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Health in the Czech Republic

Eva JEDLICKOVA / Lia SAROVCOVA, CZSO

For additional information, please contact :

Author name(s) : Eva JEDLICKOVA / Lia SAROVCOVA

Author adress(es) : Na Padesatem 81, 100 82 Prague 10, CZECH REPUBLIC

Author E-mail(s) : eva.jedlickova@czso.cz, lia.venerova@czso.cz

Author fax(es) : +420 274054144

Author telephone(s) : +420 274 054 264, +42 274 054 121

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Health in the Czech Republic

We started experimental work on estimate of health output based on volume indicators in March this year. We had to analyse health care in the Czech Republic and statistical statements that are available for us. We have big problems with enough stratification of required data. In inpatient health care there are available data sources (about 200 groups of diseases), about treatments from IHIS (Institute of health information and statistics of the Czech Republic) and about costs from health insurance.

But we have big problem with outpatient health care, mainly with general practitioners. In their reporting there is not any stratification of treatments (there are just some selected diagnoses, we do not have any data about other diagnoses) and we have costs stratification only in 21 categories of diseases.

Specialists – there is stratification according to branches (both costs and number of treatments).

In the Czech Republic there is a **public health insurance model**. Health insurance companies are the main source of financing of health care. There are nine health insurance companies from which General Health Insurance Company is the administrator of the Fund of public health insurance. All 9 health insurance companies fall in the sector of **central government**, and CZNA has sub-sector S. 1314 which is sub-sector of Health insurance companies. The main data sources for compilation of annual national account for health insurance companies result from Annual statistical statement of health insurance companies “ZDP 5-01”. Health care is financed through public health insurance as payments for services. These payments are put into revenues of provided services (health care to patients).

Health insurance is the main source of financing of the health care in the Czech Republic. Its share is above 85 % in period under consideration (2000-2004).

Table 1: Financial division of health expenditures in CZNA

Expenditures on health care	2004	
Health insurance	114 384	85,7%
Central government	3 819	2,9%
Local government	2 238	1,7%
Household consumption expenditures	13 015	9,8%

We could divide Health into these parts:

- Inpatient health care (8511)
- Outpatient health care (8512 and 8513)

Inpatient health care (8511):

Providers of health care in CZNA

Semi-budgetary organizations are the main group of providers of inpatient health care. They provide paid services at prices, which usually cannot cover their costs and for that reason they receive subsidies, which are equal to a difference between budgeted receipts and costs. If receipts exceed costs, a semi-budgetary organization is obliged to transfer most of the surplus the budget of its founder.

The semi-budgetary organizations in health care are classified in these sectors: in the central (S.1311) and in the local government sub-sector (S.1313), and in the non-financial public corporations (S.11001). Others providers are in sectors – non-financial private corporations (S.11002) and non-profit institutions (S. 15). The biggest number of providers of inpatient health care as semi-budgetary organizations is in sector of non-financial public corporations (S.11001) that are founded by local government institutions. The second biggest providers are non-financial private corporations.

Table 2: Providers of inpatient health care (CPA 8511), number

SECTORS	S.11001	S.11002	S.13	S.14	S.15
Semi-budgetary organizations	199	x	6	x	x
private institutions	x	116	x	x	x
non-profit institutions	x	x	x	x	33

Estimation in constant prices

Expenditures of public health insurance companies are divided according to particular diseases in classification ICD – 10. We took only data from health insurance, because other financing subjects do not record their expenditures in this structure. Health insurance expenditures on inpatient health care are 85,5 % in 2004.

Classification ICD – 10: we work with 21 categories of diseases; and each category is divided into homogenous blocs of diseases. – we are able to distinguish number of treatments in these 212 blocs of diseases in each year (2000-2004). But costs of public health insurance are only in 21 categories of ICD – 10. But General Health Insurance Company gave to us data about its expenditures on health care in stratification of 212 blocs of diseases in year 2003 and 2004. (It was based on agreement with health insurance companies). The General Health Insurance Company has the biggest number of insured clients in the Czech Republic. There are 65 % of insured people in General Health Insurance Company. Then we counted shares of blocs on each category. We apply these shares to total expenditures of each category of public health insurance. So we could count volume index for 21 categories from net obtained data, but from calculated data we could count volume index for 212 groups of diseases. Hopefully next year we will be able to work with costs in stratification 212 of groups of diseases, if all health insurance companies are willing give us this stratification.

Table 3: Number of blocs of diseases in categories of ICD - 10

Categories of ICD - 10	number of blocs of diseases
01 Infectious and parasitic diseases	27
02 Neoplasms	21
03 Diseases of the blood	4
04 Endocrine and metabolic diseases	7
05 Mental disorders	8
06 Diseases of the nervous system	8
07 Diseases of the eye	4
08 Diseases of the ear	4
09 Diseases of the circulatory system	16
10 Diseases of the respiratory system	8
11 Diseases of the digestive system	14
12 Diseases of the skin	4
13 Diseases of muskuloskeletal system	7
14 Diseases of the genitourinary system	14
15 Pregnancy, childbirth and the puerperium	11
16 Perinatal morbidity and mortality	8
17 Congenital anomalies	13
18 Symptoms and ill-defined conditions	6
19 Injury, poisoning etc.	19
21 Factors influencing health status etc.	9
Total	212

Estimation of expenditures of health insurance companies in constant prices is based on unit costs for particular group of ICD – 10.

Table 4: Costs of health insurances in current and constant prices

2004	Costs of Health insurances (current prices)	Costs of Health insurances (constant prices of year 2003)
ICD_10 (in mil. CZK)		
01 Infectious and parasitic diseases	1 021	950
02 Neoplasms	4 866	4 719
03 Diseases of the blood	623	640
04 Endocrine and metabolic diseases	1 032	1 005
05 Mental disorders	3 989	4 173
06 Diseases of the nervous system	1 296	1 289
07 Diseases of the eye	848	782
08 Diseases of the ear	162	158
09 Diseases of the circulatory system	11 146	10 948
10 Diseases of the respiratory system	3 280	2 961
11 Diseases of the digestive system	3 956	3 797
12 Diseases of the skin	472	453
13 Diseases of muskuloskeletal system	3 944	3 890
14 Diseases of the genitourinary system	2 014	1 917
15 Pregnancy, childbirth and the puerperium	1 516	1 465
16 Perinatal morbidity and mortality	1 132	1 103
17 Congenital anomalies	417	366
18 Symptoms and ill-defined conditions	1 293	1 302
19 Injury, poisoning etc.	4 195	4 233
21 Factors influencing health status etc.	1 479	1 371
TOTAL	48 681	47 523

Future:

Ministry of Health has implemented in hospitals DRG system since 1997. From 1997 to 2002 there was only experiment with DRG system in a few hospitals. Each hospital ought to record each patient according to diagnosis since 2002. In the Czech Republic data from ICD – 10 are connected with particular diseases (diagnoses) in presently but in the future we would like to work with DRG systems. We need cooperation with health insurance companies and Ministry of Health, which could give us this information.

Outpatient health care (8512 and 8513)

Providers of health care in CZNA

Most providers of outpatient health care are self-employed doctors and they are in sector of households S. 14. They have only market production. The costs of health treatment of their patients are covered by public health insurance. In sector of non-finance corporations (private and public) there are mainly health centres (polyclinic), which associate doctors.

Table 5: Providers of outpatient health care (CPA 8512 and 8513), number

SECTORS	S.11001	S.11002	S.13	S.14	S.15
outpatient health providers (GP, specialist without dentists)	23	205	11	14 983	12
dentists	x	35	x	5 796	x

Estimation in constant prices

IHIS investigates survey about activities of health providers every year. From statements we have data about registered patients and only selected diagnoses separately for GP for children (only 13 groups of diseases) and GP for adults (only 4 groups of diseases). We use these data for estimation in constant price otherwise we have to count with only number of treatments at GP. Definition of treatment used by IHIS is following: **One treatment is a group of all operations, which are provided to a patient during one visit of patient in the same (one) department.** From the definition we deduce that it is probably number of consultations or visits. For other treatments we take the total number of treatments and costs, both are deduced of known data (from statement of IHIS and from health insurance). Probably this calculation is not correct and the number of groups of diseases is small.

GP for adults – groups of diseases: diabetes mellitus, hypertensive diseases, ischemic diseases, cerebral vascular diseases.

GP for children – groups of diseases: Infectious and parasitic diseases, Neoplasms, Diseases of blood, Endocrine and metabolic diseases, Mental disorders – mental anorexia, Diseases of nervous system, eye, ear – epilepsy, cerebral palsy, diseases of circulatory system, diseases of respiratory system, diseases of digestive system, diseases of the skin, diseases of musculoskeletal system, diseases of the genitourinary system, Congenital anomalies.

Future:

Probably, we must find out more detail structure of diagnoses for general practitioners in cooperation with Ministry of Health and IHIS.

For specialists (including dentists) we have stratification of treatments according to particular branches (the list of branches for specialists is under the text). We used number of all treatments at particular specialist. A treatment, which consists of more frequent visits, has finally higher weigh in the whole number of treatments. It could be a method B.

Table 6: Outpatient health care – data for year 2004

outpatient health care according to branches	Costs of health insurance in current prices (in mil. CZK)	Number of treatments	Cost of health insurance in constant price (in mil. CZK)
internal	4 996	8 168 615	4 159
gastroenterology	620	792 900	516
diabetology	276	1 861 734	256
geriatrics	7	89 422	8
infectious	47	313 170	47
allergolgy	458	2 268 872	417
TB and respiratory diseases	469	1 859 095	399
neurology	1 027	2 956 699	937
psychiatry	1 041	2 057 952	938
occupational diseases	36	197 521	34
paediatrics (incl. adolescents)	2 156	16 874 020	2 111
gynaecology	2 301	10 464 454	2 171
surgery	1 653	7 859 583	1 575
neurosurgery	55	88 899	49
plastic surgery	84	291 874	78
cardiosurgery	102	31 157	92
orthopaedics	1 295	3 506 575	1 249
urology	531	1 648 590	455
otolaryngology	966	4 351 866	932
ophthalmology	1 290	5 122 841	1 122
dermatology	866	4 734 807	813
clinical oncology	2 790	1 113 099	2 320
rehabilitation	537	111 597	621
general practitioner	5 487	50 721 090	5 133
first medical aid	128	2 198 403	161
stomatology	7 304	21 658 074	7 235
first medical aid stomatology	98	288 337	101
total	36 619	151 631 246	33 930

Table 7: Output of Health (NACE 851) in mil. CZK, 2004

851	market	non-market
S.11	103 944	0
S.13	2 120	4 259
S.14	31 636	0
S.15	388	173
S.1	138 088	4 432

Health output in CZNA is available in current prices in 3-digit CPA and 3-digit NACE. It is not possible to separate inpatient health services from outpatient health services. We can divide into market and non-market health output and also we can divide according to sectors. From the mentioned above we can only estimate a type of health services (inpatient or outpatient health services). Non-market output of Health covers only 3,1 % and major part of health output is market output (96,9 %). Both health output (market and non-market) is paid from public health insurance. Other payers are government and households, but their shares are not so important as public health insurance. We could think of the outpatient health care output in sectors of households, where are most of the physicians provided outpatient health care. I do not know if we can use CPI as deflators, because public health insurance does not include in price, from which is calculated CPI. We used CPI only for household consumption expenditures in constant price estimation.