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EuroHOPE Nordic Hospital comparison: Material, Methods and Indicators

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Introduction and objectives

The main aim of the EuroHOPE Hospital level analysis (Work package 8) is to develop measures of patient-level indicators of the quality of acute somatic care at the hospital level, based on patient register data and linked sources. Additionally, we aim to show how standard performance measurement methods can be extended to multi-level analysis of patient-level quality indicators and hospital level activity and cost data, and to use such methods on Nordic data to show to what extent the multi-level analysis modifies the performance results and makes it possible to estimate the cost of quality.

The data collection is done for the major Nordic countries in co-operation with the Nordic hospital comparison study group (NHCSG) (http://info.stakes.fi/nhcsg/EN/index.htm), which has gathered cost and output data using the common Nordic DRG grouper at the hospital level as well as performing productivity studies comparing the Nordic countries (see Medin et al., 2013).

This report defines specific protocols for international comparisons that are based on the data of patient level hospital discharge registers, mortality registers, as well as hospital level sources for costs and environmental variables. For input price levels, national and international sources at the country level are used. The protocol has been used in preparing both national hospital patient databases for each country and for an international comparative hospital discharge database which is produced from the national discharge databases. The comparative database is used for basic reporting on the performance of hospitals in the Nordic countries, and for research on reasons behind differences in performance.

This report is a joint work by (in alphabetical order) Kjartan S. Anthun, Fanny Goude, Unto Häkkinen, Sverre A.C. Kittelsen, Marie Kruse, Emma Medin, Clas Rehnberg and Hanna Rättö.

Basic data inclusion criteria

The data set covers somatic hospitals in the Nordic countries and the discharges that fulfil these basic criteria:

- Countries: Denmark, Finland, Norway and Sweden
- Period: 2008-2009
- Hospitals:
    - Somatic care
    - Publically owned or run as integral part of the public health service
    - At least two specialties and/or a 24-hour emergency function
    - With complete cost and patient data
- Patient cases:
    - Departmental (speciality) discharges

- Excluding outpatients while registered as inpatients

Patient level data set

The purpose of this chapter is to describe the patient level data set. The chapter begins by presenting the different data sources and the connections between. The inclusion criteria for the hospitals and exclusion criteria for type of treatment are also mentioned. The chapter presents briefly all basic patient level variables included in this work package, including the quality indicators. The chapter ends with a thorough list of variables and definitions.

Data: sources and adjustments

This section briefly describes the sources and connections between the separate registers that the data has been sourced from. Only data from somatic hospitals are included. The hospitals qualify for the project by either having at least two specialities or a 24 hours emergency ward.

Data from each country is extracted at the speciality or department level instead of being grouped together at the hospital discharge level. Thus the number of inpatient episodes will be larger due to those patients that are transferred within hospital between different specialities or departments. Outpatient visits that take place within inpatients stays are however removed from the data.

In order to increase the comparability of the data, all episodes have been regrouped in a common Nordic Grouper. The grouper has been developed by Datawell Oy Finland based upon the common grouping rules in NordDRG as developed by the Nordic Casemix Centre.

Denmark

Denmark was originally a part of the NorDRG collaboration, but in 2002 Denmark started using a modified DRG system based upon NordDRG called DkDRG. The system applies similar rules and is based upon ICD-10 and NCSP. However, at the DRG level it is not comparable or easily convertible to NordDRG. In this project it was very important to regroup at least the Danish data in order to better facilitate comparisons between Denmark and the other countries.

Finland

The Finnish patient data is taken from Hospital Discharge Register and cover years 2008 and 2009. The patient data is in department level and has not been aggregated to discharge level for the study. Hospitals included in the study include the public somatic specialized hospitals that have at least two specialties and/or an emergency function. No hospitals were ruled out of the data due to these conditions. Specialist lead health centre hospitals have been excluded from the study. Patients of Coxa hospital for joint replacement have been included in Tampere University hospital. Psychiatric episodes have been excluded. Outpatient episodes that happen during inpatient episodes have been removed from the data.

Information on the time and cause of death for people hospitalized in 2008 and 2009 were gotten from the Cause of death registry in Statistics Finland. Time and cause of death was linked to the Hospital Discharge Register data with person identification number.

Norway

The Norwegian patient data has been collected from the Norwegian Patient Registry (owned by the Norwegian Directorate of Health) for the years 2008 and 2009. From the registry all episodes from somatic specialized in- and outpatient hospital care has been delivered. The registry has information from the National Population Registry concerning date of death for those that has passed away after their hospital care.

Sweden

The Swedish patient level data, covering the years 2008 and 2009, has been collected from the Hospital Discharge Register and Cause of Death Register. Both registers were provided by the National Board of Health and Welfare and were linked through personal identification number. The Hospital Discharge Register includes all episodes of inpatient and outpatient care (excluding primary care) on department level. The cause of death register includes information on time and cause of death for persons who died during 2008 and 2009.

Hospitals were included in the study if they had an emergency department open 24/7 and at least two specialties. In Sweden 68 hospitals fulfilled these criteria. However, costs were missing for 1 hospitals, so in total, 67 Swedish hospitals were included in the study.

Psychiatric care episodes and outpatient episodes that took place during inpatient episodes have been excluded from the data.

The main difference between the Nordic common grouper and National grouper is MDC 23 (factors influencing health status and other contacts with health services). Using the Nordic common grouper, 67% of the episodes are grouped as MDC 23, while for the National grouper; the figure is only 9%. This is due to differences in the groupers' interpretations of outpatient grouping.

Basic variables

The basic variables included in the data files are:

- Episode classification
  - DRG
  - ICD10
  - Number of secondary diagnosis
- Information about patient
  - Gender
  - Age group
  - Home region and municipality
- Information about episode
  - Length of stay
  - Emergency or planned
  - Transfer in from where and transfer out to where

- Quality indicators
    - Readmissions
    - Waiting time
        - In hospital waiting before first procedure
        - Waiting time from referral
    - Comorbidities
        - Charlson index
    - Mortality
        - In hospital mortality
        - Out of hospital mortality (up to one year)
    - Patient Safety Indicators / Adverse events
        - Foreign Body Left in During Procedure
        - Infection and inflammatory reaction due to other vascular device, implant, and graft
        - Pulmonary embolism/ Deep vein thrombosis
        - Sepsis
        - Accidental cut, puncture, or haemorrhage during medical care
        - Obstetric trauma
        - Bed-sores

Selected Patient Safety Indicators (excluding bed-sores) are included in the OECD Health Care Quality Indicator data collection for 2008-2009.

Descriptive statistics

- Await until all data pooled
    - Present min, max, avg and std.dev for all numerical variables
    - By country and year: Number of cases
    - Population rates of MDCs by country

DRG cost weights

Cost weights used for the Common Nordic DRG(CNDRG) have been calculated from pooled 2008 and 2009 Helsinki and Uusimaa hospital district (HUS) cost per patient –data. The HUS cost per patient - data was grouped with the Finnish version of CNDRG. Psychiatric episodes and episodes beginning and ending in different years were excluded.

The cost of 2008 were inflated with Price index for public expenditure (Federations of municipalities- Health and social care) from Statistics Finland. Weights for DRG-groups were then calculated by dividing the average cost of a group with the average cost of the whole data set. Day weights for DRG-groups were calculated by dividing the average day cost of a group with the average day cost of the whole data set.

There were some modifications done to the groups. Groups 999O and 923O were combined in the calculation of the weights. Some DRG's that do not appear in HUS-data (and thus will not have weights) appear in other countries. For these groups weights were calculated with help of close groups. For groups that no close-enough groups did not exist in the HUS cost per patient

–data, cost weight was calculated as the average day cost of the whole cost per patient data multiplied with the length of stay of the episode in question.

Hospital level cost data

In the study the single input hospital costs includes all production-related costs in a hospital, excluding capital costs and costs of teaching and research. The production-related costs were harmonized through a systematic review of the accounting cost structure in each country using the Swedish the Cost Per Patient (CPP) method (KPP, i.e. 'Kostnad per patient') as a basis for the structure (Nilsson, 2012). According to the CPP method the following cost items were removed from the annual reports of the hospitals: all costs for politicians and purchasing organisations within the providers, purchased care from other hospitals, sold care to other hospitals, costs for ambulances, one occasion costs, VAT, costs for reimbursed prescribed drugs, capital costs and costs for teaching and research.

In Sweden the cost data for 2008 and 2009 was collected from three different sources; data from the CPP database holding approximately 60% of all hospitals, data for annual reports collected from the Swedish Association of Local Authorities and Regions (i.e. 'Sveriges Kommuner och Landsting') and, from a survey that was sent out to hospitals where information was missing in the sources mentioned above. In Norway costs data was derived from the SAMDATA base for somatic care (i.e. 'Spesialisthelsetjenesten') held by Helsedirektoratet (Samdata, 2008, 2009). In Finland cost data for was derived from cost data collected by the National Institute for Health and Welfare (i.e. 'Terveyden Ja Hyvinvoinnin Laitos', 2012). In Denmark cost data was derived from annual reports around productivity in somatic hospitals published by the Ministry of Health (i.e. 'Ministeriet for sundhed og forebyggelse', 2012).

In Norway the level of VAT is 25 percent. Businesses are allowed to deduct input VAT from the cost accounts, however in the legislation all health institutions are exempt from the laws. Thus all purchase of health services are without VAT, but for those goods and services, that are not exempt from the law, the hospitals purchase from private providers are eligible for VAT. The hospitals cannot deduct these costs, and as such they are included in the gross costs. To correct for the accounted VAT we have tried to estimate the level of VAT included in each cost category. All cost accounts that are payments within a hospital, such as salary are considered to be completely without VAT. This also applies to external purchases of health services (i.e. such as treatment in other institutions, treatments abroad, and purchase of blood and other bodily fluids). All cost accounts that are considered to be (or almost) exclusively used for purchases of other goods and services from private providers are reduced by the VAT. We have guesstimated that 95 percent of the costs in these cost accounts are including VAT, and thus the cost of these accounts are reduced by 19 percent in order to reduce the VAT. [Footnote: 95 percent opens for a marginal part of each cost account being purchases from other hospitals, which is quite common. The internal purchases within each hospital region and hospital district are already excluded in the data. The VAT-level in Norway for most goods and services is 25 percent, thus 20 percent of the accounted cost is VAT. It follows that 19

percent must be excluded if 95 percent of a cost account is purchases including VAT.]. Some cost accounts include mixed purchases, and purchases with a lower level VAT (for instance hotel accommodation, passenger transportation and food articles); these are reduced with a lower percentage as the case might be.

Input cost deflator

Costs are initially measured in nominal prices in each country's national currency, but to estimate productivity and efficiency one needs a comparable measure of "real costs" that is corrected for differences in input prices. There are national indices of hospital or health sector costs, but these are constructed in different ways between countries and do not easily facilitate international comparisons. To harmonize the cost level between the four countries over time we have constructed wage indices for physicians, nurses and four other groups of hospital staff, as well as one for "other resources". There is ongoing work at OECD/Eurostat to develop purchasing power parity indices for the health subsectors, but as yet these are not complete nor publically available. The work package have been given access to the current version of these OECD/Eurostat indices and will use them to test the sensitivity of results to the choice of input cost deflator.

The wage indices are based on official wage date and include all personnel costs, i.e. pension costs and indirect labour taxes (Kittelsen et al. 2009). The index for "other resources" is the purchaser parity corrected GDP price index from OECD. The indices are weighted together with Norwegian cost shares in 2007. Norway is the only country that has reported both the number of full time equivalents and the number of full time employees, but unfortunately only up until 2007. Thus we construct a Paasche-index using Norway in 2007 as reference point. Note that this represents an approximation; the index will only hold exactly if the relative use of inputs is constant over time.

The wage statistics for Finland, Sweden and Norway are based on the published wage statistics for the occupation groups in the hospital sector organised by national variants of the International Standard Codes of Occupations ISCO88 (http://ec.europa.eu/eurostat/ramon/nomenclatures/). The occupational codes used in each country are given in Appendix B. For Norway the source is the STYRK variant of ISCO88, available from http://www.ssb.no/emner/06/yrke/. The data are published at http://www.ssb.no/emner/06/05/lonnstasyk/arkiv/tab-2009-03-13-02.html. For the Sweden and Finland, the number of employees reported are the total of both full-time and part-time, even though the wage costs have been reported as full time equivalent wage costs. The Finnish occupational standard is available at http://www.stat.fi/meta/luokitukset/ammatti/001-2001/index_en.html. While data is published for the health districts in total, we have ordered a special dataset for the hospitals only from Statistics Finland. For Sweden, the standard is available at http://www.scb.se/Pages/List____259304.aspx, while the data have been collected from http://www.ssd.scb.se/databaser/makro/. The Danish data are not published by Statistics Denmark at the required level of detail, however det Fælleskomunale Løndatakontor

(http://www.fldnet.dk/statistik/lpx/index.php) publishes comparable data in their own classification for Full time equivalents.

Wage costs are in each case taken to include actual paid wages and wage taxes, social security contributions, other pension costs, fixed extras, holiday payments and unemployment fund contributions, but does not include variable extras such as overtime pay.

Municipal and regional variables

In order to analyse the impact of characteristics at municipality level, data has been collected for a number of indicators covering socio-economic aspects. The data has been limited to indicators available at the municipality level in all four countries. These includes the unemployment rate, the per capita rate of welfare recipients, single persons households, single parents, immigrants and the high school drop-out level. Most data has been collected from the National Statistics Bureau in each country[2], but also from other National agencies in charge of providing national statistics for their area of responsibility.

The measurement of these indicators has been scrutinized to assure similar definitions. For some variables the indicators have been collected for different age-groups. The unemployment rate was defined as the share of unemployed individuals of labour force for different age categories. The welfare recipient was measured as the number of social assistance recipients persons as a share of the total population. For single persons households, the measurement was the population aged 75 and over living alone as a share of the total population of the same age. Single parents was measured as single parent families as a percentage of all families with children. The immigrant indicator is measured by different definitions as the share of immigrants of the total population or country of origin. The indicator has to be harmonized across the countries. Finally the indicator high school drop-out level is also measured with different definitions and must be harmonized.

All these socio-economic indicators will be used as explanatory factors for the hospital efficiency. Each patient's municipality belonging is registered and the characteristics will be tested in an explanatory model. The presented indicators could be seen as 'proxies' for both health status and severity of different diseases. The main hypothesis is that a high value (share) of the presented indicators is associated with a lower efficiency level.

Methods

International comparisons of performance of hospitals are few, primarily because of the difficulty of getting comparable data on output and quality (Kittelsen et al. 2008; Kittelsen et

[2] For Denmark; Danmarks Stastistik, for Finland; SOTKAnet Statistics and Indicator Bank, for Norway; Statistics Norway and for Sweden; Statistics Sweden.

al. 2009) (Linna et al. 2010; Medin et al. 2011)). Such analyses often find quite substantial differences in performance between countries. Differences may be due to the dissimilar hospital structures and financing schemes discussed above, but may also result from methodological problems. The way we measure hospital performance may influence the empirical efficiency measures (Magnussen, 1996, Halsteinli et al., 2010). In this analysis we will therefore use the non-parametric data envelopment analysis (DEA) method in addition to the stochastic frontier analysis (SFA) method, and provide evidence of the robustness of our results.

The DEA and SFA methodologies build upon the same basic production theory basis. In both cases one estimates the production frontier (the boundary of the production possibility set or technology) or the dual formulation in the cost frontier, but the methods are quite different in their approach to estimating the frontiers and in the measures that are easily calculated and therefore commonly reported in the literature (Coelli et al. 2005; Fried et al. 2008). While the major strengths of DEA has been the lack of strong assumptions beyond those basic in theory (free disposal and convexity) and the fact that the frontier fits closely around the data, SFA has had a superior ability to handle the presence of measurement error and to perform statistical inference. The latter shortcoming of DEA has been alleviated somewhat with the bootstrapping techniques introduced by Simar and Wilson (1998); (Simar and Wilson 2000).

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Appendix A: List of definitions of the patient level variables

This table lists all patient level variables used in the dataset.

Variable	Definition	Classes/coding
Country	Country	S, F, D, N
Year	Year	2008, 2009
Hospital Identity	National ID number of hospital	
Nordic DRG group	DRG group by the common Nordic DRG grouper	
National DRG group	DRG group by the national DRG grouper	
The number of comorbidities/Secondary diagnosis	Number of secondary diagnoses	
ICD-10 diagnosis at 3 character level	Diagnosis of the admission	ICD-10 coding
LOS (Discharge date – admittance date)	Length of the admission By definition: (discharge day of admission - admission day) + 1	
Age group dummies (0 years, 1-9 years, 10-19, .. 90+)	Age group at admission	1/0; missing, if unknown
Gender	Male	1/0; missing, if unknown

Variable	Definition	Classes/coding
Emergency or planned admittance dummy	Emergency	1/0; missing, if unknown
Home region	Home region of the patient	By each country
Transfer in from where (home, nursing home, hospital)	Where did the patient come from when the admission started. Same or next day discharge/admittance.	0: Hospital 1: Home, and others 2. Nursing home, if available 8. Dead on arrival Missing, if unknown
Transfer out to where (home, nursing home, hospital)	Where did the patient go to when the admission ended	0: Hospital 1: Home, and others 2. Nursing home, if available 9. Dead in hospital Missing, if unknown
Waiting time before admittance	Waiting time between referral and admittance. If possible only for first admittance in an episode.	In days; missing, if unknown
Waiting time in hospital before first procedure	Waiting time between admittance date/time and first procedure. Define procedure day – admission day	In days; missing, if no procedure has been done, recoded to zero waiting; 999, if unknown.

Variable	Definition	Classes/coding
Readmittance dummy independent of emergency status.	Whether the patient is readmitted anywhere (outpatient and inpatient) for any reason within 30 days of the discharge date of the admission, independent whether it is an emergency or planned admission. Define: (readmittance date - discharge date) <= 30	1/0; missing, if unknown
Readmittance dummy, for any reason, anywhere within 30 days, and emergency (for those countries who have it).	Whether the patient is readmitted for an emergency anywhere (outpatient and inpatient) for any reason within 30 days of the discharge date of the admission. Define: (readmittance date - discharge date) <= 30	1/0; missing, if unknown
Readmittance dummy for inpatient only, patient needs to be out of hospital for 1 day. Readmission is not during the same day or the day after.	Whether the patient is readmitted for inpatient care for any reason within 30 days of the discharge date of the admission, independent whether it is an emergency or planned admission. Define: *(readmittance date - discharge date) <= 30 *starts at least 2 days after discharge day (i.e. readmission date - discharge date > 1)	1/0; missing, if unknown

Variable	Definition	Classes/coding
Dead in hospital dummy	Dead in hospital	1/0; missing, if unknown
Death dummy within 30 days of admittance	If the patient is dead within 30 days of admittance. Define: (date of death - admittance date) + 1 <= 30	1/0; missing, if unknown
Death dummy within 3 months of admittance	If the patient is dead within 90 days of admittance. Define: (date of death - admittance date) + 1 <= 90	1/0; missing, if unknown
Death dummy within 6 months of admittance	If the patient is dead within 180 days of admittance. Define: (date of death - admittance date) + 1 <= 180	1/0; missing, if unknown
Death dummy within 12 months of admittance	If the patient is dead within 365 days of admittance. Define: (date of death - admittance date) + 1 <= 365	1/0; missing, if unknown
Charlson index	Charlson index (for each admission), based on secondary diagnoses.	
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_sec = 0, then adapt_chind_0_sec = 1, else 0.	1/0

Variable	Definition	Classes/coding
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_sec = 1, then adapt_chind_1_sec = 1, else 0.	1/0
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_sec > 1, then adapt_chind_2_sec = 1, else 0.	1/0
Charlson index	Charlson index (for each admission), based on main diagnosis.	
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_main = 0, then adapt_chind_0_main = 1, else 0.	1/0
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_main = 1, then adapt_chind_1_main = 1, else 0.	1/0
0/1/2 –grouping of weighted sum of Charlson Index	If wcharlsum_main > 1, then adapt_chind_2_main = 1, else 0.	1/0
OECD PSI 5: Foreig Body Left in During Procedure	OECD PSI 5: Foreign body left in during procedure. Secondary diagnoses include T815, T816 or Y61.	1/0
OECD PSI 7: Infection and inflammatory reaction due to other vascular device, implant, and graft: Complications of medical care, not elsewhere classified: Other infection	OECD PSI 7: Infection and inflammatory reaction due to other vascular device, implant, and graft. Secondary diagnoses include T802, T827 or T880.	1/0

Variable	Definition	Classes/coding
OECD PSI 12: Pulmonary embolism/ Deep vein thrombosis	OECD PSI 12: Pulmonary embolism/ Deep vein thrombosis. Secondary diagnoses include I260, I269, I801, I802, I803, I808, I809, I828 or I829.	1/0
OECD PSI 13: Sepsis	OECD PSI 13: Sepsis. Secondary diagnoses include A400, A401, A402, A403, A408, A409, A410, A411, A412, A413, A414, A415, A418, A419, R578 or T811.	1/0
OECD PSI 15: Accidental cut, puncture, or haemorrhage during medical care	OECD PSI 15: Accidental cut, puncture, or haemorrhage during medical care. Secondary diagnoses include T812 or Y60.	1/0
OECD PSI 18: Obstetric trauma diagnosis codes	OECD PSI 18: Obstetric trauma diagnosis codes. Secondary diagnoses include O702 or O703.	1/0
Bed-sores	Bed-sores. Secondary diagnoses include L89.	1/0
The number of episodes before this one but within 30 days of death.	The number of episodes before this one but within 30 days of death.	Missing, if not dead
The number of episodes after this one, but within 30 days of death.	The number of episodes after this one, but within 30 days of death.	Missing, if not dead

Variable	Definition	Classes/coding
The number of episodes before this one but within 90 days of death.	The number of episodes before this one but within 90 days of death.	Missing, if not dead
The number of episodes after this one, but within 90 days of death.	The number of episodes after this one, but within 90 days of death.	Missing, if not dead
The number of episodes before this one but within 180 days of death.	The number of episodes before this one but within 180 days of death.	Missing, if not dead
The number of episodes after this one, but within 180 days of death.	The number of episodes after this one, but within 180 days of death.	Missing, if not dead
The number of episodes before this one but within 365 days of death.	The number of episodes before this one but within 365 days of death.	Missing, if not dead
The number of episodes after this one, but within 365 days of death.	The number of episodes after this one, but within 365 days of death.	Missing, if not dead

Appendix B: Classification of hospital personnel by category, ISCO88 and national standards

Index	ISCO88(COM)		Norwegian standard (STYRK)		Finnish data (AML01)		Swedish data (SSYK)		Danish data
Category	Code	Name	STYRK	Name	AML01	Name	**SSYK**	**Yrke**	**(Fælleskomunale Løndatakontor)**
1	2221	Medical doctors	2221	Leger	2221	Läkare	2221	Läkare	Overlæger, lægelige chefer m.v. Underordnede læger (reservelæger)
2	2445	Psychologists	2545	Psykologer	2445	Psykologerm psykoterapeuter och talterapeuter	2491	Psykologer m.fl.	Psykologer og magistre,gammelt lønforløb Psykologer, nyt lønforløb
3	2230	Nursing and midwifery professionals	2230	Spesialsykepleiere	2230	Överskötare + avdelningskötare			Instruktionsjordemødre
					22301	Överskötare	2231	Barnmorskor	Jordemødre
					22302	Avdelningsskötare	2232	Avdelningschefer, vårdavdelning/mottagning	Ledende jordemødre
							2233	Akutsjuksköterskor m.fl.	Ledende sygeplejersker
							2235	Distriktssköterskor	
							2236	Andra sjuksköterskor med särskild kompetens	
4	323	Nursing and midwifery associate professionals	3231	Sykepleiere	323	Sjukskötare, barnmorskor m.fl.			Sygeplejersker
					3231	Sjukskötare m.fl.	3231	Sjuksköterskor, medicin/kirurgi	
					32311	Sjukskötare	3232	Operationssjuksköterskor	
					32312	Hälsovårdare	3235	Röntgensjuksköterskor	
					32313	Röntgenskötare	3239	Övriga sjuksköterskor	
					32314	Laboratorieskötare	3234	Sjuksköterskor, psykiatrisk vård	
					32315	Hörselunderskötare			
					3232	Barnmorskor			

Index	ISCO88(COM)		Norwegian standard (STYRK)		Finnish data (AML01)		Swedish data (SSYK)		Danish data
Category	Code	Name	STYRK	Name	AML01	Name	SSYK	Yrke	(Fælleskomunale Løndatakontor)
5	3211	Life science technicians	3211	Bioingeniører	3211	Laboranter m.fl.	3240	Biomedicinska analytiker	Bioanalytikere
	3221	Medical assistants	3221	Radiografer og audiografer			3119	Övriga ingenjörer och tekniker	Bioanalytikerundervisere med diplom
							3134	Sjukhusingenjörer och sjukhustekniker	Bioanalytikerundervisere uden diplom
									Ledende bioanalytikere
									Radiografer
									Ledende radiografer
6	3226	Physiotherapists and related associate professionals	3226	Fysioterapeuter, ergoterapeuter	3226	Fysioterapeuter och ergoterapeuter m.fl.	3226	Sjukgymnaster m.fl.	Afspændingspædagoger
					32261	Fysioterapeuter	3221	Arbetsterapeuter	Ergoterapeuter
					32262	Ergoterapeuter			Ergoterapeuter med udvidet arb.opg.
					32269	Övriga terapeuter			Fysioterapeuter
									Fysioterapeuter med udvidet arb.opg.
									Kliniske undervisere m. diplom, fysio.
									Kliniske undervisere u. diplom, ergo.
									Kliniske undervisere u. diplom, fysio.
									Ledende ergoterapeuter
									Ledende fysioterapeuter
7	3460	Social work associate professionals	3460	Sosionomer, barnevernspedagoger	3460	Handlare m.fl. Inom socialsektorin	2492	Socialsekreterare och kuratorer	Socialrådgivere
			3232	Vernepleiere	34601	Handlare och socialpedagoger			
					34602	Ungdomslegare			
					34603	Handlare och sysselsättningsledare			

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Category	Code	Name	STYRK	Name	AML01	Name	**SSYK**	**Yrke**	**(Fælleskomunale Løndatakontor)**
8	5132	Institution-based personal care workers	5132	Hjelpepleiere	5132	Primärskötare, närvårdare m.fl	5132	Undersköterskor, sjukvårdsbiträden m.fl.	Social- og sundhedspersonale
					51321	Primärskötare och närvårdare	5134	Skötare och vårdare	
					51322	Mentalhälsovårdare			
					51323	Medikalvaktmästare - ambulandförare			
					51324	Vårdare av utveckinghämmade			
					51325	Tandskötare			
					51326	Vårdare inom socialsektorn			
					51327	Instrumentvårdare			
					91321	Sjukhus- och vårdbiträden			
9	4115	Secretaries	4113	Sekretærer	4115	Sekreterare	4112	kontorssekreterare, läkarsekreterare m.fl.	Kontorassistenter
			5135	Legesekretærer			4190	övrig kontorspersonal	Lægesekretærer