

DATA BRIEF FROM THE CIRCUMPOLAR HEALTH OBSERVATORY

# Health expenditures [2010:2]

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A basic measure in the international comparison of health care systems is health care expenditures. It provides a glimpse of the health care resources available to, and used by, the various health care agencies.

## **Basic concepts**

A major challenge in international comparison is to ensure that what is counted as “health expenditures” is the same entity in different countries. This is particularly problematic because different countries have different health care systems with different financial management practices. Fortunately, there is international agreement on the inclusion criteria and classification of types of expenditures in the form of the *System of Health Accounts* (SHA) developed by the Organization for Economic Cooperation and Development (OECD), although its adoption is not universal and significant deviations exist even among countries that have implemented it. Further details are available from the SHA manual (1).

SHA distinguishes between health care (HC) and health care-related (HC.R) expenditures with the following codes.

- HC.1 Services of curative care
- HC.2 Services of rehabilitative care
- HC.3 Services of long-term nursing care
- HC.4 Ancillary services to health care
- HC.5 Medical goods dispensed to outpatients
- HC.6 Services of prevention and public health
- HC.7 Health administration and health insurance
- HC.R1 Investment (gross capital formation) in health

*HC.1–HC.5 = total expenditures on personal health care*

*HC.6–HC.7 = total expenditures on collective health care*

*HC.1–HC.7 = total current expenditure*

*HC.1–HC.7 and HC.R1 = total health expenditures*

The following health-related expenditures are NOT included:

- HC.R2 Education and training of health personnel
- HC.R3 Research and development in health
- HC.R4 Food, hygiene and drinking water control
- HC.R5 Environmental health
- HC.R6 Administration and provision of social services in kind to assist living with disease and impairment
- HC.R7 Administration and provision of health-related cash-benefits

In addition to the health care functions listed above, there are parallel schemes for providers (HP) such as hospital services, ambulatory care providers, nursing and residential care facilities and so on, and sources of financing (HF), such as, public versus private.

Public expenditure on health care refers to health expenditure incurred by funds provided by national, regional and local government bodies and social security schemes. Privately funded sources of total health expenditure include out-of-pocket payments, private insurance programs, charities and occupational health care paid for by employers.

Health care expenditures based on OECD methodology are largely comparable across countries but not generally produced for regions within countries.

One should also recognize that the boundary between health care and social welfare services is difficult to delineate in some countries where the 2 are integrated. This is especially true in the care of the elderly. In such cases, it may not be possible to separate out expenditures and allocate them to health care.

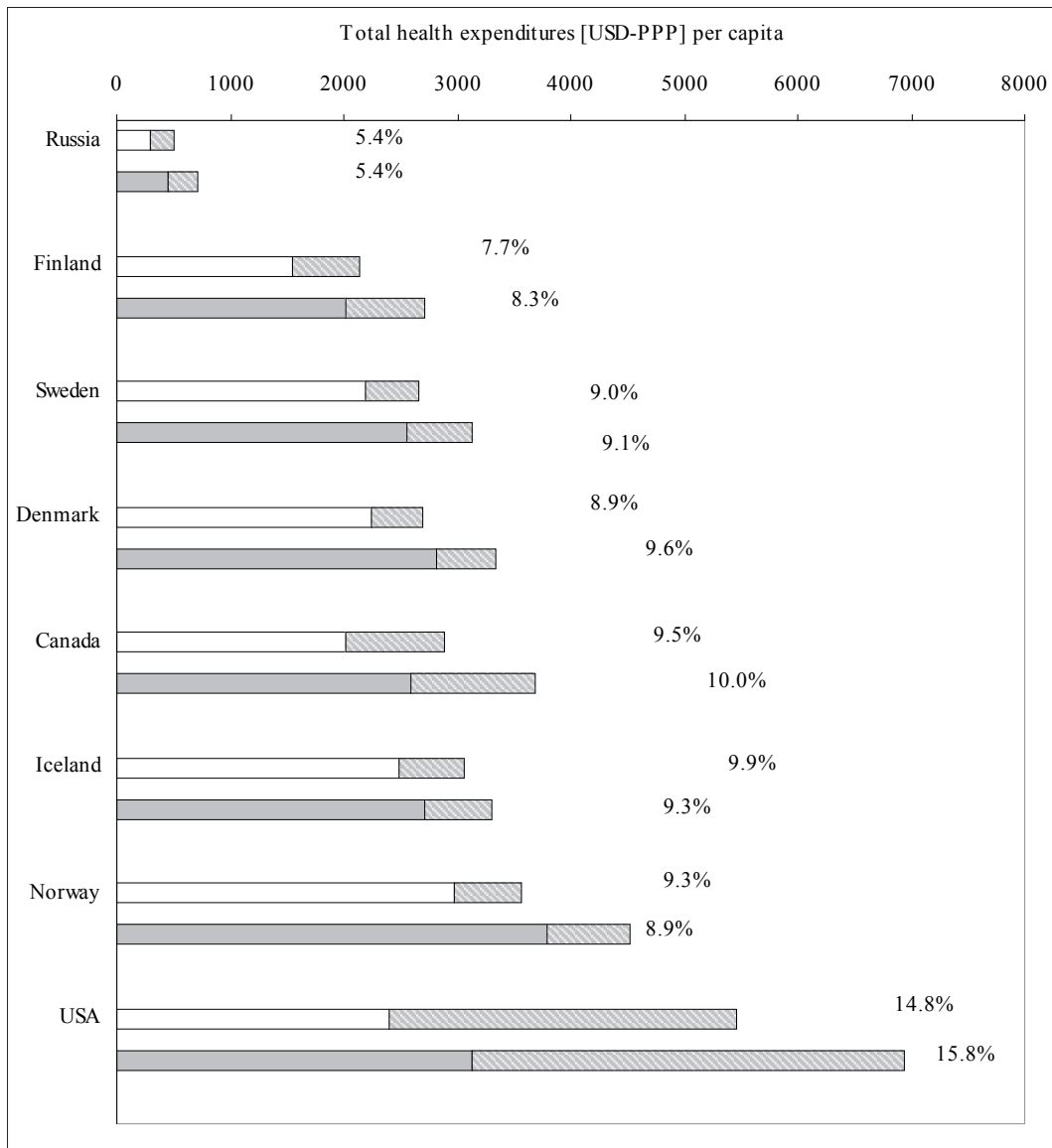
Another challenge is converting multiple national currencies into a single, comparable currency. Although market exchange rates

are available which enable different currencies to be converted into the U.S. dollar, euro, and so on, economists have created the *U.S. dollar purchasing power parities* (USD-PPP) system, which recognizes the fact that the same amount of currency can buy more things in some countries than others, a reality that most travellers are familiar with. A discussion on the method of USD-PPP conversion is beyond the scope of this paper. Expenditures expressed in USD-PPP are provided by international bodies such as the OECD.

### ***Comparing circumpolar countries***

International organizations such as OECD, EUROSTAT, WHO and the Nordic Medical-Statistical Committee (NOMESCO) extract data from various national accounts to generate indicators such as total health expenditures, per capita expenditures, health care's share of gross domestic product (GDP) and the distribution between the "public" and "private" sources of financing.

Figure 1 compares these indicators across the 8 circumpolar countries over 2 periods, 2000–2004 and 2005–2007, expressed in USD-PPP and based on *OECD Health Data 2009* (2) with the exception of Russian data, which were obtained from WHO (3).



**Figure 1.** Total per capita health expenditures in USD-PPP, distribution of public and private sources of financing, and health care's share of gross domestic product (GDP): circumpolar countries, 2000–2004 and 2005–2007.

Note: % sign in chart refers to percent of GDP



**Comparing northern regions**

For within-country comparisons, the OECD method may not be consistently applied or used at all, and thus only certain types of expenditures are available. The main purpose is to compare the northern regions with their respective countries as a whole on

the same type of expenditures, expressed in the national currency (Table I). This makes it possible to assess the presence and extent of health care disparities. It is not advisable to make comparisons across regions in different countries, even after currency conversion.

**Table I.** Comparison of selected per capita health expenditures in northern regions with national data.

Country/Region	Currency	2000–04	Ratio	2005–09	Ratio	Note
United States	USD	4671	1.0	–	–	personal health services only
Alaska	USD	5563	1.2	–	–	2000–2004 only
Canada	CAD	3680	1.0	4915	1.0	total health expenditures
Yukon	CAD	4883	1.3	7062	1.4	2000–2004, 2005–2009
Northwest Territories	CAD	6260	1.7	8923	1.8	
Nunavut	CAD	8133	2.2	11081	2.3	
Denmark	DKK	22260	1.0	26832	1.0	total health expenditures
Greenland	DKK	14724	0.6	16210	0.6	2000–2004, 2005–2007
Faroe Islands	DKK	14886	0.8	17121	0.8	
Iceland	ISK	266872	1.0	355952	1.0	
Norway	NOK	14660	1.0	19492	1.0	net municipal health expenditures +
Nordland	NOK	16714	1.1	24313	1.2	specialized health services of
Troms	NOK	16689	1.1	24168	1.2	health regions
Finnmark	NOK	17152	1.2	24735	1.3	2000–2004, 2005–2009
Sweden	SEK	14696	1.0	19426	1.0	net costs to county councils
Västerbotten	SEK	15298	1.0	20431	1.1	2001–2004, 2005–2008
Norrbotten	SEK	16494	1.1	21361	1.1	
Finland	EUR	1079	1.0	1390	1.0	net municipal health expenditures
Pohjois-Suomi	EUR	1086	1.0	1381	1.0	2000–2004, 2005–2008
Lappi	EUR	1155	1.1	1514	1.1	
Russian Federation	RUB	1656	1.0	4573	1.0	consolidated regional budgets for
Murmansk Oblast	RUB	2174	1.3	6224	1.4	health care and physical education
Kareliya Republic	RUB	2009	1.2	5146	1.1	2001–2004, 2005–2008
Arkhangelsk Oblast	RUB	1756	1.1	4130	0.9	Data not reported for Taymyr AO
- Nenets AO	RUB	7162	4.3	21442	4.7	and Evenki AO for 2005+
Komi Republic	RUB	2670	1.6	5249	1.1	and for Koryak AO for 2008+
Yamalo-Nenets AO	RUB	7199	4.3	16297	3.6	
Khanty-Mansi AO	RUB	7863	4.7	19856	4.3	
Taymyr AO	RUB	11175	6.7	–	–	
Evenki AO	RUB	8354	5.0	–	–	
Sakha Republic	RUB	4776	2.9	8595	1.9	
Magadan Oblast	RUB	5131	3.1	12569	2.7	
Koryak AO	RUB	7370	4.5	19672	4.3	
Chukotka AO	RUB	14016	8.5	21978	4.8	

### *The United States*

United States national and state data (in U.S. dollars, USD) are available from the National Health Expenditures Accounts maintained by the Centers for Medicare and Medicaid Services (4). Data on personal health care only (ie., HC.1 to HC.5) and not total health expenditures are available by state of residence, which refers to services provided to state residents anywhere in the United States. Only data up to 2004 had been released.

### *Canada*

Canadian national, provincial and territorial data (in Canadian dollars, CAD) are available from the Canadian Institute for Health Information's National Health Expenditure Database as reported in *National Health Expenditure Trends, 1975–2009* (5). It closely follows OECD methods.

### *Denmark, Greenland and the Faroe Islands*

Data for Denmark and its 2 self-governing territories of Greenland and the Faroe Islands (in Danish kroner, DKK) are available from NOMESCO's annual report *Health Statistics in the Nordic Countries* (6) and can also be accessed from its Social and Health Indicators database (7). Although NOMESCO also produces data for other Nordic countries, it does not break them down into regions.

### *Norway*

In Norway, the delivery of primary health care and public health services is the responsibility of municipalities, whereas "specialized health services" (which include general and psychiatric hospitals, ambulances, substance abuse treatment and patient transportation) are provided by regional health authorities.

In Table I, Norwegian data represent the sum of municipal health services (as net operating expenditures in Norwegian kroner, NOK) and specialized health services obtained from Statistics Norway's Statbank (8) and published tables (9,10). For specialized services, the 3 northernmost counties (*fylker*) constitute a single northern health region, and expenditures cannot be disaggregated into the 3 counties. They are assumed to be identical across the 3 counties on a per capita basis when they are added to municipal health expenditures aggregated at the county level.

### *Sweden*

In Sweden, total health expenditures (in Swedish kroner, SEK) are available at the level of the county (*län*), which is responsible for primary care, specialized somatic and psychiatric care (i.e., hospitals), dental and other services. Net costs for health care to the county councils were reported annually in *Statistik över kostnader för hälso- och sjukvården*, published by the National Board of Health and Welfare (*Socialstyrelsen*) for the years 2003–2006, but the series has since been discontinued (11). Regional data are available from the *Sjukvårdsdata i Fokus* database (12) of the Swedish Association of Local Authorities and Regions (*Sveriges Kommuner och Landsting*).

### *Finland*

For Finland, the comparison (in euros, EUR) was made for "net expenditures of the municipal health sector," available from SOTKANet (13), the indicator bank of the National Institute for Health and Welfare (*Terveyden ja hyvinvoinnin laitos*). It refers to health services provided by the municipality to its inhabitants or purchased from other municipalities, the

central government or private providers. Net expenditures refer to operating costs less operating income (such as payment transfers). Data can be aggregated to the level of the administrative regions (*aluehallintovirasto*, or AVI), as shown in Table I. The AVI was instituted in 2010 and replaced the former county (*lääni*). In the north, the Lapin AVI is the same as the old Lapin lääni while the Pohjois-Suomen AVI is similar to the old Oulun lääni.

### Russia

For Russia, expenditures (in Russian rubles, RUB) of the “consolidated budget for health care and physical education” by regions are available from the periodic publication *Zdravookhranenie v Rossii* (Health Care in Russia) by the state statistical agency Rosstat (14). These budgets combine the regional government budgets with the federal budget attributable to the specific regions. Due to the dissolution of the Taymyr and Evenki autonomous okrugs (AO), data were no longer reported for these 2 regions after 2007, and similarly for the Koryak AO after 2009.

### Main patterns and trends

- Among circumpolar countries, the United States and Russia are at 2 extremes – the former having the highest per capita health expenditures, accounting for almost 15% of GDP, whereas the per capita health expenditures in Russia was only one-tenth that of the United States, accounting for 5% of GDP.
- In the middle range are the Nordic countries and Canada, all having similar levels of per capita health expenditures, with health care accounting for 8–10% of GDP.
- In some countries, notably Canada and Russia, certain northern regions have per capita health expenditures that are several times the national average (e.g., Nunavut’s expenditures are 2.3 times that of Canada, and various northern autonomous okrugs 4–8 times that of Russia as a whole).
- In northern Norway, the per capita expenditure is only marginally higher than the national average, about 25–30% higher, whereas in northern Sweden and Finland the difference is less than 10%. Alaska is only 20% higher than the United States nationally.
- Greenland and the Faroe Islands both report a lower level of per capita health expenditure than Denmark, the only instance where “north” expenditures are lower than “south.”
- More detailed analyses can be conducted to investigate how circumpolar countries and their northern regions differ in terms of the distribution of health expenditures among different types of providers and services (primary care, hospital, public health etc.).

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