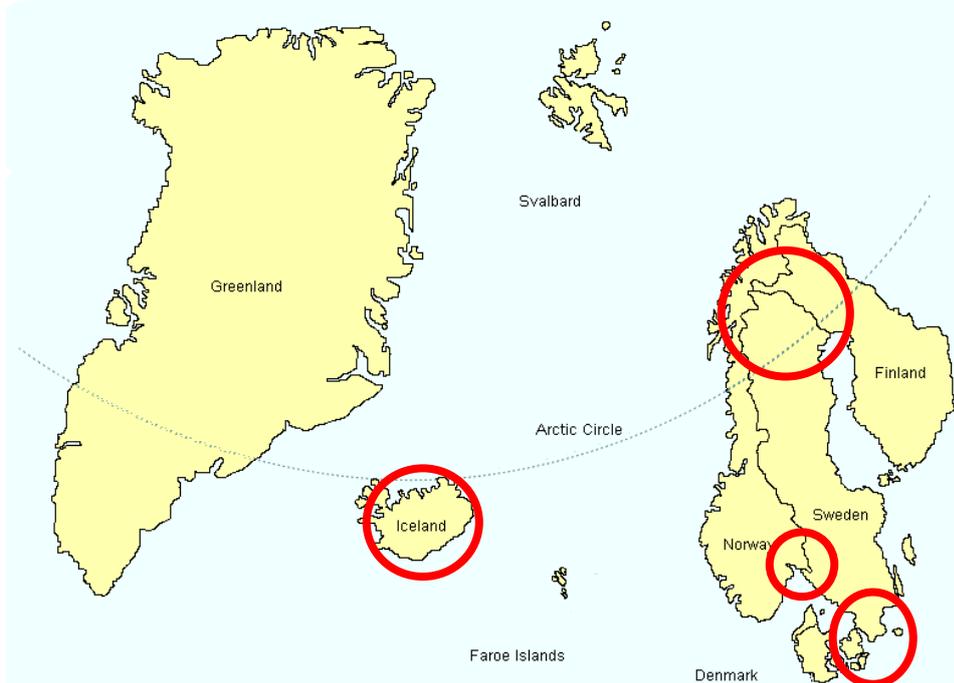
mention is that the patients are increasingly well aware of all their choices. They are more **selective**. This is perhaps a result of increased possibilities of options within the welfare systems, within education and child-care for example. People seek information of the quality differences between different alternatives and will expect the possibility to do it also within health care.

### 1.3 Delimitation of the study

For most European countries, health care services and mobility across borders is a rather new phenomenon and has traditionally not been on the top of the health care policy agenda. There are several cases of cross-border cooperation in European (some examples are mentioned in Chapter 2). The Nordic Countries are unique to their character due to long historic Nordic cooperation, EFTA, the European Economic Area agreement (EEA), the EU, geography, culture etc.

To limit the scope of the study we have chosen four interesting case studies to examine further by interviewing 51 health care experts and practitioners in four regions as marked in the figure below.

Figure 1.2: The four regional cross-border cases



Source: Oxford Research 2008

#### Why Iceland?

With a population of 313.000 inhabitants, Iceland is facing a pressure on its health services in a steadily increasing area of specialization. The economies of scale are significant

when it comes to health services and in the Nordic countries this has led to a general trend of centralizing in larger hospitals. In Denmark for instance, some of the most advanced experts of heart diseases are localised at only two hospitals covering 2.6 million people. This example illustrates the potential need for small countries to engage in cooperation within health services.

### **Why the North Calotte Region?**

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The situation in the Northern parts of Norway, Sweden and Finland is similar to Iceland. Demographic challenges and a sparse population divided between three countries (or four including Russia) forms an interesting case of standardized health services. What are the potential benefits in an integrated market for health north of the North Calotte Region? And what are the obstacles?

### **Why the Oresund Region?**

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Completely different from the above cases is the Oresund Area with a population of 3.5 million people, which makes it the largest and most densely populated area in the Nordic countries. This also raises interesting questions regarding economies of scale as well as perspectives on impact on the strong medico industry located in the area known as Medicon Valley and the opening of the Oresund Bridge in 2000, giving new opportunities for cross-border mobility.

### **Why the Oslo-Gothenburg Region**

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The region is as the Oresund region an urban area with high density of population and a long shared border. However, the distance between the main cities is longer and communication has not developed to the same level as in the Oresund region. In addition, Norway is not a member of the EU, but the EEA agreement and the long historic Nordic cooperation overcome most of the "EU gap". In this special context, do the experts and practitioners in the region perceive any special potentials or barriers for further cooperation? In this sense it is an interesting case that might highlight some aspects and barriers for further Nordic integration in the health sector.

## Chapter 2. Mapping of the current Nordic market for health care services

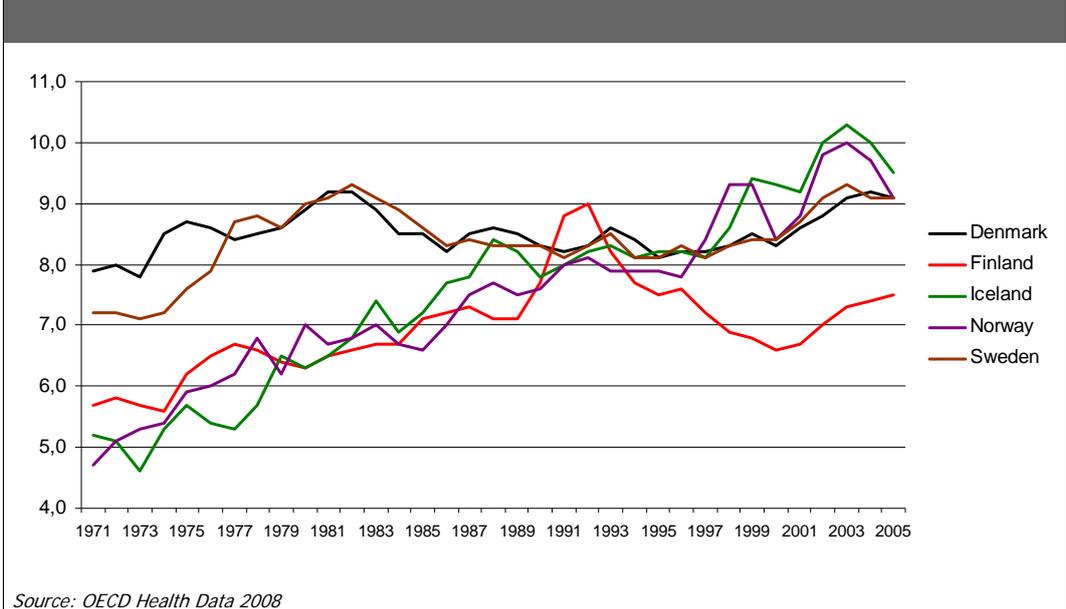
Before going into greater detail on the Nordic integration and in particular the Nordic integration in the health care sector, it is instructive to consider some basic data on the structural and economic differences of the health care sectors in the Nordic countries.

### 2.1 Volume of the Nordic health care sector

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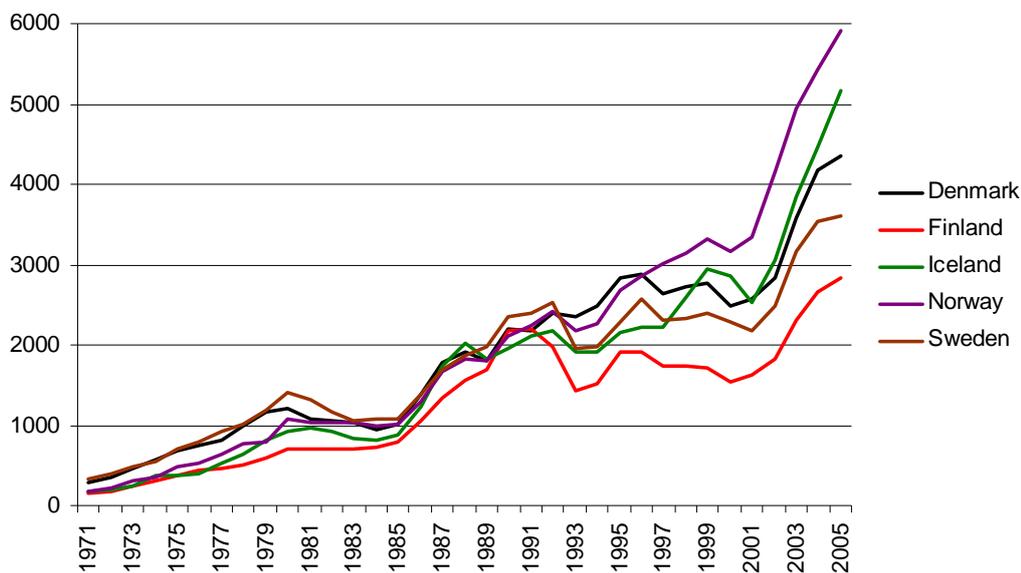
Below in figure 2.1 data on the total expenditure on health as a percentage of GDP in the Nordic countries are presented. It is clear that the development and the level of health care expenditures differ a lot among the Nordic countries. Denmark and Sweden follow, *ceteris paribus*, the same pattern. Seen over the entire period from 1971 to 2005 the expenditures on health as a percentage of GDP rises from 7-8% in 1971 to more than 9% in 2005. Iceland and Norway also follow an almost symmetric pattern. In 1971 the total expenditure on health as a percentage of GDP is only around 5% for both countries. However, this number grows steadily over the next 35 years so that in 2005 both countries spend more than 9% of their GDP on health. The development of health expenditures for Finland can best be divided up into two periods. The first period is from 1971 to 1992 where the Finnish health care expenditures grew at a very fast pace. In 1992 Finland was the Nordic country that spent the most on health care as a percentage of GDP. The second period is from 1992 to 2005 where the Finnish health care expenditures fell rapidly while they rose for all the other four Nordic countries. In 2005, the Finnish health care expenditures only amounted to 7,5% of GDP.

Figure 2.1: Total expenditure on health as a percentage of GDP



In figure 2.2, data is presented on the total expenditure on health per capita for the Nordic countries. It is instructive to divide the period from 1971 to 2005 up into two. The first period is from 1971 to 1991. During this period the Nordic countries follow an almost identical pattern. The expenditures on health rise steadily from 1971 to 1991 so that the expenditures are around 2200-2400 USD per capita in 1991. The second period is from 1991 to 2005. Characteristic for that period seen as a whole is that the expenditures per capita on health rises for all countries. However, the expenditures on health per capita rise at very different rates for the five Nordic countries. In 2005 the expenditures per capita on health is more or less spread evenly in the interval from 2825 USD per capita for Finland up to 5912 USD per capita for Norway.

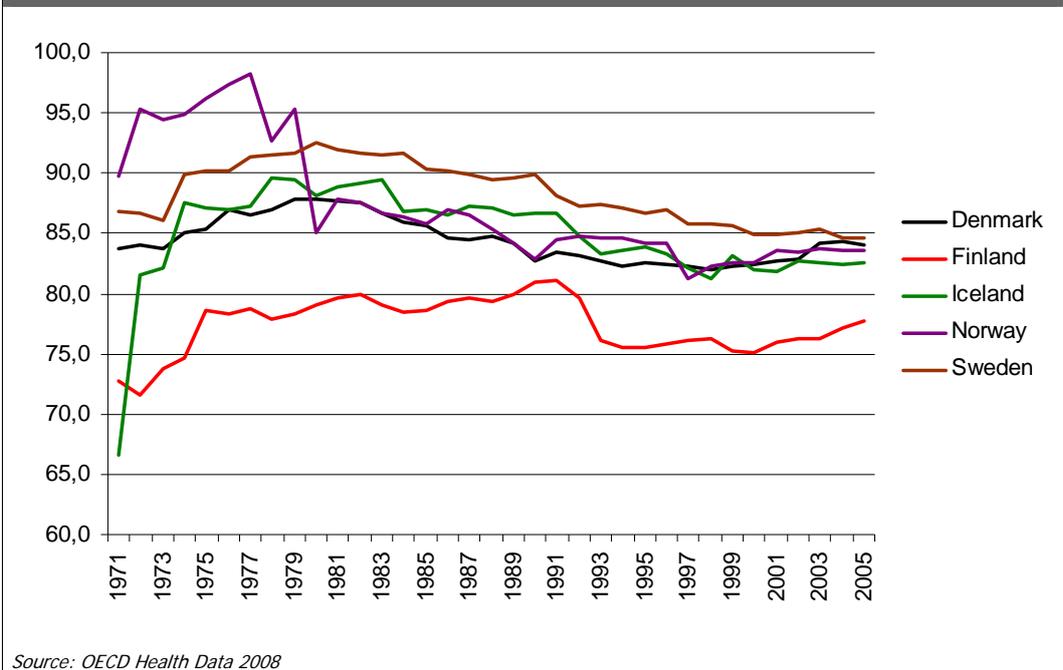
**Figure 2.2: Total expenditure on health per capita**  
*Measured by the US\$ exchange rate*



Source: OECD Health Data 2008

Below in figure 2.3, the public expenditure on health as a percentage of total expenditure is presented for the Nordic countries. In 1971, the Nordic countries differed a lot in relation the ratio between public and private expenditure on health. Iceland and Finland were in 1971 by far the countries with the lowest share of public expenditure on health, with 67% and 73% respectively. At the other end of the spectrum we had Norway with 90% of all health expenditures being public. Over the period from 1971 to 2005, both Finland and Iceland experienced an increase in the share of public health expenditures. Norway and Sweden experienced a small decrease in the share of public expenditure during that period, while the Danish public expenditure share was more or less steady at around 83-84% over the entire period.

Figure 2.3: Public expenditure on health as a percentage of total expenditure



All in all, the conclusion from this section is that the expenditures and structure of the health sectors in the Nordic countries share numerous similarities. Nevertheless, it is necessary to mention that the Finnish health sector differs from the other four Nordic health sectors in all the above three measures. The expenditures on health in Finland are the lowest both as a percentage of GDP and as expenditure on health per capita. However, one should be cautious in drawing too harsh conclusions from those facts because the low expenditures on health are not necessarily a bad sign.

## 2.2 Historic trends in health care integration

Initially, a short overview of the general economic and political integration in the Nordic countries will be presented. Subsequently, focus will be narrowed down to the Nordic integration in the health care sector. In order to describe the trends in Nordic health care integration, it is necessary to complement the historic development with the most central EU legislative milestones. This is done because the EU health care integration in many instances is highly correlated with the developments in the Nordic countries, and because in some areas the Nordic countries follow the EU legislation.

### Trends in Nordic integration

Nordic cooperation is far from being a new phenomenon. The first milestones in the Nordic integration were the formation of the Nordic Council in 1952 and the Nordic Council of Ministers in 1971. Both councils are cooperative forums for the parliaments and governments in the Nordic countries. The aim of the formation was to integrate the Nordic countries at all levels of cooperation from a complete integration of the markets to a common defence policy. Up until the Danish entry in the European Community (EC) in

1973, the focus was very much directed towards enhancing Nordic integration. However, after the Danish entrance into the EC, focus changed from the Nordic region towards Europe. In 1995 Finland and Sweden joined the European Union (EU), which further strengthened the Nordic focus towards economic and political integration with the rest of Europe. Last, both Norway and Iceland are having signed the Agreement on the European Economic Area (EEA), which entered into force on the 1<sup>st</sup> of January 1994. The agreement brings together the 27 EU members and the three EFTA countries (Iceland, Liechtenstein and Norway) in a single internal market, referred to as the Internal Market. The EEA Agreement provides for the inclusion of EU legislation that covers the four freedoms — the free movement of goods, services, persons and capital — throughout the 30 EEA States. In addition, the Agreement covers co-operation in other important areas such as research and development, education, social policy, the environment, consumer protection, tourism, culture etc. The Agreement guarantees equal rights and obligations within the Internal Market for citizens and economic operators in the EEA.

After the expansion of the EU in 2004, the economic and cultural differences between the countries increased. These increased differences between the countries created regions inside the EU, which share economic, political and cultural similarities. In other words, a Europe of regions has emerged. The Europe of regions conception has restored the interest in enhancing the integration between the Nordic countries. A good indicator of the increased focus of enhancing the Nordic integration is the creation of Nordic Innovation Centre in 2004. The Nordic Innovation Centre is a fusion between the Nordic Industry Fund and Nordtest. One of the aims of the Nordic Innovation Centre is to create an integrated borderless region with fewer barriers to trade with goods, capital, labour and services.

## **Trends in Nordic health care integration**

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The right to health care is a fundamental social principle in the Nordic countries. The Nordic countries follow the same principle as the EU, which is described in article 35 in the Charter of Fundamental Rights of the European Union of 2000:

*“Everyone has the right of access to preventive health care and the right to benefit from medical treatment under the conditions established by national laws and practices...”*

The article implicitly states that the benefits different health care and social security systems provide and their organisation is the responsibility of the member state. It is thereby solely up to the individual Nordic country to provide health care services to its citizens. A logical consequence of this is that there historically has been put little effort into harmonising the Nordic health care sectors.

The view that health care is solely a national matter changed gradually up through the nineties. Actually, coordination among the Nordic countries in some key health care areas has already taken place, while coordination in other areas is close to non-existent.

Within the areas of personnel, education and R&D, the Nordic health care sector has achieved substantial coordination. The Nordic countries have taken the free movement of health care personnel even further than the EU. The same goes for the compatibility of health care education obtained in the Nordic countries. The Nordic countries also have a long-standing tradition of cooperation within R&D. This cooperation is especially profound within R&D performed at Nordic universities.

However, the Nordic region has a long way to go in the area of cross-border patient movement. In more general terms, the problems arise when one Nordic country has to

provide a given health care related service to a citizen of another Nordic country. There are various reasons for why this cross border patient movement does not take place, which will be elaborated on in the subsequent sections.

## **2.3 Health care integration in the Nordic countries and EU**

In this subsection different types of health care integration will be considered. A short historic outline and the legislation behind the various types of Nordic health care integration will be put forward. The EU legislation will in some instances be considered, since it is the predecessor for the Nordic legislation.

### **Patients**

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The Nordic integration of patients is deeply rooted in the EU legislation for the mobility of patients. Therefore a brief brush up on the events leading us up to where we are today is needed.

Historically there has been little attention paid to cross-border health care arrangements due to the stance taken towards health care by the EU, i.e. health care is considered a solely national matter. Nevertheless, the first initiative towards increasing the cross border mobility of patients took place already in 1971. In 1971, *Council Regulation (EEC) No. 1408/71* was put into force, and in 1972 *Council Regulation (EEC) No. 574/72* was put into force. These regulations led to the formation of two important health care schemes in the EU.

First, the regulations led to the formation of the *E111 scheme*, which was subsequently replaced in 2004 by the *European Health Insurance Card*. The European Health Insurance Card ensures citizens of the European Economic Area (EEA) (plus Switzerland) the right to receive medical treatment in other member states for free or at a reduced cost. This means that all Nordic citizens travelling in an EEA country plus Switzerland are entitled to medical treatment in case of an emergency contingent on having acquired a European Health Insurance Card prior to departure.

Second, the regulations led to the formation of the *E112 scheme*. Central in the E112 scheme is that citizens have the possibility of obtaining cross-border medical treatment contingent on having authorisation from the home country. The central issue now is how to obtain authorisation prior to treatment since, with authorisation in hand the country of the resident will cover the citizen's expenses in relation to the treatment abroad. The problem in relation to the authorisation procedure has been that it differed significantly between the member states. At one end, you had France and Greece, which employed very strict authorisation procedures, and at the other end you had border areas in Belgium and Austria who adopted a very lenient approach (Boonen et al. 2002).

Despite the early cross-border regulations in 1971 and 1972, the health care area did not undergo any major legislative changes in the preceding years. The issue of cross border health care did not make it to the political agenda until two important rulings by The European Court of Justice (ECJ) in 1998 – the *Decker* and *Kohll* rulings, which changed the EU's stance towards health care issues. The rulings are seen as cardinal since they mark the first interventions by the EU in health care related matters. Both Decker and

Kohll are Luxembourg citizens and were in 1998 insured by the social health care in Luxembourg. Both applied for care abroad without prior authorisations, and because of this they did not receive any reimbursements after receiving the cross border health care services. Subsequently Decker and Kohll claimed that the authorisation procedure restricted them from buying services from abroad. The ECJ ruled in both cases that the strict application of the prior authorisation was in conflict with the four freedoms of movement meaning that health systems fall within the scope of the single European market. Furthermore, the ECJ stated that Member States are considered responsible for the organisation of social security systems and thus member states are also responsible for creating possibilities for the free movement of goods and services (Boonen et al. 2002).

On the basis of the two above and subsequent cases, the Court's rulings developed the following two general principles in relation to reimbursements:

- Any **non-hospital care** to which a person is entitled in his or her own Member State they may also seek in any other Member State without prior authorisation, and be reimbursed up to the level of reimbursement provided by their own system.
- Any **hospital care** to which a person is entitled in his or her own Member State, they may also seek in any other Member State provided they first have the authorisation of their own system. This authorisation must be given if their system cannot provide them with care within a medically acceptable time limit considering their condition. They will be reimbursed up to at least the level of reimbursement provided by their own system.

In 2006, the ECJ made a similar debated ruling on the British citizen Yvonne Watts. The ruling was comparable to the Decker and Kohll cases and basically the ECJ confirmed the above principle stating that if the national member state is unable to provide the medical service within a reasonable time limit, then the citizen is free to seek treatment abroad and subsequently claim reimbursement.

In 2007 the European Commission along with the Gallup Organization published a very interesting survey on cross border health services in the EU. On the basis of the survey it was revealed that more than 50 percent of all citizens in the EU 27 would be willing to travel to another EU country in order to receive medical treatment (Eurobarometer, 2007). Despite the possibility of cross border treatment and the high willingness to travel abroad, the volume of cross border patient mobility inside the EU is still relatively low. It has been estimated that only around 1% of overall public expenditure on healthcare is spend on cross border treatment (Commission of the European Communities, 2006). In relation to the low measure of 1%, it should be noted that the volume of patient mobility is expected to be significantly higher in border regions.

In July 2008, the European Commission released the highly debated and long awaited directive proposal on cross border health care. The directive was initiated by the rulings of the European Court of Justice in the late nineties. The main goal of the directive was to remove the uncertainties in relation to applying the above reimbursement principles stemming from the ECJ rulings. As the situation is today, there are numerous uncertainties in relation to cross border medical treatment such as: safety and quality of provided services, authorisation and reimbursement, responsibilities in regard to clinical oversight etc. The directive proposal aims to reduce the uncertainties and clarify the legal rights of all stakeholders when receiving medical treatment in other EU member states. The reimbursement rules are a very cardinal point in the directive proposal. Initially, it was proposed that all citizens in the EU 27 should be entitled to medical care in all other member states without prior authorisation and should be reimbursed up to the level of reimbursement provided by their own system. However, it was considered to be too dramatic

of a change so the proposal was subsequently adjusted in order to give it a better chance of being adopted. The final reimbursement rules in the directive proposal are as follows.

- Any **non-hospital care** to which citizens are entitled in their own Member State, they may also seek in any other Member State without prior authorisation, and be reimbursed up to the level of reimbursement provided by their own system. Examples of non-hospital care are dental care, visits to the optician, medical consultation etc.
- Any **hospital care**<sup>1</sup> that the citizens are entitled to in their own Member State, they may also seek in any other Member State, and also be reimbursed up to the level of reimbursement provided by their own system. If an unpredictable surge of cross-border healthcare risks becoming a serious problem, the proposal provides for a specific safeguard clause. In accordance with case law of the ECJ, it allows a Member State to put in place a system of prior authorisation for hospital care to safeguard its overall system if necessary.

The reimbursement rules are more or less identical to the general principles that arose following the Decker and Kohll cases. Therefore the great benefit of the directive proposal is that finally some attempts to define legal rules have been put forward.

The directive has spurred a lot of debate as to who will benefit from the directive. The greatest point of criticism is that if implemented as it stands today, it is very likely to mainly benefit the richer member states and in general the well-off citizens of the EU. This is partly due to the fact that the health services received in other member states has to be paid up-front, which is often not possible for poorer individuals and families. Furthermore, since you will be reimbursed up to the level provided by your own system it also hinders the mobility of patients from poorer member states seeking treatment in richer member states where the costs are higher.

The EU is not uninformed about the low patient mobility inside the EU. Therefore, in order to increase the mobility of patients, an EU wide project called *Europe for Patients* was launched in 2004. The aim of the project is to map the benefits and challenges for patient mobility in Europe. The project team consists of experts from all over Europe with extensive experience within the subject area. It is expected that the project will have a massive impact on the EU policies within the area of public health, health systems and social protection. In 2006 they published the most extensive study ever conducted on mobility of patients in the EU. The project was named; "Patient Mobility in the European Union – Learning from experience". The report was built up around nine regional cross-border studies and the conclusion was that there does exist cross-border patient mobility, albeit not very much. A major problem in relation to the nine case studies was the lack of obtaining valid data. As the authors put it in the introduction of the study:

*"Accurate statistics on patients moving across borders is almost nonexistent. This became clear in almost all the case studies. Often the receipt of health care by foreign patients is not recorded or the information (such as that on E111 forms) is lost or details are missing, such as the country of origin and the volume or type of care provided. Even where forms are completed they are rarely analysed. In many European health systems the administrative processes simply do not take account of the existence of foreign patients". (Baeten et al. (2006).*

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<sup>1</sup> The European Commission defines hospital care as treatment, which requires one night of hospitalization.

The lack of valid data on patient mobility represents a major obstacle for research on patient mobility both at the EU and the Nordic level. At the Nordic level there only exists sparse data on patient mobility, which will be presented in the case studies below.

The status on patient mobility in the Nordic countries is that in relation to intentionally moving patients across borders we follow the E112 scheme. However, it is the impression that there exist many obstacles both at the practical and the political level. Those obstacles will have to be overcome in order to increase the cross border patient mobility in the future. A general, larger degree of patient mobility at the EU level will affect the patient mobility within the Nordic countries, as Nordic patients are likely to go to another Nordic country.

## Personnel

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Cooperation on the cross border mobility of health care personnel in the EU dates back to the late seventies. Directive 77/452 EEC of 1977 ensured compatibility of diplomas, certificates etc. of nurses wanting to work in other EEC countries. Directive 78/686/EEC and 80/154/EEC ensured the same compatibility for dentists and midwives, respectively. However, it was not until 1993 that the EU through directive 93/16/EEC ensured the compatibility of diplomas, certificates etc. of doctors inside the EU. In the preceding years several amendments were made to the different directives. In 2005, the EU decided to bring together the recognition of all the four above qualifications into a single directive. The outcome was Directive 2005/36/EC, which ensures compatibility in EU of diplomas, certificates etc. of the four above qualifications.<sup>2</sup> Thereby the directive covers a substantial part of the health care sector personnel. The main principle in the directive is that when the majority of a person's qualifications have been obtained in an EU country, then the persons qualifications should qualify for a job in any EU country. The Directive also covers EFTA countries (Liechtenstein, Iceland and Norway) and Switzerland. Despite the directives good intentions regarding the free EU movement of health care personnel the application process still contains a lot of bureaucracy and is far from fluid.

Cooperation on the cross border mobility of health care personnel in the Nordic countries dates back to the beginning of the eighties. In 1981, the Nordic countries initiated the work leading to a collective agreement in 1982 on the automatic provision of an authorisation after the completion of an education within the health care sector. With an authorisation in hand, the person is free to pursue his or her career in the other Nordic countries, or in the EU for that matter. Numerous amendments were made in the years following 1982 leading to the current legislation from 1998.

The Nordic agreement goes deeper than Directive 2005/36/EC. The main difference is that the Nordic agreement covers more than the four large sectors areas (nurses, dentists, midwives and doctors) of the EU Directive. That is, the Nordic agreement covers physiotherapists, psychologists, opticians etc. This means that if a Nordic physiotherapist wants to work in a Nordic country he or she is free to do so with an authorisation in hand. However, if that person wants to work in the EU he or she might have to take additional tests etc. in order to comply with the rules in the EU country.

In 1982, parallel with the implementation of the Nordic agreement, the Nordic Council of Ministers set up a task force, which later was called "*Långa Namnet*". The aim of the task force is to monitor the implementation of the Nordic agreement in the national legislation, and to encourage cooperation in establishing a common stance towards the accep-

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<sup>2</sup> Directive 2005/36/EC also covers architects, pharmacists, veterinarians and lawyers.

tance of foreign health care training. Långa Namnet publishes a status report annually on the level of cooperation between the Nordic countries. Below is presented some comparative data on the flows of health care personnel between the Nordic countries.

<b>Table 2.1: Number of authorisations given to health care personnel from other Nordic countries.</b>		
	<b>2002</b>	<b>2006</b>
Denmark	153	199
Finland	72	55
Iceland	50	60
Norway	2746	2922
Sweden	654	460

*Source: Långa Namnet Annual Report 2002 & 2006.*

As seen in table 2.1 there are great differences between the Nordic countries when it comes to the actual number of authorisations given to health care personnel from the other Nordic countries. Norway is by far the country which uses the most health care personnel from the other Nordic countries. At the other end we have Finland, which uses the least personnel from the other Nordic countries. The low number of authorisations given in Finland very likely stems from the fact that the Finnish language is very different from the other Nordic languages. Iceland actually gives out quite a substantial number of authorisations. Remember that the population of Iceland is approx. 315.000, which is only around 3,5 per cent of the Swedish population.

<b>Table 2.2: Nordic share of foreign authorisations given to health care personnel.</b>		
	<b>2002</b>	<b>2006</b>
Denmark	41,5%	38,9%
Finland	27,2%	20,5%
Iceland	45,0%	64,5%
Norway	68,5%	68,5%
Sweden	45,1%	25,3%

*Source: Långa Namnet Annual Report 2002 & 2006.*

In table 2.2, the Nordic share of foreign authorisations given in the five Nordic countries is presented. It is clear that there are great differences between the countries. Finland has in the five year period from 2002 to 2006 decreased their relative use of Nordic health care personnel so that only 20,5% of the foreign authorisations in 2006 were given to Nordic health care personnel. Sweden has in the five year period experienced a similar development so that only 25,3% of foreign authorisations are given to health care personnel from the other Nordic countries. Iceland has experienced a direct opposite development compared to Sweden and Finland. They have seen a substantial increase in the share of authorisations given to Nordic health care personnel. In 2006 almost 65% of all foreign authorisations were given to Nordic health care personnel. Norway is the heaviest user of health care personnel among the Nordic countries. In both 2002 and 2006, almost 70% of their foreign authorisations were given to health care personnel from the other Nordic countries. Last, Denmark has experienced a little drop in the share of authorisations given to Nordic health care personnel. If one takes the information in

table 2.1 into consideration, then an interesting conclusion arises. That is, while the actual number of authorisations given to Nordic health care personnel has increased, simultaneously the share of Nordic authorisations has decreased. This means that the number of authorisations given to non-Nordic health care personnel must have increased at an accelerated rate during the five year period.

## Education

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The structural prerequisites for a higher degree of interdependence and cooperation within the field of higher education in general and medical professional education in specific have improved on the Nordic as well as the European level, during later years.

Two specific EU policy initiatives during the last 25 years, the establishment of the Erasmus programme and the initiation of the Bologna process, have been especially important for the increased integration of the European educational systems.

The Erasmus programme, which is an initiative for increasing student mobility within the European Union, was launched in 1987. Today some 150.000 European students benefit from this programme every year, which is an increase of close to a 100 % in 10 years. The programme provides the opportunity for European students to study in other European countries for 3-12 months, without being forced to pay extra tuition fees and with the guarantee of getting their courses accredited at their home university (Pépin 2007).

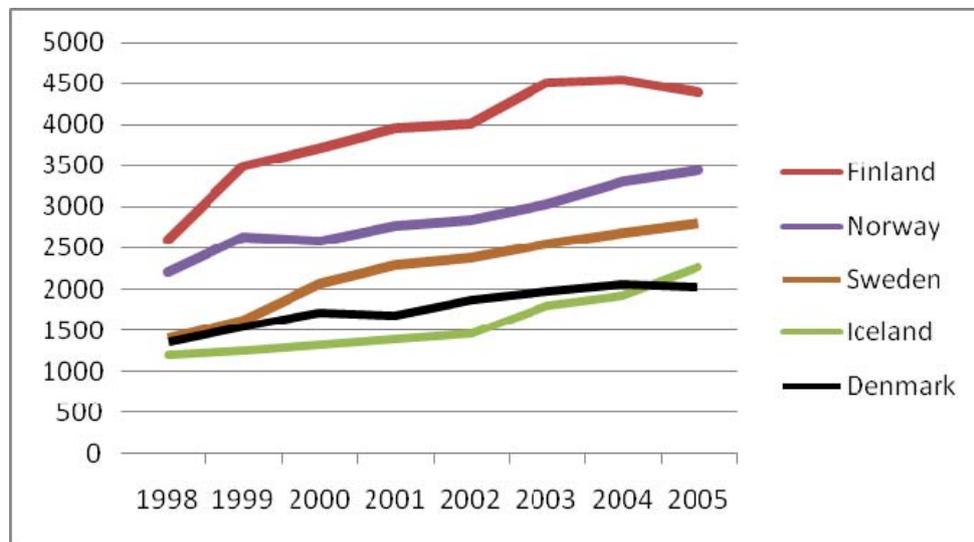
Through the adoption of the Erasmus programme and other essential higher education initiatives and an increased emphasis on education in the Maastricht Treaty of 1992, education got a more prominent position in the European policy agenda during the late 80's and early 90's (ibid.). With the initiation of the Bologna process in 1999, the integration of the European national systems for higher education took another step.

The initial Bologna Declaration of 1999 recognised 6 goals for a higher degree of cooperation between the European higher educational systems. The number of goals in the Bologna agenda has today increased into 10 specified lines. The overall aim with the entire process is to create a European Higher Education Area (EHEA) by 2010. Besides the member countries of the European Union the guidelines in the agreements will also apply to several non-EU countries including Iceland and Norway. Some of the most important changes that will be implemented as a part of the process is a harmonised 2 cycle (undergraduate and postgraduate) educational system, the establishment of a system of easily readable and comparable grading and credit system, and the promotion of a European cooperation in quality assurance (Oliver and Sanz 2007).

This harmonisation of the European higher educational system has already had a substantial impact on the integration and harmonisation of the European educational systems. The development will probably go even further in the coming years, and will facilitate the process of studying for an academic medical degree in a different Nordic country.

During recent years, there has been a tendency toward a higher number of exchange students between the different Nordic countries. Data on this issue is problematic (Kelo et al 2006), but according to the figures illustrated below there have been an increase in the number of Nordic students studying abroad in different Nordic countries.

**Figure 2.4: Number of citizens enrolled in higher education in another Nordic country**



Source: UNESCO-OECD- Eurostat 2006

Prior to the Bologna process, member states of the European Union were obliged to acknowledge the training of medical workers in accordance with directive 1993/16/EC and later 2005/36/EC. Besides these European agreements, there has existed a Nordic agreement about the interchangeability of Nordic physician authorisations since 1994. Hence, there has been a tendency toward a higher number of Nordic students studying for a medical degree in a different European or Nordic country.

In a report issued in cooperation by all the Nordic professional medical associations, the interdependence between the different countries' educational systems is highlighted. In some countries, students from other Nordic countries amount to a substantial part of the total number of medical students. This is for instance the case in Denmark where 25% of the total numbers of medical students are Swedish or Norwegian. Even though this development is normally perceived as positive, there is of course a risk that the foreign students crowd out the natives and do not choose to stay in the country in which they are trained after the completion of their medical degrees. Among the Norwegian and Swedish medical students in Denmark, approximately half of the students leave Denmark within three years after an achieved medical degree (SNAPS 2006).

Beside further integration of the higher basic Nordic medical educational systems, there are also good examples of Nordic cooperation within medical specialist and vocational training initiatives. One of these projects is the pan-Nordic two year educational programme in Palliative medicine. Palliative care is a small but growing medical discipline that is not recognised as a medical speciality in any of the five Nordic countries. By pooling the common human and financial resources in this area, the initiators of this project were however able to organise a joint Nordic course in Palliative Medicine, which will increase the number of Nordic physicians with formal education within this area substantially in the coming years. This is one example of how Nordic cooperation within medical education can increase the possibilities of offering more specialised medical education that would probably not be conceivable in most of the individual Nordic countries (Haugen and Vejlgard 2008).

## **E-Health Services**

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Telemedicine services, remote diagnosis and prescription, laboratory services, etc. are examples of cross-border. A study by the Nordic Council of Ministers in 2007 studied the scope for further Nordic integration within telemedicine, which is more broadly known as e-health. An example of e-health would be when a patient, through a videoconference or e-mail correspondence with a specialist, receives health care services from a distance. Despite the inherent benefits of reaching patients in remote areas, the report concludes that the time is not ripe for a common Nordic e-health strategy. The forum behind the study underlines that e-health in the future should be part of both national and Nordic health care strategies. Furthermore they underline that the implementation of e-health not should be seen as a goal in itself, but rather as an instrument to improve the general level of health care services provided. Lastly they emphasize that the organisation of cross-border e-health services in the near future should be part of national strategies and not a common Nordic strategy.

All in all, it is concluded by the forum that e-health is definitively an instrument that should be used in the future. However, they are also aware that there exist large technological, organisational, economical and legislative challenges that have to be met and overcome in the future for e-health to be beneficial. The forum in particular points out two major challenges for the future in order to integrate e-health successfully across borders. First, in general, higher integration between the national health care systems is needed for cross border e-health to be successful. Second, increased rights to access patient files, registers and catalogues across borders are needed.

The possibilities related to e-health are also recognised by the EU. In 2004, the Commission published an action plan for a European e-health area.<sup>3</sup>

## **Research and development**

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As this section will highlight, the basic tendencies in the field of R&D has been relatively similar on the European as well as the Nordic level. In both these contexts, a higher emphasis has been placed on the importance of cooperation and denationalisation in regard to R&D. This development is motivated by the idea that research of high international quality demands a certain amount of resources, human and financial, that it is not always possible to provide on a national basis (Björkstrand 2004: 31 ff.).

On the European level, the internationalisation processes are driven by the policies articulated in the so-called Lisbon strategy. This strategy is aimed at making the European Union the most competitive economy in the world, by the year 2010. In this strategy, R&D has been given a prominent role. The development of a knowledge based economy with a high concentration of R&D is, according to the strategy, a prerequisite for the realisation of this ambitious goal. One major obstacle for the development of the European research community is, according to the commission, that the community is divided into different national entities without sufficient structures for international cooperation. Hence, the strategy has the ambition to increase the level of cooperation between research institutes located in different member states and create one common European Research Area (ERA) (de Elera 2006).

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<sup>3</sup> See COM (2004) 356 e-health – making health care better for European citizens: An action plan for a European e-health area.

The most important instrument for integrating the different national research communities is the so-called seventh framework programme (fp7). The programme has both legal and financial dimensions, and is a large funding contributor to research projects around Europe. The total budget for the fp7 programme is 50.5 billion Euros during the period 2007-2013. This is a substantial increase from the previous and initial programme (fp6), which amounted to 17.5 billion Euros during the period 2002-2006. The framework programme acknowledges a number of different prioritised research areas. Health is identified as one of these important research fields, and has received a budget of more than 6 billion euros during the lifespan of the (fp7) programme. In the program, it is especially emphasised that optimizing the delivery of health care to European citizens is a high priority.

The Lisbon strategy and framework programme does not only aim at increasing cooperation between research institutes from different member countries, but also to increase the activity of private firms in R&D, by encouraging the establishment of European R&D joint ventures. One legal initiative in accordance with this strategy is the exemption of R&D cooperation from the article 81(1) of the EC treaty. Article 81(1) has been constructed to prevent cooperation between companies, which may affect trade between EU member states.

There is a substantial degree of cooperation in R&D among Nordic institutions generally as well as specifically in the health sector. In an article written by Persson et.al (1997), the authors prove there is a significant inter-Nordic collaboration in regard to undertaking scientific projects. Interestingly, the authors also find that medicine is an area where cooperation is especially common. In a later contribution to the literature on this area, Hansen and Hansen (2007) prove that this kind of cooperation is still common, and that the tendency toward a higher degree of inter-Nordic cooperation is still ongoing. The authors put special emphasis on the Oresund Region where cooperation is especially wide spread.

Even though the Nordic research communities have become increasingly integrated, critics argue that a truly integrated Nordic Research area calls for some institutional changes. The absence of a large-scale Nordic research-financing programme is one of the problems discussed in relation to creating a higher degree of integration. Besides the existence of some smaller programmes administrated by Nordforsk, there are no Nordic initiatives similar to the European fp(7) programme (Björkstrand 2004: 32 ff).

Within the medical research area, Nordic researchers can apply for grants from the Nordic Medical Research Councils (NOS-M). The objectives with NOS-M are to coordinate and promote Nordic medical research.

## **Classification and quality assurance harmonisation**

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This section will investigate the current status of quality assurance and classification schemes, and their level of harmonisation within the European and Nordic context. A higher degree of integration within these areas has the potential to increase comparability and enable a larger cooperation across borders.

European and global standardisation has a long history, and many sectors within the economy have developed far reaching international standards which make domestic as well as international products more comparable. Traditionally, international standardisation has been most common in business sectors engaged in production. In later years, more emphasis has been put on the development of international standards for services.

The European Services directive (2006/123/EC) aims at increasing the integration between European service markets, and is planned to be implemented by the year 2010. This goal should, among other measures, be achieved through an increased degree of standardisation. The directive has however issued an exemption for the health care sector. There has been an intense debate on this exemption that was amended to the original directive in 2006 (Kox and Lejour 2006). The critics fear that the amendment may cause a situation where the health care sector lags behind in the general development of European standardisation within the service sector. They argue that more mobile patients would benefit from a higher degree of standardisation which would guarantee the patients a certain degree of quality, and increase the level of comparability between different national health care systems.

Even though one could argue that the health care system has not developed as many international standards as other sectors, it is however important to acknowledge that there do exist international standards on several different health care areas. The standards cover quality assurance for medical treatment as well as more administrative matters related to healthcare informatics.

On the Nordic level, certain standardisation initiatives have been implemented in order to increase the integration of the health care markets. One prominent example of such an initiative is the common Nordic Diagnosis Related Groups (DRG) system, NordDRG. This initiative was created in 1996 in order to develop a common Nordic DRG classification. The harmonised classification system can be used to compare outputs and costs of different health care treatments between different hospitals and Nordic countries. At present, the system is used in about two thirds of the Finish, Norwegian and Swedish hospitals. In Iceland the system is currently under examination and Denmark has created its own DRG system (DkDRG) that is based on the Nordic DRG system ([www.nordclass.uu.se](http://www.nordclass.uu.se)).

## **2.4 Cross-border integration cases**

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In the following sections a number of cross-border integration cases will be presented. Initially the view will be mainly directed towards European cases. Subsequently the focus will change so that only Nordic cases are considered.

### **EU cases**

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#### **Patient exchange between Malta and the United Kingdom**

For most European countries, patient mobility is a rather new phenomenon and has traditionally not been on the top of the health care policy agenda. This is however not the case for Malta. As a small country with limited human and economic resources and as a country with a large tourism industry, the island country has for a long time had a large outflow as well as a inflow of patients. This situation has made the country dependent on creating efficient institutions for managing the subject of patient mobility (Azzopardi Muscat et al. 2006).

Malta's historical and cultural bounds to the United Kingdom have made it natural to cultivate a close cooperation with the UK's health sector, and since many of the Maltese physicians received their medical degrees in the UK, there is a large degree of understanding of the British health care system among Maltese health care workers. Malta and

the UK have had a bilateral health care agreement for more than 30 years (Azzopardi Muscat et al. 2006).

The health care treaty has given Malta the chance to benefit from the highly developed medical specialisation at the British hospitals. Malta currently only has one large hospital which does not have the ability, due to lack of economic and human resources, to treat the most rare or complex diseases. Maltese authorities argues that if they where to treat these unusual diseases the results would be dissatisfactory both from a quality and an economical aspect. Specialised doctors need constant practice in order to keep their knowledge at an adequate level, and since the small Maltese community can only provide a few number of patients within some specialities it could be expected that these patients would not get the highest quality of care if they where to be treated by domestic physicians. Furthermore, there is a high cost associated with setting up specialised medical departments. The cost is hardly motivated if the number of patients requesting this specialisation is limited. Therefore the hospital has chosen not to provide care within some medical specialisation areas, but instead to refer these patients to British hospitals (Azzopardi Muscat et al. 2006).

Since patient mobility is a prerequisite for efficient Maltese health care, it has been essential to develop good institutions that are responsible for referring patients abroad. The special Treatment Abroad Advisory Committee (TAAC) decides which patients will be allowed to go abroad for healthcare treatments. In order to facilitate the process for the patients, successful applicants also gets help from the committee in arranging all practicalities associated with the trip abroad, such as transportation and accommodation needed, and translators if necessary (Azzopardi Muscat et al. 2006).

### **The patient mobility agreement in the Scheldemond region**

The boarder regions of Belgium and the Netherlands are often referred to as especially interesting cases in regard to patient mobility. Belgium and the Netherlands have been innovative in designing agreements for cross boarder medical treatment, and since there do not exist any substantial cultural or language barriers, the region has been said to be especially suitable for a high degree of health care cooperation (Gilnos and Baeten 2006).

The Scheldemond region case has however shown that there are problems associated with patient mobility. The region is located on the western boarder between Belgium and the Netherlands and consists of the Belgian provinces of East and West Flanders, and the Dutch Zealand province. The Belgian part of the region is substantially larger than its Dutch neighbour region. Out of the 2.9 million inhabitants in the entire region, 2.5 million are living on the Belgian side of the border (Gilnos and Baeten 2006).

The Schelmond region has had far-reaching cooperation on health care issues for the last three decades. In the mid 90's this health care cooperation was evaluated by a Dutch and a Belgian research institute (Gilnos and Baeten 2006).

This report showed that this cross border cooperation had resulted in an asymmetric situation, where a large number of Dutch patients where referred to Belgian hospitals while very few Belgian patients where treated in the hospitals of Zealand (Gilnos and Baeten 2006).

Due to the absence of waiting lists at the Belgian hospitals, the existence of specialised care at the Belgian hospitals that was not available at the smaller Zealand hospitals, and the general good reputation of Belgian health care, it became popular among physicians in the Dutch part of the region to refer patients to the Belgian part of the region. On the contrary, Belgian doctors tended to refer patients to other Belgian hospitals rather than

to the Dutch hospitals since there is limited access to specialised treatment within the Zeeland region (Gilnos and Baeten 2006).

The study concludes that this situation was not beneficial for either the Dutch or the Belgian part of the Schelmond region. The one way flow of patients threatened the existence of the smaller medical facilities in the Dutch part of the region, while the system became costly for the Belgian regions. This case shows that it can be hard to control cross-border patient flows and that the increased mobility can make it harder to plan the demand of health services (Gilnos and Baeten 2006).

### **Standardisation of treatment programmes in the border region between France and Italy**

The University Hospital of Nice and the San Remo Hospital, situated in the border region between Italy and France, initiated a standardisation of treatment for patients with HIV, HVC, HVB and other infectious pathologies in 2004. The programme aims at coordinating the treatment of these diseases at the two hospitals and to benefit from each other's resources in order to improve patient care on this area (EUREGIO 2007).

The programme consists of four different segments:

- implementation of telemedical applications,
- an exchange programme for hospital staff members,
- joint usage of capacities and facilities,
- development of validated treatment protocols and joint conducting of research projects.

The advantages with this project are said to be numerous. The programme aims at increasing inter-personal relationships between employees at the two hospitals, and thus stimulates new learning and creates a basis for innovative research. On behalf of the patients, the programme can amount to more knowledge and resource intense care (EUREGIO 2007).

This programme is a good example of how thematic cross-border treaties can develop the quality of health care from several aspects. With mobility of not only patients but also personnel, and deepened research cooperation, the region has been able to provide more efficient care in this essential area.

## **Nordic cases**

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### **The Patient Bridge – Cross border exchange of Norwegian patients**

In November 2000, the Norwegian Parliament decided to spend 1 billion NOK to treat patients abroad. In 2001, they set up an organisation within The National Insurance Administration to be responsible for financing and organizing the export of waiting list patients to neighbouring countries – primarily Sweden, Denmark and Germany. The project was named *The Patient Bridge*. In 2004, (Botten, Grepperud and Nerland 2004) evaluated the first three years of the program. The experiences of the project so far are that cross-border trade of patients can under the right circumstances reduce waiting lists and economize on health care resources. In accordance with conventional economic trade theory, the premise for obtaining economic gains of trade is that costs differ between the involved countries (Stiglitz 2002). Those cost differences were (and are) present between Norway and the partner countries, meaning that the scope for potential economic gains exists. Despite some drawbacks in relation to mobility, transaction costs, language etc.

the program has been successful in overcoming capacity problems in the Norwegian health care sector.

### **Cross border exchange of patients in the Oresund region**

In the Oresund region there are numerous examples of cross border projects within the health care sector. In the report "Borderless health care in the Oresund region" published by Öresundskomiteen (Gränslös sjukvård i Öresundsregionen - Öresundskomiteen 2002) it is estimated that there in 2002 existed approximately 20 formal cross border projects and in addition, 20 of a more informal character. An example of a successful collaboration in the region could be the partnership between a county hospital in Gentofte (Denmark) and the University Hospital in Lund (Sweden) within the area of neonatology. The collaboration meant that 60 Swedish heart patients in 2001 were treated in Gentofte due to capacity problems in Lund. By entering into this collaboration it was thereby possible to reduce the waiting time significantly for heart surgery at Lund University Hospital.

### **Dental care in the Karesuando region**

In 2002 the Interreg Community initiative initiated a cross-border dental care project in the sparsely populated northern region of Karesuando along the border between Sweden and Finland (See e.g. EUREGIO 2007). The objective of the project was to improve the efficiency of the dental care system on both sides of the border by joint use of resources. The improved efficiency of the dental care should ensure citizens the provision of dental care services close to the patient's place of residence. Before the project, a dental clinic existed on the Swedish side of the border, but it could not be operated all year long due to low patient numbers and recruiting problems. In January 2005, the project was implemented, and this ensured the operation of the Swedish side by opening it up to both Swedish and Finnish inhabitants of the region.

### **Baltic eHealth – Project on the provision of eHealth services in the Baltic Sea Region**

In September 2004 the Baltic eHealth project was launched with funding from the EU Baltic Sea Region Interreg III programme. The aim of the project was to study and promote the use of eHealth in the rural areas of the Baltic Sea Region, covering the following countries: Denmark, Norway, Sweden, Lithuania and Estonia. The more scientific aim of the project was to illustrate that eHealth can be an effective means to enhance access to high quality healthcare services in rural areas, and that the use of eHealth consequently contributes to counteracting rural out-migration. Especially in the latter issue, eHealth counteracting out-migration received a lot of attention in the project. Three case studies were carried out as a part of the project in Denmark, Sweden and Norway. The conclusions from the three case studies are quite clear, namely that the provision of eHealth services helps to improve and maintain the accessibility and quality of health care in rural areas. However, one should be aware that the development and implementation of eHealth services is still in an emerging phase, meaning that many services are still at a pilot stage and often provided on a small scale.

## Chapter 3. Drivers that could lead to increased integration

On the basis of in-depth desk research into Nordic and European literature, articles and official documents on the health care sector, different drivers towards increased Nordic cooperation have been identified. In this context a driver is an either endogenous or exogenous factor, which historically, presently and in the future can facilitate a deeper integration of the Nordic health care system.

The drivers therefore represent board areas, which can pave the way for a more integrated Nordic health care system. Under the board categories there will be elaborated on the more specific influences the drivers can have on integration and which specific areas should be of most interest.

The five drivers chosen for this study are the following,

- Economies of scale,
- Information Communication Technology,
- Demand driven health care,
- Global workforce,
- Policy.

In the following sub sections, the drivers will be presented individually. The presentation of the drivers will point out specific areas of interest under the board categories. Under the more specific areas the potentials and effects on future integration will be elaborated on.

It is important to note that the list is not exhaustive. The above five drivers have been selected based on desk research and interviews with key stakeholders in the five Nordic countries.

### 3.1 Economies of scale

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The Nordic potential for achieving economies of scale effects in the health care sectors is present within the field of specialised health care services. These potentials are present both in sparsely populated areas as well as densely populated areas. By breaking down the borders, the effective market for health care services will increase. A larger market opens up for reaping scale effects in various areas. The economies of scale effects have been broken down to five sub-categories in order to make a more systematic exposition.

#### Capacity

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A larger Nordic market for health care services could foster better use of the given resources. However, it is important to be aware, that there at the present is a general lack of capacity in the Nordic countries, which at the moment makes it difficult to use other countries capacity, especially within the area of mass treatments.

This also means, that at the Nordic level, we have only seen very few examples of cooperation in situations with shortage of capacity within the field of mass treatments. One of these examples is the previously mentioned *Patient Bridge* project in Norway, which helped the shortage of capacity within the Norwegian health care sector. By opening up the borders to the participating countries, the Norwegian Health care sector succeeded in eliminating capacity problems. The Patient Bridge examples serves as a good example of the potential related to capacity use in relation to integrating the Nordic market for health care services.

## Competencies

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A larger and more integrated Nordic market for health care services provides an increased scope for establishing Nordic regional centres, which can attract the most skilled doctors and researchers. These Nordic regional centres of excellence could function both as providers of specialised treatment, but also as centres of research and development. The regional centres of excellence will thereby be able to provide the ideal base for pioneering research and development within the specific fields, along with excellent medical treatment. It is important to note that the regional centres do not necessarily need to be cross-border arrangements, although the benefits in some treatment areas are likely to be greater the larger the covered area and population.

Historically, the pooling of competences within health care across borders is not novel to the Nordic countries, as there already exist four Nordic centres of excellence. However, those four centres of excellence are research only centres, and are all part of the *Nordic Centre of Excellence program*. The programme has managed to pool the best Nordic doctors and researchers from within the four fields of Molecular Medicine, Disease Genetics, Neurodegeneration and Water Imbalance Related Disorders. It is important to stress that the centres of excellence do not have a physical headquarter. Instead the involved parties take turns in arranging meetings and especially workshops. In light of the European Seventh Framework Programme, it is important to stress that the possibilities in the future for funding such centre of excellence programs are definitely present. The budget has been raised compared to the Sixth Framework Programme so that 6 billion euros are given away from 2007 to 2013 to projects or programs that aim to improve the health of European citizens.

## Price

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A larger and more integrated Nordic market for health care services does not only provide a scope for better use of capacity and competences, it also provides a scope for providing specialised treatment at the most cost effective level. An increased flow of patients seeking specialised treatment across borders calls for good coordination in regard to scarce or excess capacity. The cost benefits of not having excess capacity are especially present within advanced surgery such as i.e. transplantations. This is because many surgical procedures require a wide array of expensive medical instruments, often high-tech, that are unique to a particular surgery or type of surgery. Thus, when providing many advanced surgeries in one location, the costs per surgery can be reduced through coordination concerning the flow of patients so that the positive economies of scale effects for surgical equipment can be obtained.

The economies of scale effects are not documented for a common Nordic market. However, the negative relationship between volume and price is not novel, which several empirical studies also underline. Dimick et al. (2001) studied the economic effects of volume for esophageal resection. They found that surgery charges were \$11.673 lower in high volume hospitals (HVHs), a reduction of 35% from the price charged by low volume hospitals (LVHs). Gordon et al. (1999) also studied volume's impact on economic outcomes of complex gastrointestinal surgery. They found a \$2.425 or 14% reduction in charges at HVHs. Lastly, a study by the *Center for Healthcare Industry Performance Studies (CHIPS)* from 1997 also provides sound evidence on the effects on price of having a high volume of patients. The conclusion of the study, which is based on US data, is that a greater volume of patients is clearly associated with a sizable reduction in average cost per procedure (CHIPS 1997). The overall conclusion from the literature seems to be that there exists a negative relationship between costs and volume, which was also predicted.

The above price argument, along with the results from empirical studies, provides potential for establishing a more integrated Nordic health care market. A more integrated market could ensure a greater specialisation leading to larger flows of patients, which ensures that the positive effects of scale economics for price can be achieved.

## Quality

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The quality argument is related to the economies of scale line of reasoning and especially the creation of centres of excellence. By creating specialized units, which serve a larger geographical area, it is possible to provide better and more cost effective treatment of rare and complex diseases. In order to provide the highest quality of treatment for rare diseases it is cardinal that doctors experience constant practice within the field. This constant practice is not likely to be gained in remote areas with low patient volumes. Furthermore, it is important to keep in mind that it is often expensive to keep these specialized units running, which provides yet another argument in favour of integrating the Nordic health care sectors.

There exists extensive literature linking quality and volume of patients. The general conception in the literature seems to corroborate the above line of thought, i.e. higher patient volumes are associated with a higher quality of the provided services. In 2002, a seminal paper by Chassin et al. was published. They carried out an extensive study on the linkage between patient volume and quality of treatment. The authors searched databases and consulted experts to find published studies on volume–outcome relationships for procedures performed since 1980. One hundred thirty-five studies covering 27 different procedures were reviewed. The authors compared outcomes across studies. They defined outcome as the proportion of patients who died during or after a procedure. They found that 70% of the studies supported the idea that patients undergoing a procedure are less likely to die if their hospital or physician does large numbers of such procedures. This finding was strongest for AIDS treatment and for surgery on pancreatic cancer, esophageal cancer, abdominal aortic aneurysms, and paediatric heart problems. For these procedures, the authors estimated that using "low-volume" hospitals or physicians resulted in approximately 3 to 13 additional deaths per 100 patients. They found limited evidence and weaker volume–outcome relationships for heart surgery, surgery for other types of cancer, and orthopaedic procedures. Dimick et al. (2001) found a positive relationship between the volume of patients and the quality of treatment for esophageal resection. Specifically they find that Mortality rates were 16% in low volume hospitals (LVHs) and 2.7% in high volume hospitals (HVHs). Furthermore, they found that the length of stay was 6 days shorter at HVHs compared to LVHs. Gordon et al. (1999) stud-

ied volume's impact on the quality of complex gastrointestinal surgery. They found a similar conclusion. Namely, that mortality rates were 2.9% for HVHs compared to 12.7% for LVHs. Furthermore, they found that the average length of stay at HVHs is higher compared to LVHs, 14.0 and 15.7 days, respectively.

## **Large Scale Technology Investments**

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The need for making large scale technology investments can in the future be a driver towards further Nordic cooperation, in order to gain both geographic proximity and greater critical mass.

For instance, in these years, giant leaps are being made within the area of corpuscular radiation. Unfortunately, the equipment needed for providing treatment within corpuscular radiation is extremely costly. The price of a scanner used for treating heart irregularities by the use of corpuscular radiation is estimated to be around 1 billion DKK (134 million EUR). A consequence hereof is that a substantial patient base is needed in order to justify making the investment. This provides great incentives for the Nordic countries to pool some of their large scale investments and subsequently make the equipment available to citizens of both (or all) countries involved in the investment.

Problems in relation to the financing of large scale equipment are according to one expert likely to arise if public agents are involved. If public parties on behalf of a country agree on the investment, the costs have to be shared according to some predefined formula. The problems now arise when defining the usage and ownership of the equipment, since there are many unknown factors behind the future usage such as, will the technology become obsolete, will one region experience an unexpected higher fraction of patients, etc.

Large scale investments are according to one expert more suited for private consortiums since they are better at coping with the risk of the investment and ultimately raising the needed capital. In Kiel, Germany, a private consortium is in initial talks with neighbouring countries (among them Denmark) about the interest of investing in a corpuscular radiation scanner, which will be placed in Kiel. The idea is that private patients or public health systems can buy capacity at the facility.

However, public actors also consider common technology investments, so it is a driver which is not yet fully unfolded.

## **3.2 Information Communication Technology**

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The advances over the last decade within the area of Information Communication Technology (ICT) have been tremendous. This development has also affected the health care sector in various ways and will continue to do so in the future.

From an overall perspective the increased use of electronic journals etc. means that more data will be available to the health providers. This implies that it, *ceteris paribus*, should be easier to seek care in another country and that the risk of misunderstandings should be lowered. Baseret på åndsvag kommentar fra NICE.

In the following the most influential area within health care, which has emerged due to the advances in ICT will be presented.

## E-health

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E-health can be an important driver of integration in the health area, and is subject to extensive discussions both at the European and Nordic level. It is also however, an important driver of economic upsurge and of quality insurance. In the Communication (2004) 356, the Commission states that e-health "can improve access to healthcare and boost the quality and effectiveness of the services offered."

The health care sector is subject to many present and future challenges: an ageing population will strain already strained budgets even more; patients demand individualised and customised care to a greater extent; and the need to attract and retain personnel grows with a globalised and more competitive market. To this, e-health could be a part of the answer (Nordisk Ministerråd 2005).

Nordic initiatives on e-health include e-recipes, consultation from specialists via video conferences, electronic and transferable charts and even "tele dialysis" (where a patient with renal failure can get dialysis at the local care centre and have the data automatically transferred to specialists at the hospital). Such initiatives are only, however, to be regarded as the "tip of the iceberg." An increased use of ICT in the every-day work of care takers, such as the regular use of e-mail, has made health care personnel more accessible to their colleagues at other hospitals, and more willing to seek help and consultation from other establishments than their own (Nordisk Ministerråd 2007).

The use of ICT and e-health is a growing phenomenon that has great impact on the functioning of health care on many levels. For health care personnel, e-health means better access to knowledge and new discoveries as well as greater possibilities to gain help from outside the hospital. This is especially important for health care establishments in remote areas where the resources aren't extensive enough to include all forms of specialities. In such cases, video conferences can be of great relevance. Since remote areas are something fairly common in the Nordic countries, this kind of e-health is a driver towards Nordic cooperation. It could, for example, be just as easy to seek consultation from a Danish, Swedish, Norwegian or Icelandic colleague as from a Finnish colleague.

The increased accessibility, which is especially important for remote areas, is not only an improvement for the care takers. Patients in these areas, who have a regular need for care, are generally bothered by having to travel far to meet necessary specialists repeatedly. This means that e-health initiatives both have the potential to satisfy the patient and reduce patient travelling costs in strained budgets.

Economic gains can be retrieved not only from the decline of patients travelling but also from enhanced productivity. The use of electronic charts, for example, has made the process of correct treatment faster and more secure, compared to the time consuming and insecure practice of sending charts by regular post.

To summarize, e-health is a driver of change in today's Nordic health care; both when it comes to 'mobility' of health care personnel, accessibility to care and economic gains such as increased efficiency, and less travel expenses of both patients and personnel. These effects alone are of course interesting from a national perspective. However, when expanding that perspective to include the other Nordic countries as well, the gains can grow even bigger.

### **The future for e-health (telemedicine)**

According to prominent doctors and experts within e-health, the future looks very bright. The technological progress within the area is at present extremely well-developed. Already in 2001, a surgeon in New York performed a gall-bladder removal on a patient in Paris using a robotic-surgery system. Despite the impressive nature of the surgery, this does not seem to be where the future within the field is heading. Leading doctors and technical experts foresee a shift within e-health from acute treatment towards prevention of more chronic conditions.

In relation to prevention, telemedicine is well suited for people who have been diagnosed with heart conditions or diabetes since it is possible for them to monitor themselves from the comfort of their homes. This implies that some patients do not need to have their devices checked periodically at a clinic. Instead they can have their implants, sensors etc. inspected by the use of a mobile telephone from their homes.

Since 2006, Britain has spend 160 million USD on preventative technology grants, which provide special equipment to enable 160.000 elderly people to stay in their homes instead of going to a doctor for routine checks.

Looking even further out in the future, it would be interesting to provide perfectly healthy people with wireless sensors and implants, which enable doctors to spot diseases before the patient notices any symptoms. If a sustainable solution can be established, the days of making an appointment to see the doctor when you are not well could be over. Instead, it might be your doctor who calls you.

*Source: The Economist Technology Quarterly, June 7th 2008*

## **3.3 Demand driven health care**

Traditionally focus has been on the supply side when discussing Nordic Health care. However, this focus has changed in recent years towards a more demand driven conception of healthcare. The reason for this is that especially strong patient groups do not take the provision and quality of health care for granted anymore.

The demand driven part of health care plays a prominent role in relation to the potentials for an integrated Nordic health region. Demand driven health care is the concept that incorporates the empowerment of the patients into the co-ordination and organization of health care. In a demand driven health care system, actors are looking for ways to replace central regulation of the provision of health care by a system based on more flexible markets in which consumers can express their demands and in which the providers can meet demands with their products and services. An important prerequisite for this system to function is that patients/consumers have an exit option, which entails that if a patient/consumer is not content with the provided service he will move to another provider. This exit option exists in some of the Nordic countries. For example, in Denmark citizens have a choice to be treated at private hospitals and clinics in Denmark or abroad if the public system cannot provide treatment within one month of being referred by a general practitioner.<sup>4</sup> This initiative definitely represents a step in the direction of a more demand driven health care system, since patients now are involved in the coordination and organization of health care. Another step towards a more demand driven health care sector is the increased stream of patients going abroad for dentistry or beauty treat-

<sup>4</sup> See e.g. [www.sygehusvalg.dk](http://www.sygehusvalg.dk)

ments. This type of health shopping is almost entirely demand driven and thereby also influences the amount of services provided.

A demand driven system which give patients/consumers a choice of where to receive treatment definitively encourages the involved hospitals/clinics to provide a higher level of information. This increased stream of information will enable the patient to make a more well-informed choice as to where to seek treatment. However, some groups of patients are likely to retrieve this information one way or the other. An example of a strong patient group could be parents in need of specialized surgery for their children. They are very likely to conduct intensive research of the market before deciding on where to accept treatment. However, one should keep in mind that not all groups of patients are evenly strong and efficient.

The previously mentioned *Decker and Kohll cases* also mark a step in the direction towards a more demand driven health care system. They, as the first individuals, challenged the supply side of the health care sector by challenging the rules by which the health services are supplied. The cases therefore mark the beginning of a period, where patients become more and more concerned about their rights and the coordination of health care services. The cases have also provided evidence to providers that the definitions of patient rights are not ironclad.

The A-task for the future is to overcome the informational asymmetries between patients and providers that exist today. These information asymmetries are present in all health care systems, and imply that the market does not provide an efficient utilization of resources. The information asymmetries force consumers to rely on other parties to look after their interests. Those other parties could be patient organizations, which have better insights in specific health care related matters as well as stronger negotiation powers in case of disputes.

## **Private health providers**

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A specific consequence of the increased demands from patients is the growth of the private health care sector.

The Nordic market for private medical treatment by hospitals, clinics etc. have historically not been very large. However, during the last decade we have experienced an upsurge in private health services. The upsurge in private health during the last 5-10 years in the Nordic countries can be seen by comparing figure 2.3 and 2.4 from the second chapter. We saw in figure 2.4 that the ratio between public and private spending in the Nordic countries was more or less constant during the period from 2001 to 2005. At the same time, the spending per capita on health rose dramatically from 2001 to 2005. Since the ratio was constant, the private and public medical sectors must have experienced a parallel boom.

The solutions provided by private operations have historically been a privilege for the well off or individuals demanding cosmetic surgery. However, during the last decade it has become more and more popular to look for alternative solutions to publicly provided health care. One reason behind this development is the rise in private health care insurances. In this area, the differences between the Nordic countries are still significant. It is estimated that in 2007, 80.000 Norwegians had private health insurance while around 800.000 had private insurance in Denmark. Another reason behind the development in the volume of private health sector is the improved infrastructure and organization by the private providers (Moen 2008).

The increased interest in private health care insurances naturally brings potentials for the future Nordic integration. Within the private insurance area, the common stance is that we have only just seen the top of the iceberg. By having private insurance, patients have a larger freedom of choice. That is, they are free to choose between providers of health care services in both their home country and abroad.

An interesting question for the future is whether it will be possible for public hospitals like the H:S in Copenhagen to open a branch in one of the other Nordic countries. The tendencies with private enterprises like Capio provide evidence for the possibility of providing health care services across borders.

#### **Capio – a private actor is the driver towards further Nordic integration**

A prime example of the better organisation by private health providers is the establishment of the Swedish health care group Capio in 1994. Capio Group supplies health care services within several medical specialities. Their aim is to provide services that best meet the demands imposed by patients, public health care, companies and organisations. They have had a tremendous success during their short existence. By 2008, they were operating in Sweden, Norway, France, Germany, Spain and the UK, and have more than 14.500 employees spread out over the above six countries. Besides providing solely private medical services, Capio Group also functions as a great buffer for the public sectors when bottleneck situations arise. E.g. in 2004 Capio Group signed the largest public sector contract ever awarded by the National Health Services (NHS) in the U.K. The deal means that Capio Group has to run 10 specialist hospitals in British regions with capacity problems. As a part of the deal, Capio Group offered to provide Nordic health care personnel for the operation of the 10 specialist units.

The Capio Group example brings some interesting perspectives to mind in regard to the enhancement of the Nordic health care integration. By providing a professional link between the public and private sector, the establishment of private providers like Capio can function as a driver for the future integration of health care in the Nordic countries. Also, by providing reliable quality services patients are more secure in relation to the quality and reliability of the private providers. The Capio Group also facilitates increased mobility of personnel in situations where they also provide Nordic health care personnel.

*Source: [www.capio.com](http://www.capio.com)*

## **Health travel**

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Increased health travel is another by-product of the more demand driven health care market. The authors behind the few reports and articles that has been published on health travel all seem to agree on the market being growing and prosperous. However, when it comes to the extent of health travel there seems to be very differing views. Below are presented two very diverging estimates on how large the extent of health travel is.

Seen from a global perspective the provision of private medical treatment is a growing and extremely valuable market. At present, patients' conception of the health market is moving towards a global market with no borders. However, this has not always been the case. At the global level, just ten years ago the market for private medical treatment was very geographically separated. Americans went to Mexico and Costa Rica. Europeans went to Mallorca, Turkey and Eastern Europe. Africans, Arabs and Asians usually looked to South East Asia in search of private medical treatment. This pattern seems to be changing. For example, in Bangkok we see five star hospitals opening up with the only objective being to meet the increasing demand for specialised medical treatment. In Asia alone it is estimated that in 2007 more than 2 million people went to Asia to receive medical treatment. The factors behind the Asian success are numerous, e.g. the internet,

low airfare prices but most importantly a very high and cost competitive level of medical services (Buse 2008).

The estimated extent of the health travel differs a lot depending on who is addressed and how it is measured. In a recent study by McKinsey it is estimated that the current market for medical travel is only 60.000 to 85.000 inpatients a year.<sup>5</sup> This number is quite low compared to the estimate of approximately 2 million people going to Asia for medical treatment in 2007. A large part of the explanation for the low estimate hinges on the definition of health travel applied in the study. In the McKinsey study the definition of medical travel is very strict and only covers patients whose primary purpose of travelling is medical treatment in a foreign country. Thereby a lot of patient groups are excluded including patients that receive care on an emergency basis, "wellness tourists", expatriates seeking care in the country of residence, and patients living in largely contiguous geographies where the closest available care is in another country. The main conclusion of the study besides the extent of medical travel is that most medical travellers seek high quality and faster service instead of lower costs. (Ehrbeck et. al., The McKinsey Quarterly, May 2008)

### 3.4 Global workforce

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A positive by-product of the globalisation is that people have become more open towards working abroad. In order to create a more integrated and efficient Nordic health care market it is a necessary prerequisite that people are mobile so that excess capacity can be allocated to the areas in most need.

#### Mobility of personnel

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A larger and more integrated Nordic market for health care services naturally calls for a higher mobility of the Nordic health care personnel. A positive thing about the mobility of Nordic health care personnel is that it is already highly mobile. Furthermore, we also experience high inflows of non-Nordic health care personnel to the Nordic countries. All in all, the mobility of both Nordic and non-Nordic health care personnel is high, which was also underlined in table 2.1 and 2.2 in the previous section.

However, this high mobility of personnel is not necessarily only a positive thing. A high flow of health care personnel between the Nordic countries does not necessarily solve any bottleneck problems. Instead, the tendency we see today is that doctors and nurses go where the pay-checks are highest. The high inflow of Nordic health care personnel in Norway is to a large extent due to the high wages in Norway. We see temporary employment agencies like NordVik<sup>6</sup>, whose only area of business is to facilitate the contact between Norwegian municipalities and Danish and Swedish doctors. The relatively high inflow of Nordic health care personnel in Denmark can also to a large extent be explained by favourable tax arrangements and a high general level of wages. The above flows of health care personnel are, *per se*, not problematic. The problems arise since the flows are not the same in and out of the Nordic countries. This fact combined with the fact that there is not enough doctors in the Nordic countries implies that there exists an urgent

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<sup>5</sup> *Inpatients*: treatment that implies a minimum of one overnight stay, and *Outpatients*: in and out the same day.

<sup>6</sup> [www.nord-vik.dk](http://www.nord-vik.dk)

need to import health care personnel from non-Nordic countries. In the text box below is an example from a Danish case where a systematic import of Indian doctors has been facilitated.

#### **Danish import of Indian doctors**

In April 2007 the region of *Midtjylland* in Jutland placed an ad in the Indian newspaper Times of India. In the ad, they stated that they were looking for 30 qualified doctors that could come and work in Denmark from the beginning of 2008. They received more than 700 applications and ended up appointing 31 doctors, who arrived in Denmark in February 2008. Prior to arrival in Denmark they received intensive Danish language courses. The region of *Midtjylland* had rented an entire hotel south of New Delhi where they accommodated the doctors while they received Danish courses six days of the week.

*Source: Region Midtjylland – www.rm.dk*

### **3.5 Policy**

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There exists numerous policy initiatives both at European as well as Nordic level, which are aimed at increasing the European and Nordic health care cooperation. Policy initiatives are in their nature a highly endogenous driver. A number of European as well Nordic initiatives are thoroughly presented in section 2.4.

# Chapter 4. Case studies synthesis of four specific areas in the Nordic region

This section both introduces the case studies and synthesizes the findings from the case studies. The synthesis will especially focus on the potentials and drivers towards Nordic integration of health care systems, but will also sum up the present barriers.

## The case studies in short

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The selection of case studies considers two main drivers towards Nordic integration: Firstly, the lack of economy of scale, given a small population, which is the case in Iceland and the North Calotte region, and economy of scale, which the Oslo-Gothenburg region and the Oresund region illustrate. Secondly, both Iceland and Norway are not members of the EU, which highlight some aspects and barriers of the EU development for further Nordic integration in the health sector.

In the following section, the four case studies are shortly presented before the drivers, potentials and barriers are summed up.

- *Oresund region*: A population of 3.5 million people makes this the largest and most densely populated area in the Nordic countries. Hence, economy of scale makes up the most prominent driver towards cooperation across borders in the region, together with the region's strong medical industry known as Medicon Valley. In short, the cooperation consists of mobility of personnel, mobility of patients within highly specialised treatment areas, research and development, and also agreements on capacity sharing in case of emergency.
- *Iceland*: With a population of 313.000 inhabitants, Iceland is facing pressure on its health services in a steadily increasing area of specialization. The lack of economy of scale is the main driver towards Nordic integration, and hence the integration in terms of mobility of personnel and patients is advanced. Moreover, different actors have a vision of developing an international market for health care tourism in cooperation with other Nordic countries.
- *Oslo-Gothenburg region*: The region consists of two metropolitan areas on each side of the border. Together the two regions share the same strengths and weaknesses concerning health care. The cross border cooperation concerns mobility of patients and personnel, research and more.
- *North Calotte region*: The situation in the Northern parts of Norway, Sweden and Finland is similar to Iceland. A sparse population divided between three countries forms an interesting case of health services. As opposed to the other cases, there is a lack of cooperation between hospitals in the region, while it is common for the citizens to seek primary care across borders.

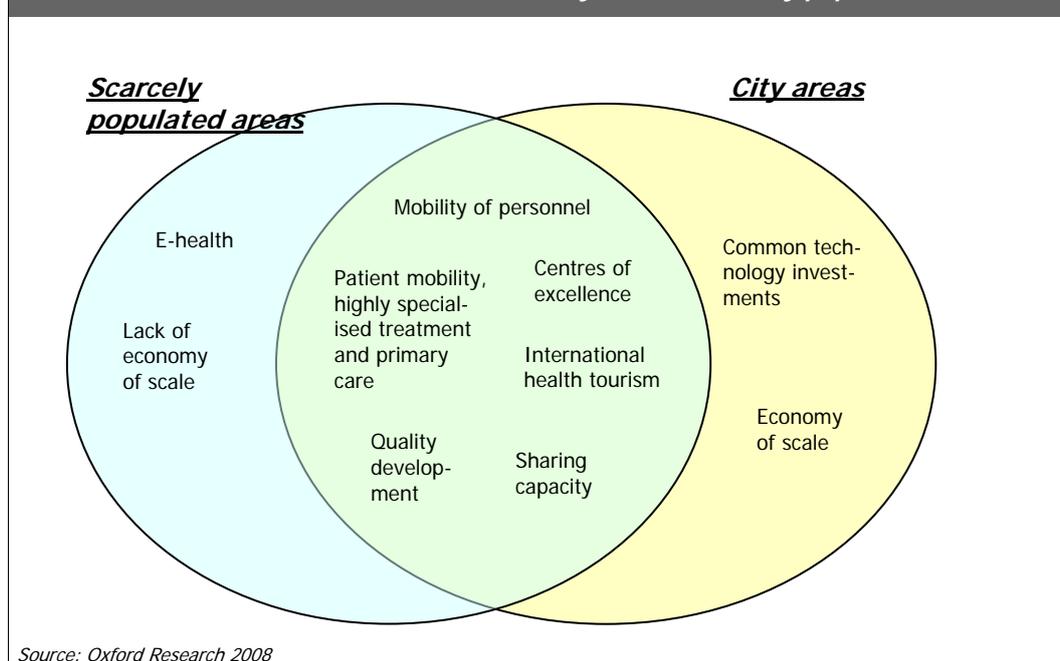
## Case studies – main findings

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Across the Nordic countries, a number of tendencies make up drivers towards further Nordic integration. The picture is, in general, that there is a history of cooperation, and that the cooperation moves forward at different tempo in the case studies. This especially

concerns the mobility of patients. Moreover, the picture changes if one considers the densely populated city areas such as the Oresund region or the Oslo-Gothenburg region. The main driver here is the economy of scale, understood as the gathered capacity and know how, the possibility to reach millions of patients within a short time limit, and the possibility for health care employees to commute on a daily basis. Conversely, in the scarcely populated areas in Iceland and the North Calotte region, the main driver is the lack of economy of scale, and hence there is a need to future cooperation. The figure shows an overview of the potentials for further inter-Nordic cooperation. In both the scarcely and the densely populated regions, the potentials for cooperation are many, but they are not fully exploited.

**Figure 4.1: The increasing potentials and drivers are many  
- but there are differences between the densely and the scarcely populated areas**



A general and very important experience is that cross border cooperation often takes necessity as a point of departure. Cooperation is carried out when the need to take common action is obvious. The cooperative initiative is often – but certainly not always – a bottom initiative from the health care personnel on the basis of personal network.

Another driver, which is not emphasised in the study, is the common Nordic language, culture, and in some ways related organisation of health care. It is however commonly recognised that exactly these factors play an enormous role, as it i.e. makes it easier for personnel to move, and it is often more attractive to patients to be treated in another Nordic country instead of i.e. USA or another European country. Moreover, the health care educations are in general similar, and the organisation and approach to health care also has affinities. A lot of personal contacts exist across the Nordic countries, which often makes up the point of departure for cooperative projects. Hence, the common Nordic welfare states and languages are the background on which this study is undertaken.

The following section will sum up the potentials and main drivers with the case studies as a point of departure.

## **Technological investments**

The further specialisation of health care services and technologic development means that it can be economically advantageous to make common investments in new, expensive technological equipment. Preconditions for common technological investments are geographical proximity and availability. Some patients, especially the elderly patient groups, might not want to travel long distances in order to be treated. However, the geographic proximity can be a pull factor toward further Nordic integration in terms of common technological investments within certain regions, as the other side of the border is closer than a bigger city in the same country. The examples of common technological investments are not many, but it is assessed that the potential is there in the long run, and moreover, that the potential is increasing, given the further process of specialisation and technological development.

## **Specialisation and international centres of excellence**

In addition, the further specialisation can move the development in the direction of global centres of excellence in the Nordic region. Some experts mention this as a driver. In the Oresund region, the diabetes cluster is for instance a prominent centre of excellence, concerning both the medical industry and the hospital care, as well as cross border and cross sector cooperation.

But the further specialisation and establishment of such centres of excellence in some cases demands a further division of labour between Nordic countries – and there might be professional and national interests against an advanced degree of labour division.

## **International market for health care services – health care tourism**

Iceland views the centres of excellence and a higher degree of labour division as a market possibility – to brand Iceland and the other Nordic countries with a Nordic brand based on quality and clean environment. Iceland already attracts health care tourists within certain treatment areas, such as psoriasis, and other hospitals in the Nordic countries, including public hospitals, treat patients from all over the world. There is an interest in this perspective across the countries, but one main obstacle at the present time is the lack of capacity in all Nordic countries. Some experts think that the private health care sector has to be the first mover in the international health care market in the North. However, there is the Sahlgrenska International Care AB who offers health care treatment for foreign patients when capacity is available, but the numbers are small at the moment.

## **Mobility of personnel**

The Nordic countries have a long tradition of sharing health care personnel, as there is both a well established administration of and recognition of authorization certificates and as there in general has been mobility between the Nordic countries. The common recognition has been pro-active in relation to EU legislation.

Traditionally, a pull factor behind mobility of personnel has been over capacity in some countries and under capacity in others, and the mobility has been held in balance, as the personnel travel to the countries with employee possibilities and high wages. An example of this is seen in the Oslo-Gothenburg region, where the higher Norwegian wages attract personnel from the Swedish side of the border, but also partly in the Oresund region, where the flow of personnel at the present is from Sweden to Denmark. In general, all

Nordic countries try to attract personnel from abroad, also from countries outside Europe, and therefore the situation is potential competition between the Nordic countries.

There are different models of sharing expertise between countries. Both in the dense and the sparsely populated areas, doctors move permanently to the region. Iceland educates an over-capacity of doctors, and it has not been a problem to attract these doctors back to Iceland, given that the positions are there. This is different in the North Calotte region, where there is a constant lack of health care personnel. In the densely populated areas, i.e. Oresund, commuting is also common. Moreover, another way of sharing expertise is to have shared positions, where the specialist/physician travels about. There has been an example of this in the Oresund region, and the model has been used in Iceland as well, where the physicians occasionally travelled to rural districts, or where an international specialist went to Iceland to perform transplantations.

In the Oresund region, the opening of the Øresund bridge in 2000 has pushed forward the mobility of personnel in the region, so infrastructure obviously plays an important role.

### **Mobility of patients within specialised treatment areas**

Concerning mobility of patients, it is important to distinguish between mass treatment areas and highly specialised treatment areas. Mass treatments make up the most costly part of the public expenditures on health care, while the potential to establish cross border cooperation on mass treatment is limited. This is due to the fact that the Nordic countries at the present time lack capacity, and hence have to send patients to i.e. Germany, which has an overcapacity. However, the potential to cooperate on specialised treatment areas/small patients groups is huge, and, given the further specialisation of health care, also growing. There has already been established a more or less systematised cooperation in the field of specialised health care, such as children's heart diseases, transplantations and other highly specialised clinical operations. However, the picture remains that the overall systematic approach to cooperation is lacking, as the cooperation often takes place within certain areas and is based on bottom up initiatives. This also concerns the planning of health care services and a higher degree of labour division across borders, which is not an area of cooperation at all.

### **E-health**

E-health means that it is possible to have, for example, a specialised physician's opinions, even though the physician is thousands of kilometres away. This is especially attractive in the scarcely populated areas. Due to this, the possibility of e-health is often used, also across borders, but there are also limitations to the use of e-health. In the North Calotte region, the regional health system has an advanced use of e-health, but there is not synchronisation between the e-health systems (i.e. electronic journals, recipes and distance counselling). There are however international projects looking at the potential to find new tools and products for long distance treatment.

Iceland views electronic prescriptions as an area that is advantageous to cooperate on, and has started a pilot project with Sweden in this field.

## Barriers to cooperation

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While the potentials and drivers towards cooperation are many, there are also barriers. Some of these barriers have been mentioned in the previous section, but they will be summed up in the following.

Most of the barriers concern tradition and the organisational unwillingness to give up mandate – patients, clinics, equipment, or treatment areas. Such barriers are common in the health care sector (and other sectors dominated by professionals as well), and they are not necessarily related to an unwillingness to cooperate on an international basis, as these barriers are also well known in regional planning processes. The professional culture obviously also plays a role, as doctors in general are reluctant to send patients to other doctors, be it in another region or another country. These organisational barriers are mainly a hindrance to the further division of labour and planning of centres of excellence across the Nordic countries.

A part from that, seven barriers are located in the study:

- *Culture/language*: Patients are unwilling to receive care in other countries. Many examples have shown that patients are more likely to stay at home and wait for the treatment than to go abroad and have the treatment instantly. These experiences are in line with the general experiences at EU level. However, this picture might change when the patients become better informed, and as the younger generations with more international experience enter the health care system.
- *Demographic density*: Demographic density can be a precondition to cooperation, but it is also so that within the densely populated regions, the sizes of the populations on both sides of the borders are big enough to have a national based health care system. This is a hindrance to the 'need' of cooperation.
- *Geographic distance*: In the scarcely populated regions, on the other hand, the distances to cooperate across borders are so huge, that the patients are unwilling to travel so far, as long as the illness is not life threatening.
- *Mentality and prestige (national to local)*: There is competition across the Nordic countries, and within the regions of cooperation, the health care authorities do not necessarily want to give up competences/mandate in order to cooperate on mobility of patients.
- *National health care systems*: Health care systems are differently organised across the Nordic countries. In the North Calotte Region, the health care is the responsibility of the municipalities in Finland, while it is organised under the regions in Sweden and Norway. These differences in level of authorities can cause hindrances to cooperation processes.
- *National legislations*: In the field of mobility of personnel, the national legislation makes up almost no hindrance to mobility and cooperation. However, in the fields of recognition of medicine, patient safety etc., there still exist different legislations that can cause problems related to the mobility of patients.
- *Quality development*: Quality development is a potential area of cooperation, as the common and sophisticated indicators of quality are currently lacking. Some actors emphasize that common indicators of quality can be a driver toward further cooperation.

# Chapter 5. Iceland – a small, open health care system

## 5.1 Introduction

The relatively small size and lack of economy of scale of the Icelandic health care system is the main driver towards further cooperation with the Nordic countries. Today, the degree of Nordic cooperation is advanced, both in terms of mobility of personnel and patients, and in the area of e-health, research and cooperation on pharmaceutical products. The increasing costs of keeping up with new technological investments and rare treatments means that there is a high incentive to strengthen the Nordic cooperation further, not only in terms of exporting patients, but also in terms of importing patients and sharing expertise.

The lack of economy of scale is a rapidly increasing challenge to the public expenditure on health care. The expenditure on health care is 9,5 % of the GDP, and thus one of the highest total expenditures in the WHO European Region, only succeeded by France, Germany and Switzerland (in 2001) (Halldórsson 2003). The expenditure has more than doubled from 1970 to 2000, and the rise in the total health care expenditure per capita from 1970-2000 has been almost twice as high in Iceland as in other OECD countries, exceeding that of the per capita income (OECD 2008b).

On this basis, OECD's long-term projections suggest that the spending on public health care can reach 15 % of the GDP if no restraining measures are taken. While keeping in mind that the population is relatively young<sup>7</sup>, the conclusion is that Iceland has one of the most expensive health care systems in the world (Halldórsson 2003).

The background of the increasing health care expenses is primarily:

8. Iceland is one of the most sparsely populated countries in Europe, and moreover, the public expectation of the health care system is very high, both in terms of quality and accessibility to general and specialised treatment.
9. The percentage of elders is growing, although at a somewhat slower pace than in most developed countries. However, OECD projections say that the primary reason for the increasing costs is the ageing population.

The case description is divided into three parts. The first part maps out the organisation of the Icelandic health care system and the trends in the development of the health case. The second part focuses on the drivers towards a further Nordic cooperation. Finally, recommendations are outlined to further inquiries that can help to strengthen the poten-

### Facts about the Icelandic health care system

The Icelandic health care system makes up one of the smallest health care systems in Europe in terms of population, as the population is about 310.000, of which about 180.000 live in the Reykjavik area.

The state of Iceland finances about 85 percent of the total health care costs in Iceland, and there is universal access to the publicly financed health care system. Hence, hospitalization is free, and every citizen has a right to the best available health care. This means that patients are entitled to go abroad for specialised services that can not be provided within the country.

18 % in 2000, compared to averages of 22 % for the European Union (Halldórsson 2003).

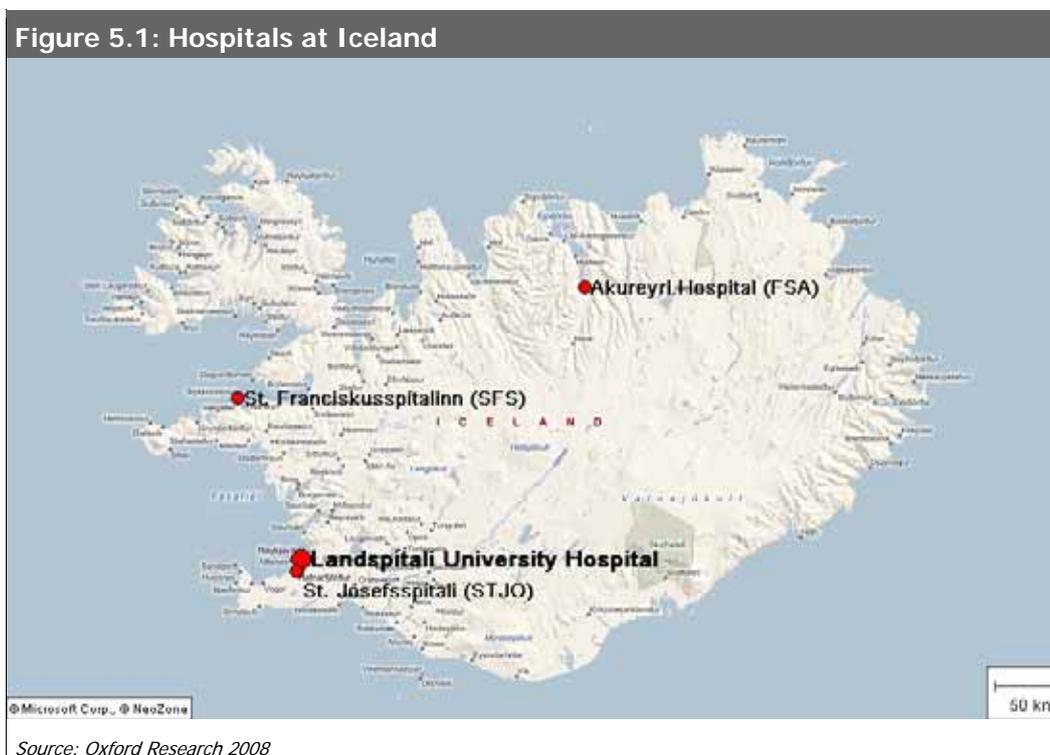
tials of further Nordic cooperation from the Icelandic point of view.

## Lack of economy of scale

As the following section will show, the lack of critical mass is the main driver towards Nordic cooperation in Iceland. While the Landspítali University Hospital (LUH), located in Reykjavik, is the main provider of specialised and general health care in Iceland, a number of the minor hospitals and nursing homes amount considerable costs to maintain.

The map below shows the four largest hospitals in Iceland, the Landspítali and the hospital in Akureyri being the two largest.

Figure 5.1: Hospitals at Iceland



Overall, the health care is provided by seven categories of hospitals, where only the first 2 or 3 are what are traditionally regarded as hospitals.<sup>8</sup> Apart from that, a number of health care centres are spread out over the country, being people's first access to the health care system.

The costs of Landspítali are, according to an analysis conducted by Swedish Centrum för Patientklassificering, comparable to Swedish university hospitals, eventually even lower. This is a result of the merger of hospitals in the Reykjavik area, and a strong incentive to rationalise. "We have been able to economize by merging patient care units and medical specialities as well as redesigning some of our work processes. The fact that the popula-

<sup>8</sup> These categories are: 1. Regional hospitals, 2. Hospitals with several departments, 3. So called general hospitals, with specialists in surgery, medicine or general practice, 4. Nursing homes, 5. Rehabilitation institutes – of which 94 pct is privately run, 6. Homes for chronically ill, 7. Institutions for rehabilitation of alcoholics and other drug patients (Halldorsson 2003).

*tion is still relatively young obviously also plays a significant role,"* says Maria Heimisdottir, director of Division of Economics, Budgeting and Information at Landspítali.

The two main tendencies are the merging of hospitals in the capital area, and the merging of the uptake areas of various rural health care centres, together with a general tendency towards centralization and privatization. The rationale behind these changes is an attempt to control the increasing costs of the health care system (Halldórsson 2003). The experts explain that health care is increasingly contracted out, and a new administrative unit is now set up to be responsible for the purchase of health care services through bidding. The idea is to make a transparent system based on cost-effectiveness.

Even though most costs are incurred at the main hospital, Landspítali, in Reykjavik, it is costly to provide access to health care across the country which is sparsely populated. The experience is that many Icelanders both want and need to travel to get specialized treatment in Reykjavik. However, in the winter, bad weather can make the transportation of patients impossible, which creates a strong pressure to keep up with equipment and facilities in the provinces. *"This may cause us to over-invest, because we don't have the economy of scale. We have hospitals with a stand by operating rooms, sometimes in areas with only 2-3000 people,"* says Kristján Oddsson, chief physician at the Directorate of Health.

The fact that many junior doctors go abroad for their specialist education is considered to be expensive, while the specialised doctors back in Iceland have to do much of the routine work normally performed by the younger doctors (Halldórsson 2003). Moreover, they make up an investment in human capital which is not fully utilized. *"We can expand the health sector in Iceland if we attract patients from abroad. This could give many highly specialized Icelandic doctors the possibility to return to Iceland and better utilize their skills,"* says the Permanent Secretary to the Minister of Health, Berglind Asgeirsdottir.

The overcapacity of equipment and staff means that potentially, more people could be treated in Iceland. It is also a growing problem that it is impossible to keep up with the increase of new technology, treatments and specialisation. *"The driving force for developing new services seems to be acquisition of new technology and more specialized education. Financial viability and quality of the service being offered tend to be overlooked,"* says Director of the Primary Health Care of the Capital Area, Svanhvit Jakobsdottir. It is not only the equipment and facilities which are a continuous challenge. Staff is needed, especially physicians. And even if there is an overcapacity of physicians in Iceland – which there is, as many physicians only work part-time in the public financed health care sector – it is also a problem that the critical mass of patients with the need for specialised treatment is too low. For example, a surgeon has to conduct a certain amount of surgeries each year in order to keep up his level of competence.

This means that even if Landspítali is able to bring down costs, new challenges are ahead, challenges which both refer to investments in equipment and the ageing population. *"Our budget for purchase of new equipment has not increased in a number of years. We have had to figure out ways to economise on our equipment purchases, i.e. by leasing. You can economize your work processes, but equipment is equipment,"* says Maria Heimisdottir, director of Division of Economics, Budgeting and Information at Landspítali.

## **5.2 Drivers towards cross border cooperation**

The main driver is – apart from the lack of economy of scale - the mobility of personnel which gives good ground for setting up cooperation on research and mobility of patients.

Moreover, the e-health can be viewed as a driver, as well as the cooperation on pharmaceutical products. The following section elaborates the status of Nordic cooperation in Iceland and the main drivers.

## Mobility of personnel

Iceland is a part of the Nordic cooperation, which makes the mobility of health personnel between Nordic countries less complicated. As far as the European countries are concerned, applicants from EEC/EU countries will automatically be authorised, and no language test is required – as opposed to health personnel from non EEC/EU countries.

The number of authorised health personnel that moves to Iceland from the other Nordic countries tends to be a bit lower than the number of Icelandic health personnel that moves from Iceland to the Nordic countries, which is illustrated in table 5.1. However, the difference does not suggest an overall problem, but merely a minor unbalance<sup>9</sup>.

	Moving <u>to</u> Iceland from a Nordic country					Moving <u>from</u> Iceland to a Nordic country				
	DK	FI	NO	SV	Total	DK	FI	NO	SV	Total
<b>2002</b>	29	0	14	12	<b>55</b>	11	0	22	26	<b>59</b>
<b>2003</b>	27	0	18	8	<b>53</b>	13	1	27	31	<b>72</b>
<b>2004</b>	25	0	16	4	<b>45</b>	19	0	21	27	<b>67</b>
<b>2005</b>	45	1	19	10	<b>75</b>	14	0	24	23	<b>61</b>
<b>2006</b>	29	2	22	8	<b>61</b>	15	0	13	42	<b>70</b>

*Source: Oxford Research on the basis of the Yearly Reports from "Lánga Namnet"*

It is especially doctors that leave Iceland, while Iceland educates more doctors than are needed: In 2006, there were 1100 doctors in Iceland<sup>10</sup>, and 530 doctors abroad. Of these, 209 were in Sweden, 60 were in the US, 76 were in Norway, 22 were in the UK and 21 were in Denmark. The majority of the doctors abroad are 30-40 years old, and they mostly take part in training, as most of the physicians are educated abroad.

Therefore, Icelandic medical students tend to study abroad. In 2006, there were about 150 medical students abroad, 110 in Denmark and 26 in Hungary. The number of Icelandic students abroad has increased the later years, but it is uncertain whether this tendency will continue (SNAPS 2006).

While there is in some areas an overcapacity of doctors, and an equally high mobility of doctors between the Nordic countries, Iceland faces a severe shortage of nurses, as shown in table 5.2. The shortage was 14 pct. in 2003, and reached 20 pct. in the hospital sector in 2008 according to Elsa

Year	Total deficit of nurses (no.)
2008	611
2009	633
2010	670
2015	749

*Source: Mannekla í hjúkrun. Icelandic Nurses Association, 2007*

<sup>9</sup> Estimates of supply and demand of Icelandic doctors by the SNAPS group shows a tendency towards an increased surplus of doctors in the years to come, but the prognosis vary dependent on different scenarios. However, the group also estimates that the number of doctors per citizen will decrease in Iceland, from 275 in 2005, to 225 in 2020 (SNAPS 2006). Overall, the labour market for Icelandic doctors is considered to be in good balance by the SNAPS group. Most of the Iceland doctors that get their training abroad return to Iceland, but about 10 % stay abroad (SNAPS 2006).

<sup>10</sup> Under the age of 70 which is the retirement age.

Friðfinnsdóttir, President of the Icelandic Nurses Association. The shortage of nurses is sought to be regulated through an increased number of nursing students, but as many of the nurses soon are to reach the retirement age, the shortage will not be solved in the short run. Moreover, the shortage is not limited to nurses, as the health sector also faces a lack of bio analysts, and other groups of health personnel (Icelandic Directorate of Health 2006).

Although there are no legal barriers, it has shown to be difficult to attract nurses from other Nordic countries. *“Landspítali has put out advertisement of nurses in the Nordic countries, but it didn’t really succeed. Most of the nurses we get from abroad come from Poland, Philippines and India. Less than 10 percent are from the other Nordic countries,”* explains Ms. Friðfinnsdóttir. She compares the problem of the nursing shortage in Iceland to the situation in other Nordic countries, where it has been difficult for nurses to gain a better salary at the collective bargaining, even though there is an increased demand. She is therefore highly interested in a more open labour market and a more open health service sector: *“As an association, I would say, that if you had an open labour market, it would lead to more competition and that would gain our members. Now, the majority of nurses have to negotiate with the Ministry of Finance, which in reality has a monopoly. It would therefore be a plus with a larger market,”* highlights Ms. Friðfinnsdóttir.

### **Different models of sharing the expertise across borders**

The lack of critical mass of patients requiring specialised and/or complicated treatment has led to two different models of sharing the expertise with other Nordic countries or the US.

- *Model 1: The experts are located in Iceland, but travel occasionally to other scarcely populated areas in the northern countries.* Today, there are examples of this kind of cooperation in Iceland, and to the different actors in the Icelandic health care system this has proved to be a good solution to the problem of critical mass, while it allows Iceland to have a certain level of expertise within the country.
- *Model 2: The experts are located abroad, but travel occasionally to Iceland to conduct operations.* The patients are then grouped, so that they wait for the specialist to come. This model of cooperation is increasing in Iceland, as the policy is to treat people in Iceland, if possible. Data from the Directorate of Health, which consists of the formal agreements, shows that about 30 operations are conducted in this way yearly, but it must be assumed that the actual number is higher. The specialists come from Sweden, Holland, US, and the UK. See also the example with kidney transplantations in the text box.

Informal contacts are crucial to the mobility of patients and expertise. Hence, the mobility of personnel is generally viewed as an advantage – both in terms of maintaining know-how and having a flexible network of cooperative partners abroad.

### **Kidney transplantation programme**

As there were an increased number of patients needing kidney transplantations, a surgical operation earlier offered abroad, it was decided to bring home the service. This was done through an Icelandic surgeon now working in Maryland, US. Through informal contacts with the doctor, who was also eager to offer his services in order to enhance the Icelandic health care, a programme was set up. The surgeon now flies in one time a year for about 1 month, where he performs about 10 operations. The surgeon brings with him the needed supplements for the operation, which is a cheap and flexible way to buy supplies. The hospital has done cost-benefit analysis of the programme, which has shown to be in favour of this model of sharing expertise.

Interestingly, one expert highlights that the basis for sharing the expertise in this way is already well developed in Iceland, for many physicians mainly work in Reykjavik, but occasionally travel around the country to see patients in the provinces. *“It seems to be less attractive for medical personnel to work in the rural areas, so we do have a problem, especially regarding staffing at the small provincial hospitals. The solution that is being tested is to have the provincial hospitals share staff with the main Reykjavik hospital, Landspítali. Actually, we could apply the same model to sharing resources with the neighbouring countries—why not?”* says Svanhvit Jakobsdóttir, Director of the Primary Health Care of the Capital Area.

Hence, the model of sharing the doctors across the country can be viewed as a framework for further Nordic cooperation, especially as it both solves the problem of a lack of critical mass of patients and provides the opportunity to treat patients locally or even at home. Although the solution with the travelling expert (model 1) is viewed positively, there is also concern that some of the most qualified experts might not see it as an attractive job to travel around.

### **Mobility of patients**

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The lack of critical mass means that Iceland has a number of patients treated abroad yearly – in 2006 it was 162. The patient mobility concerns patients who need specialised treatment, especially lung and heart surgery. It concerns both established programs and agreements with for instance Boston, or Gothenburg, but also the informal contacts who make it possible to arrange the operations abroad – and many of these informal contacts are where the Icelandic doctors have studied, that is in the US, UK or the Scandinavian countries.

The figure below shows the countries in which the Icelandic patients are being treated through the publicly financed health care system.

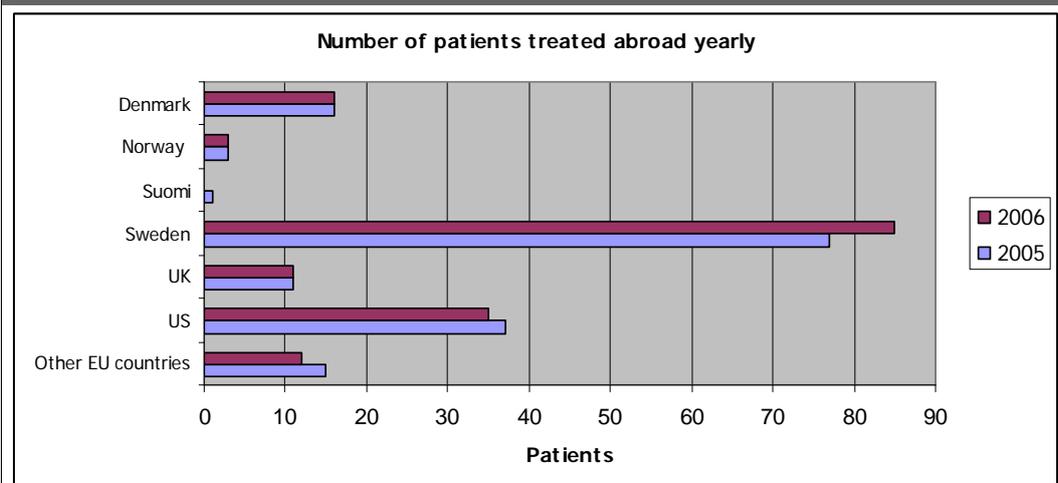
**Figure 5.2: Icelandic patients are treated throughout the Western world**  
*The coloured countries has organized cooperation with Iceland on patient mobility*  
**Export countries: Austria, Belgium, Denmark, Finland, Germany, Norway, Serbia, Spain, Sweden, the Netherlands, UK, US**



Source: Oxford Research 2008 on the basis of data from the Directorate of Health

The figure below shows the yearly number of patients being treated abroad. Sweden is the largest cooperative partner, followed by the US. However, patients are also treated in Denmark and the UK. According to the Directorate of Health, the number of patients treated abroad has decreased, while the policy in the last years has been to have patients treated in Iceland.

**Figure 5.3: Number of patients treated abroad yearly**



The DRG-system is also a precondition in Iceland for Nordic cooperation on mobility of patients, and is used in the exchange of patients. Although it is not mandatory according to legislation, the DRG system is implemented at the Landspítali: *“DRG is crucial to the Nordic cooperation and patient mobility, both in terms of quality and finance. It helps to streamline the process of delivering care. The DRG system provides a common language,”* says Maria Heimisdóttir from Landspítali. The DRG-system makes it possible to provide the insurance companies with standardised information, and is also used to compare the prices at Landspítali to the prices in the other Nordic countries. *“We are at the same level in general– of course we may be more expensive in certain services, but it makes sense in light of the size of the population. We have to cover the same fixed costs as the larger nations but the number of patients using the services are much smaller”* says Maria Heimisdóttir, director of Division of Economics, Budgeting and Information at Landspítali. The further implementation of the DRG system is a part of the National Health Plan 2010.

Many leading actors in the Ministry of Health and the Landspítali view not only the export but also the import of patients as an area to be developed further. There is great interest in this. This vision includes that Iceland *“moves in the direction of centres of excellence in certain areas. If you look at international indicators on quality of care, we have been very proud of our outcome. This indicates that we could expand the services of our health sector and offer services to patients from abroad,”* says Berglind Asgeirsdóttir, Permanent Secretary to the Minister of Health.

The treatment areas that are highlighted as Icelandic centres of excellence by different actors are stroke, cancer, psoriasis, infertility, drug addicts, eye laser operations, and bypass operations for overweight people. See also the text box with two examples of psoriasis and fertility treatment, which attracts patients to Iceland today. Both of the clinics are privately run.

Some actors also mention the possibility of combining health care services and tourism, since Iceland's clean environment and outstanding nature can serve to brand the country as a health care provider internationally. According to one expert, the Blue Lagoon clinic received public support in order to attract patients from abroad. As the Permanent Secretary to the Minister of Health, Berglind Asgeirsdóttir explains, *“I am personally convinced that the high standards and the number of people we have educated should offer great possibility in Iceland. I am not only referring to the medical treatment, but to the clean water that we have and the clean air that could help to develop health services in the future. People may want to enhance their health and receive better rehabilitation in a health promoting environment. I am convinced that we could do far more by combining medical services and nature to attract more patients.”* Moreover, Asgeirsdóttir strongly highlights the need for developing more indicators of quality to measure Nordic quality of care in order to market Nordic health care services internationally.

### **Iceland attracts patients from abroad**

Today, there are at least two examples of treatment in Iceland that are able to attract patients from abroad:

- *Blue Lagoon – psoriasis treatment with international clients:* Blue Lagoon psoriasis treatment is a natural treatment based on bathing in Blue Lagoon geothermal seawater. Blue Lagoon is a private company which is recognized by Icelandic Health Authorities. The National health care system in Denmark allows Danish patients to be treated in the Blue Lagoon clinic, which treats a number of foreign psoriasis patients each year.
- *ART Medica – Fertility treatment according to international standards:* ART Medica is a private unit and the only clinic in Iceland in the field of assisted reproduction, and provides comprehensive infertility workup and treatment. The pregnancy rate from IVF, ICSI, FET and Donor Egg treatments at ART Medica have been one of the highest rates in Europe. Different actors view ART Medica as one possibility of attracting patients from abroad.

Sources: [Hwww.artmedica.is](http://www.artmedica.is)H; [www.bluelagoon.com](http://www.bluelagoon.com); interview with national experts

## **E-health services and electronic prescriptions**

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The e-health system in Iceland is relatively advanced. For example, the Icelandic legislation says that the Icelandic EPJ system should meet the standards of the other Nordic countries. The implementation of e-health can be interpreted as a driver towards Nordic cooperation. *“Technology provides us with new opportunities for working more closely together—technological tools could facilitate cooperation between our cities and towns, as well as between Icelandic institutions and institutions in other countries,”* says Svanhvit Jakobsdottir, Director of the Primary Health Care of the Capital Area. However, there are also indicators that e-health has not yet unfolded its potential. An expert from the Directorate of Health explains that the *“expectations were high, but it has not always succeeded, as we see in the field of psychology.”*

Because Iceland is a small market for pharmaceutical products, the pharmaceutical industry often takes no interest in the Icelandic market. The Icelandic actors therefore view marketing authorisations and electronic prescriptions as cooperative themes. The cooperation in the field already exists to some extent, as Iceland and Sweden in January 2007 initiated a pilot project concerning common marketing authorisations. Moreover, the director of the Department of Pharmaceutical Affairs in the Ministry of Health, Einar Magnusson explains that, *“electronic prescriptions are a very good project for the Nordic countries to cooperate on. That will especially count for the small countries, where the rare medicinal treatments are very seldom used.”* It is also stressed that Iceland can use the cost-benefit analysis conducted by the other Nordic countries.

## **Research and database cooperation**

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As in the case of mobility of patients and expertise, Iceland cooperates closely with the US and the Nordic countries in the area of research. This is due to good connections with doctors/researchers in these countries.

In Iceland, the lack of critical mass means that the cooperation on databases is very advantageous in two ways: First, it provides the possibility of comparing Icelandic patients to a larger sample of patients, and hence gain a better overview of the treatments provided in Iceland. Second, it lowers the costs considerably, since Iceland does not have to design and construct the databases, but profits from the work already undertaken in the

other Nordic countries. *“We have to benchmark ourselves to maintain high levels of quality,”* explains Maria Heimisdottir, director of Division of Economics, Budgeting and Information at Landspítali. *“And it is also money wise, because we don’t have to construct our own databases,”* Heimisdottir says, and stresses that the cooperation on registers could be developed further.

At the present, there is an ongoing cooperation with the SCAAR register in Sweden which is operated by the Uppsala Research Institute. *“We are also looking for similar cooperation with Norway, and we have been talking to Sweden about diabetes databases and several other similar projects,”* explains Heimisdottir.

## 5.3 Potential and barriers

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The **potentials** have already been mentioned in the case description, but could be highlighted as the following:

- *The export of patients:* Today, patients are also transferred within Iceland, and experts stress that the distances within Iceland often are so great, that the patients could just as well be transferred to other Nordic hospitals.
- *The import of patients:* Many leading actors in Iceland have a vision of Iceland as an international provider of health care. Today, some international patients get their treatment in Iceland, but this could be developed further, provided there exists a higher degree of labour division between the Nordic countries.
- *Health care tourism:* Branding of Iceland as an environmentally clean country can help to build up a brand that attracts people from abroad – and this could be done in cooperation with other Nordic countries.
- *The import of expertise:* The sharing of Icelandic expertise with other Nordic countries, especially in the areas where Iceland has a high expertise level. The current two models can be developed further: Nordic doctors go occasionally to Iceland, or Icelandic doctors could occasionally go to the other Nordic countries, i.e. Northern Norway, which is also sparsely populated.
- *Research and development:* To keep low costs and to gain a benchmark, the further development of research and databases could be useful.

### Barriers:

- *Stay-at-home patients:* The main barrier to further Nordic cooperation is that patients today are not willing to go abroad. However, experts also highlight that many patients will be more willing to go to another Nordic country where they might have relatives, and where they know some of the language, than to go to other countries.
- *Lack of indicators of quality:* In order to develop the Nordic countries as a common market, and to brand the Nordic health care services internationally, more fine-meshed quality indicators are needed.
- *Experts do not want to travel about:* Many highly qualified specialists might not wish to travel about, considering their family and social life.

# Chapter 6. Oresund region – Scandinavia’s largest city-area

## 6.1 Introduction

Economy of scale as a consequence of the relatively great size of the population makes up the most prominent driver towards cooperation across borders in the region. In short, the cooperation consists of mobility of personnel, mobility of patients within highly specialised treatment, research and development, and also agreements on capacity sharing.

In terms of infrastructure, the opening of the bridge in 2000 has helped forward the cross border cooperation. In all of the cooperative areas, the year 2000 was an epoch-making year, as the cooperation has increased since then. The opening of the bridge also means that the Oresund region is the largest city-area in Scandinavia, because the Malmö-Copenhagen area is located in the region. The Oresund region consists of Skåne in Sweden and Zealand, Lolland-Falster, and Bornholm in Denmark<sup>11</sup>. In the case description, we focus on the Capital Area in Denmark, and the cities Lund and Malmö in Sweden.

The gathered population is 3,6 million citizens. Central in the region are the two greatest cities, Copenhagen and Malmö, connected by the Oresund bridge. In greater Copenhagen and greater Malmö there are 1.8 million citizens. See the text box for facts about the region’s health care sector. However, key actors also agree that the cooperation potential has not yet been brought fully into effect, and that one should not over-emphasize the

### Facts about the Oresund region health care sector

According to statistics from Medicon Valley Alliance, the region has a high concentration of science:

- 12 universities - all part of the Øresund University,
- 32 hospitals, of which 11 are university hospitals,
- Approx. 150.000 university students, of which 45.000 study life science,
- Approx. 7.000 life science university students graduate every year,
- Approx. 10.000 life science researchers,
- Approx. 2.600 life science PhD students are enrolled at the universities of Copenhagen and Lund.

The region has a likewise high concentration of business with R/D or production

- Approx. 100 (red) biotech companies,
- Approx. 40.000 people are employed in the private life science sector,
- 25 pharma companies (7 major),
- 65 medtech companies.

*Source:* Medicon Valley Alliance

meaning of the significance of the bridge, as the cooperation has to be pushed forward by other means of integration as well.

<sup>11</sup> However, on the Danish side, the case description concentrates on the Capital Region of Denmark

In relation to the opening of the bridge, a number of diverse cooperation forums took form. Amongst these is the Interreg Øresund cooperation, which is partly funded by the structural funds of the EU, and its related cooperative forum. The vision of Interreg is to create an international region in Oresund, which is able to compete with the largest and most advanced regions in Northern Europe. Another cooperation forum is the Öresundskomiteen, which since 1993 has been a political driving force for the cross border integration in the region, as it is the only political cooperation unit which covers the whole region. A third initiative is the Øresund University, a cooperation forum for universities in the region within the context of the Interreg Øresund cooperation. Amongst the health care specific cooperation forums is the Medicon Valley Alliance. Apart from that, the information initiative, Øresunddirekt, has been launched through cooperation between Interreg and the Øresund Committee.

## **Economy of scale**

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The Oresund region has a gathered population of 3.6 million, of which 2.4 million live in Denmark and 1.2 million in Sweden. 1.8 million people live in the Malmö/Copenhagen area.

On the Swedish side of the bridge, health care activities are run by the regional authority under the supervision of the National Board of Health and Welfare. The regional authority is responsible for all the public hospitals and finances much of the health care operated by private actors. Patients can choose freely between the hospitals in the region. 28,358 persons work in the health care area of Region Skåne.

In the Danish part of the Oresund region, the Capital Region is the main actor when it comes to health care. From January 1, 2007, a new hospital plan was launched, gathering a range of treatment opportunities to fewer units. The plan divides The Capital Region's hospital structure into four areas; north, mid, city and south, with one area hospital and a couple of local hospitals in each. Patients in Denmark are however, free to choose between all hospitals. The Capital Region employs 26,000 in the health care area. The map below shows the hospitals in the Oresund region.



## 6.2 Drivers towards cross border cooperation

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According to part of the experts, there is a massive, but not yet unfolded, potential related to cross border cooperation in the region. The potential concerns the gathered capacity. Hospital manager at Lund University Hospital, Bent Christensen states that: *"Together the Danish and the Swedish employees in the Oresund region have a knowledge that match the best in the world. If you look at the total knowledge in the region, we are in fact among the world leaders in areas such as bio medicine. We can reach 3.5 mio. people within one hour, and we have the potential to become the largest health care regions in Northern Europe."*

Sören Olsson equally says that *"the greater the critical mass, the greater the complexity in the health care can be, while a greater size of the population can mean a potential for heavier investments, which again means a higher level of excellence in the health care,"* says Sören Olsson, region manager at Region Skåne.

More experts mention, that building a new Oresund hospital, i.e. in Amager in connection to the new Oresund city, or in the southern part of Malmö, could help to gather the knowledge capacity. *"A common university health care could compete with Oxford, Cambridge and Massachusetts,"* states Bent Christensen, hospital manager at Lund University Hospital.

Today, the cooperation is advanced or not so advanced, depending on the perspective of the viewer. There are different opinions on the question of the level of systematised cooperation. But if one were to summarize the different positions, the cooperation in the region is systematic within certain, smaller areas. *"The network across the Sound is well established, but the cooperation is kept up through merely sporadic contacts,"* says Sören Olsson, region manager at Region Skåne, for example. It is amongst experts acknowledged, that cooperation processes takes time. Moreover, the Danish side of the region has recently undergone a restructuring process, as the regions became bigger with the structural reform, which came into effect in January 2007. The Swedish side of the region is about to undergo a restructuring process as well. One should bear in mind that these processes of reorganising health care attract the attention of the actors concerning the costs of the cooperation across borders. That apart and grossly generalizing, the willingness to cooperate is most dominant on the Swedish side of the border, while the Danish actors apparently rather look to Stockholm and the Karolinska Institutet.

However, there are a number of formalised cooperation agreements between the Danish and the Swedish side of the Sound. Table 6.1 shows an overview of systematic cooperation agreements between Region Skåne and Danish actors.

<b>Table 6.1: Existing cooperation agreements</b>		
<b>Agreement</b>	<b>Cooperation partners</b>	<b>Period</b>
Agreement on mutual support regarding emergency health care at extraordinary events, immense accidents or catastrophes in the Oresund Region	Region Skåne Capital region of Denmark	July 2004 and ongoing
Continued coordination of intensive care resources at acute lack of hospital beds	Københavns Amt Hovedstadens Sygehusfællesskab University Hospital in Lund University Hospital in Malmö (UMAS)	March 2002- February 2005
Resumption of the cooperation agreement between Region Skåne and Hvidovre Hospital regarding acceptance of neonatal patients	Region Skåne Hvidovre Hospital	July 2004- July 2006
Agreement regarding specialist care in the area of hemophilia between the University hospital in Malmö (UMAS) and Rigshospitalet in Copenhagen	University Hospital in Malmö (UMAS) Rigshospitalet in Copenhagen	September 2002-2007
<i>Source: "Sammanställning av avtal mellan Skåne och hovedstadsområdet". Information note from Region Skåne, rev. August 2008</i>		

There has not been the occasion to put all the agreements into effect, but it has a large psychological effect that the hospitals are able to share capacity. Hence, the agreement on catastrophe and civil safety is based upon the capacity of hospital resources on both sides of the Sound ([www.oresund-civilsafety.com](http://www.oresund-civilsafety.com)). In case of a catastrophe with many injuries, the formal agreement is to mobilize resources within a short time limit. This cooperation started as a pilot project "Sygehusberedskab Øresund" (SBÖ), which took place in 2004-6 and created the framework for the comprehensive formal agreement.<sup>12</sup> According to Peter Sommer, project manager for the SBÖ in Region Skåne, there is cooperation on a daily basis, which has opened up new cooperation possibilities: "You have seen a very concrete example of cooperation in the Swedish strike, when the Danish ambulances wheeled in the Swedish part of the region," says Peter Sommer, and stresses that cooperation often meets the barrier of national legislation.

Moreover, in the report "Borderless health care in the Oresund region" published by Öresundskomiteen (Gränslös sjukvård i Öresundsregionen - Öresundskomiteen 2002) it is estimated that there in 2002 existed approximately 20 formal cross border projects and in addition, 20 of a more informal character.

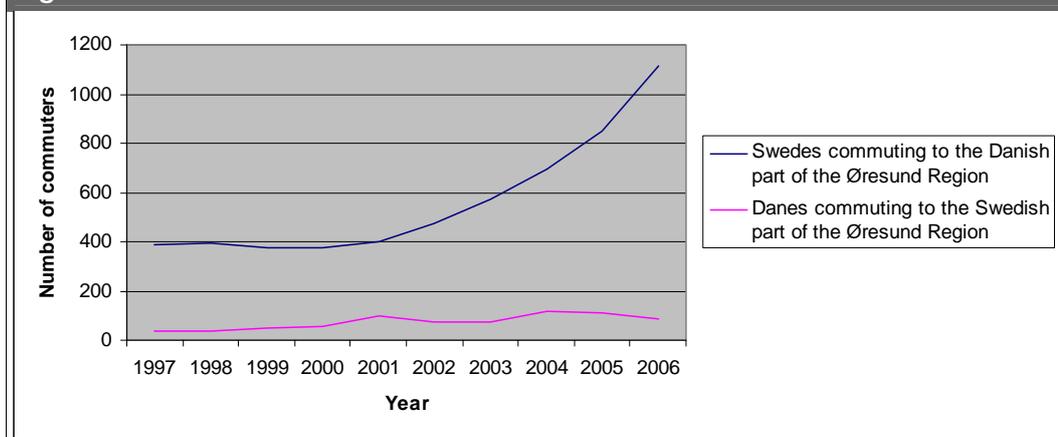
## **Mobility of personnel**

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The mobility of health care personnel has risen dramatically with the opening of the Oresund Bridge. As the health care sector in Denmark in the same time span has experienced a severe shortage of health care personnel, this means that the mobility of health care personnel has mostly been from Sweden to Denmark. About two out of three commuters across the Sound are Swedish, as seen in the figure below.

<sup>12</sup> See the framework at SBO website <http://www.skane.se/default.aspx?id=103206>

Figure 6.2: Number of commuters in the health sector



Apart from that, a number of Danes live and work in Sweden, and Swedes live and work in Denmark, but it has not been possible to extract data. However, an indicator of some level of mobility within the region might be, that Southern Sweden is the health care region which has the largest density of doctors with an education from another country<sup>13</sup> (and who gained an authorisation in 1994-2005), hereby mostly from either Iceland or Denmark (amongst the Nordic countries, as the main part of doctors with an exam from another country come from non-Nordic countries) (Socialstyrelsen 2008).

Different actors state that the practical/bureaucratic problems related to the mobility of personnel is continuously being solved. However, practical problems still remain, but not on a large scale.

As in Iceland, there are different models of mobility of health care personnel, which summed up take three forms:

- The health care professional settles on the other side of the Sound;
- The health care professional lives in his/her home country, but commutes every day to the other side of the Sound;
- The health care professional has a shared position between two different hospitals on each side of the Sound.

There have been some examples of highly specialised doctors that have had a shared position, but they are not many, and according to the information from the expert interview, there are no examples at the present time – as the doctors have either moved or retired.

It is important to highlight that the actors assess that the level of mobility is to increase: *"The mobility of labour is to become important to the health sector in the Oresund Region"*, says Sören Olsson, Region Manager at Region Skåne for example.

## Mobility of patients

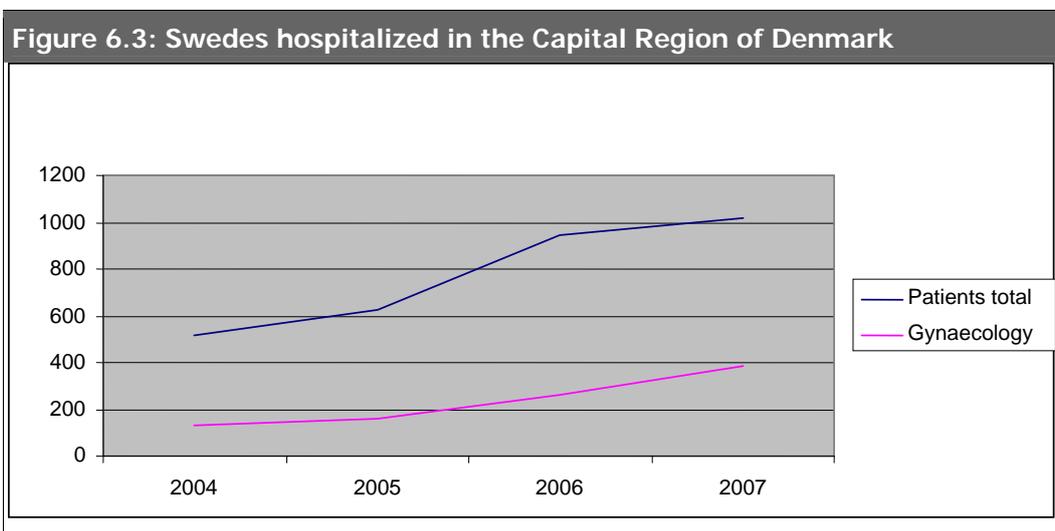
The mobility of patients both concern primary health care and hospital care. The patient mobility in the primary care health care sector has risen due to the increased number of Oresund commuters for Oresund citizens. There have been some administrative barriers in regard to primary health care – i.e. that commuters lack identification in the Danish

<sup>13</sup> When considering the population density

health care sector, which means that commuters have to be established in more systems – at the pharmacy, at the doctor etc. – which again means that patient journals disappear and reimbursements are not calculated correctly. The organisation Danish Regions is currently working on a solution to this problem (Øresundsbron 2008).

The hospital care concerns highly specialised fields, such as transplantations, and to a far more limited degree mass treatment areas. In the field of hospital care, the statistic data is scarce. It has not been possible to find data on the patient mobility from Denmark to Sweden in the region, and according to one expert, it is not only a problem of cross border cooperation, as many counties in Sweden do not establish statistics on patient mobility between the counties. On the Danish side of the Sound, a total number of 1.020 patients from Sweden were hospitalized in Denmark in 2007, according to data from the Capital Region. The development shows an increasing number of Swedish patients from 2004-7, see table below. However, one should bear in mind, that 385 of these patients were hospitalised for gynaecology treatment, which indicates that they are Danish women living in Sweden, who wanted to give birth in a Danish hospital. Hence, the actual number might be about 2/3 of the 1.020 patients. The problem of lack of statistics is not new, as it was also highlighted in a report from the Nordic Council of Ministers ten years ago (Nordic Council & Nordic Council of Ministers 1998).

An example of a successful collaboration in the region could be the partnership between a county hospital in Gentofte (Denmark) and the University Hospital in Lund (Sweden) within the area of neonatology. The collaboration meant that 60 Swedish heart patients in 2001 were treated in Gentofte due to capacity problems in Lund. By entering into this collaboration it was thereby possible to reduce the waiting time significantly for heart surgery at Lund University Hospital.



According to the actors, there is potential to enforce a higher degree of division of labour in specialised treatment areas where the quality of the treatment, economy of scale and the potential of building up centres of excellence is concerned. Further mobility of patients in highly specialised treatment areas will therefore demand a strengthening of the division of labour in the Region. However, neither the Danish nor the Swedish actors will voluntarily agree to give up treatment areas. Therefore, a common coordination unit with decision making capacity will have to enforce such a division of labour if it is to be ef-

fect. The barriers for such a division of labour are both made up of the political level and the professional level.

However, most actors agree that *“the cooperation potential mostly concerns minor patient groups and the experimental, non-standardised treatment areas,”* as Jørgen Jørgensen, hospital manager at Rigshospitalet in Copenhagen says. *“But with the life-threatening diseases, when it is of great psychological importance that you get the treatment right away, there will be a greater willingness to be treated at the other side of the Sound,”* Jørgen Jørgensen states. Jørgen Jørgensen refers to a programme concerning Danish breast cancer patients who through an organized program were offered radio therapy at Lund University Hospital. Only two patients took the offer. The rest preferred to stay at home and wait for the treatment, even though it could worsen their condition. Hence, the examples of systematic cooperation on patient mobility are scarce. Often the transfers of patients are agreed to from clinic to clinic through the doctor’s more or less formal contact with clinics on the other side of the Sound.

In the areas of mass treatments, some level of cooperation exists, but not as far fetching as the cooperation in highly specialised areas. According to Christian Worm, manager of the unit for hospitals and head of psychiatry planning in the Capital Region, Sweden has lacked the capacity to hold patients seeking that seeks non-specialised treatment, and has therefore requested assistance from Denmark twice during the summer of 2008. *“Due to this, established contacts between Sweden and Denmark for this purpose now exist,”* says Christian Worm. The Swedes contact the A.M.K., a 24-hour operated medical guard central, which then takes charge of the matter.

Moreover, there are examples of hospitals in the region that treat patients from abroad in order to gain a profit, and some actors express interest in the idea of a public run market for health care services. The hospitals today compete on the combination of prize and quality, i.e. Lund attracts patients from the Arab world. Sweden is, given its neutral foreign policy, to a higher degree than Denmark able to attract patients from abroad. The Capital Region in Denmark has also been contacted by the British health care system, an interest which was uttered on the basis of the accreditation by the Joint Commission. However, the region has not had the capacity to take the order, which is a general problem related to the for profit treatment of foreign patients.

## **Research and development**

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Research is one of the most advanced areas of cooperation in the Oresund region. The cooperation has increased its scope significantly with the opening of the bridge, but there has always been a tradition of research cooperation in the region. Moreover, the research standard is very high in both Denmark and Sweden, when viewed from an international perspective. Sweden (in total) is number 1 of quotations per citizen, and Denmark (in total) is number 2.

Hence, Sören Olsson states that *“The cooperation within the health sector in the Oresund region in the more institutionalised form mostly takes part within the area of clusters and innovation, and especially in the field of life science, were the cooperation organisations are most active. The most important partners are the universities, the university hospitals, the regions, the research parks, and the industry,”* says Sören Olsson, region manager at Region Skåne. Sören also states that the greatest future potential for cooperation is connected to research and development, as *“one of the strongest clusters in the North is located in the Oresund region”*.

The Interreg II has supported the *Building up Centre of Excellence for Breast and Endocrine surgery* (Interreg II report, 2002). The idea of building up centres of excellence is assessed to have vast potential – but as highlighted in the section on patient mobility, there is not a willingness to give up specialised treatment areas.

The research and development across borders has among others been promoted by the Medicon Valley Alliance, which was set up in 1997, and which connects the industry with universities and hospitals. See text box. A prominent research cooperation project within the Medicon Valley Alliance is “The Oresund Diabetes Academy” – an example which is often highlighted among the experts.

#### **Medicon Valley Alliance**

Medicon Valley Alliance is the cluster organisation for the Danish-Swedish life science cluster Medicon Valley, which serves as project leader on cross border initiatives. The ambition is to add to Medicon Valley’s position as a world class life science cluster. The 250 members include universities, hospitals and human life science companies.

*Source:* Medicon Valley Alliance, <http://www.mva.org/>

Apart from research and development, education and vocational training programmes have also been set up, i.e. the Palliative care program promoted by Interreg IIIA in 2004, and initiated by UMAS in Malmö.

### **Technology investments and common public procurement**

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There are examples of cooperation on public procurement, but the cooperation is still in its explorative stage. See the text box with an example from a pilot project on public procurement in the hospital sector. Some experts mention that the Hvidovre Hospital in Copenhagen and Region Skåne has discussed buying a MR scanner. However, it is not a cooperative area that is highlighted amongst the experts. It is assessed that there still is potential for a further degree of cooperation in this area.

#### **Common public procurement in the Oresund hospital sector – still in its explorative stadium**

In 2006, a common, partly EU financed project between Region Skåne (MA-Skåne) and the procurement organisations in the Capital Region in Denmark took place. The goal was to break down the barriers between the public procurement organisations and create better conditions for cooperation. The total budget was 3,8 mio. Sw.Kr. German organisations and Kommunförbundet i Skåne, landstingen i Halland, Kronoberg och Blekinge were, alongside with representatives from Landstingsnätverket, invited to cooperate. The overall goal was to save money within the health care in Skåne and the area of Copenhagen.

*Source:* <http://www.si-oresund.org/>

## Quality development and exchange of organisational experiences

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There are a few examples of cooperation on quality development, but no large scale cooperation.

All the Danish regions have been in Lund to see how they organise emergency services, as the Lund emergency service is the most efficient in the world. According to the hospital manager at Lund, organisation development is one of the fields which is easiest to cooperate on, and he highlights that employees from Lund have also been to Danish hospitals to restructure the management system.

There is a common agreement that quality development has a potential, but it is difficult to operate on an international level while there are different legislations on patient safety and the report of mistakes – in Denmark the reporter is guaranteed anonymity, but not in Sweden, due to the Swedish Act on Public Access to Documents in Administrative Files. It also makes up a barrier that medicinal products registered for use in Sweden might not be registered in Denmark and vice versa.

### 6.3 Potentials and barriers

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The case description has highlighted a number of **potentials** for further cooperation in the Oresund region. To sum up, they are:

- Mobility of patients - further strengthening the specialised health care cooperation,
- Division of labour, especially in specialised health care,
- Common technology investments,
- Mobility of personnel – sharing of expertise,
- Building up centres of excellence – Oresund is the largest life science area,
- Technology investments,
- Quality development,
- To widen the scope of the region, given a high speed train connection between Germany, Denmark and Sweden, which i.e. could make it possible to commute from Berlin to the Oresund region.

#### Barriers

- Lack of a common administration unit which can work to integrate the Sound – a unit which has a decision making capacity that matches the decision making capacities in both countries,
- Lack of capacity on both sites of the Oresund – which makes up a barrier to patient mobility, but also to offer for profit treatment to international patients,
- Apart from the connection between Malmö and Copenhagen, the infrastructure does not work efficiently enough in the region. This is a challenge to the mobility of personnel,
- Pharmaceutical legislation: Medicine products registered for use in Sweden might not be registered in Denmark and vice versa. This affects the question of patient safety.

# Chapter 7. The North Calotte region – health care in a vast and sparsely populated region

## 7.1 Introduction

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In this case study, the North Calotte region is defined as consisting of northern Finland (The county of Lapland), Sweden (The county of Norrbotten), and Norway (The municipalities of Finnmark, Troms and Nordland). The hypothesis has been that in cross-border regions with geographical proximity and small population density, the incentives for cross-border cooperation could be high. Therefore, when selecting interview objects, the main focus has been mapping and analysing present and potential cooperation in the health care sector *along the borders* between Finland, Sweden and Norway. This case study thus focuses on the central part of the North Calotte region (see map).

The interviews are structured on three levels:

- The regional organisations, e.g. County councils, cooperation organisations etc,
- The large hospitals,
- The municipalities and health centres along the border.

This choice has provided the study with depth in terms of present and future needs of cooperation and led to some interesting discoveries in comparing the different perspectives. The basic character of many of the cross-border initiatives demand a focus on the municipalities and the health centres.

Providing quality health care in the North Calotte region is arguably a challenge. This section will describe the factors behind the set of shared problems in the health care sector in the region. The North Calotte region is a vast region covering between one third and one fourth, varying depending on geographical definitions, of the joint area of Sweden, Norway and Finland. The region as a whole has approximately 890,000 inhabitants, a figure that roughly corresponds to 5% of the total population of Finland, Sweden and Norway. The average population density is about 3 inhabitants per km<sup>2</sup>. The corresponding figure for the whole Nordic region is 21 and 116 for the EU. The majority of the population, about 460,000 persons, lives in Norway, whereas Norrbotten has approximately 252,000 inhabitants (a decrease of 6,000 since 2000) and Lapland in Finland approximately 184,000 (a decrease of 10,000 since 2000). The majority of the population is concentrated around the cities (population centres), Luleå (Sweden), Rovaniemi (Finland) and Tromsø (Norway) (Interreg IIIA Nord, 2004; Population figures provided by the North Calotte Council 2008).

Figure 7.1: Hospitals in the North Calotte Region



Source: Oxford Research 2008

## The main challenges

The main challenges associated with the task of providing high quality and public health care are threefold.

The *small population spread over a vast area* (see map) leads to a series of problems, which may compromise the aim to provide the citizens with high quality, closely located, and to some extent specialised health care. Having a weak population base seriously challenges the provision of health care services. At the same time, the citizens of the region demand their rights, making the policy area a controversial topic in local and regional politics. Some would even describe the character of the health care issue on a political level as causing a bit of a stalemate in the development of the health care in the region. There has, for instance, been a major debate in Norrbotten about the closing of a maternity ward, causing longer distances for giving birth, according to Carina Kapraali, Social Service Manager in Haparanda Municipality.

Another issue related to the small population is that there is a lack of highly skilled personnel, i.e. doctors and nurses. Marjatta Kihniä, Chief Medical Officer at the State Provincial Office of Lapland, states that this concerns the region as a whole, but is generally a bigger problem in small and more remote places. The question of cost efficiency is also on the political agenda, since authorities try to provide geographically near and specialised, high quality health care. According to Jussi Merikallio, Director of Health Care at the Association of Finnish Local and Regional Authorities, every service provider can simply

not do everything. The population base is too small to provide all high quality specialised services at a close range. The question is a matter of how to prioritise, he says.

Per-Olof Egnell, former Project Manager of E-health in Norrbotten County Council agrees. He says *"Today there are 5 hospitals, 33 health centres and 34 dental centres in Norrbotten. These will be hard to keep due to increasing costs"*. He believes that the discussion in Norrbotten regarding health care supply is missing the core issue and says: *"Instead of having a political fight over the specific location of a hospital and health centres, we should instead focus on the actual needs and which solutions there are to overcome the challenges and to keep health care of high quality."*

The North Calotte region also has a *negative demographical development* that has reached a level where it is hard to maintain minimum basic municipal services, especially inland of Norrbotten and Lapland (see map above). The majority of the population outflow consists of women and young people of working-age. Combined with steadily decreasing birth rates, this development leads to a very unfavourable and spatially uneven age and sex distribution in the population (Interreg IIIA Nord, 2004), putting pressure on health care and increasing the costs.

In terms of *employment*, the health care sector has a relatively high share of the total employment, something which mirrors the political will to maintain public services for the whole population and to compensate for long distances and a weak market for private health care services. (Interreg IIIA Nord, 2004).

The use of many *different languages* in the region further complicates providing quality health care, and is pointed out as being a barrier to cooperation. In many health care institutions, interpreters are needed, and although recent projects have been focusing on e.g. the Sami population (Seppänen, 2005), it is a problem that needs to be taken seriously.

#### **Summary of challenges**

- A small population spread over a vast area, resulting in:
  - 1.1. health care localisation problems,
  - 1.2. increasing costs,
  - 1.3. lack skilled labour,
  - 1.4. lack of population to provide specialised health care.
- A declining population, resulting in:
  - 1.5. intra-regional demographical differences,
  - 1.6. a disproportionate amount of elderly people.
- A multilingual area with three main languages (Swedish, Norwegian and Finnish) as well as Tornedal-finish and different Sami language variants.

## 7.2 The health care systems in the region

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The municipalities are key players in organising the cooperative initiatives in the region. This is the case in all three countries represented in the North Calotte region, where the municipal autonomy is rather far going. The concrete cooperative initiatives will be described further below (chapter 7.3). In this section, the differences in organising the health care will be presented from a cooperative perspective.

Finland has the most decentralized health care system among the countries in the North Calotte region. The responsibility for providing health care services to a very high degree rests on the municipalities, both in terms of primary and secondary care. The state provincial office in the health district of Lapland and the Finnish state level has little say in how the municipalities organise the health care. Roughly one third of the municipality budget derives from the state. Thus, to a large part the responsibility of cross-border cooperation rests on the single hospitals and health care centres through the municipalities. There is also a lack of centralised planning, a large part relies on hospital/health centre initiatives. More centralised planning with larger health care units could possibly fuel a more structured and broader cooperation between the Nordic countries, according to Mr. Merikallio at the Association for Finnish Local and Regional Authorities.

On the one hand, the decentralised system is described by Marjatta Kihniä, Chief Medical Officer at the State Provincial Office Lapland, as granting some flexibility in terms of cooperation with Nordic neighbours. According to Mr. Merikallio, there is also an understanding among the municipalities that “the local needs the local” and this fact may explain the increasing cooperation along the Swedish-Finnish and Norwegian-Finnish borders. On the other hand, he says, there is a rather broad consensus that the Finnish health care system in some respects needs to be centralised in order to meet future needs. Some municipalities have very flexible and demand-oriented decision making, while other municipalities are not so flexible. Today there is an ongoing structural reform, where the approximately 400 municipalities of today will eventually decrease.

In Sweden, both primary and secondary care is organised and financed by the county councils, i.e. on the regional level. Thus the county council is involved in any far going cooperation initiatives along the border. In spite of this, the municipalities have a rather autonomic position regarding primary health, being key drivers and stretching their powers through the cross-border initiatives (see chapter 1.3.3). The demand-oriented character of present municipal Finnish-Swedish cooperation can explain this, where the initiatives are oriented towards finding solutions to common problems.

Looking at the cross-border cooperation between Finland and Sweden in the North Calotte region, the differences in organisation of the health care systems leads to differences in decision making. According to Ms. Kapraali at Haparanda Municipality and Ms. Kihniä, at State Provincial Office Lapland, the Swedish municipalities and health centres are willing to cooperate, and are in some respects described as being the drivers, but the Finnish municipalities are more flexible on the political level due to a more decentralised political system. Elisabeth Eero, Head of Övertorneå Health Centre, says that present Swedish-Finnish cooperation does not so much involve transferring patients and money, but rather splitting daily costs, for example, one week the on-call duty is served by Finnish personnel and the other week by Swedish personnel. Projects involving transferring money with patients would have to involve the county council in Sweden.

Finn Henry Hansen, Director at Northern Norway Regional Health Authority (Helse Nord RHF), states that the differences in health care organisation create no problems in gen-

eral. Rather it can be seen as an advantage that the organisational structures differ, as it is possible to learn from each other. Tor Ingebrigtsen, Hospital Manager, University Hospital of North Norway Trust (UNN) argues that there is no difference in working with the Swedish side or the Finnish side of the border, apart from the sometimes problematic language gap with Finland. He also believes that the Norwegian system is too centralised to facilitate cooperation. All focus is put on domestic possibilities of cooperation rather than an unbiased investigation of what would be the best cooperative activity.

The different actors consulted in this study have generally toned down the importance of differences in the health care systems as a barrier, and stressed that it is primarily a matter of political will and central planning. There is often no lack of visions when it comes to finding pragmatic solutions in the health care sector itself, as many initiatives originate from the health professionals, primarily in the primary care along the border. According to Simo Kokko, Development Manager at National Research and Development Centre for Welfare and Health (Stakes), it can however be difficult to find common denominators politically and some initiatives along the borders have not become reality due to different views in terms of how the health care systems should function. Mervi Kattelus, Ministerial Adviser, Legal Affairs at the Ministry of Social Affairs and Health in Finland, means that on the national level it is therefore sometimes more natural to look to other EU countries than to the Nordic neighbours due to differences in political opinion.

## **7.3 Drivers towards cross border cooperation**

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In this section, the present and potential cooperation between the countries in the region within the health care sector will be described.

### **Mobility of personnel**

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The mobility of health personnel between Nordic countries is described as being uncomplicated. Applicants from EEC/EU countries are automatically authorised, and no language test is required – as opposed to health personnel from non-EEC/EU countries. The fact that Norway is not part of the EU poses no problem, as the health agreements go through the EEA agreement and that Nordic agreements often go deeper than EU agreements.

A correct description of the development in terms of mobility of personnel would be that a relatively *small* amount of nurses and doctors move between the health care systems in the North Calotte region, according to Mr. Merikallio at the Association of Finnish Local and Regional Authorities. When analysing the mobility of personnel within the North Calotte region, a key driver seems to be the wage levels. One example of this is that many Finnish nurses have taken jobs in northern Norway where wage levels are significantly higher than in Finland. The general trend in Finland, according to Ms. Kihniä is that there is a low outflow of doctors to other countries and a slightly higher outflow of nurses. Partly as a result of this pressure, the Finnish wages have increased to a level where the benefits of working on the other side of the border have decreased.

Another driver for increased mobility, as described by Ms Kapraali at Haparanda Municipality and Elisabeth Eero at the health centre in Haparanda, is that e.g. the Swedish-Finnish border-region is described as having a more homogenous culture and language than other parts of the region. It is, for instance, very common that a large share of the

health care personnel in a given health centre along the border in Sweden are Finnish. A large share of the population is bilingual. There are however differences between generations, says Ms. Kihniä at the State Provincial office Lapland, where e.g. the younger part of the Finnish population know little Swedish and vice versa.

The external inflow of health care personnel into the region is described by Mr. Kokko at STAKES, as low, which is a major reason behind the lack of health care personnel. It has become more common in general that doctors and nurses come from outside the Nordic countries, which is also true for this region. The most significant inflow of labour is from the east-European countries generally, according to Mr. Kokko at STAKES. The low inflow of labour means, as said by Mr. Kokko, that the health care sector in the North Calotte region to small degree competes internally, attracting the same health care personnel. He continues by saying that there is an increasing need for more health care labour in the region and increased cross-border cooperation alone cannot solve this problem. All countries in the region share this problem, he says. Thus the health care personnel need to increase in numbers in the region as a whole. According to Mr Merikallio at the Association of Finnish Local and Regional Authorities, the problem with finding skilled labour varies intraregionally with the more densely populated areas having fewer problems.

Ms. Hämäläinen at STAKES believes if cooperation initiatives focused on specialisation, i.e. specialising in given health care services and thus diversifying services among e.g. the hospital units in the region services, this could lead to a more efficient personnel usage. Achieving increased economies of scale could besides potentially saving money, help free personnel resources. "Today everyone does everything", says Elisabeth Eero, Base-unit Executive Officer at the health centre in Haparanda.

## **Mobility of patients**

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There are no exact numbers when it comes to patient mobility in the region, but it is generally described as rare to seek health care in another country in the region as a whole. An example of this is that the Swedish county council will not fund women of Finnish origin who work and live on the Swedish side of the border to give birth in the maternity ward in Kemi, Finland, according to Ms. Eero at Haparanda Health Center. It is more common within primary health care to seek health care across the border.

Experiences from Finland, says Ms. Kattelus at the Finnish Ministry of Social Affairs and Health, show that a high degree of patient autonomy in terms of choosing health care, has revealed that patients, even though the opportunity is provided, remain rather immobile. This fact needs to be investigated more closely. Again, new EU-legislation and intra-regional initiatives could fuel increased patient mobility.

In conclusion, the patient mobility and the mobility of personnel in the North Calotte region are in line with that of the EU at large - a relatively small share of health care personnel and patients move between the systems. As previously discussed, there may to some extent be mutual gains to be made from increased cross-border cooperation.

## **Lack of co-operation in the region**

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The figure below provides an overview of the hospitals in the region (note that Umeå and Oulo hospitals have not been included in this study). In Norrbotten, Sweden, there are five hospitals. The biggest and most important hospital is Sunderby hospital, a newly built and modern facility. In Finland, the main hospital in Lapland is Rovaniemi central hospital, which is geographically located in the centre of Lapland. Kemi hospital is also part of

the Lapland health district. In Norway, Tromsø is the most important hospital, also known as UNN (University Hospital North Norway). The key regional actors as well as some hospital managers have been consulted to provide an overview of present cooperation.

A key question for the future of the health care in the region is "how do we provide specialised high-quality health care?" It is a question of economy as much as it is a question of citizens' rights. The lack of economy of scale in the health care sector is rapidly increasing the public expenditure, according to Mr. Merikallio at the Association of Finnish Local and Regional Authorities. Especially in terms of hospital care, which is more specialised and thus more costly compared to the primary care. When put in relation to the demographical situation with a high share of elderly, it constitutes a real problem. This puts a lot of pressure on the healthcare system and thus increased cross-border cooperation may be needed in the future, especially as the elderly put pressure on specialist care with more expensive health care measures today than in the past. In some areas of Lapland 20 percent of the population is over 75 years old, according to Ms. Kihniä.

One of benefits in the North Calotte region is that the countries have a rather similar health care system and thus have shared problems, and it is hard to point at more solid obstacles for increased cross-border cooperation. It is puzzling that there is very little cross-border hospital care cooperation.

The cooperation today consists of a hospital-to-hospital cooperation between the health care district of Finnmark (hospital units in Kirkenes and Hammerfest) and the health-care district of Rovaniemi (Rovaniemi Central Hospital), which involves several specialist areas. According to Eva Salomaa, Medical Director at Rovaniemi Central Hospital, the initiative actually started due to personal network between two specialists in the two districts. After having consulted the hospitals of Gällivare, Kiruna and Sunderby hospitals in Sweden, the conclusion is that there is no cooperation with hospitals in other countries worth mentioning and very little cooperation between Sweden and Norway.

Many factors have been provided to explain the lack of cooperation on the regional and hospital level during the interviews:

- First and foremost there seems, according to Mr. Kokko at STAKES, *to be little (political) pressure for cooperation and no natural forum for the political actors* concerning health care cooperation in the North Calotte region. The regional actors do meet from time to time, but not in an institutionalized manner. There is thus a lack of thinking in terms of cross-border cooperation on the regional level, which is explained by the fact that there is little history of cooperation within the health care sector. According to Mr. Merikallio at the Association of Finnish Local and Regional Authorities, few cross-border hospital cooperative initiatives are a cause of lack of central planning. It is not likely that initiatives will spring from the hospitals and health centres in any broader sense without substantial back-up from political actors and from the regional level. The cooperation that does exist is only in terms of bigger events (e.g. anti-drug seminars etc) on the regional level. The region has some emergency aid projects running where the countries cooperate in terms of acute transportation and care, according to Ms. Kihniä at the Haparanda Health Center.
- Secondly, *the distances and infrastructure in the region* reasonably complicate contacts with other hospitals. The question of transportation needs to be taken seriously in the future, if hospitals are to co-operate more, according to Ms. Kihniä. For the Norwegian actors, the North Calotte region is not intuitively thought of as a region where they can operate, says Mr. Hansen at Helsenord. The population concentrations in Norway are mainly located along the coast, meaning the North Atlantic coast, very far from the population concentrations in Sweden and Norway, which are located along the Baltic Sea coast. One illustration of this, according to Mr. Hansen,

is the fact that when the Tromsø hospital wanted to learn from the Swedish experiences from new quality indicators, they went to Uppsala to study this. That was a less time-consuming trip than what it would have been to go to Umeå or Luleå.

- Thirdly, there may well be a *culture of preserving/defending territory* e.g. at the hospital/regional level. Most are aware that cooperation may mean losing specialities, thus threatening to undermine the single hospital. It does not sound attractive to the people involved. "The shared use of capacity solutions are hard to achieve", says Mr. Kokko at STAKES. The health care systems are nationally constructed and problems are solved nationally, with well established cooperation between hospitals, e.g. in Lapland patients with need of special treatment are sent to Oulo and in Norrbotten patients are sent to Umeå.
- A fourth factor is that the region is *not homogenous in terms of e.g. culture and language* as many of the other regions in Europe where hospital cooperation is more common according to Ms. Hämäläinen.

Generally within the field of special care, voices are raised that cooperation could and should be fuelled. "There are clear scale benefits here and the factor of geography is definitely not to be underestimated. Why go far when health care is just over the border?" says Mr. Merikallio at the Association for Finnish Local and Regional Authorities. Furthermore, he points out that it is not efficient in small states with a sparse population to specialize in all diseases. Particularly rare conditions do require cooperation and perhaps joint clinics. On the Finnish side, the specialities are already very scattered and there is already a tradition of buying services from each other according to Ms. Kihniä.

According to Gunnar Persson, Chief and staff coordinator at the Norrbotten County Council, there will be a regional meeting during autumn of 2008 between health care providers in the three countries to discuss how to cooperate better and try to find common solutions to common challenges in the region. This is due to recent strikes in Sweden and Finland among nurses in 2007 and 2008 respectively. During the strikes there was an upcoming lack of personnel, and subsequently a contact between the Swedish and Finnish actors was established to find extra resources on the other side of the border. This never became a reality since the strikes ended, but opened up the mind of the decision-makers to further investigation, says Mr Persson. Thus, this might give an indication of future cross-border cooperation.

A majority of the present cooperation within the North Calotte region in the health care sector can be found along the borders between the municipalities; mainly between Sweden and Finland, and Norway and Finland. Many lessons can likely be learned from the pragmatic and innovative ways of the municipalities and health centres in the region.

Considering the size of the North Calotte region, there are very few health centres. Thus, obvious problems are connected to the localisation and accessibility of health care services. A key function from the municipal perspective is therefore to make health care services more available. In many cases, the nearest hospital or health centre may be situated in another country just "around the corner". The municipal and health centre cooperation constitutes great examples of this. Different kinds of basic health services are provided through cooperation according to Ms. Kihniä, Ms. Eero and Ms. Kapraali. Especially two border regions within the North Calotte region are of interest when it comes to cross-border primary care cooperation:

- Along the Norwegian-Finnish border (between municipality Tana and Utsjok), the aim has been to improve conditions for the Sami population, providing health care services in their native languages. As a part of this project the health care personnel have been obliged to learn more about the Sami society in order to understand health problems and psychological problems. This gives a unique dimension to the

supply of health care services and the problems associated with health care also on the Nordic level (Seppänen, 2005).

- In the Torne valley there is a strong tradition of cooperation between Finish and Swedish municipalities (see below). Along the Swedish-Finnish border the aim is, according to Ms. Kihniä at the State Provincial office Lapland, to find solution to the demographical and staffing problems in the region. Due to the geographical location, cooperation becomes very natural and oriented towards solving common problems. On the municipality level, many meetings are organised. The capacity issues (e.g. On-call night duty) are highlighted, and cooperation constitutes a solution. "We cannot hire half a nurse ourselves, but being two countries cooperating we can hire one nurse and split his/her services between us", says Kapraali at Haparanda Municipality. The solutions to overcome the barriers are pragmatic, and little effort is wasted on pondering the boundaries of the nation state. The geographical location in combination with common needs and problems stimulate further cooperation, according to Ms. Kapraali. There are also obvious economic and quality gains to be made from more cooperation. Good health care by increased competition is the way forward in the eyes of the local actors. In the views of the municipalities and health centres the biggest barrier is that of the different languages and cultures according to Ms. Kapraali and Ms. Eero 2008.

#### **Functional municipal co-operation – an illustrative example**

At 10:15 p.m. on a Monday, the phone of Ms. Kapraali, Social Service Manager in Haparanda municipality, rings. A colleague informs her that an apartment complex is on fire and there are a lot of people in the building. The rescue team consists of a mixture of Swedish and Finnish fire fighters. The fire vehicles have been customized to function with the Swedish and Finnish water systems. The jointly owned Haparanda (Swe) – Tornio (Fin) sky lift is on site. Due to a previous emergency, the Swedish ambulance crew is busy with driving a patient down south to Sunderby Hospital (about 13 km south of Haparanda). The hospital in Rovaniemi (Fin) is contacted and quickly dispatches two ambulances to the site. Nobody was injured.

In the Torne valley with the municipalities Pajala, Övertorneå and Haparandra on the Swedish side, and Enontekiö, Muonio, Kolari, Pello, Ylitornio and Tornio on the Finnish side, there are far reaching plans of a project to deepen the health care cooperation by letting the citizens choose freely where to acquire health care.

The population is presently around 61,000 people in the Torne valley, and the project is a response to the challenges described earlier. There is a natural flow of patients today between the countries, and the aim is to increase and to facilitate the patient flow. A number of health care activities will be planned and executed jointly (Ambulance, on-call duty, X-ray, ultrasound, education, etc.), and measures will be taken to identify and remove barriers. A major issue here is how to split the resources among the single health care centres. Today, some municipalities/health centres gain and some lose on the patient flows. This clearly shows that there are ambitions in the region, and more projects of this kind may follow according to Mr. Egnell, Centre for Distance-Spanning Health-care).

## **E-health**

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E-health has been pointed out as an area where the potentials for cooperation are good, and the initiatives may facilitate cooperation between e.g. hospitals and health care cen-

tres. There are national e-health projects relating to journals, recipes and distance counselling going on according to Mr. Merikallio.

Although the state of these programmes is immature and they have a national character, these programmes have the potential to grow over time and may simplify cooperation. Especially in sparsely populated areas, this is an important development, says Mr Merikallio and Ms. Kihniä.

In Norrbotten County Council, there is one common journal system for the entire county including all hospital, health and dental care centres, which is unusual in Sweden. This e-system has also been implemented in Halland and Jämtland County. But, there is no synchronisation with neighbouring regions and their might never be, according to Mr. Egnell at the Centre for Distance-Spanning Healthcare and Mr, Persson at the Norrbotten County Council. However, they say, one may look upon it as an opportunity to give access to neighbouring regions in the future and thereby increase patient mobility and knowledge sharing.

Tor Ingebrigtsen, Hospital Manager in Tromsø, argues that their work with E-health integrated with the other countries is close to non-existent. When patients need to be sent to a hospital abroad, and journals need to be sent along for example, pragmatic solutions are often used. It can be sent with email for instance, although this is not allowed in the legal framework.

## 7.4 Potentials and barriers

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Most actors embrace the fact that cooperation may provide a solution to many of the common problems outlined above. The **potentials** are:

- Geographical nearness is a central factor in explaining how cross-border cooperation arises, where the nearest and/or best quality health care services may well be located across the border. The driving actors are mainly located in the health centres and in the municipalities along the borders.
- Demand-driven, bottom-up initiatives, often focused on solving common problems.
- Economies of scale are seen as important. Diversifying certain services between the hospitals in the region could be one way forward. This could also provide a solution to tackle increasing costs. Achieving intensified cooperation may also help in solving the language problem, which is identified as a key barrier in the North Calotte region as a whole.

There are tendencies toward intensified cooperation in the health care sector within the region. Especially along the borders, much experience can be gained from the problem-solving character of the cooperation. On the hospital level it is more uncertain how/if increased cooperation will arise. The regional and hospital level planning of how to coordinate resources to solve common problems in the region leaves much to be desired. Initiatives from health professionals have been shown to often result in cooperation, but how far cooperation will go is also up to the regional and municipal actors in the region. Increased pressure on health care may result in pressure for joint efforts.

The most appropriate description of the present cooperation in the North Calotte region is that it is rather limited due some **barriers**:

- Small population over a vast area (small population density),
- Long distance,
- Declining and elder population,
- Multilingual area,

- Consumer pressure on politicians demanding close health services.

The demographical situation is a big challenge, and the implications for the health care need to be taken seriously. It is clear that the key actors do not want to compromise providing quality health care situated as closely to the citizens as possible. There is however an understanding that it is difficult to achieve in terms of more specialized health care services. For rare conditions, patients will likely be forced to travel longer distances.

# Chapter 8. Oslo and Gothenburg Region – cross border cooperation in a urban area

## 8.1 Introduction

The case is interesting because it has a history of cooperation, and because the region is different from the other cases due to the two dominant cities on each side of the border. The region thus consists of two metropolitan areas and a number of smaller cities and towns in the nearby area. It is two countries within the region that share the same strengths, weaknesses, opportunities and threats.

The Oslo region is interesting because of its mere size and the close similarities with Gothenburg. It is just marginally bigger in population than its Swedish cousin. The two cities have since long time back had close relations. In 1995, an agreement to cooperate within a number of fields was formed. In 2003, the agreement was geographically widened, to now include the Västra Götaland Region, Østfold and Akershus county. The cooperation aims at creating a vivid, dynamic European region, that united attracts tourists and investments. The cooperation has so far not included health care to any greater extent ([www.go-region.org](http://www.go-region.org)).



## 8.2 The health care systems in the region

The Region of Västra Götaland (VGR) is one of Sweden's three so-called "large-counties", i.e. a merger of several historical smaller counties. The new Västra Götaland region was created in 1999 when Skaraborgs, Älvsborgs and Gothenburg and Bohus County merged into this larger entity. The aim with the merger was to improve the efficiency and coordination within the county's health care, and to strengthen local democracy through a higher degree of self-determination ([www.vgr.se](http://www.vgr.se)).

The region has a population of approximately 1.5 million residents, which makes it Sweden's second largest (after the region of Stockholm), and consists of 49 different municipalities. The largest city within the region and the location of the regional board is Gothenburg (with a population of 500.000), situated on the western coast of Sweden. Other larger cities in the region are Borås, Trollhättan, Skövde, Udevalla, Lidköping, Alingsås and Vänersborg, but all are significantly smaller than Gothenburg. The region has two central assignments:

- to administer the health care system for its citizens,
- to secure regional development.

The demographic situation in the region reflects the national situation relatively well, in terms of average age. However, a significant increase in average age is expected in the region in the near future, and a recent population prognosis predicts that the share of the population aged 65 and above will increase with 50% due to the year 2030 (Västra Götalandsregionen 2007).

The highest decision making body is the Regional assembly, consisting of 149 delegates. The regional assembly is responsible for electing the regional executive board and its eight majority and seven oppositional representatives. The regional executive board administers three committees, the health care, economical and human resource committees. The elected political majority in the latest 2006 regional election is, as in the last general election, a broad coalition of the Social Democrats, the Liberal Party and the Centre Party ([www.vgr.se](http://www.vgr.se)).

The health care system within the VGR organisation employs 45.000 individuals<sup>14</sup>, as of 31<sup>st</sup> of December 2007; this corresponds to 90% of the organisations total number of employees. The largest employment group is nurses (13,000), followed by assistant nurses (9,000), and doctors (4,000) (Västra Götalandsregionen 2007).

The region has 19 hospitals including two smaller hospitals, Capio Lundby hospital and Carlanderska hospital that are privately managed. Some of the hospitals are however organised in larger administrative units. The significantly largest of these units are the Sahlgrenska University Hospital (SU), consisting of five different hospitals<sup>15</sup>, located in the Gothenburg area. SU is not only VGR's largest health care unit, but also the largest of its kind in the entire north European area, in terms of hospital beds. A similar administrative structure is the NU-group of five hospitals in northern VGR ([www.nusjukvarden.se](http://www.nusjukvarden.se)).

The organisation was created in 1997, when the previously independent hospitals were merged into one unit. The aim with the merger was to increase efficiency by pooling the health care resources for the larger Gothenburg area.

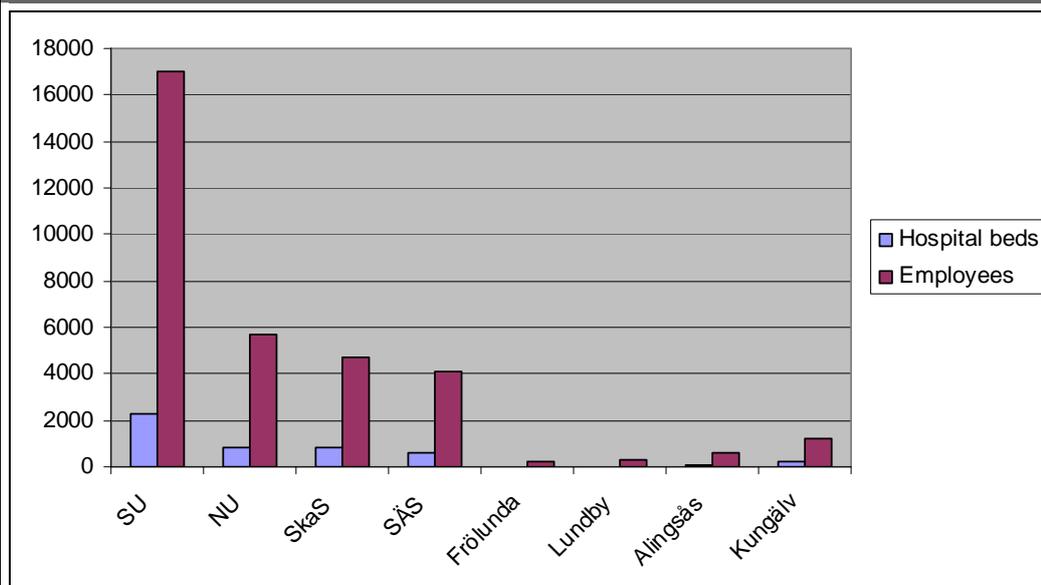
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<sup>14</sup> Please note that this figure do not include employees in privately owned health care facilities, however this number are rather marginal in relation to the total number of employees within VGR.

<sup>15</sup> The Högsbo, Mölndal, Sahlgrenska, Östra and Queen Silvia's children and youth hospitals

Besides a large emphasis on basic health care, the hospital is also highly developed in terms of specialised health care and all areas of specialisation are available at the hospital. As a university hospital, medical R&D is also a central task for the hospital. SU has a close relationship with Gothenburg University, and together with the Sahlgrenska academy they are responsible for the training of different medical occupational groups.

**Figure 8.2: Descriptive of hospital sizes in VGR**



Note: Statistics for Carlanderska Sjukhemmet is missing

Source: Västra Götalandsregionen (2007), "Hälsa- och sjukvård i Västra Götalandsregionen- Verksamhetsanalys 2007"

The health care in Norway is arranged in two layers. The primary care, which is managed by the municipality authorities, and the specialist care, that is organised by four different Regional Health Authorities<sup>16</sup>. The authorities were funded in 2002, when health care in Norway became the state's responsibility instead of the counties'. Accordingly, the regional health authorities are responsible under Norwegian Ministry of Health and Care Services.

The point of creating the authorities was to make the administration of health care more corporate, and thereby more efficient. The authorities are managed as enterprises and the hospitals (or groups of hospitals arranged in one so called 'hospital trust') are seen as affiliated companies.

The Regional Health Authority that is responsible in our region of interest is Helse Sør-Øst, which in English is called the South-Eastern Norway Regional Health Authority. It is the biggest regional health authority in Norway, covering 2.6 million people (56 % of the total population in the country). The South-Eastern Norway Regional Health Authority has 69,000 employees and 15 so called hospital trusts, i.e. public hospitals under the authority's wings. The trusts consist of one or several hospitals. Additionally, five private, non-commercial, hospitals belong to the health authority. We have in this study focused on

<sup>16</sup> Originally there were five authorities, but the eastern and the southern merged in 2007, to improve efficiency of scale (source: Helse Sør-Øst, 2008, "Årsrapport 2007" (Annual report 2007)).

the county Östfold and the Oslo region. Östfold is located on the border of Sweden and the Västra Götaland Region, and has initiated cooperation with the Swedish authorities.

The health care structure in Norway is undergoing major transformations. Firstly, because of the already mentioned and relatively new system with regional health authorities, and especially the merging of two of them, a merge that creates massive needs of restructuring in the administration. Secondly, an extensive reform process has just begun, the so-called *Hovedstadsprosessen* ('capital city process').

Hovedstadsprosessen is called one of the most extensive and most important reform processes that has ever been put through in Norwegian health care (Helse Sør-Øst 2008). The process aims at improving the organisation further, thereby creating more efficient use and prioritization of economic funds, human resources, patients and know-how. Originally, the restructuring was meant to include only the greater Oslo area, but it was decided to include the whole southeastern region.

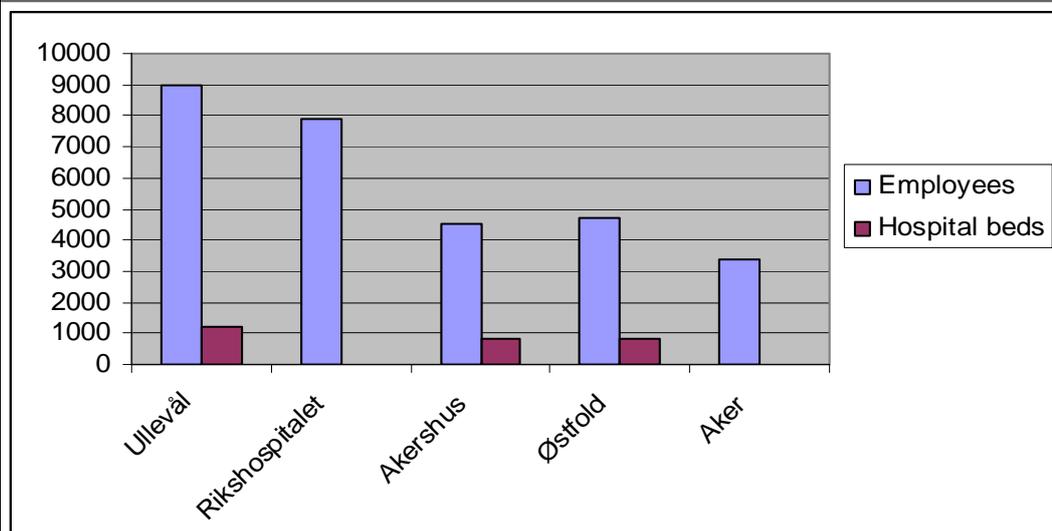
There are a number of large hospitals located on the Norwegian side of the region. Ullevål University Hospital is the largest in Oslo, with close to 9,000 employees and 1,200 hospital beds. Rikshospitalet, also located in Oslo, is a major health care institution, with around 7,880 employees (Rikshospitalet 2008). It is the most specialised hospital in Norway, with national responsibility for complicated treatments, focusing in six medical fields ([www.rikshospitalet.no](http://www.rikshospitalet.no));

- Transplantation medicine,
- Children's illnesses,
- Women's illnesses,
- Oncology,
- Coronary disorders and
- Disorders of the brain and nervous system.

Rikshospitalet was merged with the Radium hospital in 2007, when the most specialised medical centres in Oslo were gathered in one common organisation. Rikshospitalet handles much of the research and development in medical science in Norway.

Akershus University Hospital is located in Akershus county and has 848 hospital beds and 4,500 employees (Akershus University Hospital 2008). The Østfold hospital has 800 hospital beds and 4,700 employees, divided into the different local health facilities (see map). Aker University Hospital is located in Oslo and Akershus in several health facilities. It has 3,400 employees.

Figure 8.3: Descriptive of hospital sizes in the greater Oslo region



\*Note: statistics of hospital beds is missing in Rikshospitalet and Aker

Source: Various annual reports, see above

The primary care in Norway is, as mentioned, the responsibility of the municipalities. Everyone has the right to his or her own general practitioner, a so-called family doctor (*fastlege* in Norwegian). 90 % of the *fastleger* are private practitioners, the municipalities employ the rest. In Norway you are able to freely choose among all the *fastleger*, within one's own municipality or in any other municipality ([www.regjeringen.no](http://www.regjeringen.no)<sup>17</sup>). In this case, we have chosen to focus on the specialist health care, rather than the primary.

## Is the structural difference a problem?

The fact that the health care structure is different in Norway and Sweden seems not to be such a big obstacle as one could imagine. Karin Möller, vice manager of Capio primary health care, former Head of Activity manager at Capio Lundby specialist (private) hospital, states that the differences in payment and finance structure is a problem. However, she is the only one to argue that. The other experts state contrastingly that the differences do not imply obstacles. Anne-Marie Schaffrath, Adm. Director at the NU hospitals<sup>18</sup> even argues that it is a opportunity that the systems are different, because it gives the stakeholders the possibility to learn from each other's best practice and organizational failures.

The fact that Karin Möller at Capio sees problems with the funding systems of health care might be based on her vision of a free choice of health care, while the others focus on specialist care in situations where the home region cannot supply quality treatment within that field. In a situation of a market based free option of both primary and specialist health care, the dystopia of pay- and finance problems is likely to come true. Peter

<sup>17</sup> [http://www.regjeringen.no/nb/dep/hod/tema/helse-\\_og\\_omsorgstjenester\\_i\\_kommunene/Fastlegeordningen.html?id=115301](http://www.regjeringen.no/nb/dep/hod/tema/helse-_og_omsorgstjenester_i_kommunene/Fastlegeordningen.html?id=115301)

<sup>18</sup> An administrative grouping of five hospitals close to the border to Norway, see [www.nusjukvarden.se](http://www.nusjukvarden.se)

Lönnroth, Assisting Health Care Director at VGR and Jan Eriksson, hospital director Sahlgrenska University Hospital, are in fact reluctant to initiate a common free option system just because of the administrative difficulties, which they both think are infeasible.

In other aspects, the experts emphasize the similarities rather than the differences. Tove Strand, hospital manager at Ullevål University Hospital, for instance says that “the Nordic countries are better prepared to cooperate with each other than with other countries”.

### **8.3 Drivers towards cross border cooperation**

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There are several factors that emphasize the need of cooperation. Health care personnel are increasingly mobile, calling for common strategies in education. Health care instruments are getting more and more expensive, but able to serve more people. The technical development thereby fosters economy of scale. Patients are becoming more used to making choices based on quality comparisons in all kinds of decisions, and health care will be no exception. Swedish patients will go to Oslo to seek specialists, if it proves to be better.

There are a number of cooperative projects ongoing in the region. The two most prominent examples are described in fact-boxes below. There is the agreement between VGR and Østfold concerning ambulance services and similar activities, where northern region inhabitants in Sweden live closer to a large hospital in Norway than in Sweden. There is also the Medcoast initiative that aims to create strong relations between Oslo based scientists and entrepreneurs and Gothenburg based ditto (Peter Lönnroth, VGR).

#### **Hospital to hospital cooperation**

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At the hospital level, there have been several cooperative projects. Rikshospitalet and Sahlgrenska have for a long time worked in varying degrees of close cooperation. Ullevål has also discussed cooperation possibilities with Sahlgrenska. There have, according to Jan Eriksson, manager of Sahlgrenska, been ideas concerning a new Interreg project between Sweden, Norway and Denmark within the health care sector. These discussions have yet just begun.

The Sahlgrenska and Rikshospitalet cooperation involves many areas, Jan Eriksson states, most significantly transplantations, children's heart diseases and other highly specialised clinical operations. The cooperation has gradually evolved, from time to time slowed down due to internal reorganisations in one part. Currently, the hospitals in Oslo are very preoccupied with the so-called *hovedstadsprosess*. Reorganisations of this type requires much time, energy and resources, Peter Lönnroth VGR states, which leaves little time and resources for external initiatives.

The hospitals do send patients between them when it is necessary. When Ullevål, for instance, does not have the appropriate competence, they search the Nordic countries for hospitals that are better suited for the particular patient, hospital manager Tove Strand informs. There seems to be no obstacle for this procedure. Tove Strand argues that the Nordic integration at least has gone that far, so patients can be sent between the countries without problems. According to her, the hospitals never deny such an inquiry. Rather, they see it as an acknowledgement of their competence. Tove Strand misses a more formal cooperation however, so that the public and the owners can see that Ullevål takes responsibility also in these aspects. At present it is a very ad hoc kind of cooperation.

A central part of the Swedish health care system is the so-called *vårdgaranti* ('Health care guarantee'), which gives the patient the right to receive treatment with different time limits.<sup>19</sup> If the local county council cannot supply health care, the patient has the right to receive treatment in another county council or country. Emergency care is not included in this guarantee and is always available (Lars-Olof Rönnquist, Health Director, VGR).

Many experts that we have interviewed emphasize the need to cooperate to a greater degree in order to serve the very small patient groups. This is discussed in more detail below.

#### **Cross-border agreement**

For VGR, the cooperation is very limited outside Sweden with the Nordic countries. However, within VGR there are 12 health care committees with large self-determination in terms of whom to cooperate with and in which areas. For example, the north part of the county Bohuslän (health care committee nr 1: Munkedal, Lysekil, Orust, Strömstad, Sotenäs, Tanum) and the county Dalsland (health care committee nr. 2: Bengtsfors, Dals-Ed, Färgelanda, Mellerud, Åmål) have cross-border cooperation with Östfold county in Norway (Fredriksstad, Halden etc.). The cooperation concerns maternal health, ambulance services and the like.

The cooperation between VGR and Östfold covers medical and transport assistance (ambulance and helicopter) in relation to larger crisis and accidents. There are some bureaucratic obstacles remaining, such as permittance for the ambulances to cross the borders with certain types of drugs. The authorities seem to handle this pragmatically.

*Source: Lars-Olof Rönnquist, Health Director, VGR*

## **Research and development**

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Science is of course often a matter of cooperation on the hospital-to-hospital level. It is however often that other actors are involved, such as universities or cluster organisations. No expert has pointed towards a more systematic exchange in this aspect, apart from the Medcoast project. The cooperation initiatives are, according to Tove Strand, Ullevål, often built on personal relationships and narrow competence niches. Jan Eriksson, Sahlgrenska, states that research projects today must be international to survive, the competition is so strong.

Bente Mikkelsen, Adm. Director South-Eastern Norway Regional Health Authority (Helse Sør-Øst) is the only one to point out obstacles in this matter. She says that the national strategies to encourage research often are too national in scope, focusing on national possibilities to form networks etc. Furthermore, there might be a risk that the researchers are afraid of sharing their knowledge, for fear of losing their unique niche.

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<sup>19</sup> 0 days: Right to get in contact with health centre or health guidance. Within 5 days: Right to medical examination. Within 30 days: Right to specialist examination from that day the doctor signed a referral. Within 90 days: Special treatment starts as soon as possible.

### **Medcoast**

*"MedCoast Scandinavia works as a catalyst to facilitate collaboration between scientists, companies and the public sector, enhance entrepreneurship and commercialization of innovations. We also work to facilitate venture capital in the biomedical sector and to increase foreign investments."*

Medcoast Scandinavia is an organization that aims at promoting common initiatives to strengthen medical and biotech science and entrepreneurs in the Oslo and Gothenburg region. It has existed since 1995 when a joint venture agreement was formed between Oslo and Gothenburg regions.

It has both private and public members that contribute to the economic funding, which then is distributed to various research projects.

*"Our vision is that Göteborg-Oslo will become a leading biomedical region in Europe."*

Source: <http://www.medcoast.org/>

## **Exchange of organisation experiences**

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Bente Mikkelsen, head of the Helse Sør-Øst, states that there is no common organisation or forum to discuss administrative issues in the health care sector with VGR. Sometimes however, exchange of knowledge between the two major actors in the region occurs. Helse Sør-Øst did, for example, send a delegation to learn from the experiences of merging the major hospitals in Gothenburg under one umbrella (Sahlgrenska), before they did a similar reform in Oslo with Rikshospitalet and *hovedstadsprosessen*. Lars-Olof Rönquist at VGR states that it is unrealistic to expect the regions to be agents in the cooperation process:

*"We need political initiative on national levels to develop the health care market, a top down approach to see some changes. If only the regions were to be drivers – a bottom up approach – lot of prestige would only hamper the development."*

## **Mobility of personnel and patients**

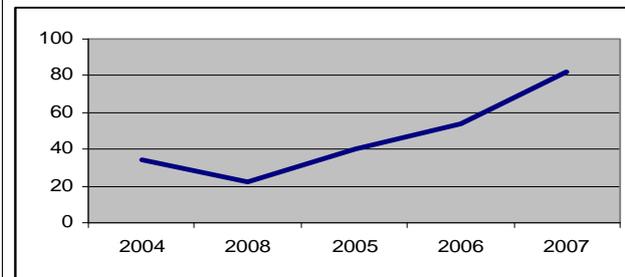
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The exchange of personnel is substantial, and it is mainly a flow from Västra Götaland to the Oslo region, due to the higher salaries in Norway. The employee mobility has an advantage, according to Tove Strand, Ullevål, in fostering a sense of understanding for the different systems and health care culture. Peter Lönnroth, assisting health care manager at VGR, agrees with this way of thinking. He is certain that personnel mobility will create a sounder basis for Nordic integration.

Peter Lönnroth has seen a study on the flow of personnel, which indicates that the mobility is not as dependent on the business cycle in the two countries as one could imagine. It seems to be a rather steady stream of immigrants that go to Oslo or Norway in general to seek jobs within the health care sector. So even if the wage gap between the two countries were to increase, Peter Lönnroth is not worried that there would be difficulties with finding human resources in Sweden. Anne Marie Schaffrath at the NU-hospitals does not share this confidence. She states that the wage gap might be a problem in the future, causing Sweden to take protectionist measures perhaps.

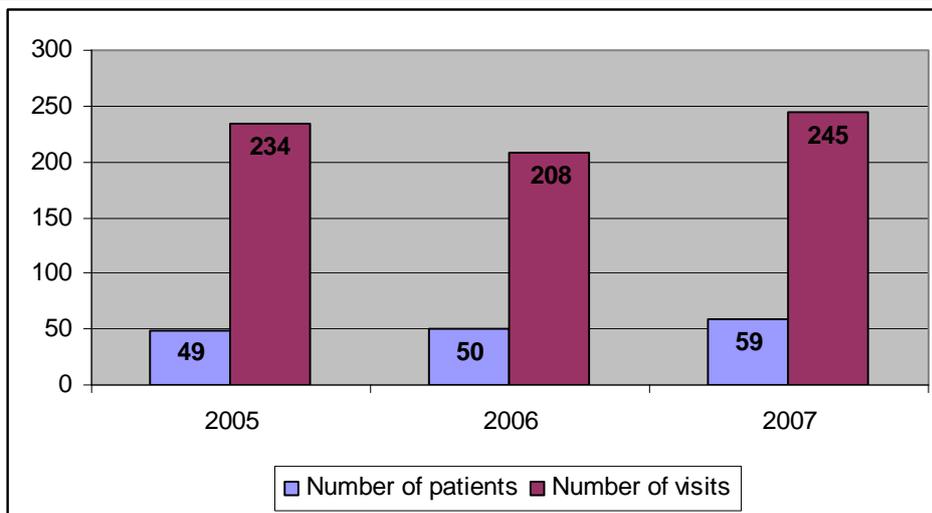
Patient mobility statistics are notoriously hard to find. The hospital managers in the region state that the mobility is comparatively low. It works pretty well within highly specialized services, but the broad mass has so far showed little interest in travelling abroad for health care. When patients from Norway go to VGR, they are treated as Swedish, non VGR patients. That means a standard fee plus 15 % for administration (Lars Olof Rönquist, Health Director VGR). Sahlgrenska International Care administrates all cases of planned care from abroad in Västra Götaland ([www.sahlgrenska-international.com](http://www.sahlgrenska-international.com)). They also sell specialized surgeries to patients from all over the world.

**Figure 8.4: Number of patients from VGR receiving care in Østfold**



Source: VGR 2008

**Figure 8.5: Norwegian patients receiving health care at Sahlgrenska University Hospital**



Source: Sahlgrenska International Care

## Intracompany cooperation

The private health care company Capio today has hospitals both in Gothenburg and in Oslo. That is a natural basis for cooperation across the borders. It is mainly in human resource development issues that cooperation activities occur, such as common courses, strategy conferences and vocational training.

Karin Möller at Capio states that the private hospitals in Norway are much more used to marketing themselves and seeing the patients as customers, than the Swedish hospital Capio Lundby, for instance. There is therefore much to learn from the Norwegian experi-

ences in this regard, especially as more decisions will be made open for patients to make in Sweden, concerning where to seek health care, when for instance the reforms for freer options is implemented (SOU 2008:37).

## **Demography changes**

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The main driver is the increasing portion of old people in the demographic structure. This development will put more and more pressure on the Health care systems in Oslo and Gothenburg with surroundings. Increasing cooperation will be one of many measures we must take, according to the people in leading positions Oxford Research has spoken to.

The Gothenburg-Oslo region faces the same challenges independently of which side of the border one stands. The most important challenge is the ageing population, and the pressure this will imply on the health care systems. According to Ann-Marie Schaffrath at the NU-hospitals, increased cooperation might be one of the best ways to uphold quality in the health care when more people grow old.

It is unlikely that this process will affect the health care directed towards the elderly, as they have limited capability to travel for health care. As Jan Eriksson, manager at Sahlgrenska points out, the elderly are in greater need of their social network, and cannot be expected to travel long distances. What we might see, rather, is a faster progress towards cooperation within other areas, that will create advantages and economic surplus that can be used to cover the expected increased costs caused by the demographic change.

This is not an automatic process however. If the hospitals and health care authorities get more demand pressure caused by the elderly, without sufficient funding, the result may very well be decreased possibilities for cooperative activities. Many experts point out that if the budget is tight, all focus is put on the internal organisation. Cooperation projects, or any other somewhat unbeaten tracks, require an economic margin to be realized, in fact even initialized (Tove Strand, Ullevål, Jan Eriksson, SU and Bente Mikkelsen, Helse Sør-Øst, all argue along this way of thinking).

## **Increased specialisation**

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All the experts that Oxford Research have spoken to emphasize the potential gains in higher specialisation. If the doctors are allowed to narrow their competencies further, increased quality will be the result. That however, requires a certain population size. The so-called *critical mass* differs of course between different medical fields. However, it is very likely that some medical specialities will be able to improve treatments if there was only one or two centres of excellence in the Nordic countries, instead of one or several in every country. This philosophy has, as we have seen, been guiding the Gothenburg-Oslo cooperation in areas such as child and heart surgeries and pancreas cancer. To stay specialised within this area, one specialist has to perform at least 2 operations each week. The plan for VGR is to decrease the number of hospitals treating pancreas from five to one centre of excellence at the Sahlgrenska Hospital. This centre could indeed cover the entire Nordic area (Lars-Olof Rönnquist, VGR).

Further cooperation in additional medical fields is likely to be possible and will, thus, be a driver towards further Nordic cooperation, both in the GO-region and in the entire Nordic area. One underlying factor that is likely to fasten up the process is, according to Tove Strand, the fact that medical instruments are becoming increasingly more expensive. It

will be necessary to share the purchase of the most expensive medical machinery over a wider population base. If the GO-region is able to cooperate concerning this, there are gains in sight. Not every hospital has to buy every expensive instrument if there is increased cooperation. Jan Eriksson, Sahlgrenska, agrees with Tove Strand in this aspect, but states that it will be only very expensive investments (he mentions 20 million € and upwards) that will be a driver for Nordic cooperation. Other investments will primarily be covered by other domestic actors.

Many experts (Jan Eriksson at SU to mention one) describe availability and geographical proximity as two very important factors for the health care sector. The elderly, for example, cannot be expected to travel long distances to seek health care. So, the scale advantages will probably only be valid when it comes to very highly specialized surgeries. The basic surgeries will also in the future be the responsibility of the VGR and Helse Sør-Øst, or corresponding organisations.

## **Demand driven development**

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The major trend in economic development right now is globalization and internalization. There are two aspects that affect the Nordic Health cooperation. Customers are used to purchasing goods and services from all over the world without any effort or bureaucratic interference. Thus, the first important aspect is that people are more **mobile** across the national borders. The frontiers in the world are gradually vanishing in influence. Increasingly, according to the experts Oxford Research has spoken to, this will also be true for health care services. Of course, they argue, the health care sector is unique, with very specific characterizations. Nevertheless, health care will not remain unchanged by this process.

Another important trend that our experts mention is that the patients are increasingly well aware of all their choices. They are more **selective**. This is perhaps a result of increased possibilities of options within the welfare systems, within education and child-care for example. People seek information of the quality differences between different alternatives and will expect the possibility to do it also within health care. Karin Möller, Capio Lundby, is one of the respondents that emphasize this trend. Sweden is currently implementing a reform called *fritt val* ('free option reform'), which will increase the freedom of choice in health care. Such reforms will probably hasten Nordic integration as well, as the patients are not used to meeting administrative frontiers when they act as customers.

These two international trends will act as drivers of change towards increased cooperation and integration in the health care sector in the Gothenburg-Oslo-region.

## **E-health**

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E-health seems to be of no particular interest in the area. The hospital managers do not know which system they use and state that it has marginal importance for sending patients and information across the border.

## 8.4 Potentials and barriers

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The **potentials** for increased cross border cooperation in this urban area, mentioned in the interviews, are several:

- Hospital to hospital cooperation,
- Common research and development,
- Knowledge sharing and lessons learned regarding organisational matters,
- Mobility of personnel and patients,
- Multinational, cross border health care companies,
- Demography,
- Increased specialisation,
- Demand and consumer driven development,
- Better indicators of quality will in itself act as a driver towards more cooperation because if one hospital department finds out that another is better, it will be important to get to know why.

**Barriers** addressed in the interviews are:

- System Inertia: There is a natural inertia inherent in the health care systems, both from a demand and supply perspective, which does not give much incitement to increase patient mobility,
- Inadequate information: Since there is no incitement in the system to stimulate patient mobility, there is also a lack of information,
- Mentality: The majority of patients resist going to another health care supplier outside the local county council. Elderly people are more conservative than younger people,
- Prestige: There is a risk that regions, both within the country and abroad, feel threatened by increased competition from medical competition and try to counteract the process,
- Lack of indicators of quality: There are substantial difficulties in comparing health care across countries. There are too unsophisticated indicators from too many actors at the moment, and no common indicators in the Nordic countries,
- Bad communicative infrastructure between Oslo and Gothenburg. Despite the fact that it is only 300 kilometres between the cities, the common region is far from evident,
- Internal reforms take too much energy,
- Limited economic means: Budget deficits cause the same obstacle as internal reforms. Focus is moved inwards which leaves less possibilities for new projects,
- Wage differences: The big wage gap between Sweden and Norway results in large streams of doctors and nurses travelling to Norway to make more money. The lack of reciprocity in personnel mobility might create tensions between the two countries, perhaps even resulting in Swedish protectionism to hold on to their human resources,
- Unclear national policies: If the central governments in Sweden and Norway are unclear of how high increased cooperation is prioritized, it is hard for the regional authorities to venture cooperation projects.

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## 9.2 Interview respondents

Iceland			
Case	Name	Title	Organisation
Iceland	Anna Lilja Gunnarsdóttir	Chief	Finance & Information Executive, The University Hospital
	Ásta Möller	Member of Parliament	The Independence Party
	Berglind Ásgeirsdóttir	Permanent Secretary	Ministry of Health
	Einar Magnússon	Director	Ministry of Health
	Elsa Friðfinnsdóttir	President	The Icelandic Nurses Association (INA)
	Guðrún Sigurjónsdóttir	Advisor	Ministry of Health
	Hólmfríður Grímsdóttir	Legal Advisor	Ministry of Health
	Ingimar Einarsson	Director	Ministry of Health
	Kristjan Oddsson	Chief physician	The Directorate of Health
	Maria Heimisdóttir	Director	Division of Economic, Budgeting and Information, The University Hospital
	Matthias Halldorsson	Deputy Medical Director of Health	The Directorate of Health
	Svanhvít Jakobsdóttir	Director	The Primary Health Care of the Capital Area. Besides former employee in the Ministry of Health Care
	Una Björk Ómarsdóttir	Legal Advisor	Ministry of Health

Source: Oxford Research 2008

The Oresund Region			
Case	Name	Title	Organisation
The Oresund Region	Anne Lindrup	Education Advisor and member of Långa Namnet	The National Board of Health, Denmark
	Bent Christensen	Managing Director	Lund University Hospital (USIL)
	Carl-David Aghard	Professor and Medical Director	Malmö University Hospital (UMAS)
	Christian Worm	Manager	The Unit for Hospitals, and Head of psychiatry at Region Hovedstaden
	Dorte Sindbjerg Martinsen	Associate professor	Centre for European Politics at University of Copenhagen (background interview on patient mobility in the EU)
	Jes Søgaard	Director	Danish Institute for Health Services Research
	Jørgen Jørgensen	Managing Director	Rigshospitalet, Denmark
	Kjeld Møller	Professor	Institute of Public Health at University of

	Pedersen		Southern Denmark (background interview)
	Peter Sommer	Project Manager	SBÖ, Region of Skåne
	Sören Olofsson	Head of Health Department	Region of Skåne
	Daniel Forslund	Department Secretary	The Ministry of Health and Social Affairs, Sweden
	Thomas Tegenfeldt	Head of Unit and member of Långa Namnet	The National Board of Health and Welfare, Sweden

Source: Oxford Research 2008

<b>The North Calotte Region</b>			
<b>Case</b>	<b>Name</b>	<b>Title</b>	<b>Organisation</b>
<b>The North Calotte Region</b>	Carina Kapraali	Manager of Social Services	Haparanda municipality
	Elisabeth Eero	Base-unit Executive Officer	Haparanda Health Centre
	Eva Salomaa	Medical Director	Rovaniemi Central Hospital
	Finn Henry Hansen	Director	The Northern Norway Regional Health Authority (Helse Nord RHF)
	Göran Millebrand	Hospital Manager	Kiruna and Gällivare Hospitals, Norrbotten County Council
	Gunnar Persson	Chief and staff coordinator	Health care unit, Norrbotten County Council
	Jussi Merikallio	Director of Health Care	Association for Finnish Local and Regional Authorities
	Marjatta Kihniä	Chief Medical Officer	State Provincial Office Lapland
	Mervi Kattelus	Ministerial Adviser	Legal Affairs, Ministry of Social Affairs and Health, Finland
	Per-Olof Egnell	CEO	Centre for Distance-Spanning Healthcare (CDH) at Luleå University of Technology
	Simo Kokko	Development Director	National Research and Development Centre for Welfare and Health (STAKES), Finland
	Päivi Hämäläinen	Development Manger, Head of Unit	National Research and Development Centre for Welfare and Health (STAKES), Finland
Tor Ingebrigtsen	Hospital Manager	University Hospital of North Norway Trust (UNN Tromsø)	

Source: Oxford Research 2008

<b>The Oslo and Gothenburg Region</b>			
<b>Case</b>	<b>Name</b>	<b>Title</b>	<b>Organisation</b>
<b>The Oslo and Gothenburg Region</b>	Ann-Marie Schaf-frath	Managing Director	NU-Hospitals
	Anna-Karin Eklund	President	The Swedish Association of Health Professionals
	Bente Mikkelsen	Managing Director	South-Eastern Norway Regional Health Authority (Helse Sør-Øst)
	Eva Nilsson Bågen-holm	President	The Swedish Medical Association
	Harald Siem	Head of Department	The Norwegian Directorate of Health
	Jan Eriksson	Hospital Director	Sahlgrenska University Hospital
	Jonathan Olsson	Special Advisor	The Swedish Social Insurance Agency
	Karin Möller	Vice Manager	Capio primary health care
	Lars-Olof Rönquist	Healthcare Director	Västra Götaland Region
	Nelli Kopola	Head of Department	The Swedish Social Insurance Agency
	Peter Lönnroth	Assisting Health Care Director	Västra Götaland Region
	Roger Molin	Health Director	The Swedish Association of Local Authorities and Regions
	Thomas Tegenfeldt	Head of Department	The National Board of Health and Welfare, Sweden
Tove Strand	Managing Director	Ullevål University Hospital, Norway	

*Source: Oxford Research 2008*





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