

Basic patterns in national health expenditure*

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Abstract Analysed in this paper are national health accounts estimates for 191 WHO Member States for 1997, using simple comparisons and linear regressions to describe spending on health and how it is financed. The data cover all sources — out-of-pocket spending, social insurance contributions, financing from government general revenues and voluntary and employment-related private insurance — classified according to their completeness and reliability.

Total health spending rises from around 2–3% of gross domestic product (GDP) at low incomes (<US\$ 1000 per capita) to typically 8–9% at high incomes (>US\$ 7000). Surprisingly, there is as much relative variation in the share for poor countries as for rich ones, and even more relative variation in amounts in US\$. Poor countries and poor people that most need protection from financial catastrophe are the least protected by any form of prepayment or risk-sharing. At low incomes, out-of-pocket spending is high on average and varies from 20–80% of the total; at high incomes that share drops sharply and the variation narrows. Absolute out-of-pocket expenditure nonetheless increases with income. Public financing increases faster, and as a share of GDP, and converges at high incomes. Health takes an increasing share of total public expenditure as income rises, from 5–6% to around 10%. This is arguably the opposite of the relation between total health needs and need for public spending, for any given combination of services. Within public spending, there is no convergence in the type of finance — general revenue versus social insurance. Private insurance is usually insignificant except in some rich countries.

Keywords Health expenditures/statistics/trends; Financing, organized; Financing, personal; Health care sector; Linear models (*source: MeSH, NLM*).

Mots clés Dépenses de santé/statistique/orientations; Organisation financement; Financement individuel; Secteur soins; Modèle linéaire (*source: MeSH, INSERM*).

Palabras clave Gastos en salud/estadística/tendencias; Organización del financiamiento; Financiamiento personal; Sector de atención de salud; Modelos lineales (*fuente: DeCS, BIREME*).

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Scope of the analysis

We describe in this paper what WHO's 191 Member States spend on health and how it is financed from out-of-pocket spending and prepayments, including social health insurance contributions, government "general revenue," and voluntary and employment-related insurance. To analyse the adequacy of spending, and the distribution of financial burden among sources of finance and households, we used simple comparisons and linear regression analyses. Most of the analyses consider all the Member States, to maximize the number of observations, and cover a wide range of incomes. Some analyses were also conducted on a regional basis, the results of which are sometimes reported, but not shown in detail.

The principal source of our data is the set of national health accounts estimates prepared by WHO, with revisions up to 31 May 2001. Because of subsequent revisions, the numbers do not always match those that have been published previously (1). The estimates refer to 1997, although they may be based on

data for earlier years as well. We do not discuss the primary data sources or estimation methods here, since they have been described elsewhere (2). The quality of the information varies considerably among countries, so that initial estimates for 1997 were classified as follows: "complete data with high reliability," "incomplete data with high-to-medium reliability," or "incomplete data with low reliability." Originally, there were only 15 countries in the last category. The classification has not been modified as improved data have been obtained, so the data for a country are at least as good as the categorization shown here. We do not expect that revisions to the data used here will significantly modify the patterns found.

The three data categories are always distinguished in the graphical presentations which follow and in the statistical analyses. Table 1 shows WHO estimates (see Web version of this paper at URL: www.who.int/bulletin), and Table 2 classifies countries according to WHO region and per capita income level, distinguished as follows: very low income

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Table 2. Countries grouped by WHO region, mortality stratum, and GDP per capita

WHO region ^a	Mortality stratum (Child/Adult)	PPP income class (GDP per capita)			
		Very low (<US\$ 1000)	Low (US\$ 1000–2200)	Middle (US\$ 2200–7000)	High (>US\$ 7000)
AFRO	Both high	Benin, Burkina Faso, Chad, Guinea-Bissau, Madagascar, Mali, Niger, Nigeria, Sierra Leone	Angola, Cameroon, Cape Verde, Comoros, Equatorial Guinea, Gambia, Ghana, Guinea, Mauritania, Sao Tome and Principe, Senegal, Togo	Algeria, Gabon, Liberia	Mauritius, Seychelles
	High/very high	Burundi, Congo, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, United Republic of Tanzania, Zambia	Central African Republic, Côte d'Ivoire, Lesotho, Uganda	Botswana, Namibia, Swaziland, Zimbabwe	South Africa
AMRO	Both very low Both low		Cuba	Belize, Brazil, Colombia, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Panama, Paraguay, St Lucia, St Vincent, Venezuela	Canada, USA Antigua and Barbuda, Argentina, Bahamas, Barbados, Chile, Costa Rica, Mexico, St Kitts and Nevis, Suriname, Trinidad and Tobago, Uruguay
	Both high		Haiti	Bolivia, Ecuador, Guatemala, Nicaragua, Peru	
EMRO	Both low			Islamic Republic of Iran, Jordan, Lebanon, Syria, Tunisia	Bahrain, Cyprus, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, United Arab Emirates
	Both high	Afghanistan, Somalia, Yemen	Djibouti, Pakistan, Sudan	Egypt, Iraq, Morocco	
EURO	Both very low			Croatia	Andorra, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom
	Both low	Bosnia	Armenia, Azerbaijan, Tajikistan, Uzbekistan	Albania, Bulgaria, Georgia, Kyrgyzstan, Macedonia, Romania, Turkey, Turkmenistan, Yugoslavia	
	Low/high		Moldova	Belarus, Kazakhstan, Latvia, Lithuania, Ukraine	Estonia, Hungary, Russian Federation
SEARO	Both low			Indonesia, Sri Lanka, Thailand, Maldives	
	Both high	Bhutan, Myanmar	Bangladesh, Democratic People's Republic of Korea, India, Nepal		
WPRO	Both very low				Australia, Brunei Darussalam, Japan, New Zealand, Singapore
	Both low		Cambodia, Kiribati, Lao People's Democratic Republic, Marshall Islands, Micronesia, Mongolia, Tuvalu, Viet Nam	China, Cook Islands, Fiji, Nauru, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Vanuatu	Malaysia, Niue, Palau, Republic of Korea

^a AFRO = WHO Regional Office for Africa; AMRO = WHO Regional Office for the Americas; EMRO = WHO Regional Office for the Eastern Mediterranean; EURO = WHO Regional Office for Europe; SEARO = WHO Regional Office for South-East Asia.

(<US\$ 1000), low (US\$ 1000–2200), middle (US\$ 2200–7000), and high income (>US\$ 7000). Although WHO regions are further divided into strata according to estimated adult and child mortality levels (3), as indicated in Table 2, we did not analyse the data according to the strata because sometimes there were very few countries in a region/mortality cell.

The analysis begins with total health spending relative to gross domestic product (GDP), as a function of GDP per capita (GDPC). To visualize relations to income, we took natural logarithms of all money amounts. Fig. 1 shows the share of total health expenditures in GDP as a percentage of GDP (THE%GDP), as a function of Ln(GDPC), over the income range 6–11 (ca. US\$ 400–60 000). Fig. 2–4 refer to the same income range. All graphical, and most statistical, analyses refer to percentage shares, relative to total health expenditure, government revenues, or total public or central government expenditure. Comparisons to the need for health spending, however, require amounts in US\$, so per capita levels of total health expenditure, out-of-pocket spending, and total public spending are compared to per capita income in purchasing power parity dollars (PPP\$).

What do countries spend on health?

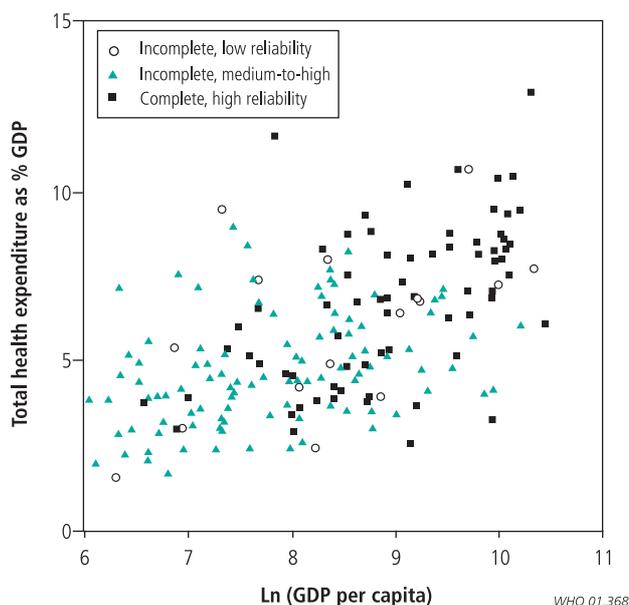
The THE%GDP rises from 2% to 9% as income increases (Fig. 1). Regression analysis shows that health spending is (slightly) a luxury good: the regression coefficient on income for all countries together is 0.0109, and 0.0137 for the set of 72 countries with high-quality national expenditure data. The complete regression statistics for all three country groups according to data quality, and for all 191 countries together, are shown in Table 3. In this and all other regressions, the absolute value of the coefficient is greater for the high-quality data, but the difference between the estimated coefficients for all countries and for the high-reliability group is never significant, and both coefficients always differ from zero. The fit of the regression line, adjusted for degrees of freedom, sometimes improves substantially when only the most reliable data are used. In summary, the inclusion of lower quality data introduces additional “noise”, but does not appreciably change the slope of any relation.

A better comparison would be to use per capita income net of subsistence, rather than income without deduction for basic needs, but there is no common estimate of the concept. Many countries are so poor (28 have incomes under US\$ 1000 per year; Table 2) that spending even 4% of total income on health is equivalent to a high share of non-subsistence income, comparable to that in richer countries. The share of health spending in total income varies greatly at all income levels: the standard deviation of the share is 0.014 for the very low income group, and 0.0198–0.021 for the three higher income groups.

The health share of GDP ranges from <3% to 6% among African countries at incomes under US\$ 2500. This is as high as the 5–10% spread among the Americas at incomes of US\$ 10 000–20 000, or the 3–6% range in the Eastern Mediterranean Region, for the same income interval. This counter-intuitive result — that countries which seem to have less scope for variation nonetheless vary as much as countries with more leeway for spending differences — shows up repeatedly in the analyses.

Shares of GDP translate into a wide range of US\$ amounts per capita. All health expenditures are converted to US\$ at the same PPP\$ rates as incomes, because health-

Fig. 1. Plot showing total health expenditures as % of gross domestic product (GDP) versus GDP per capita (191 countries)



specific price indices are unavailable. Relative differences are largest in poor countries, as high as 5:1 at incomes under US\$ 5000, but are about 2:1 among most countries at incomes of US\$ 10 000–20 000. There are no marked regional differences in the shape or slope of the expenditure/income relation, so we do not show the results by region. There are bigger differences in how health is financed, but these do not systematically affect the total. In most countries, total health spending is low (less than US\$ 45 per person per year in 25 countries with incomes below US\$ 1000) and below US\$ 110 in another 32 countries at incomes under US\$ 2200.

Some countries spend less than the cost of a package of cost-effective services, estimated in 1993 to be US\$ 12 per capita in very poor countries and US\$ 22 in middle-income countries (4). This is not enough to assure availability of even a few highly justified services to the whole population, whether

Table 3. Regression statistics for total health expenditure as a percentage of gross domestic product

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	-0.0328	-0.0020	-0.0567	-0.0353
Standard error	0.0437	0.0119	0.0220	0.0098
t-Statistic	-0.7484	-0.1702	-2.5090	-3.6092
Probability ^a	0.4675	0.8652	0.0144	0.0004
Coefficient of Ln(GDPC)	0.0110	0.0060	0.0137	0.0109
Standard error	0.0051	0.0015	0.0025	0.0012
t-Statistic	2.1218	4.1782	5.4798	9.3725
Probability ^a	0.0563	0.0001	0.0000	0.0000
R ²	0.2572	0.1461	0.3002	0.3173
Adjusted R ²	0.2000	0.1377	0.2902	0.3137
n	15	104	72	191

^a Probability that the true value of the coefficient is zero.

the justification is based on cost-effectiveness, protection from catastrophic expense, or other criteria. Inadequate spending in this sense is distinct from low health expenditure causing loss of potential economic growth (5).

Paying beforehand or when care is needed

Because of its relation to financial risk, the crucial distinction in health spending is between prepayment in all forms, and payment out-of-pocket at time of service. Small out-of-pocket costs are harmless for all but the poorest users. High cost spending, however, should be covered via prepayment to avoid the risk of impoverishment, or of doing without needed care. Since the poorer a person is, the lower is the threshold for catastrophic expenses, the out-of-pocket share ought to be lower in poorer countries. However, exactly the opposite occurs: at low incomes, the average out-of-pocket share is high and extremely variable (20–80% of all health spending, Fig. 2).

With increasing income, the range also narrows: the standard deviation of the share drops 0.220–0.160 between the low- and high-income groups. Except for four or five countries with highly reliable data, there is a sharp frontier of maximal out-of-pocket spending in the total, visible as a downward-sloping diagonal in Fig. 2. This frontier also shows up separately in sub-Saharan Africa, the Americas and the Eastern Mediterranean and North Africa, but not in Europe, where the out-of-pocket share is nearly always below 40%. Regression analysis gives an income coefficient of -0.0635 for the share of out-of-pocket expenditure as a percentage of total health expenditure (OOP%THE) for all countries together, and -0.0862 for countries with high-quality data. Both coefficients are significantly negative (Table 4). The declining share of out-of-pocket spending does not offset the rise in total spending on health, so the dollar amount spent out of pocket climbs rapidly but not quite proportionately as income and total spending increase. Absolute spending amounts are analysed below.

Fig. 2. Plot showing out-of-pocket expenditure as proportion of total health expenditure (THE) versus gross domestic product (GDP), per capita (191 countries)

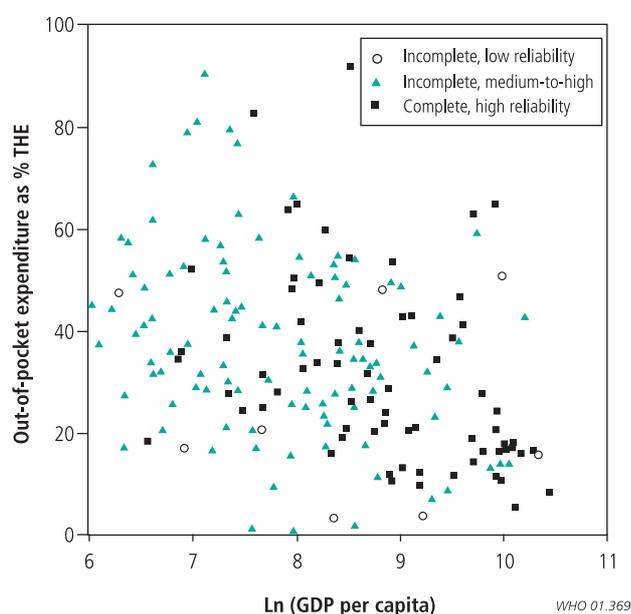


Table 4. Regression statistics for out-of-pocket payments as a percentage of total health expenditure

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	0.5735	0.8066	1.0781	0.8664
Standard error	0.3090	0.1355	0.1938	0.0926
t-Statistic	1.8559	5.9530	5.5627	9.3600
Probability ^a	0.0863	0.0000	0.0000	0.0000
Coefficient of Ln (GDPC)	-0.0375	-0.0555	-0.0862	-0.0635
Standard error	0.0366	0.0171	0.0214	0.0110
t-Statistic	-1.0246	-3.2059	-4.0220	-5.7494
Probability ^a	0.3242	0.0018	0.0001	0.0000
R ²	0.0747	0.0915	0.1878	0.1488
Adjusted R ²	0.0035	0.0826	0.1761	0.1444
n	15	104	72	191

^a See footnote a, Table 3.

A given overall share of out-of-pocket financing represents little financial risk to households when it is low and distributed in proportion to capacity to pay. Everyone then buys those, and only those, health goods and services that are individually affordable. In other cases, important financial risk is indicated by the percentage of households whose estimated health costs exceeded 50% of their income net of food expenditures, a measure of catastrophic spending. In household surveys in 21 countries, this proportion is usually below 5% of all households, but in a few cases the share exceeds 10% (6). There is no relation between this share and the level of income. The sample is rather small and includes no high-income countries; and there is no clear connection between the level of out-of-pocket spending and the fraction of households with very high levels of such spending. Preliminary WHO results from a larger sample of 44 countries, including some that are richer than the 21 countries considered here, seem to show this effect: the share of households with catastrophic spending, and the share of catastrophic spending in the total, both fall somewhat with rising income.

Household survey data usually do not indicate how families financed such catastrophic expenditures, but in India health needs often push families into selling assets or borrowing cash, even in the upper-income quintiles. Only about one-half of all families can afford a medical emergency out of current income or savings, and the loss of savings leaves them exposed to other risks (7). Similar evidence comes from a survey in northern Viet Nam in 1995: only 30% of poor households could rely on savings to pay for health services, while close to 40% had to spend less on essential items (food or fuel), or borrow money, or sell livestock (8). Reduced risk of asset loss or impoverishment is the chief benefit from extending prepayment and confining out-of-pocket payment to easily affordable services.

How is prepayment financed?

Some mechanisms are not widely used and contribute little to total health spending, such as "health cards" bought in advance of need and which entitle purchasers to a restricted amount of care. This was the case in the Thai Health Card Programme established in 1983. In 1992, the programme was converted to a voluntary health insurance programme with a broad benefit

package (9). Aside from schemes like these, there are three basic ways to finance prepayment: private insurance (voluntary or employment-related), social health insurance contributions, and taxes (general revenue). All publicly financed health is prepaid; private spending is divided between insurance and out-of-pocket payments. When private insurance is negligible, which is the case in most countries and virtually all poor countries, the prepayment/out-of-pocket distinction coincides with that between public and private expenditure. Public spending is then the complement of out-of-pocket spending. Relative to total health spending, public spending shows a similar frontier, for the minimum rather than the maximum share (Fig. 3).

The share of public health expenditure as a percentage of total health expenditure (PHE%THE) rises with income, with a regression coefficient of 0.0573 for all countries together and 0.0758 for countries with the most reliable data (Table 5). Europe is the only region where the public share is always above 40% and nearly always above 60%, with little relation to income. Finally, the relative variation in public spending shrinks: the standard deviation decreases from 0.228 in the low-income group to 0.160 at high incomes. This illustrates the same phenomenon as the reduced variation in the out-of-pocket share in total health spending.

Public spending includes both social health insurance contributions (the “Bismarck” model) and general revenues or “tax-funded” expenditure (the “Beveridge” model). The latter is the predominant, often the only, mode in most countries (Fig. 4). Countries where social security is the principal mode of public spending are concentrated in Europe (10). In high-income countries, either model can achieve essentially universal financial protection and account for a large share of total health expenditure. In low-income countries often neither mode accounts for even half of total spending.

The social security/general revenue distinction shows no convergence as income rises. High-income countries rely chiefly on one model or the other, whereas at lower incomes

Table 5. Regression statistics for public health expenditure as a percentage of total health expenditure

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	0.4329	0.1150	-0.0605	0.1288
Standard error	0.1397	0.1375	0.1940	0.0950
t-Statistic	1.3539	0.8368	-0.3123	1.3557
Probability ^a	0.1988	0.4047	0.7557	0.1768
Coefficient of Ln (GDPC)	0.0363	0.0586	0.0758	0.0573
Standard error	0.0379	0.0174	0.0214	0.0113
t-Statistic	0.9598	3.3611	3.5310	5.0524
Probability ^a	0.3546	0.0011	0.0007	0.0000
R ²	0.0662	0.0997	0.1511	0.1190
Adjusted R ²	-0.0056	0.0909	0.1390	0.1143
n	15	104	72	191

^a See footnote a, Table 3.

part of the population is covered by social health insurance and another part is protected by Ministry of Health financing, chiefly from general revenue. Particularly in Latin America, there is a great variety of institutional arrangements, and the population nominally covered under one scheme often also uses services financed by a different mode (11). The lack of convergence and the variety of financing combinations arise for historical reasons, unrelated to income. There is considerable debate whether social health insurance or general taxation is better (12), but nothing can be concluded from financing data alone, especially when public expenditure of both kinds together is only a small share of the total.

The third main mode of prepayment, private insurance, is virtually non-existent in the majority of countries. In only 47 countries does it account for 5% of private health expenditure (only five of which are in Africa), and that may

Fig. 3. Plot showing public expenditure as proportion of total health expenditure (THE) versus gross domestic product (GDP), per capita (191 countries)

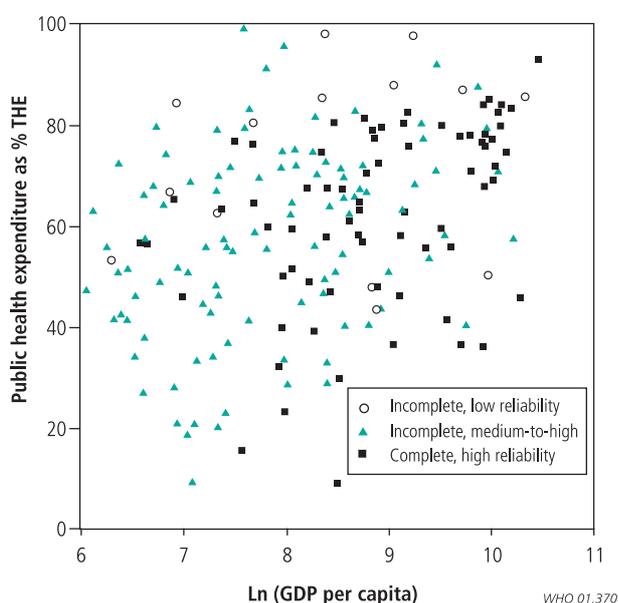
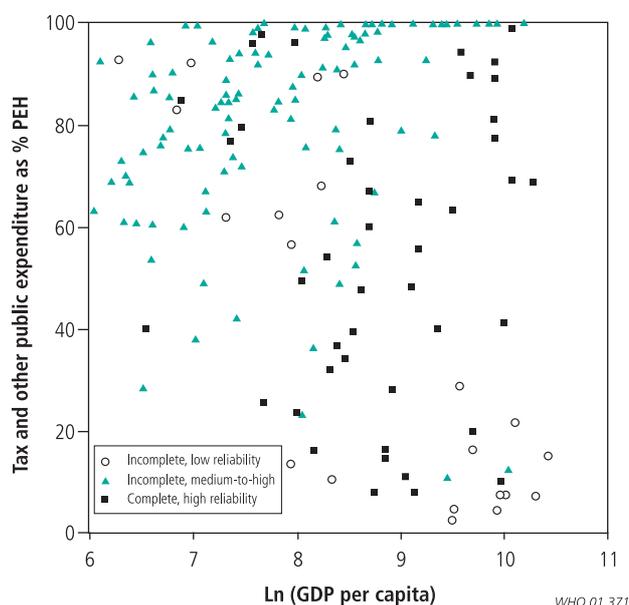


Fig. 4. Plot showing tax-funded and other expenditure as proportion of public expenditure on health (PEH) versus gross domestic product (GDP), per capita (191 countries)



mean a share of total spending as low as 1–2%. Private insurance is even more of a luxury than public spending, being important at high incomes, mostly in a few countries of the Americas and Europe. This is not surprising, since so many countries are poor and many people cannot afford a meaningful degree of financial protection of this form. Unless they are protected by publicly-financed health care, including the possibility of public subsidies for private insurance, many people rely on out-of-pocket financing and face the risk of catastrophic costs (1). Even where it is affordable by a larger part of the population, private insurance is not widespread in most countries because of the efficiency problems inherent in the distribution of medical risk among people, and uncertainty both on their part and on that of insurers (13).

The shares of insurance in total health spending vary considerably, from a significant form of prepayment (as in South Africa and the USA), to a complement of publicly funded services (as in Canada and several European and Latin American countries). The importance of private insurance also depends on whether the well-off must purchase it and leave the public system (as in the Netherlands), or may direct their social security contributions to private insurers (in Chile). Employers purchasing for their employees account for a large share of insurance in Brazil and the USA, and for much of health financing in the formal sector in many other countries.

How much of public spending goes for health?

Public expenditure on health can be low because of low total public expenditure, or because a low share of public expenditure is devoted to health, or both. The ratio of public spending on health to total general government expenditure (PHE%TPE) seldom exceeds 20% and is below 10% for most countries, including almost all of the African and the Eastern Mediterranean Regions. The share increases as income rises, approximately from 5% to 10%, with an income coefficient of 0.0159 for all countries together and 0.0161 for countries with more reliable data (Table 6). Variation around the mean share stays fairly constant across the four income groups, the standard deviation varying from 0.038 to 0.045.

IMF estimates of this relationship calculate total central government expenditure relative to GDP, and the shares for

health, education, defence and interest payments (14, 15). These estimates do not match the national health account numbers estimated by WHO, when much expenditure passes through subnational governments, as in Brazil, China, and India. The average share of GDP spent by central governments increases only slightly (from 24% to 29%) from very low- to middle-income countries, with a further increase to 32% among high-income countries. Within the lower income groups, and often within each mortality stratum, there is variation of as much as 3:1.

Failure to capture much of a country's income for public use does not generally explain low health spending in poor countries, but it helps account for the low shares that central governments spend for health in countries such as El Salvador, China, and the United Arab Emirates. Chinese spending is much higher when general rather than central government is included. At high incomes and low mortality, the shares converge somewhat for total spending, but less so for health expenditure. The relation between the two fractions of GDP fans out as central government accounts for more of the economy. This is consistent with the widening variation in the share of GDP spent on health.

Summary of findings

The analysis of national health accounts estimates does not lead to striking or unexpected conclusions, so far as shares are concerned. Analysis of absolute dollar amounts shows that out-of-pocket spending, total health expenditure and total public spending all rise with income. The respective double-logarithmic elasticities are 0.9733, 1.2052 and 1.1431, for all countries together (Tables 7–9). When only the highly reliable data are used, the corresponding estimated coefficients are 0.8839, 1.2223, and 1.1944. These elasticities mean that the share of out-of-pocket spending in GDP falls modestly as countries become richer, and that such spending takes a decreasing share of non-subsistence income and becomes less of a burden on average. In contrast, both total health expenditure and total public expenditure of all kinds rise with income.

The relationships between different health expenditure concepts fall into two groups: some do not converge toward a common pattern as income rises, whereas others clearly do.

Table 6. Regression statistics for public health expenditure as a percentage of total public expenditure

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	-0.0952	-0.0019	-0.0291	-0.0283
Standard error	0.0904	0.0302	0.0471	0.0216
t-Statistic	-1.0535	-0.0630	-0.6183	-1.3111
Probability ^a	0.3113	0.9499	0.5384	0.1914
Coefficient of Ln (GDPC)	0.0240	0.0123	0.0161	0.0159
Standard error	0.0107	0.0038	0.0052	0.0026
t-Statistic	2.2427	3.1981	3.1064	6.1483
Probability ^a	0.0430	0.0018	0.0027	0.0000
R ²	0.2789	0.0911	0.1211	0.1667
Adjusted R ²	0.2235	0.0822	0.1085	0.1622
n	15	104	72	191

^a See footnote a, Table 3.

Table 7. Regression statistics for out-of-pocket payments per capita as a function of income per capita

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	-4.8996	-3.9062	-3.1264	-4.0405
Standard error	1.7530	0.5643	0.6495	0.3738
t-Statistic	-2.7950	-6.9213	-4.8129	-10.8094
Probability ^a	0.0152	0.0000	0.0000	0.0000
Coefficient of Ln GDPC	1.0330	0.9529	0.8839	0.9733
Standard error	0.2078	0.0715	0.0718	0.0446
t-Statistic	4.9716	13.3135	12.2967	21.8270
Probability ^a	0.0003	0.0000	0.0000	0.0000
R ²	0.6553	0.6370	0.6835	0.7170
Adjusted R ²	0.6288	0.6334	0.6790	0.7155
n	15	103	72	190

^a See footnote a, Table 3.

Table 8. Regression statistics for total health expenditure per capita as a function of income per capita

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	-5.2843	-4.1739	-4.7881	-4.6958
Standard error	0.8546	0.2674	0.3860	0.1909
t-Statistic	-6.1832	-15.6077	-12.4014	-24.6026
Probability ^a	0.0000	0.0000	0.0000	0.0000
Coefficient of Ln (GDPC)	1.2748	1.1330	1.2223	1.2052
Standard error	0.1013	0.0339	0.0427	0.0228
t-Statistic	12.5839	33.4118	28.6098	52.9171
Probability ^a	0.0000	0.0000	0.0000	0.0000
R ²	0.9241	0.9162	0.9212	0.9368
Adjusted R ²	0.9182	0.9154	0.9200	0.9364
n	15	104	72	191

^a See footnote a, Table 3.

Table 9. Regression statistics for total public expenditure per capita as a function of income per capita

Regression statistic	Data quality			All data
	Low	Medium-to-high	High	
Constant	-1.4957	-2.1643	-2.8433	-2.3769
Standard error	0.8496	0.3189	0.3590	0.2081
t-Statistic	-1.7603	-6.7857	-7.9202	-11.4216
Probability ^a	0.1018	0.0000	0.0000	0.0000
Coefficient of Ln (GDPC)	1.0688	1.1115	1.1944	1.1431
Standard error	0.1007	0.0404	0.0397	0.0248
t-Statistic	10.6120	27.4823	30.0667	46.0341
Probability ^a	0.0000	0.0000	0.0000	0.0000
R ²	0.8965	0.8810	0.9281	0.9181
Adjusted R ²	0.8885	0.8798	0.9271	0.9177
n	15	104	72	191

^a See footnote a, Table 3.

The former group includes the share of GDP spent on health; the share of public spending financed by general revenue rather than by social security; and the share of health in total government spending. Countries show little or no regularity in these shares. As income rises there is a convergence in the average level of the shares of health spending represented by public expenditure (increasing) and by out-of-pocket spending (decreasing). There is an even more marked common pattern for the variation in those shares at a given income level. As income rises, the relative variation in health spending among countries narrows; the public share becomes more uniformly high; and that of out-of-pocket spending becomes more uniformly low. Increased prepayment, most of which is public, is what allows the out-of-pocket share to fall markedly. This reduces catastrophic financial risk for households, while avoiding the market failure that makes competitive, private health insurance inefficient, because those who need it most can least afford it, if insurers charge according to risks (15).

Several conclusions emerge, as outlined below.

- In many poor countries total health spending is very low, even compared to the cost of a package of highly justified interventions.
- Out-of-pocket spending is already catastrophic for several percent of households. Even if consumers were willing to pay more for better quality services, the poor could not pay much more and would require preferential treatment (16).
- Prepayment via health insurance is limited to the wealthy and those with formal employment. The poor could afford meaningful insurance coverage only with public subsidy.

These conclusions, and the need to provide public goods and services with large externalities (which private markets will not deliver adequately), make public expenditure on health particularly important in poor countries. However, these are the countries with the lowest relative public spending in health. What actually happens appears to be at odds with what is needed.

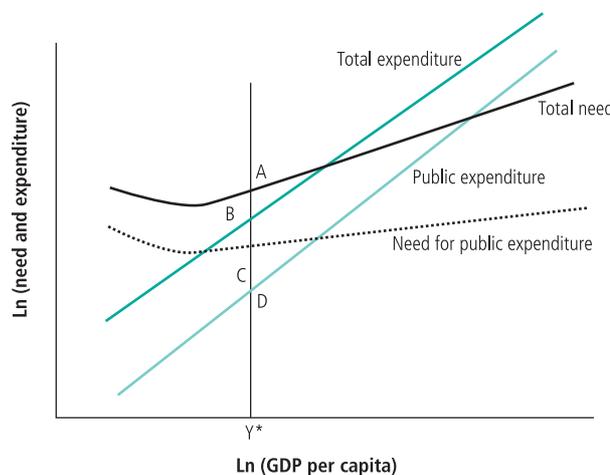
Needs versus actual spending

Nothing here indicates how much a country should spend on health, because there is no consensus as to what services to finance for its citizens, and different packages of services have

different costs. It is particularly difficult to specify appropriate voluntary private spending on health, since people differ not only in needs, but in their tastes and their degree of risk aversion. Nonetheless, a given package of services corresponds to a relatively well-defined minimum cost, if it is provided for the whole population. If a country is to deliver that package, it should spend at least the corresponding minimum amount. (It might spend considerably more for the same package, because the way health is financed can greatly affect costs.)

The cost for a package will depend on several characteristics of the country, including its income. The package might cost more to provide in high-income countries than in low-income ones, because inputs are more expensive. But in poorer countries, it may instead be costlier to reach everyone because the population is widely dispersed. The low level of schooling and worse health status may also require more intensive intervention. Thus, the need for spending on

Fig. 5. Hypothesized needs and actual spending for an essential package of health services versus gross domestic product (GDP) per capita



A–B Gap on total need versus expenditure at GDP of Y*

C–D Gap on public need versus expenditure at GDP of Y*

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the services in the package may be constant, or declining with per capita income, at least at low incomes.

Whatever the relationship between income and total need relative to the package, the need for public expenditure on those services, as a share of the total need, almost surely declines with income. This can happen either by declining absolutely, or by rising more slowly the richer a country becomes. People can spend more privately, because out-of-pocket expenses are less onerous, or they can afford wider private insurance coverage. More public spending would simply crowd out some of that private expenditure.

The relation between actual total spending and actual public spending is just the opposite of that for needs: the difference between them narrows as income rises. Any gap between needs and actual expenditure is greater for the public component than for the total (Fig. 5). For a country with GDP

per capita of Y^* , spending is not enough to provide the package to everyone and there is a gap, A–B; the public gap, C–D, is much larger. Even if the total gap were closed, there might still be a shortfall of public spending. Part of the population would not benefit from the services, and the additional expenditure would buy other interventions and be distributed less equitably. These findings indicate that the challenge for poorer countries is not merely to spend more on health, but to spend more equitably by increasing prepayment, especially for potentially catastrophic expenses, and by public resources. Rich countries have not converged on a single health financing model or institutional arrangement, but they have converged on a high degree of protection from financial risk through prepayment. ■

Conflicts of interest: none declared.

Résumé

Physiologie des dépenses nationales de santé

Le présent article contient une analyse des estimations des comptes nationaux de la santé de 191 Etats Membres de l'OMS pour l'année 1997 : des comparaisons simples et des régressions linéaires sont utilisées pour décrire les dépenses consacrées à la santé et la manière dont elles sont financées. Les données englobent toutes les sources – paiements directs aux prestataires, contributions d'assurances sociales, financement sur le budget général de l'Etat, et assurances privées volontaires ou professionnelles – classées en fonction de leur degré de couverture et de leur fiabilité.

Les dépenses de santé totales varient entre 2 à 3 % du produit intérieur brut (PIB) pour les pays à faible revenu (moins de US \$1000 par habitant) et 8 à 9 % en moyenne pour les pays à revenu élevé (>US \$7000). Assez curieusement, le niveau de variation relative de cette part est aussi marqué dans les pays pauvres que dans les pays riches, et l'écart est encore plus net si l'on considère les montants en dollars. Les pays pauvres et les personnes pauvres qui ont le plus besoin de protection contre les catastrophes financières sont ceux qui sont le moins protégés par

une forme quelconque de paiement anticipé ou de partage des risques. Dans les tranches à bas revenu, le niveau des paiements directs aux prestataires est en moyenne assez élevé et représente entre 20 et 80 % du total ; dans les tranches à hauts revenus, cette part chute fortement et l'écart se resserre. Les dépenses sous forme de paiements directs aux prestataires augmentent néanmoins en chiffres absolus avec le revenu. Dans les pays à haut revenu, la part financée par l'Etat augmente aussi plus vite, y compris en pourcentage du PIB, et on observe une convergence des niveaux de financement assuré par l'Etat. La santé représente une part croissante des dépenses publiques totales à mesure que le revenu augmente, passant de 5-6 % à environ 10 %, ce qui semble aller à l'inverse du lien entre besoins totaux de santé et besoins de dépenses publiques et ce, pour n'importe quelle combinaison de services. Dans le cadre des dépenses publiques, il n'y a pas de convergence dans les types de financement – budget général contre assurance sociale. L'assurance privée représente généralement une part insignifiante, excepté dans certains pays riches.

Resumen

Parámetros básicos del gasto sanitario nacional

Se analizan en el artículo las estimaciones de las cuentas nacionales de salud de 1997 para 191 Estados Miembros de la OMS, sobre la base de simples comparaciones y regresiones lineales que describen el gasto en salud y la manera de financiarlo. Los datos abarcan todas las fuentes – gasto directo, cotizaciones a la seguridad social, financiamiento a partir de los ingresos generales del Estado y seguros voluntarios y privados relacionados con el empleo – clasificadas de acuerdo con su exhaustividad y fiabilidad.

El gasto sanitario total aumenta desde un 2%-3% del producto interior bruto (PIB) en los países de ingresos bajos (< US\$ 1000 per cápita) hasta un 8%-9% en los países de ingresos altos (> US\$ 7000). Sorprendentemente, se observa entre los porcentajes de los países pobres una mayor variación relativa que entre los ricos, y esa variación relativa es aún mayor si se comparan las cantidades en US\$. Los países pobres y las personas pobres que más protección necesitan frente al riesgo de catástrofe financiera son los menos protegidos por forma

alguna de prepago o mancomunación de los riesgos. Entre los ingresos bajos, el gasto directo es alto como promedio y representa el 20%-80% del total; entre los ingresos altos ese porcentaje cae pronunciadamente y la variación se reduce. El gasto directo absoluto, sin embargo, aumenta con los ingresos. El financiamiento público aumenta más rápidamente, también como porcentaje del PIB, y tiende a converger en los países de ingresos altos. La salud absorbe un porcentaje creciente del gasto público total a medida que aumentan los ingresos, del 5%-6% hasta aproximadamente un 10%. Esta tendencia es posiblemente la opuesta de la que debería caracterizar la relación entre las necesidades sanitarias globales y el gasto público requerido para una determinada combinación de servicios. Dentro del gasto público no se observa convergencia alguna en lo que respecta al tipo de financiamiento: ingresos generales frente a seguridad social. Los seguros privados tienen por lo general un peso insignificante, salvo en algunos países ricos.

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Table 1. National health accounts estimates for 191 WHO Member States for 1997, revised data as of 31 May 2001^a

Country	% shares ^b									Per capita expenditures in PPP \$ ^c		
	THE/ GDP	PHE/ THE	PvtHE/ THE	PHE/ GGE	SocSec/ THE	GenRev/ PHE	ExtRes/ PHE	PvtIns/ PvtHE	OOPS/ PvtHE	THE	PHE	OOPS
Afghanistan	1.4	52.6	47.4	3.6	0.0	92.5	7.5	0.0	100.0	7	4	4
Albania	3.8	71.5	28.5	9.5	17.5	81.6	0.9	46.0	54.1	107	76	16
Algeria	4.0	79.8	20.2	11.3	66.7	33.3	0.0	0.0	100.0	195	155	39
Andorra	9.3	86.6	13.4	22.1	84.8	15.3	0.0	0.0	100.0	1557	1348	209
Angola	4.1	47.9	52.1	6.1	0.0	89.1	10.9	0.0	100.0	62	30	32
Antigua and Barbuda	5.5	62.9	37.1	15.0	0.0	100.0	0.0	0.0	100.0	508	320	188
Argentina	8.0	55.2	44.8	20.1	60.2	39.7	0.2	24.8	75.3	953	526	322
Armenia	7.8	41.5	58.5	12.2	0.0	92.1	7.9	0.0	100.0	160	67	94
Australia	8.4	68.3	31.8	16.2	0.0	100.0	0.0	29.6	50.7	1917	1309	309
Austria	8.0	71.4	28.6	11.2	59.5	40.5	0.0	27.0	58.8	1819	1299	306
Azerbaijan	2.9	79.3	20.7	10.6	0.0	94.4	5.6	0.0	100.0	58	46	12
Bahamas	6.5	53.7	46.3	13.7	0.0	100.0	0.0	0.0	92.6	785	421	337
Bahrain	5.0	58.5	41.5	8.7	0.0	100.0	0.0	0.0	90.9	706	413	267
Bangladesh	4.5	45.4	54.6	9.1	0.0	92.0	8.0	0.0	95.0	50	23	26
Barbados	7.0	71.0	29.0	15.1	0.0	100.0	0.0	0.0	100.0	901	640	262
Belarus	5.9	82.6	17.4	10.5	0.0	99.9	0.1	0.0	100.0	344	285	60
Belgium	8.6	71.0	29.0	12.2	88.0	12.0	0.0	6.8	46.7	1995	1416	271
Belize	4.7	51.0	49.0	8.2	0.0	95.5	4.5	0.0	100.0	226	115	111
Benin	3.1	48.5	51.5	6.0	0.0	85.8	14.2	0.0	100.0	27	13	14
Bhutan	4.7	72.2	27.8	10.1	0.0	70.3	29.7	0.0	100.0	27	19	7
Bolivia	4.7	63.9	36.1	9.1	65.3	24.9	9.8	7.8	85.7	104	66	32
Bosnia and Herzegovina	4.0	55.4	44.6	6.2	0.0	69.1	30.9	0.0	100.0	20	11	9
Botswana	3.4	70.5	29.5	5.9	0.0	98.5	1.6	52.9	37.1	220	155	24
Brazil	6.5	40.4	59.7	9.7	0.0	100.0	0.0	48.1	52.0	438	177	136
Brunei Darussalam	5.4	40.6	59.4	4.5	0.0	100.0	0.0	0.0	100.0	939	381	557
Bulgaria	4.4	80.0	20.0	8.9	10.5	89.5	0.0	0.0	93.5	209	167	39
Burkina Faso	4.0	67.6	32.4	11.3	0.0	76.4	23.6	0.0	100.0	32	22	10
Burundi	2.1	42.2	57.8	4.0	0.0	69.4	30.6	0.0	100.0	12	5	7
Cambodia	7.2	9.4	90.6	7.0	0.0	49.0	51.0	0.0	100.0	87	8	79
Cameroon	3.0	34.2	65.8	7.2	0.0	71.0	29.0	0.0	81.6	44	15	23
Canada	9.0	69.9	30.1	15.4	1.6	98.4	0.0	36.1	56.9	2181	1524	374
Cape Verde	2.6	71.8	28.2	4.7	0.0	75.8	24.2	0.0	100.0	87	62	24
Central African Republic	2.4	51.4	48.6	4.0	0.0	75.7	24.3	0.0	77.3	25	13	9
Chad	3.1	79.3	20.7	13.2	0.0	78.0	22.0	0.0	100.0	25	20	5
Chile	7.0	36.3	63.7	10.8	89.3	10.3	0.4	33.7	66.3	609	221	257
China	4.2	39.4	60.6	13.6	87.0	12.6	0.4	0.0	78.9	125	49	60
Colombia	9.3	57.6	42.4	18.2	40.3	59.5	0.2	38.9	61.1	569	328	147
Comoros	4.5	68.2	31.8	8.7	0.0	75.8	24.2	0.0	100.0	53	36	17
Congo, Republic of	2.8	64.6	35.4	4.8	0.0	84.5	15.5	0.0	100.0	28	18	10
Cook Islands	5.3	67.1	32.9	10.3	0.0	99.8	0.2	0.0	100.0	319	214	105
Costa Rica	7.0	78.3	21.7	21.6	84.9	14.5	0.6	3.0	97.0	498	390	105
Côte d'Ivoire	3.0	46.0	54.0	5.7	0.0	81.6	18.4	14.9	85.1	46	21	21
Croatia	8.2	80.5	19.5	13.2	92.6	7.4	0.0	0.0	100.0	530	427	103
Cuba	6.3	87.5	12.5	10.0	20.9	79.0	0.1	0.0	100.0	87	76	11
Cyprus	6.4	36.3	63.7	6.3	80.9	19.1	0.0	0.0	97.9	1085	394	677
Czech Republic	7.1	91.7	8.3	14.7	89.5	10.5	0.0	0.0	100.0	910	835	76
Democratic People's Republic of Korea	3.0	83.5	16.5	5.6	0.0	99.0	1.0	0.0	100.0	31	25	5
Democratic Republic of the Congo	1.6	74.1	25.9	12.3	0.0	90.5	9.5	0.0	100.0	15	11	4
Denmark	8.2	82.3	17.7	12.9	0.0	100.0	0.0	7.9	92.1	1969	1620	322
Djibouti	4.6	44.4	55.6	5.7	0.0	96.7	3.3	0.0	29.8	62	27	10
Dominica	5.9	69.6	30.4	11.0	0.0	97.5	2.5	17.7	82.4	309	215	77
Dominican Republic	6.4	29.1	70.9	10.5	22.3	75.4	2.3	13.2	77.0	291	85	159
Ecuador	3.7	50.8	49.2	7.0	48.8	49.1	2.1	10.6	65.4	120	61	39
Egypt	4.3	31.8	68.2	4.5	39.6	56.1	4.3	0.4	93.2	123	39	78

^a Data in bold are complete and of high reliability, as judged by WHO; those in normal type are incomplete and of medium-to-high reliability; and those in light (pale) type are incomplete and of low reliability.

^b Abbreviations: HE = health expenditure; T = total; P = public; Pvt = private; GGE = general government expenditure; SocSec = social security; GenRev = general revenue (tax funded); ExtRes = external resources; Ins = Insurance; OOPS = out-of-pocket spending.

^c PPP = purchasing power parity.

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(Table 1, continued)

Country	% shares ^b									Per capita expenditures in PPP \$ ^c		
	THE/ GDP	PHE/ THE	PvtHE/ THE	PHE/ GGE	SocSec/ THE	GenRev/ PHE	ExtRes/ PHE	PvtIns/ PvtHE	OOPS/ PvtHE	THE	PHE	OOPS
El Salvador	8.1	38.7	61.3	22.6	43.3	53.6	3.1	2.7	97.1	328	127	195
Equatorial Guinea	3.6	56.0	44.0	7.9	0.0	85.9	14.1	0.0	100.0	59	33	26
Eritrea	4.4	65.8	34.2	5.3	0.0	83.1	16.9	0.0	100.0	42	28	14
Estonia	6.4	78.9	21.2	13.6	0.0	99.9	0.1	0.0	46.1	481	379	47
Ethiopia	4.7	41.4	58.6	8.1	0.0	85.9	14.1	0.0	87.6	29	12	15
Fiji	4.0	66.7	33.3	7.4	0.0	99.2	0.8	0.0	100.0	179	119	60
Finland	7.3	76.1	23.9	10.7	19.6	80.4	0.0	10.4	83.0	1517	1154	301
France	9.4	77.7	22.3	13.3	100.0	3.2	0.0	55.4	47.1	1994	1550	209
Gabon	3.1	66.5	33.5	6.2	0.0	92.6	7.4	0.0	100.0	197	131	66
Gambia	3.0	78.7	21.3	11.5	0.0	86.2	13.8	0.0	100.0	45	36	10
Georgia	4.4	8.6	91.4	2.6	0.0	91.6	8.4	0.0	100.0	222	19	203
Germany	10.5	76.6	23.4	14.5	90.7	9.3	0.0	29.5	66.0	2336	1789	361
Ghana	3.6	55.1	44.9	9.6	0.0	72.1	27.9	0.0	100.0	63	35	28
Greece	8.5	57.7	42.3	11.9	37.2	62.8	0.0	5.3	89.4	1177	679	445
Grenada	4.6	65.7	34.3	10.4	0.0	98.2	1.8	0.0	100.0	265	174	91
Guatemala	4.3	44.9	55.1	15.5	57.7	36.3	6.1	3.8	92.3	149	67	76
Guinea	3.6	57.2	42.8	9.7	0.0	73.9	26.1	0.0	100.0	58	33	25
Guinea-Bissau	3.9	64.0	36.0	2.2	0.0	79.2	20.8	0.0	100.0	34	22	12
Guyana	4.6	81.5	18.5	8.6	0.0	99.4	0.6	0.0	93.9	180	147	31
Haiti	3.6	33.5	66.5	10.2	0.0	63.4	36.6	0.0	43.2	45	15	13
Honduras	6.4	55.4	44.6	17.0	9.7	84.9	5.3	0.1	91.4	158	88	64
Hungary	6.8	75.3	24.7	10.4	35.5	64.5	0.0	0.0	46.9	677	510	78
Iceland	8.0	83.7	16.3	18.9	31.5	68.5	0.0	0.0	100.0	1951	1633	318
India	5.5	15.3	84.7	4.7	0.0	96.0	4.1	0.0	97.3	109	17	90
Indonesia	2.7	22.9	77.1	3.0	69.5	23.0	7.5	16.0	84.0	82	19	53
Iran, Islamic Republic of	5.9	46.4	53.6	10.4	25.7	74.3	0.0	0.0	100.0	275	128	148
Iraq	4.2	58.9	41.1	12.5	0.0	100.0	0.0	0.0	100.0	136	80	56
Ireland	7.0	75.6	24.4	16.3	8.3	91.7	0.0	32.9	54.7	1453	1099	193
Israel	8.6	70.3	29.8	12.5	0.0	100.0	0.0	0.0	90.2	1553	1091	417
Italy	8.3	67.5	32.5	11.2	0.4	99.6	0.0	3.9	72.5	1742	1176	410
Jamaica	5.4	56.0	44.0	8.7	0.0	97.3	2.7	26.4	53.5	210	118	50
Japan	7.4	79.5	20.5	16.7	89.0	11.0	0.0	0.0	78.9	1810	1439	293
Jordan	7.1	70.3	29.7	13.4	0.0	97.8	2.2	0.0	73.7	285	200	62
Kazakhstan	3.3	65.5	34.5	10.1	47.0	52.5	0.5	0.0	100.0	172	113	59
Kenya	7.6	28.2	71.8	7.9	13.5	60.1	26.3	4.7	73.9	76	21	40
Kiribati	8.9	99.2	0.9	12.9	0.0	98.5	1.5	0.0	100.0	175	174	1
Kuwait	3.3	87.4	12.6	8.4	0.0	100.0	0.0	0.0	100.0	628	549	79
Kyrgyzstan	4.0	69.4	30.6	10.4	0.8	94.0	5.2	0.0	100.0	90	62	27
Lao People's Democratic Republic	4.3	36.8	63.2	6.0	0.6	86.3	13.1	0.0	100.0	74	27	47
Latvia	6.0	60.6	39.4	9.6	52.5	47.4	0.1	0.0	100.0	338	205	133
Lebanon	9.8	29.6	70.4	6.8	26.9	72.6	0.5	23.7	76.3	501	148	269
Lesotho	5.3	76.0	24.0	12.4	0.0	79.5	20.5	0.0	100.0	96	73	23
Liberia	2.5	66.7	33.3	6.7	0.0	88.8	11.2	0.0	100.0	94	62	31
Libyan Arab Jamahiriya	3.7	47.6	52.4	2.6	0.0	100.0	0.0	0.0	90.9	260	124	124
Lithuania	6.6	73.9	26.1	14.4	68.6	31.4	0.0	0.0	90.9	280	207	66
Luxembourg	5.9	92.5	7.5	12.7	86.0	14.0	0.0	19.5	99.2	2076	1920	155
Madagascar	2.3	57.2	42.8	7.6	0.0	87.1	12.9	0.0	100.0	17	10	7
Malawi	7.3	50.6	49.4	14.6	0.0	61.3	38.7	1.6	35.4	41	21	7
Malaysia	2.3	57.6	42.4	5.6	0.0	98.8	1.2	0.0	100.0	214	123	91
Maldives	7.1	74.5	25.5	10.9	0.0	91.6	8.4	0.0	100.0	274	204	70
Mali	4.2	45.8	54.2	7.9	0.0	74.9	25.1	0.0	89.9	28	13	14
Malta	6.3	58.9	41.1	8.9	98.5	1.5	0.0	0.0	92.6	873	514	332
Marshall Islands	9.2	61.9	38.1	14.1	0.0	61.5	38.5	0.0	100.0	141	87	54
Mauritania	2.9	69.7	30.3	7.8	0.0	84.8	15.2	0.0	100.0	44	31	13
Mauritius	3.4	51.1	48.9	7.1	0.0	79.1	20.9	0.0	100.0	277	141	135
Mexico	5.3	43.3	56.7	6.0	73.6	27.6	0.0	2.7	93.7	406	176	216
Micronesia, Federated States of	7.6	79.7	20.3	11.3	0.0	100.0	0.0	0.0	100.0	164	131	33
Monaco	7.0	50.0	50.0	17.8	93.8	6.3	0.0	0.0	100.0	1549	775	775
Mongolia	5.5	62.7	37.3	13.4	12.2	76.5	11.4	0.0	73.3	88	55	24
Morocco	4.6	28.6	71.4	3.9	8.4	89.8	1.8	23.1	76.9	142	41	78

(Table 1, continued)

Country	% shares ^b									Per capita expenditures in PPP \$ ^c		
	THE/ GDP	PHE/ THE	PvtHE/ THE	PHE/ GGE	SocSec/ THE	GenRev/ PHE	ExtRes/ PHE	PvtIns/ PvtHE	OOPS/ PvtHE	THE	PHE	OOPS
Mozambique	3.9	56.2	43.8	11.2	0.0	39.8	60.2	0.0	41.2	28	16	5
Myanmar	2.3	18.6	81.4	4.4	0.0	99.9	0.1	0.0	100.0	26	5	21
Namibia	7.9	54.3	45.7	11.1	0.0	91.6	8.4	91.3	3.0	411	223	6
Nauru	4.9	97.4	2.6	9.6	0.0	100.0	0.0	0.0	100.0	213	208	6
Nepal	4.7	20.6	79.5	5.3	0.0	67.1	32.9	0.0	73.5	58	12	34
Netherlands	8.7	68.9	31.1	12.6	93.8	6.2	0.0	57.5	23.2	1960	1350	142
New Zealand	7.6	77.3	22.7	12.7	0.0	100.0	0.0	29.8	68.9	1381	1068	216
Nicaragua	7.3	49.5	50.5	22.1	18.7	61.2	20.1	0.0	100.0	318	157	161
Niger	3.0	51.1	48.9	6.0	0.0	61.0	39.1	0.0	81.4	19	10	8
Nigeria	1.9	27.0	73.0	3.5	0.0	53.8	46.2	0.0	100.0	14	4	10
Niue	7.6	97.3	2.7	13.0	0.0	100.0	0.0	0.0	100.0	774	753	21
Norway	8.1	83.0	17.0	15.2	0.0	100.0	0.0	0.0	88.9	2152	1785	326
Oman	3.2	82.1	17.9	6.9	0.0	100.0	0.0	0.0	49.9	319	262	28
Pakistan	4.0	22.9	77.1	2.9	55.1	42.0	2.9	0.0	100.0	66	15	51
Palau	6.1	87.5	12.5	8.9	0.0	100.0	0.0	0.0	100.0	520	455	65
Panama	7.6	66.7	33.3	18.7	60.6	38.8	0.6	16.8	76.8	396	264	101
Papua New Guinea	3.3	90.6	9.5	9.6	0.0	83.5	16.5	0.0	100.0	78	71	7
Paraguay	7.5	33.1	66.9	13.6	47.8	48.8	3.5	20.8	69.2	338	112	156
Peru	3.5	57.3	42.7	11.8	61.1	36.3	2.6	7.1	86.4	160	91	59
Philippines	3.5	48.5	51.5	7.2	30.9	67.6	1.5	4.6	95.4	132	64	65
Poland	6.1	72.0	28.0	10.1	0.0	100.0	0.0	0.0	100.0	456	328	128
Portugal	10.7	55.6	44.4	14.2	6.3	93.7	0.0	2.7	90.6	1619	900	652
Qatar	5.3	57.5	42.5	7.6	0.0	100.0	0.0	0.0	100.0	1433	824	609
Republic of Korea	5.0	41.0	59.0	10.1	71.9	28.1	0.0	11.3	78.2	743	305	342
Republic of Moldova	8.0	75.4	24.6	11.9	0.0	97.6	2.4	0.0	100.0	173	130	42
Romania	4.1	62.9	37.1	7.5	18.7	80.3	1.0	0.0	100.0	253	159	94
Russian Federation	5.2	76.8	23.2	10.6	83.8	15.7	0.5	0.0	100.0	376	289	87
Rwanda	5.2	34.1	65.9	8.7	0.9	28.5	70.6	0.2	62.4	35	12	14
Saint Kitts and Nevis	4.7	68.4	31.6	10.9	0.0	92.5	7.5	0.0	100.0	498	340	157
Saint Lucia	4.1	62.3	37.7	9.0	0.0	97.0	3.0	0.0	100.0	226	141	85
Saint Vincent and the Grenadines	6.3	63.8	36.2	9.8	0.0	99.9	0.1	0.0	100.0	286	182	103
Samoa	3.5	71.4	28.6	12.5	0.0	97.8	2.2	0.0	100.0	176	126	50
San Marino	7.6	85.2	14.8	9.9	93.6	6.4	0.0	0.0	100.0	2350	2002	348
Sao Tome and Principe	3.0	66.7	33.3	2.9	0.0	78.8	21.3	0.0	100.0	45	30	15
Saudi Arabia	4.0	80.2	19.8	9.4	0.0	100.0	0.0	10.5	31.9	444	356	28
Senegal	4.5	55.7	44.3	13.2	0.0	83.6	16.4	0.0	100.0	61	34	27
Seychelles	6.4	77.1	22.9	8.8	0.0	78.0	22.0	0.0	100.0	736	568	169
Sierra Leone	3.0	41.4	58.6	7.2	0.0	73.2	26.8	0.0	100.0	17	7	10
Singapore	3.2	35.8	64.2	5.5	23.2	76.8	0.0	0.0	100.0	663	237	425
Slovakia	7.8	79.8	20.2	12.4	92.8	7.2	0.0	0.0	100.0	736	587	149
Slovenia	8.9	79.3	20.7	16.3	96.3	3.7	0.0	48.1	51.9	1236	981	133
Solomon Islands	3.5	95.3	4.7	11.4	0.0	85.3	14.8	0.0	6.7	102	98	0
Somalia	2.4	62.5	37.5	5.6	0.0	92.6	7.4	0.0	100.0	11	7	4
South Africa	10.3	47.3	52.7	12.7	0.0	99.8	0.2	77.8	20.2	770	364	82
Spain	7.0	77.2	23.5	13.5	10.9	89.1	0.0	23.4	76.6	1162	897	210
Sri Lanka	3.2	49.5	50.5	6.0	0.0	95.8	4.2	1.0	99.0	94	47	47
Sudan	4.4	20.9	79.1	3.4	0.0	100.0	0.0	0.0	100.0	46	10	36
Suriname	6.2	62.1	37.9	19.9	44.7	22.8	32.5	0.0	100.0	191	119	72
Swaziland	3.4	72.3	27.7	8.2	0.0	79.3	20.7	0.0	100.0	148	107	41
Sweden	8.1	84.3	15.8	11.5	0.0	100.0	0.0	0.0	100.0	1743	1469	275
Switzerland	10.2	74.1	26.8	14.5	79.3	20.7	0.0	41.7	16.6	2598	1924	116
Syrian Arab Republic	2.5	33.6	66.4	2.9	0.0	99.5	0.5	0.0	100.0	74	25	49
Tajikistan	3.0	66.0	34.0	9.4	0.0	96.6	3.5	0.0	100.0	22	14	7
Thailand	3.7	56.9	43.1	8.5	8.4	91.5	0.1	13.6	86.2	234	133	87
The former Yugoslav Republic of Macedonia	6.5	84.8	15.2	15.6	89.6	9.9	0.5	0.0	100.0	276	234	42
Togo	2.8	42.8	57.2	4.3	0.0	84.7	15.3	0.0	100.0	40	17	23
Tonga	7.9	46.8	53.2	13.1	0.0	90.7	9.3	0.0	100.0	342	160	182
Trinidad and Tobago	5.0	43.6	56.4	7.6	0.0	100.0	0.0	5.9	88.0	373	162	185
Tunisia	5.3	40.4	59.6	6.7	42.7	57.2	0.1	0.0	90.9	281	114	152
Turkey	4.2	71.6	28.4	10.1	33.2	66.8	0.0	0.2	99.6	265	190	75

(Table 1, continued)

Country	% shares ^b									Per capita expenditures in PPP \$ ^c		
	THE/ GDP	PHE/ THE	PvtHE/ THE	PHE/ GGE	SocSec/ THE	GenRev/ PHE	ExtRes/ PHE	PvtIns/ PvtHE	OOPS/ PvtHE	THE	PHE	OOPS
Turkmenistan	3.9	74.5	25.5	11.7	9.9	87.7	2.4	0.0	100.0	110	82	28
Tuvalu	8.9	71.4	28.6	7.7	0.0	94.2	5.8	0.0	100.0	151	108	43
Uganda	3.7	50.7	49.3	11.5	0.0	38.2	61.8	0.6	59.1	42	21	12
Ukraine	5.4	75.0	25.0	9.3	0.0	99.2	0.8	0.0	100.0	177	133	44
United Arab Emirates	3.7	79.3	20.7	26.9	0.0	100.0	0.0	19.1	65.9	771	611	105
United Kingdom	6.7	83.7	16.3	14.3	11.6	88.4	0.0	21.3	67.1	1399	1171	153
United Republic of Tanzania	5.1	47.1	52.9	14.8	0.0	63.3	36.7	0.0	85.9	21	10	10
United States of America	13.0	45.5	54.6	18.0	31.9	68.1	0.0	60.6	28.2	3915	1780	603
Uruguay	10.0	45.9	54.1	13.7	51.7	47.7	0.6	63.3	36.7	922	424	183
Uzbekistan	4.6	82.9	17.1	11.6	0.0	99.4	0.6	0.0	100.0	94	78	16
Vanuatu	3.3	64.3	35.8	9.6	0.0	51.6	48.4	0.0	100.0	104	67	37
Venezuela, Bolivian Republic of	4.1	64.1	35.9	10.5	33.4	66.6	0.0	4.7	86.6	247	159	77
Viet Nam	4.5	20.3	79.7	4.0	0.0	93.3	6.7	0.0	100.0	71	14	56
Yemen	2.9	37.9	62.1	3.3	0.0	90.1	9.9	0.0	100.0	22	8	14
Yugoslavia	7.8	58.7	41.4	13.8	0.0	100.0	0.0	0.0	100.0	170	100	70
Zambia	6.0	56.5	43.5	13.4	0.0	60.7	39.3	0.0	73.3	45	25	14
Zimbabwe	9.5	59.1	40.9	15.4	0.0	61.9	38.1	21.0	67.0	242	143	66