Statistiska centralbyrån
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Public Services

Final technical implementation report

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Contents

1. Introduction

1. 1 The aim of this project

The main goal of the project is to describe the market for public services and the need for a price index in the area, propose what parts should be given priority, describe which compensation models are to be applied in health and medical care, as well as examine the feasibility of calculating price indices for different areas in health and medical care based on the compensation models which are applied. The long-term goal is to possibly develop price indices for public services to be used as deflators for the National Accounts (NA).

A service price index is a producer price index and the transactions to be measured are between purchasers (municipalities and county councils) and contractors, i.e. services which are publicly financed and produced by private contractors (inclusive county council owned and municipally owned companies).

1.2 Connection with other projects

Ongoing projects of the National Accounts; Health services, volume and price measures, are closely linked to this project and co-operation between projects has thus been necessary. The main goal of the NA project is to develop a fixed-price method that is approved by the European Commission for health and medical care production in the industry.

2 Public services

2.1 The public sector

The public sector is divided into three subsectors comprising: the state sector (the Riksdag, Government Offices and the state authorities), the municipal sector (municipalities, county councils and regions, and also municipal associations), as well as the old-age pension system which in the National Accounts (NA) is referred to as the social insurance sector. Publicly owned companies are usually included in industry in NA since they produce for a market and are thus not included in the public sector or in public authorities in the NA system.

In 2001 two thirds of all consumption in Sweden was for services. Of this, the public sector accounted for slightly more than half. The activities and services supplied by the public sector are usually classified into:

- Collective benefits (services such as defence, the police, state administration etc.).
- Individual benefits (services such as education, care, health and medical care etc).

The public sector is also regarded as including expenditure on activities carried out by privately owned companies and organisations, but which are financed through tax funds, for instance privately owned hospitals, independent schools and private day-care centres. Expenditure on pharmaceuticals covered by the pharmaceutical benefits scheme is included here.

In 2006 the three largest areas: education, health and medical care, and social protection [1], accounted for 71 percent of expenditure.

2.2 Public sector purchases of services

The municipalities and county councils can choose instead of providing themselves the activities they are responsible for, purchase these from other organisations or companies, in other words they may be outsourced. Since the latter part of the 1990s, it has become increasingly common for publicly financed services to be produced by private players. A sharp increase in the number of privately owned companies has taken place in health care, schools and elderly care.

How the public sector is organised, what compensation models are applied, as well as how large a proportion of its activities are outsourced varies between municipalities and county councils.

Municipalities
The municipalities are responsible for areas such as the local environment, pre-school, compulsory and upper secondary school, elderly care, assistance for persons with disabilities, emergency services, water and waste, and libraries. The majority of municipal activities are financed by revenues from taxes and general grants from the state. Only a small part is financed by means of fees. Municipal costs for purchasing activities accounted for 13 percent of municipalities' total operating costs in 2007.[2].

Table 1. Percentage share of municipal running costs consisting of purchases, 2001-2007

Activities/yr	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	cost of purchases, SEK bills. **Yr 2007**
Operating cost total	11	12	12	13	13	13	13	64.6
Elderly care	12	12	12	12	11	12	12	10.2
Pre-school child care	10	12	13	13	14	14	14	8.3
Compulsory school	6	8	8	9	10	11	11	8.6
Upper secondary school	14	17	19	19	22	24	24	9.1
Support for disabled	11	12	11	11	11	12	12	5.7
Child & youth healthcare	35	37	37	36	34	33	33	4.1
Business activity	13	14	14	15	14	14	14	5.1
Infrastructure	11	11	11	8	9	9	9	3.4
Adult drug rehabilitation	35	39	38	38	35	36	36	1.9
Municipal adult educ.	22	28	22	24	19	22	22	0.9

Compulsory school purchases took place mainly from privately owned companies, but also a large proportion from associations and foundations. In upper secondary schooling, the proportion of cost of purchases has increased substantially in recent years, which can be explained by, amongst other factors, private companies becoming increasingly involved in provision of teaching. A large part of purchases from upper secondary schools, however, take place from other municipalities and county councils.

[1] Social protection does not cover compensation for sickness, disability and occupational injuries.
[2] Included here are activities which are mainly financed through taxes and also activities which users largely finance themselves.

Regarding financing of activities via taxes and general state subsidies, then education, individual and family care, and political activity had the highest proportion. Over 90% of these activities were funded through taxes.

County councils
The primary area of responsibility of the county councils is health and medical care, public transport, dental care, culture, care of the elderly/home services and education/schools.

County council purchases 2007

Activity	*SEK mill.*
Primary care	6683
Specialist somatic care	10171
Specialist psychiatric care	1089
Dental care	1266
Other health and medical care	1077
Education	27
Traffic and infrastructure	2713
Service activities	302

3 Health and medical care in Sweden

3.1 County council expenditure and purchases in health and medical care

Health and medical care in Sweden is largely financed through taxes, and production also takes place mainly under public auspices. Private production with private financing is unusual in Sweden, but occurs e.g. for certain types of vaccinations and plastic surgery.

In the County of Stockholm, private health care providers accounted for 22 percent of the cost of health care and care of the elderly in the county. About 70 percent of private health centres are in the three metropolitan counties of Stockholm, Västra Götaland and Skåne.

The cost of purchases concerning health and medical care exclusive dental care was SEK 26.6 billion in 2007, and this accounted for 17.1 percent of county councils' net costs. Between the years 2006 and 2007, purchases increased by SEK 1.5 billion (6 percent).

Table 2. Percentage share of county councils' net costs which consisted of purchases of health and medical care 2006 – 2007.

Activity	**2006**	**2007**	Cost of purchases, SEK mills. **2007**
Primary care	22.9	24.7	7 313
Specialist somatic care	18.3	17.5	16,384
Spec. psychiatric care	9.4	10.2	1 727
Other health and medical care	9.0	8.4	1,207
Dental care, exclusive VAT	24.1	27.5	1 324
Health and medical care excl. dental care	17.4	17.1	26 630

Source: "Statistik om hälso- och sjukvård samt regional utveckling (Statistics on health and medical care and regional development 2006", Swedish Association of Local Authorities and Regions.

Nearly all activities purchased in primary care are from private companies. As regards specialist somatic care, a large proportion is purchased from companies owned by county councils. In the other areas, purchasing costs are substantially lower.

In May 2007 the Riksdag adopted the proposal of the Government to remove the restrictions that have existed since 1 January 2006 concerning activities at contracted-out hospitals. Health care should not be operated solely with public funding and health care charges.

3.2 Compensation systems in health and medical care

In Sweden there are two main types of competition solutions used when public activities are exposed to competition. The first is the tendering or contractor model, which means that private players compete on a market. The second main type of exposure to competition is called the customer choice or freedom of choice model, which means that a number of players get access to a market on these conditions. Companies compete on the basis of price, not with each other but through tendering and contracting models, where the main instrument of competition is quality. The customer choice system is being introduced in increasing numbers of municipalities and county councils. How the freedom of choice system is specifically organised is determined by the respective county councils and municipalities.

DRG
Compensation can be based on diagnostic groups (DRG), i.e. clinically similar groups of patients with similar resource consumption patterns.
DRG has primarily been used for in-patient care. DRG is a way of describing the hospital's case mix, giving a better view of activities as opposed to providing descriptions with thousands of codes for diagnosis and operations.

The DRG price was when the model was introduced the same for all emergency hospitals. Today the DRG point pricing agreements differ. The reason for allowing DRG price points to diverge is that assignments and case-mix” differ between hospitals.

Collection of out-patient care data from what is referred to as "day surgery" was started in 1997. As of 2002 there has been a general obligation to provide data on visits to the doctor (excluding those in primary care). The data from out-patient care, however, is still incomplete.

Groups for medical out-patient care were added to NordDRG in year 2006. Grouping of medical out-patient care presupposes coding of medical measures (KVA) which became obligatory from 1 January 2007. With data from the patient register on out-patient care as of 2007, it is possible to make similar comparisons for out-patient care and in-patient care.

The DRG system's highest category level is by main diagnosis in 25 different main diagnostic groups. The groups correspond to organs or medical specialisations, and are referred to as Major Diagnostic Categories (MDC).

Choice of health care
A health care choice system, voluntarily introduced in a number of county councils in primary care, will be introduced throughout the country (proposed date is Jan 2010). The health care choice models are somewhat differently organised in county councils, but have a number of features in common. The aim of the health care choice system is to increase patients' freedom to choose, and make it easier for new health care providers to establish themselves in primary care with public compensation.

The foundations of the health care choice system should be that compensation follows patients' choices, is standard for all health care units and that private and public care providers are treated equally. It is up to each county council to make its own decisions on details concerning compensation. The same compensation is paid irrespective of whether the services are provided internally or through private contractors.

National rates
The compensation system introduced on 1 July 1994 contains three types of payment; simple compensation, normal compensation and special compensation. As of 1 January 2000, compensation is provided for doctor consultations via telephone.

During 2007 the total number of doctors receiving compensation in accordance with the national rate was 1074, and they dealt with close to 2.2 million patient visits. The majority of doctors were specialists in general medicine. The majority of visits, 79 percent were compensated by normal fees. The compensation paid out to doctors in accordance with the national rate amounted to slightly less than SEK 1590 million. Of this, SEK 525 million was compensation to specialists in general medicine.

4. Producer price index for health and medical care

In calculating a possible price index for health and medical care, an important starting point is the models/systems which the county council uses to compensate private contractors in the area. How health and medical care is organised and what compensation models are applied varies between county councils. County council organisation of health and medical care and compensation principles, however, are tending to become more similar. One example of this is "Choice in health care" which is applied in certain parts of primary care in three county councils, and which in accordance with proposals will be applied as of 2010.

In this section, a compilation is made of the compensation principles which the Stockholm County Council (SLL) applies in 2009, and proposals for pricing methods that could be used for different subareas are put forward. In the first instance, the reasons for studying health and medical care in SLL is that it is the county council where publicly financed health and medical care produced by private contractors is most common, and where the costs are highest.

Health and medical care is an area where there have been major requirements for rationalisation and efficiency during the most recent years and these can be expected to continue in the future. This leads to changes in how health and medical care is run, organised, and the principles of

compensation applied etc. There is a high probability that the models designed/applied for calculating price changes in health and medical may need to be changed relatively often.

According to the OECD[3] measuring prices of parts of services should be avoided. Merging services which together provide a treatment component for a specific complaint can lead to more homogenous production units which better manage cost per treatment. In order to define treatment episodes that can be used as statistical measuring units, a precondition is that there are standardised classification systems and patient information systems (e.g. DRG, Diagnosis Related Groups).

It is proposed that data on compensation should be obtained from the principal organiser of health care/county council as opposed to private contractors. This means, applying the same principle as for the Service Producer Price Index for public transport.

The compensation models are essentially the same irrespective of whether the unit /care is run by SLL or a private care provider. In 2003 a decision was taken on using a basic model for providing compensation within SLL. This model, in principle, still applies. The model is made up of the following components:

- ***Production related compensation –*** compensation for production, e.g. visits/DRG points /24 hour healthcare

- ***Fixed/Assignment related compensation -*** compensation for specific assignments or for registered patients[4] where payment is by appropriation

- ***Goal related compensation –*** paid for attainment of goals, e.g. quality or accessibility.

The model means that total compensation to a specific care unit is made up of a balanced mix of the three forms of compensation. This mix differs for different branches of the health care sector.

4.1 Specialist somatic care

Somatic emergency care

In specialist somatic care, total compensation is agreed for the main agreements/health care agreements of emergency hospitals. The compensation is paid out in different forms in accordance with the main agreement:

- *Fixed compensation* is made up of an agreed proportion of the health care compensation. Healthcare compensation is the total compensation agreed excluding goal related compensation, and possible compensation for special assignments.

- *Performance related compensation* for somatic care is per product/DRG (Diagnosis Related Groups) in accordance with a generally defined system which is annually reviewed on the basis of cost reports received from hospitals.

[3] OECD: A System of Health Accounts (version 1.0)
[4] Patient registration (Kapitering) is where the clinic receives compensation for a patient who has chosen that particular clinic, which is referred to as "listing"

- *Compensation for special assignments* may be paid in the form of fixed or variable compensation in ways other than as stipulated in the county council's description system/compensation system. Compensation for research, development and education (R&D) is not included in the main agreement /healthcare agreement, but in separate agreements.

Table 3. Compensation models 2009; Distribution by type of compensation, multi-year agreements with emergency hospitals

Fixed structural compensation	5-15%
Performance related compensation (per DRG)	80-95%
Goal related compensation	2%

Proposal for pricing method
Since compensation per DRG is the main part of the compensation to emergency hospitals, this makes calculation of the index possible using direct comparisons of prices for repeated services. Prices can be collected for treatment episodes which are recommended for health and medical care. Since compensation per DRG point differs for different hospitals, a sample of hospitals should be built.

Private specialist doctors and physiotherapists
There are approximately 800 private specialists and about 750 private physiotherapists active in the County of Stockholm. Of these, 60 percent are in the state system and work in accordance with the *national rate*. The proportion covers both doctors and physiotherapists. The other 40 percent have an *agreement* with SLL. The majority working in accordance with an agreement basically have state establishment which they can return to when the agreement runs out. Compensation amounts to about SEK 1.7 billion per year. There is no real description system for this. Neither diagnoses nor KVÅ codes are reported to the central registry. The compensation system, however, contains certain codes that provide some type of description.

National rates
Compensation to private specialists and physiotherapists is regulated by law, and private care providers receive compensation per patient visit. The care provider supplies an activity code for each visit and each code has a compensation figure connected. Compensation for visits can be *simple compensation, normal compensation* or *special compensation.* The normal compensation is different for different specialisations. To obtain compensation for visits according to normal rates, the care provider enters the code ”Normal visit". No further details of the medical contents of a normal visit are given.

For special cost demanding measures *special compensation is* paid. These measures are listed for each specialist service in an annex to the ordinance. Examples of special measures are 210 Gastroscopy and 347 Operation for inguinal hernia. These activity codes thus contain brief descriptions of the medical contents of the visit.

Proposal for pricing method
A direct comparison of prices can also be used here for repeated services, in this case the compensation for different specialist care. As regards specialist care, a sample of the largest specialist care treatment in terms of costs could be drawn up.

Health agreement with SLL
Compensation to private health care providers that have agreements with SLL generally follows the regulatory system in the ordinance on Compensation for Doctors (LAK). Some differences, however, exist. In some agreements other codes for measures and prices are used than those referred to in the ordinance. The size of the compensation ceiling may also vary. In addition, agreement regulated health care providers have an environmental compensation amounting to two parts in 1000 of total compensation. Private specialists, in contrast to the hospital, are not responsible for the costs of medical care.

Proposal for pricing method
The same as for private specialists and physiotherapists with compensation in accordance with the national rate i.e. direct comparison of prices (compensation) for repeated services.

4.2 Primary care

General practitioner assignment .

"Health care choice Stockholm" (Vårdval Stockholm) means a new and common compensation system for all clinics where the same compensation is paid. Compensation systems used earlier had major differences in compensation payable to different clinics. Some clinics received increased compensation, whilst others received decreased compensation. General practitioners are compensated as follows:

- Compensation for visits
- Registered patient (list compensation)
- Goal related compensation.

List compensation has an *age factor* which is calculated on the basis of an average for the whole county. The current (2008) distribution of list compensation between the age groups is based on material from 2004. The age categories are
as follows: 0-5 yrs, 6-64 yrs, 65-74 yrs and 75 yrs and upwards. Compensation per registered patient increases with age.

Table 4. Compensation models 2009 for the general practitioner assignment. Distribution by health care area and type of compensation.

General medical services & basic home health care		
	Registered patient	39%
	Compensation for visits	59%
	Goal related compensation	2%
Logopedi	Compensation for visits	100%
Orthopaedic care	Compensation for visits	100%
Maternity clinics		
	Assignment	57%
	Compensation for visits	43%
	Goal related compensation	3%
Child health centre		
	Assignment	95%
	Compensation for visits	5%
	Goal related compensation	3%
Knee/hip replacement	Production related	97%
	Goal related compensation	3%

Proposal for pricing method:
Direct comparison of the compensation applying to local health care centres for repeated standard services. The sample should consist of all health care areas where freedom of choice is applied. Each health care area is weighted on the basis of payments made by the county council for the different areas. The weights are based on the most up-to-date data, preferably the preceding year.

A pilot study has been started on those parts of primary care in SLL where the choice model has been applied. In the current situation, it is too early to evaluate the survey. On the other hand, it can be stated that SLL provides detailed reports of the compensation paid to health care providers in different areas in the rule books on their web sites, and this simplifies collection of this data. One problem may be obtaining data that can be used as material for calculating weights, since SLL's accounting system cannot easily be adapted to provide costs on an annual basis for different services.

Other primary care

Table 5. Compensation models 2009 for other primary care. Distribution by health care area and type of compensation.

Youth clinic	Registered patient	75%
	Performance compensation	25%
	Goal related compensation	3%

BUMM Today has the most clinics
Appropriation compensation.

	New model to be introduced in 2010:	
	Assignment related compensation	20%
	Compensation for visits	80%
	Goal related compensation	3-5%

Stroketeam	Fixed compensation	40%
	Performance compensation	57%
Goal related compensation		3%

Proposal on pricing methods:
Possibly a direct comparison can be made for prices of repeated services. These areas need to be further investigated before more detailed proposals on a pricing method can be provided, Possibly a combination of a number of pricing methods can be applied.

4.3 Psychiatry

In psychiatry, there is currently only one type of registration for all types of visits in out-patient care, and also 24-hour in-patient care. In 2006, uniform and standard compensation for general psychiatry was introduced. Dependency care and Child and adolescent psychiatry services are *not* covered by the model.

The compensation model is divided into three parts, consisting of:
- assignment related fixed compensation
- production related compensation based on visits, care of individuals and length of care
- goal related compensation

For *out-patient care* compensation for visits is weighted in accordance with different types of visits. *In-patient care* is weighted by number of care days.

Table 6. Compensation models 2009 for psychiatry. Distribution by health care area and type of compensation.

BUP	Assignment related compensation	50%
	Production related	50%
	Goal related compensation	3%
Dependency care	Assignment related compensation	50%.
	Production related	50%
	Goal related compensation	3%
Adult psychiatry	Assignment related compensation	50%
	Production related	50%
	Goal related compensation	3%

This area has a relatively low proportion of production from private companies in health and medical care (10 percent for SLL and slightly less than 5 percent for all county councils), and is not one of the areas prioritised for NA as regards the development of price deflators/price indices.

4.4 Dental care

SLL is responsible for dental care of children and youth up to the age of 18, and necessary dental care, as well as dental care as a part of medical treatment. These two latter categories contain i.a. the following groups:

- persons with disabilities included in LSS
- persons with certain sicknesses such as sleep disorders and certain cancer patients receiving radiation treatment
- elderly, mainly in special housing arrangements

Free choice in child and youth dental care was introduced in 1993. The reason for the introduction was the need for cost control and desire to introduce freedom of choice. Today private dentists account for about 17 percent of the market.

The model is based on the fact that all children aged between 3 and 19 receive an appointment in public dental care every second year. Each year, information is sent out to households on the free choice. Those who do not make an active choice automatically receive an appointment to the public dental care centre which is responsible for the area they live in. Health care providers are authorised by signing a dental care certificate and undertake to follow instructions for the healthcare assignment. Private healthcare providers can choose to receive children.

Compensation to provide children over a two-year period with all necessary general dental care consists of *basic compensation* of SEK 1 678 and *compensation for care needed* . The county has been divided into 295 local areas, which are grouped into four health care areas based on registered dental health, i.e. incidence of dental decay in specific areas.

For area 1, where children have the best dental health, there is only basic compensation. For children in *area 2* there is an additional supplement of SEK 344. In *area 3* the supplement is SEK 716 and in area 4, a supplement of 960.

Proposal for pricing method:
Direct comparison of prices (compensation) for repeated services. Prices are measured for all four health care need areas separately. The four areas are weighted together based on the county council's costs for the respective areas (total cost previous year).

4.5 Geriatrics

Table 7. Compensation models 2009 for basic geriatrics by type of compensation.

Assignment related compensation	20%
Registered patient	37%
Production related compensation	40%
Goal related compensation	3%

In geriatrics, there is also choice of health care in the area Medical intervention in special housing arrangements which have both compensation per registered patient, and a small compensation amount per visit.

Proposal for pricing method:
This area needs to be further investigated. Based on the compensation model currently existing, a combination of different pricing methods can be used.

This area is not a high priority for NA.

4.6 Other health and medical care

The largest cost items:
- medical aids
- ambulance medical care
- habilitation
- rehabilitation

Proposal for pricing method:
A diversified area that needs further investigation.

This area is not given priority by NA.

5. Summary and conclusions

In this project the market for public services has been studied, the largest areas of purchasing expenditure have been investigated, and also which county councils and municipalities have the largest proportion of purchases, what compensation principles are applied etc. An in-depth survey has been carried out into health and medical care. Taking as the starting point the compensation models applied by the Stockholm County Council for different parts of health and medical care, the following pricing methods are proposed for the different sub-areas.

Public services are a large and highly complex area, and to determine the feasibility of developing price indices, each area must be investigated separately. There is great variation in the extent to which public services are outsourced, how they are organised, what compensation models are applied, and how these vary between different areas, and between county councils and municipalities.

The differences between county councils/municipalities as regards organisation of public activities and the compensation principles applied does not mean that the same methods/models for calculating price indices can be applied to the whole country, but that they must be adjusted on the basis of the preconditions of individual municipalities/county councils.

Requirements for greater efficiency and rationalisation in the public sector often lead to reorganisation and the application of new compensation principles. This could require changes to be made to the models used for calculating price indices after a period.

In this project an in-depth survey has been carried out into health and medical care. In this area, there are also wide variations between different subareas and between county councils, as regards the extent to which outsourcing is used, how they are organised and what compensation systems are applied. It has also proved to be difficult to obtain certain data, e.g. material for calculating weighting figures from the county councils.

The factors mentioned above mean that developing price indices for public services is highly demanding in terms of time and resources. The factors in favour of developing price indices for public services is that purchases in the public service sector have increased since the middle of the 1990s and will probably continue to increase. An additional reason is that the National accounts lack approved deflators for fixed price calculation of public services such as health and medical care.

If it is decided that price indices for public services should be developed, priority should be given to those activities in the public sector and in the municipalities and county councils where purchasing expenditure is greatest. As regards health and medical care, expenditure is highest in specialist somatic care and primary care, and also the areas given priority by the National Accounts.