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THE WORLD MEDICINES SITUATION 2011

MEDICINE EXPENDITURES

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The World Medicines Situation 2011

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SUMMARY

- Per capita pharmaceutical expenditures in 2005/2006 ranged from US$ 7.61 in low-income countries to US$ 431.6 in high-income countries, with considerable variation between income groups in each country. Compared to 1995, the rate of increase is greater in middle- and low-income countries.
- Sixteen percent of the world's population living in high-income countries accounts for over 78% of global expenditures on medicines.
- Measured Total Pharmaceutical Expenditure (TPE) accounts for 1.41% to 1.63% of Gross Domestic Product (GDP) by income groups and regions although there is considerable variation between countries ranging from 0.2% to 3.8% of GDP.
- TPE is closely related with both Total Health Expenditures (THE), and with GDP. The proportion spent on medicines is higher in low per capita income countries. On average 24.9 % of THE is spent on medicines, with a wide range from 7.7% to 67.6%
- Since 1995 the private share of TPE has increased in all but high-income countries.
- TPE is determined by price and quantity of medicines purchased. In countries with low prices and high per capita TPE addressing the rational use of medicines is critical to control TPE and TPE growth. Additional policies on medicine prices may be required to ensure equitable access.
- Millennium Development Goal (MDG) 8-E expresses a global commitment to ensure that access to essential affordable medicines is achieved by 2015. To achieve this goal an increase in spending on medicines in low- and middle-income countries may be required. This could be achieved by an increase in health insurance coverage or increased public expenditure.

1.1 INTRODUCTION

How much do countries spend on pharmaceuticals? Are there many differences in expenditure patterns between countries? How are those expenditures funded? What are the components that make up pharmaceutical expenditures? Is spending on pharmaceuticals increasing?

Regrettably, due to a lack of comparable data on pharmaceutical expenditures, many of these key and frequently asked questions have – until relatively recently – remained largely unanswered. Hitherto, data on pharmaceutical spending have been limited to that generated by the pharmaceutical industry, principally to serve their own marketing purposes and in most cases these data have a limited coverage, both geographically and in terms of content. Such data have limited relevance to health system policy development and implementation, the main limitation being that the data do not reflect the purchase price of medicines, which is inevitably higher than manufacturer or wholesale prices. The availability and quality of data on levels of pharmaceutical spending are better in high-income countries, the Organisation for Economic Co-operation and Development (OECD) for instance has recently released a detailed analysis of expenditure on pharmaceuticals (*1*). For many low-income countries, no comprehensive retail sales data, nor detailed executed budgets on pharmaceuticals, and sometimes, reference data such as manufacturer data, nor comprehensive or continuous consumer data are available beyond what the Ministry of Health (MoH) or other interested agency can collate.

Many countries are facing large increases in their expenditures on pharmaceuticals (*2*), a matter that causes concern for policy-makers worldwide. In many countries, especially the low-income countries, the high proportion of medicines spending that is paid for out-of-pocket by individuals, creates a huge financial burden on patients and presents an additional problem for policy-makers. In order to develop effective policies aimed at securing universal access to essential medicines requires a comprehensive understanding of a country's current expenditures on pharmaceuticals in relation to its level of income and other expenditures. This process can be greatly enhanced by comparing levels of expenditure (in the both public and private sectors) with that of neighbours or other countries at a similar level of income (*2*,*3*)

In recent years and as a direct result of its work to support Member States in preparing National Health Accounts (NHAs) (*4*), WHO has promoted a methodology for generating comparable country data on health system expenditures, including that on pharmaceuticals. Estimates of total pharmaceutical expenditures (TPE) based on WHO's NHA data were first published in 2004, in the previous edition of *The World Medicines Situation* (*5*,*6*).[1] The present chapter updates that earlier work, and using the latest available data examines patterns and trends in pharmaceutical expenditures, both globally and by national income level. Drawing on this analysis, the concluding section (1.4) identifies key challenges and priorities for future work in this area.

1.2 SPENDING ON PHARMACEUTICALS: PRESENT SITUATION

Medicines represent one of the most frequently used health technology components for prevention and treatment of ill health and disease (*1*). They represent one of the single

[1] The World Medicines Situation 2004. Chapter 5 & Annex 2. http://apps.who.int/medicinedocs/en/d/Js6160e/2.html#Js6160e.2 /).

largest components of health expenditure, accounting for more than 15.2 % of total health spending in the world in 2000 (*5*). Both the above-mentioned OECD analysis (*1*) and the 2004 *World Medicines Situation* report (*5*) showed that the rate of change in total pharmaceutical expenditures (TPE) has been greater than the rate of change in total health expenditures (THE) and gross domestic product (GDP) in a number of different countries worldwide. According to estimates in low- and middle-income countries the proportion of total government expenditure on medicines was on average 28.4% and 29.1%, respectively (*5*) in 2000.

The current situation analysis is based on data on pharmaceutical spending extracted from WHO's National Health Accounts (NHA) data files for 2006 (note that 2005 data were used when 2006 data were unavailable), with the updates at the time of writing (September 2009) (*4*).[1] NHAs provide a standard measurement framework for reporting pharmaceutical data, including that on expenditures. They break down by total expenditure into public (government) and private components, OTC and prescribed medicines, but do not distinguish between essential and non-essential medicines, or generic and branded or originator medicines. The concepts and methods underlying the presentation of statistics on pharmaceutical expenditure are described in greater detail in Box 1.1.

In the subsections that follow, data on total pharmaceutical spending (public and private) are presented for the "world", and for countries grouped by World Bank income level (high-, upper-middle, lower-middle and low-income) and by WHO region. These estimates of total pharmaceutical spending are based on available data for 161 out of 193 WHO Member States. Country-specific data are given in the Annexes in Table A1.1–Table A1.10 and Figure A1.1–Figure A1.16. In the summary tables included here, key variables are reported as means, medians and ranges (the sample size, i.e. number of countries included in the calculation is also given). Expenditures were converted from national currency units (NCUs) to US dollars (US$) using the national exchange rate.

In 2006, just 16% of the world's population accounted for 78.5% of global pharmaceutical expenditures.

1.2.1 Total expenditure on pharmaceuticals

Although data on total pharmaceutical expenditures are lacking for many low-income countries, it is evident that collectively high-income countries spend a great deal more on medicines than the less wealthy countries. In 2006, high-income countries accounted for 78.5% of global pharmaceutical expenditures, while the upper middle-income, the lower middle-income and the low-income countries combined accounted for the remaining 21.5% of the total (10.2%, 10.3% and 1.0%, respectively). In other words, just 16% of the world's population in 46 countries was responsible for more than 78% of the world's total expenditures on pharmaceuticals, leaving the poorest 71% of the population distributed among 78 low-middle- and low-income countries with an 11% share of the world's medicines expenditure. Figure 1.1 reflects the extremely unequal levels of total pharmaceutical expenditure (TPE) between high-, middle- and low-income countries. The disparity is even more evident when spending is expressed in per capita terms. Per capita pharmaceutical expenditures ranged from as little as US$ 7.61 in low-income countries to US$ 431.6 in high-income countries, with considerable country variation within individual income groups, measured as standard deviation of per capita spending.

[1] See **http://www.who.int/nha/en/** and **http://www.who.int/whosis/en/index.html**
The main differences between data released in 2004 and this update are due to improved data sources. Current releases more often measure direct expenditure of pharmaceuticals instead of international and national wholesale trade as was done in 2004.

BOX **1.1**

Indicators of pharmaceutical expenditure and their measurement

The indicators

The indicator, total pharmaceutical expenditure or TPE, provides a measure of the total consumption of pharmaceuticals, regardless of the means of distribution, the place or condition of consumption or its type (prescription or over-the-counter). As far as possible, TPE is disaggregated into two components to reflect public (i.e. government) and private sector financing. In the absence of TPE the consumption by outpatients (OPE) was taken, which represents a partial measurement of TPE as it lacks the inpatient consumption, for which private and public financing were also identified, when possible.

Although most studies have empirically demonstrated that the acquisition of pharmaceuticals does not imply that the medication is consumed, pharmaceutical consumption is by convention measured as equivalent to purchase. Direct provision is considered as equivalent to purchase and added to recorded sales.

Data sources

At present, fully comprehensive systematic data collection for world pharmaceutical consumption does not exist. Continuous industry intelligence and marketing surveys monitor deliveries to pharmacies in around 120 countries, covering mainly urban areas and a fair proportion of deliveries to hospitals. However, the data that are compiled by these surveys are not generally accessible to public policy information systems. Where they are, they tend not to include the total retailing and distribution margins, and the medicines produced by local pharmacists and by hospitals themselves. On the whole, the survey data are of good quality for the branded products, but supplementary data on retail margins and production by generic producers, health-care institutions, and traditional and alternative therapies, as well as donations and external procurement, have to be collated separately.

As an alternative, WHO has promoted a methodology for extracting data on health system expenditures, including on pharmaceuticals, from National Health Accounts (NHAs). These data are a depository of all market activities and part of the non-market economy (public administration and government-related activity plus paid domestic services, excluding "do it yourself" activities and with some allowance made for home-grown produce). The higher per capita income countries have developed sophisticated commodity flow statistics, which provide reliable estimates of the consumption of medical goods (as acquired by pharmacies and health-care units). The UN National Accounts and the International Monetary Fund have developed specific expenditure by purpose classifications, which include a class for health and a subclass for pharmaceuticals. They cover, respectively, the household and governmental spending on pharmaceuticals. The UN and the IMF surveys aim at updating these spending figures annually.

WHO's first attempt at providing comprehensive estimates of total pharmaceutical expenditures (TPE), based on NHA data, was presented in the previous WMS report, published in 2004. The methodology has since been further refined and various improvements made to the NHA database,[a] upon which estimates of TPE presented in this chapter are based. Countries contribute data to the NHA database on a voluntary basis; currently about two thirds of the 193 WHO Member States, plus the Special Administrative Regions of China, (Hong Kong, Macao and Taiwan) participate by providing information on consumption in hospitals, and where data are available, on consumption of traditional medicines. The main strength of the NHA-based TPE estimates lies in its relative comprehensiveness; the drawbacks include a relatively low geographical coverage and a bias towards measurement of retail sales related to outpatient treatment.

Accessed or collected TPE comprise:

a) Health accounts reports aim at reporting through a resource cross-classified by public and private spending.

[a] See **http://www.who.int/nha/country/en/**

BOX **1.1** *(continued)*

b) As far as possible, the figures integrate the reports of public bodies containing pharmaceutical spending, complemented notably by household out-of-pocket spending (OOPs) on pharmaceuticals, based on the observed household surveys share as well as pharmaceutical external aid (in kind + earmarked donations).

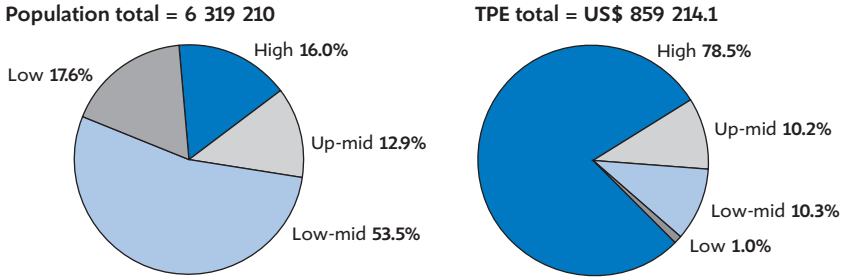
Data caveats

Measurement of pharmaceutical spending is likely to underestimate the level, mainly because certain components are omitted from the most frequently published reports, such as externally-funded medicines, medicines covered by private insurance, medicines produced by local pharmacists and by hospitals, traditional and alternative products and informal sales and payments. Examples of the latter include sales of unregistered pharmaceuticals or re-sold pharmaceuticals.

FIGURE **1.1**

The 17.6% of the world's population that live in low income countries accounted for only 1% of global pharmaceutical expenditure.

Distribution of world population and total pharmaceutical expenditure (TPE) among countries grouped by income level, 2006

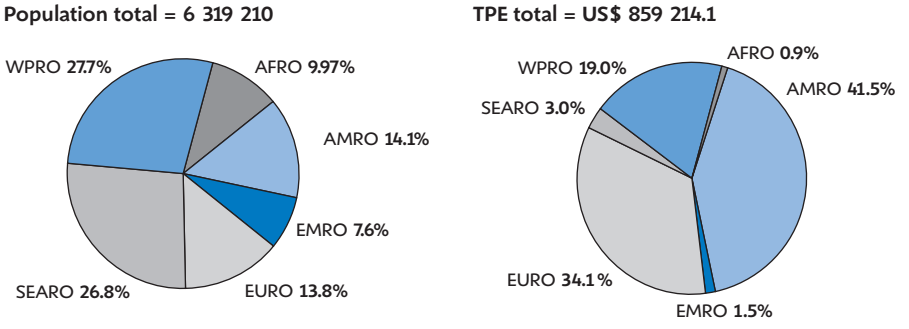


Source: WHO NHA database

Similar disparities are apparent when countries are grouped by geographical region (see Figure 1.2). At one extreme, the WHO South-East Asia Region, which is home to 26.8% of the world's population, accounts for only 3% of the world's spending on pharmaceuticals. At the other end of the scale, the region of the Americas contains 14.1% of the world's population but accounts for 41.5% of the world's pharmaceutical spending. Included within this region are Canada and the USA, two countries which between them contain 37.3% of the region's population yet account for 84.3% of the region's pharmaceutical spending.

FIGURE **1.2**

Distribution of world population and total pharmaceutical expenditure, by WHO region, 2006



Source: WHO NHA database

1.2.2 Pharmaceutical expenditure as a share of total health expenditure

Poor countries spend a greater proportion of their Total Health Expenditure (THE) on medicines than high-income countries.

Data on total pharmaceutical expenditures for 2006 confirm that pharmaceuticals account for an important share of all expenditure on health. This proportion varies considerably between high- and low-income countries; pharmaceutical spending as a share of total health expenditure ranges from a mean of 19.7% in the high-income countries to a mean of 30.4% in the low-income countries (Table 1.1). On average, poorer countries spend proportionally more of their health budget on medicines than the wealthier countries.

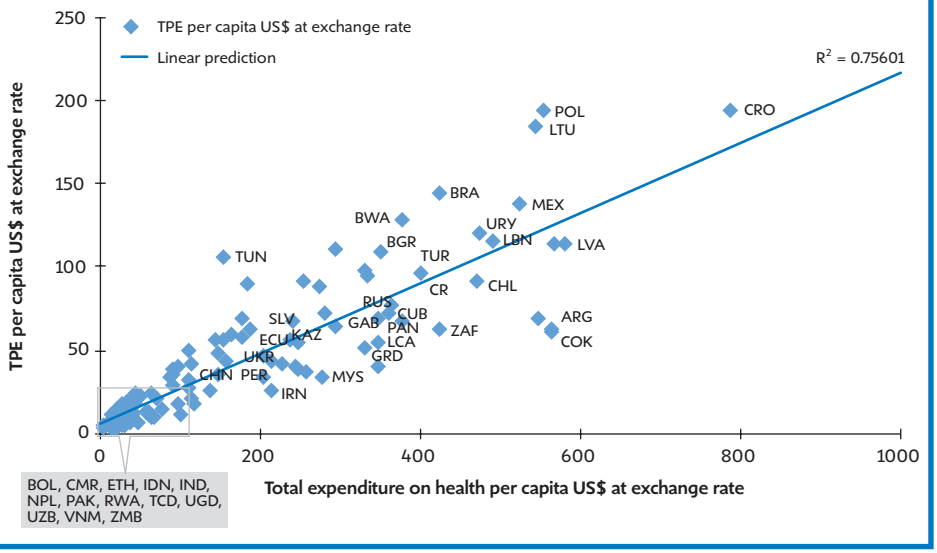
TABLE **1.1** **Total pharmaceutical expenditure share of total health expenditure, 2006 (%)**

Income group	N	Population (thousands)	Mean[a] (%)	Median (%)	Minimum (%)	Maximum (%)
High	46	1 011 957	19.7	18.2	8.7	32.4
Upper-middle	37	812 489	23.1	22.0	10.4	36.8
Lower-middle	44	3 379 873	27.6	26.6	9.8	67.6
Low	34	1 114 890	30.4	29.5	7.7	62.9
All countries	161	6 319 210	24.9	23.1	7.7	67.6

[a] Weighted mean by population.
Source: WHO NHA database

Figures 1.3 and 1.4 show the relationship between per capita TPE and THE in low- and middle-income countries, and in high-income countries, respectively. In both cases, data suggest that spending on medicines is positively correlated with total health spending (R^2 = 0.756 in low- and middle-income countries and 0.6772 in high-income countries). The higher the per capita health expenditure the higher is the per capita pharmaceutical expenditure.

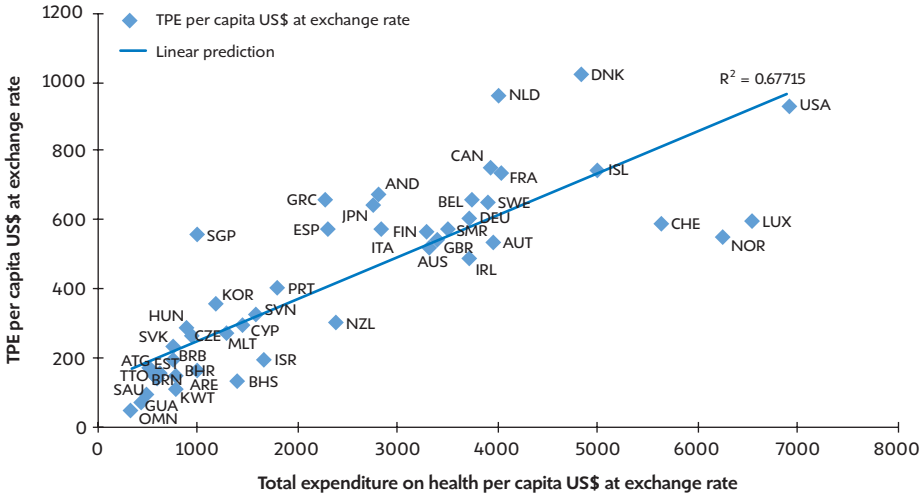
FIGURE **1.3** **Relationship between per capita total health expenditure (THE) and total pharmaceutical expenditure (TPE) per capita in low- and middle-income countries, 2006 (in US$[a])**



[a] National currency units converted to US$ at 2006 exchange rates.
Source: WHO NHA database

FIGURE **1.4**

Relationship between per capita total health expenditure (THE) and total pharmaceutical expenditure (TPE) per capita in high-income countries, 2006 (in US$[a])



[a] National currency units converted to US$ at 2006 exchange rates
Source: WHO NHA database

1.2.3 Expenditure on medicines by the public and private sectors

Out-of-pocket expenditure is the major source of pharmaceutical payments in all but the high-income countries.

The figures presented in Table 1.2 show that in the high-income countries most medicines are funded by the public purse, i.e. through public health insurance or social security systems. According to estimates for 2006, public (government) expenditure represented 61.3% of the total medicines expenditures in per capita terms in this group of countries. However, the reverse is true in the low- and middle income countries, where at least two thirds of pharmaceutical expenditures are privately financed. In 2006, private expenditure on medicines as a share of total pharmaceutical expenditure in per capita terms was 61.2%, 66.5% and 76.9% in upper middle-income, lower middle-income and low-income[1] countries, respectively (Table 1.2). This reflects the reality that out-of-pocket expenditure is the major source of pharmaceutical payments in all but the high-income countries.

TABLE **1.2** **Composition of per capita total pharmaceutical expenditure by income group, 2006 (in US$ at exchange rate values)**

Income group	Total pharmaceutical expenditure						Total expenditure on health			
		Public		Private		Total	Public	Private	Total	
	N	US$	%	US$	%	US$	US$	US$	US$	N
High	42	264.4	61.3	167.2	38.7	431.6	2473.6	1597.6	4071.4	**49**
Upper middle	31	32.6	38.8	51.5	61.2	84.1	214.7	184.1	398.8	**54**
Lower middle	34	10.5	33.5	20.8	66.5	31.3	27.5	38.6	66.1	**47**
Low	27	1.76	23.1	5.85	76.9	7.61	19.2	3.7	22.9	**41**

[1] Growing support for pharmaceutical funding by external agencies emerged after 2006. e.g., US funding for HIV/AIDS programmes and the money provided by the Global Fund for AIDS, Tuberculosis and Malaria.

1.2.4 Pharmaceutical expenditures and GDP

In 2006, world pharmaceutical spending represented 1.5% of global GDP (Table 1.3). Although total pharmaceutical expenditure (TPE) as a percentage of GDP is on average fairly constant across the income groups, ranging from 1.41% in high-income countries to 1.63% in lower middle-income countries, there is a marked variation in this indicator between countries in all income groups. The differences are largest in the two poorest groups of countries (Table 1.3). In general, the lower a country's income, the larger the share of GDP spent on pharmaceuticals.

TABLE **1.3** **Total pharmaceutical expenditure (TPE) and total health expenditure (THE) as a percentage of GDP by income group, 2006**

	Total pharmaceutical expenditure						Total health expenditure	
Income group	N	Population (thousands)	Mean (%)	Median (%)	Minimum (%)	Maximum (%)	N	Mean (%)
High	46	1 011 957	1.41	1.40	0.30	2.70	49	11.3
Upper middle	37	812 489	1.45	1.30	0.40	2.70	54	6.4
Lower middle	44	3 379 873	1.63	1.45	0.40	3.80	47	4.4
Low	34	1 114 890	1.62	1.50	0.40	3.60	41	5.3
All countries	161	6 319 210	1.52	1.40	0.30	3.80	191[a]	9.8

N = number of countries
[a] Somalia & Zimbabwe excluded
Source: WHO NHA database

Figures 1.5 and 1.6 show the relationships between per capita GDP and total per capita pharmaceutical expenditure (TPE) in poor and rich countries, respectively. In both cases, there is a positive correlation between GDP and TPE in per capita terms, suggesting that in general the larger the per capita GDP, the larger the amount spent on pharmaceuticals Although there is a definite relationship between GDP and pharmaceutical expenditures, there are, however, a number of outlier countries that appear to buck the general trend. Those countries that have achieved a relatively low level of medicines expenditure in relation to their income, i.e. per capita GDP, presumably as a result of specific national policies designed to control pharmaceutical expenditures, are particularly noteworthy and may serve as useful models for other countries. (See Norway case study Box 1.3.)

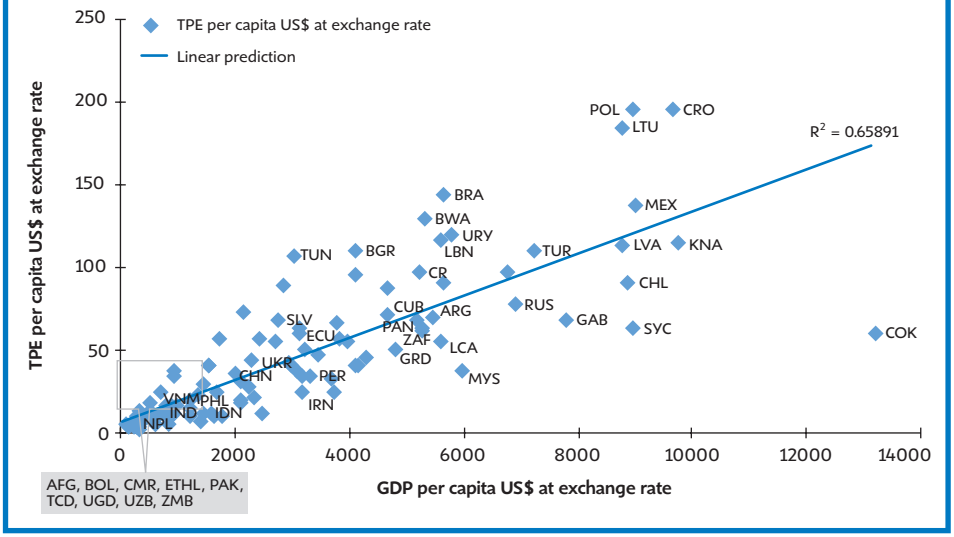
1.2.5 The impact of price and quantity on pharmaceutical expenditures

Total pharmaceutical expenditure is determined by medicine prices and volumes of medicines consumed.

Spending on pharmaceuticals is largely governed by two variables, medicine prices and the quantity of medicine sales. In some countries it may be high prices that are driving up expenditure, whereas in others, it may be high-use patterns (i.e. high quantity). There are many factors that explain country differences in spending on pharmaceuticals, including level of health insurance coverage for prescription medicines, physician prescribing practices, consumer behaviour, and regulatory policies that apply to medicine pricing and reimbursement. Policy-makers who are concerned about the level of pharmaceutical expenditures need

FIGURE **1.5**

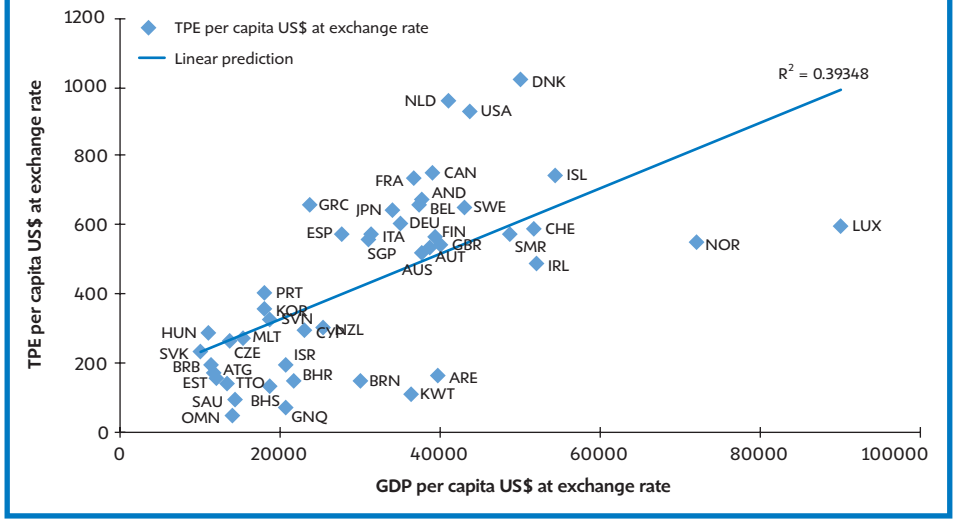
Correlation between per capita total pharmaceutical expenditures (TPE) and per capita GDP in selected low- and middle-income countries, 2006 (in US$ at exchange rates values)



Source: WHO NHA database

FIGURE **1.6**

Correlation between per capita total pharmaceutical expenditures (TPE) and per capita GDP in selected high-income countries, 2006 (in US$ at exchange rates values)



Source: WHO NHA database

to understand what factors are driving their expenditure. Clearly the policy response will vary according to the underlying factors that are seen as important.

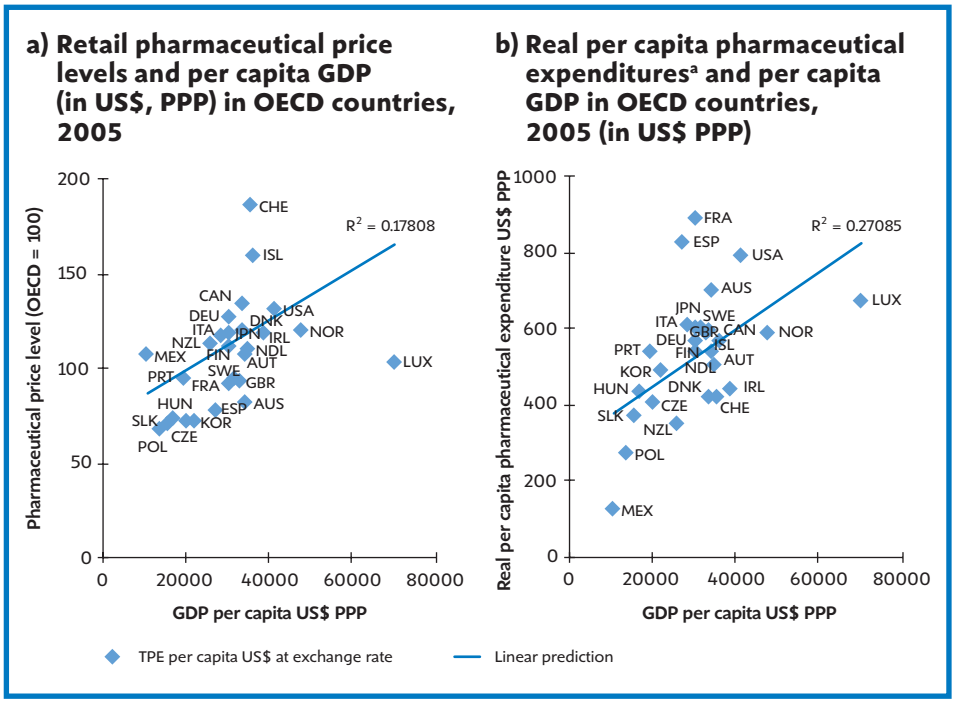
In order to illustrate the role of the two key determinants of expenditures, price and quantity, we examine variations in medicine prices and per capita expenditure in relation to per capita GDP within two distinct country groupings, the richer OECD countries and selected less wealthy countries for which Health Action International (HAI) medicine price

survey data (2004) are available. For the purposes of this analysis, the prices of the lowest price generic medicines in the private sector have been used, expressed (in accordance with standard HAI methodology as a median price ratio (MPR)).[1]

Figure 1.7 plots retail price levels and real per capita pharmaceutical expenditures[2] against per capita GDP for the OECD countries (Figures 1.7 a,b, respectively). Figure 1.8 reflects the situation in the less well resourced group of countries, and shows the relationships between medicines prices (as MPRs; Figure 1.8a), and per capita spending on pharmaceuticals (as per capita TPE; Figure 1.8b) and per capita GDP.[3] Four distinct groups emerge from this analysis when looking at prices, per capita pharmaceutical expenditures and GDP per capita:

- The first group of countries had low medicine prices and spend less on pharmaceuticals per capita based on their per capita income. These are countries such as Poland and Slovakia among OECD countries, and Peru among lower-middle-income countries.
- The second group of countries had high medicine prices and high medicine expenditures per capita, such as USA, Canada, Italy from OCED countries, and El Salvador in lower-middle-income countries.
- The third group of countries had low medicine prices, but spending more than would be expected based on their per capita income.
- The fourth group of countries had high medicine prices, but spending less than would be expected based on their per capita income.

FIGURE 1.7



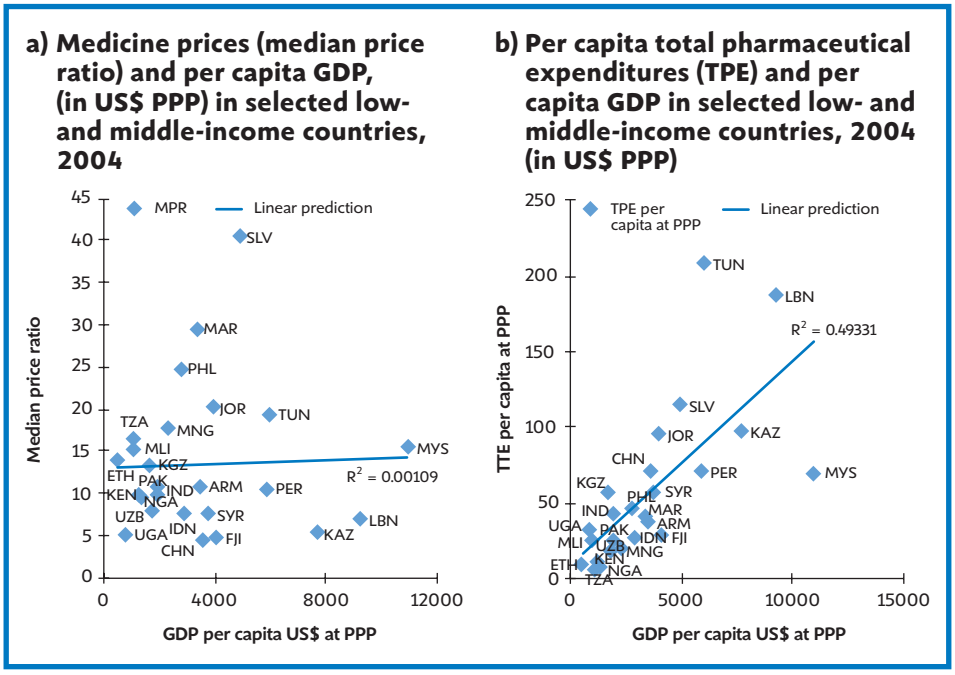
[a] Per capita expenditures are based on outpatient consumption.
Source: OECD health policy studies

[1] This is a ratio of median national unit prices international reference prices for the same medicine unit compiled by the Management Sciences for Health (*10*) (see also Chapter on Prices, Availability & Affordability).

[2] Current expenditures deflated by purchasing power parities computed for pharmaceuticals.

[3] The regression lines on these charts are not intended to correlate the data. They are intended to provide an indicator line which reflects whether countries' prices on expenditures are above or below other similar countries.

FIGURE **1.8**



Source: HAI data calculated by author

The following examples are noteworthy. In OECD countries, France has the highest per capita expenditure, but had retail prices that are well below the OECD average level. Switzerland had the highest retail prices for pharmaceuticals, but expenditure is below the average. China has the lowest prices for generic medicine among the countries compared; however, the total pharmaceutical expenditure per capita is substantially above the regression line in terms of countries' income level. If we consider the case of the Philippines, the picture changes, the Philippines has the highest prices for generic medicine, but per capita pharmaceutical expenditure falls substantially below the line.

Addressing consumption factors may be more important than reducing prices in controlling Total Pharmaceutical Expenditures (TPE).

There are some factors that can potentially contribute to cross-national medicine consumption differences. These include health insurance coverage of prescription medicines, doctor prescribing behaviour and regulatory policies applied to medicine pricing and reimbursement. The level of coverage for pharmaceuticals varies from country to country. Both France (7) and Switzerland have high levels of public funding for pharmaceuticals, while there are limits on patients' annual cost-sharing expenditures, people on low incomes are not exempted in Switzerland (8). The key message of chart 1.7a, 1.7b is that while prices are high in Switzerland (185%) and low in France (91%), TPE per capita in these countries was $ 888 in France and only $ 418 in Switzerland. This reflects dramatically different pattern of consumption driven by prescribing practices. The underlying factors that account for such dramatically different consumption factors may vary between individual countries. Addressing these factors may be more important to reducing or controlling TPE than focusing on medicine prices. (see Box 2 in Annex)

BOX **1.2**

China initiates new health-care reform

China is a lower-middle-income country with over 1.3 billion inhabitants. In 2006, China spent a total of Yuan 984.3 billion (US$ 144.8 billion) on health, an amount equivalent to 4.67% of its GDP. Health financing in China is largely dependent on the private sector. The Government's contribution (i.e. public funding) to the total health expenditure (THE) was only 18%, with social health insurance and others contributing 33% to THE, and out-of-pocket payments the remaining 49.3%.[a]

There are three main insurance schemes currently operating in China, the Urban Employee Medical Insurance, the New Rural Cooperative Medical Scheme and the Unemployed Urban Residents and Children Medical Insurance. Between them these schemes provide varying levels of health insurance cover and benefits for nearly 80% of China's population. The New Rural Cooperative Medical Scheme has the greatest number of members, at 726 million (2007 estimate), followed by the Urban Employee Medical Insurance (220 million, 2008 estimate), and the Unemployed Urban Residents and Children Medical Insurance (42.9 million, 2008 estimate).[b]

In China, 95% of all health facilities are state-managed hospitals, in which approximately 90% of operational revenues are generated by charging fees for services. Hospital, as well as doctors', incomes are thus dependent on the profits generated from diagnostic investigations, procedures and drug sales. Hospitals and physicians can increase those profits and thus their incomes by purchasing expensive medicines and by prescribing more of these products. Driven by such economic incentives, some hospitals encourage (and physicians prefer to prescribe) expensive medicines rather than lower cost, yet equally effective, medicines. Several surveys have demonstrated that even in the most basic primary care level institutions, patients are frequently provided with unnecessary and expensive drugs.[c,d]

Medicines account for nearly half, or 42.7%, of China's total health expenditures, amounting to Yuan 448.6 billion (US$ 66 billion) in 2006. Though the proportion of out-of-pocket payments on pharmaceutical has declined since 2002, it was still above 50%, except in 2006(49%).[a]

During the period, 1997–2007, the Chinese Government introduced a number of measures aimed at lowering medicine expenditures, including reducing the price of individual drugs, separating drug revenue and expense streams in hospitals, and separating the prescribing and dispensing functions. Despite these efforts, recent medicine pricing surveys[c,d] have shown that medicine prices in China remain significantly higher than international reference prices, in particular for branded products. In addition, the surveys revealed low affordability among large sectors of the population of medicines for some common ailments, especially noncommunicable chronic diseases, such as hypertension and diabetes.

In order to tackle the economic burden caused by high medicines expenditures, the Government in September 2006, formed the State Council Healthcare Reform Leading Group, comprising representatives from 14 ministries and following two years of careful research, the Government published a draft of its Healthcare Reform Plan[e] in October 2008. Having invited and taken into account comments from the public, on April 6 2009, the Healthcare Reform Plan[f] was announced by the Chinese Government. The main objectives of the new health-care policy are as follows:

- To accelerate the establishment of a basic medical security system (the target coverage: by the year of 2010, 90% of the citizens in rural and urban China will be covered by medical insurance);
- To establish a national essential medicines system, to include a list of essential medicines (medicines on the list will be reimbursed at a higher proportion by the health insurance schemes);
- To improve the health-care service provision at the grassroots, local level;

BOX **1.2** *(continued)*

■ To promote the gradual equalization of basic public health services to push forward public hospital reform (e.g. pilot projects will explore various ways of separating health-care services and drug sales).

To achieve these goals, the Government will increase the health budget by 850 billion Yuan (US$ 125 billion) including 331.8 billion Yuan (US$ 48.8 billion) of additional resources from the central Government between 2009–2011. China's health-care reform plan is both ambitious and comprehensive, and indicates a new determination on the part of China's leaders to make nationwide health-care provision a priority.

[a] *China National Health Accounts Report 2007.* Beijing, China National Health Economics Institute, 2006.

[b] *Health Statistic Yearbook 2008*. Beijing, Centre for Health Statistics and Information, Ministry of Health, 2008.

[c] Sun Q. *A survey of medicine prices, availability, affordability and availability and price components in Shandong Province, China*. Jinan, Center for Health Management and Policy, University of Shandong, 2007 (**http://www.haiweb.org/medicineprices/surveys/200411CN/survey_report.pdf**, accessed 10 April 2010).

[d] Ye L. *A survey of medicine prices, availability and affordability using the WHO/HAI methodology.* Shanghai, School of Public Health, Fudan University, 2006 (**http://www.haiweb.org/medicineprices/surveys/200609CNS/survey_report.pdf**, accessed 10 April 2010).

[e] State Council Healthcare Reform Leadership Coordination Group. *Recommendations on deepening health system reforms* [draft for comments]. 2008. (**http://shs.ndrc.gov.cn/yg** accessed Oct 16, 2008) [in Chinese].

[f] Opinions of the CPC Central Committee and the State Council on Deepening the Health Care System Reform. (**http://shs.ndrc.gov.cn/ygjd/ygwj/t20090408_271138.htm**, accessed April 8, 2009).

1.3 THE TRENDS OVER PAST 12 YEARS[1]

1.3.1 Trends in per capita pharmaceutical expenditures

Overall, per capita spending on pharmaceuticals as reported in NHA reports has increased by approximately 50% over the period, 1995–2006 (Table 1.4). The largest increases occurred in the middle-income countries where per capita pharmaceutical expenditures in 2006 were 1.73 and 1.82 times larger than in 1995 (upper-middle- and lower-middle-income countries respectively). In contrast, per capita expenditures increased by a factor of 1.54 in the high-income countries, and 1.66 in the group of low-income countries. The gap in per capita spending between the high- and low-income countries has continued to grow; expenditure on pharmaceuticals in the poorest countries is still a fraction of that in the high-income countries (see section 1.2.1).

Table 9 and Table 10 in the Annexes provide data on TPE as a percentage of THE by country income level and WHO Region. Most countries have seen increases although the WHO AFRO and EMRO regions have seen modest decreases in these proportions.

1.3.2 Total pharmaceutical expenditures as a share of GDP

Since 1995, TPE as a share of GDP has increased across all income groups. The largest growth occurred in the low-income countries, where total spending on pharmaceuticals as a share of

[1] To track changes in expenditures over time (and to make valid comparisons between countries) it is necessary to adjust each country's data to take account of fluctuations in inflation and currency exchange rates. This is usually done by applying a series of conversion factors to national expenditure estimates and expressing these data in units of purchasing power parity (PPPs) at constant US$ (2). Expenditures in this section were estimated by converting TPE at NCU into per capita values, then adjusted by the GDP deflator adjusted for the reference year 2005 and then converted at PPP rate.

TABLE **1.4** **Mean per capita total pharmaceutical expenditures by income group, 1995–2006 (in constant US$2005, expressed in PPP)**

Year	High income (N=43–46)	Upper middle income (N=32–37)	Lower middle income (N=36–44)	Low income (N=20–33)	All countries (N=135–148)
1995	275.8	87.9	39.5	12.2	122.1
1996	284.8	90.9	39.9	13.0	126.0
1997	306.0	100.2	40.7	13.3	134.4
1998	319.6	111.4	42.7	14.7	140.6
1999	341.4	112.8	43.1	15.6	149.3
2000	352.0	119.4	46.1	15.4	149.6
2001	380.6	122.0	51.1	15.4	162.9
2002	397.4	122.7	54.5	16.6	178.4
2003	400.5	130.9	64.1	20.1	179.0
2004	407.6	137.7	68.3	19.8	182.5
2005	426.5	143.8	72.1	21.4	193.4
2006	425.9	152.0	71.9	20.3	181.5

N – number of countries. Note that the number of countries reporting data varies from year to year.
Source: WHO NHA database

GDP increased from 1.12% to 1.62% (Table 1.5). More modest increases were observed in the other income groups. Similar patterns are evident in the figures for TPE as a share of THE over the same period (see Statistical Annex; Table 1.8).

Table **1.5** **Total pharmaceutical expenditures as share of GDP by income group, 1995–2006 (%)**

Between 1995 and 2005, the largest increases in the proportion of GDP spent on pharmaceuticals have occurred in low-income countries.

Year	High income (N=43–46)	Upper middle income (N=32–37)	Lower middle income (N=36–44)	Low income (N=20–33)	All countries (N=135–148)
1995	1.19	1.19	1.31	1.12	1.22
1996	1.20	1.17	1.26	1.19	1.21
1997	1.23	1.25	1.29	1.16	1.24
1998	1.26	1.32	1.34	1.26	1.30
1999	1.31	1.34	1.33	1.41	1.33
2000	1.33	1.39	1.38	1.40	1.37
2001	1.35	1.42	1.45	1.36	1.39
2002	1.40	1.43	1.49	1.46	1.44
2003	1.45	1.46	1.65	1.60	1.53
2004	1.43	1.46	1.68	1.60	1.54
2005	1.46	1.45	1.70	1.65	1.55
2006	1.41	1.45	1.63	1.62	1.52

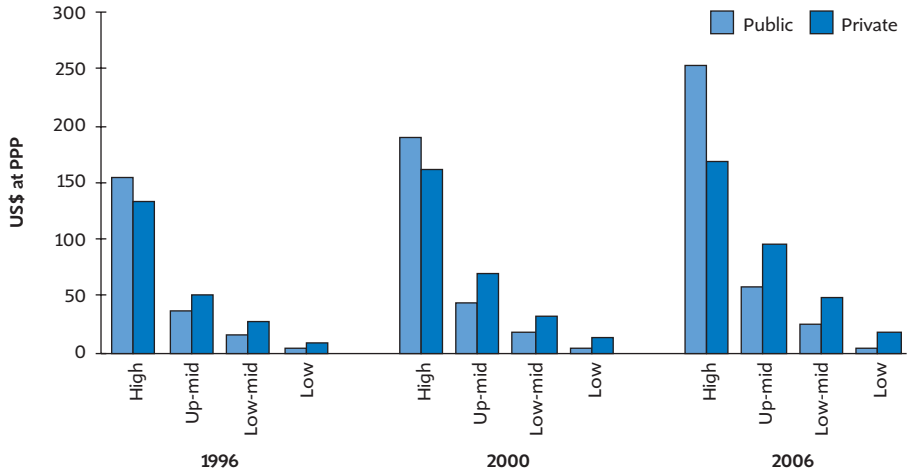
N – number of countries. Note that the number of countries reporting data varies from year to year.
Source: WHO NHA database

1.3.3 Trends in public and private spending on medicines per capita

Figure 1.9 compares levels of public and private spending on medicines, in per capita terms, in 1996, 2000 and 2006 for countries grouped according to their income. Between 1996 and 2006, both public and private per capita spending on medicines steadily increased in all income groups, except in the low-income group of countries for which public spending on medicine per capita decreased in 2000 and then increased in 2006. The increase in private spending was faster than that in public spending in middle-income countries whereas the opposite is seen in high-income countries. Public funding in low-income countries remained the same, at only US$ 5 per person, whereas it has increased quite substantially in the high-income countries, in particular since 2000.

FIGURE **1.9**

Public and private per capita spending on pharmaceuticals by income group, 1996, 2000 and 2006 (in US$ at PPP)



Source: WHO NHA database

1.4 FUTURE CHALLENGES AND PRIORITIES

1.4.1 Access to essential affordable medicines

In all but high income countries most expenditure on pharmaceuticals is from private resources.

A substantial proportion of the population in low-income countries still does not have adequate access to the essential medicines they need to treat those diseases that are negatively impacting on their health and well-being (*9*) (see Chapter on Prices, Availability and Affordability). The demographic changes described in the Chapter Global Health Trends: Global burden of Diseases and Pharmaceutical Needs, particularly population ageing with increases in the prevalence of chronic diseases, mean that the problem of assured access to affordable essential medicines for poor people is likely to remain a major challenge for the foreseeable future.

Millennium Development Goal (MDG-8E) expresses a global commitment to ensure that access to essential affordable medicines is achieved by 2015 (*10*). Data presented in this chapter of the WMS report for 2011 demonstrate that although pharmaceutical expenditures are a sizable component of total health expenditures, the level of expenditure on medicines in the poorest countries of the world, in per capita terms, is extremely low. Moreover, in all but the high-income countries, most medicines are paid for by private sources usually as out-of-pocket payments by individuals.

In all but the high-income countries, increased public funding for pharmaceuticals is thus vital to improve access to affordable medicines and to progress towards achievement of MDG-8E. Increasing spending on pharmaceuticals brings not just direct health benefits, but is also an investment that has a positive impact on both the availability and affordability of other health-care services.

In any given country, pharmaceutical consumption is related to the structure of its health-care system and the type of health insurance available. To improve access to affordable essential medicines in countries with health insurance schemes, such schemes need to cover the cost of providing essential medicines to patients as is the case in most European countries. In countries without health insurance systems, public sector systems need to ensure that medicines are made available for all patients at either an affordable price or free of charge to prevent catastrophic medicine payments from plunging or entrenching families into poverty (*11*).

1.4.2 Cost containment

Pharmaceuticals are one of the single, largest cost components of health-care systems, especially in low- and middle-income countries. They also represent one of the fastest growing components of health expenditures (see section 1.3). The implications of such rapid increases in a single component of a health-care system are profound, especially in those countries where pharmaceuticals already account for a high proportion of total health spending.

Nationally, pharmaceutical expenditures are governed by multiple variables, but in particular, by medicine price and the quantity of consumption (see section 1.2.5). Appropriate policies and controls on medicine pricing and quantity are needed, irrespective of a country's wealth, in order to keep the cost of pharmaceuticals to within sensible limits. The OECD countries provide a range of different approaches to cost containment of spending on pharmaceuticals through various pricing and reimbursement policies (*1*). Particularly noteworthy in this regard is Norway, which compared with other OECD countries, has managed to keep its pharmaceutical expenditures at a low level relative to its per capita GDP (and THE), partially through the application of strict price and reimbursement policies. As detailed in Box 1.3, prior to 1994, Norway operated a strong "needs-based" approach to the selection and authorization of medicines (*12*). Since then, it has continued to actively manage its pharmaceutical sector, controlling prices and actively promoting the rational prescribing of medicines, including through a positive reimbursement list (*12*).

For those countries with high pharmaceutical expenditures, the need for cost containment measures will likely become increasingly acute in the future. This will entail the adoption of appropriate policies, according to each country's situation, to keep pharmaceutical expenditures at a reasonable level and to release funds for other health interventions.

1.4.3 Improving the monitoring of pharmaceutical spending

This chapter presents information on the global pattern of pharmaceutical expenditures based on improved methods of measurement. With this evidence, policy-makers can compare their country's level of expenditure in the public and private sectors with that of their neighbours or other countries at a similar level of development.

BOX **1.3**

Medicine pricing policies in Norway: keeping the cost of medicines down

The Norwegian health-care system is founded on the principles of universal access, decentralization and free choice of provider.[a] It is financed through taxation, together with income-related employee and employer contributions and out-of-pocket payments and co-payments. All residents are covered by the National Insurance Scheme.[a]

At over 80 years, life expectancy in Norway is relatively high. In 2005, Norway's per capita GDP stood at $US 72 215, which makes Norway one of the highest income nations in the world. Interestingly, it only spends 0.7% of its GDP on medicines, compared with an-OECD country average of 1.5% of GDP. Total pharmaceutical expenditure (TPE) as a share of total health expenditures (THE) is around 9%, again considerably lower than the average in OECD countries (17%). Moreover, for the first time in Norway's recent history, and unlike the situation in many other countries worldwide, expenditures on pharmaceuticals are not growing rapidly.[a]

Registration and selection of medicines

Until 1994, Norway was unique among developed countries in having a "needs" clause in its legislation governing the registration of medicines. This clause required the Registration Board, in addition to assessing the quality, safety and efficacy of a product submitted for registration (i.e. market authorization), to also consider the "need" for the product in question. This meant that new medicines were assessed not just from a scientific or technical point of view, but also in light of health priorities and with the aim of protecting the individual from exposure to unnecessary drugs.[b] In addition, registration authorizations were only valid for five years, obliging suppliers to resubmit evidence and update their applications every five years. The net effect of these policies was to limit the number of products on the Norwegian market to about 2000. However, the restrictions led to a significant number of special authorizations for medicines which were not registered on the Norwegian market to permit them to be prescribed to patients in Norway. The "need clause" was abolished in 1994 when Norway joined the European Economic Area (EEA), a move which resulted in an increase in the number of registered products.

Supporting rational use of medicines

Both producer-independent drug information and drug utilization statistics have been used in Norway as instruments for achieving greater rational medicines use. The Department of Pharmacotherapeutics was established to promote the generation of producer-independent drug information through a range of activities, such as involving opinion-leading clinicians in discussions and provision of printed information materials. This has increased awareness among clinicians about the benefits of rational use and has likely contributed to relatively low levels of drug use in Norway.[b]

Norway was one of the first countries in the world to routinely publish data on drug sales (principally wholesaler sales), reflecting both general trends as well as regional differences. This policy has brought transparency into the system.[b] Reporting is based on the ATC classification system and Defined Daily Doses, a methodology that was developed in Norway. Greater transparency surrounding drug use and regular comments on usage trends in both professional and general-interest publications have contributed to increased awareness and accountability among prescribers, the public and health authorities. In 2004, a system for recording all prescriptions on an individual level was introduced, allowing Norway to track all outpatient medicines use.

Pricing policies

The Norwegian Medicines Agency (NoMA) is responsible for setting maximum pharmacy purchase prices. Pharmaceuticals can only be sold at or below the maximum price level. An international price referencing system has been used since July 2002 to set maximum prices for both new and existing pharmaceuticals. Prices are based on the average of the three lowest pharmacy purchasing prices (PPP) in Austria, Belgium, Denmark, Finland, Germany,

BOX **1.3** *(continued)*

Ireland, the Netherlands, Sweden and the United Kingdom. If a product is marketed in fewer than three of the reference countries, the mean price is taken of the countries where a market price exists. Wholesalers are free to negotiate mark ups with manufacturers because the Norwegian Medicines Agency (NoMA) sets prices at the ex-wholesaler/pharmacy purchasing price (PPP) level. Mark ups for generics and over-the-counter (OTC) products are significantly higher than for branded pharmaceuticals.[a] Since the Norwegian Medicines Agency sets maximum prices at the ex-wholesaler/ PPP level, wholesalers are free to negotiate mark ups with manufacturers. Mark ups on generics are typically significantly higher than those on most branded, more expensive pharmaceuticals[a] because of the policy of setting a degressive margin, i.e. a lower mark up on the more expensive products. The mark up on over-the-counter products is not regulated and thus also tends to be high.

In January 2005, Norway introduced a new pricing model, the "Trinnprismodellen" (the "step-price model") which sets a maximum reimbursement price for those pharmaceuticals (both branded and generics) included in the scheme. For each medicine, the maximum price level is automatically reduced in a step-wise manner once the patent on the medicine expires. The size of the price cuts depends on the volume of annual sales prior to the establishment of generic competition and the length of time taken to establish competition.

In 2007, a study[c] was conducted in which the price of prescription pharmaceuticals in Norway was compared with that for the same medicines in nine other European countries (Austria, Belgium, Denmark, Finland, Germany, Ireland, the Netherlands, Sweden and the United Kingdom). The study covered 300 top-selling active substances. The authors of the study calculated volume-weighted average prices for each active substance at both the wholesalers' purchase price and the pharmacies' sales price, and also the relative margin for the active substance. The results showed that medicine prices were lower in Norway than in most of the nine comparison countries, in terms of prices for all active substances, both the patent-protected active substances and the active substances with generic competition. Norway also had, on average, the lowest margins, this being calculated as the difference between the wholesalers' purchase price and the pharmacies' sales price which is 22%. A comparison of the price indices for both off- and on-patent active substances revealed that Norway, together with Sweden and the United Kingdom, has the lowest medicines prices at the pharmacy level. However, at 25% Norway does have one of the highest rates of value added tax (VAT) on pharmaceuticals; the standard rate of VAT on pharmaceuticals is 5% in most of the other countries included in the comparison study.[d]

[a] *Pharmaceutical Pricing and Reimbursement Information. Pharma Profiles. Norway.* Town, Gesundheit Österreich GmbH/Geschäftsbereich ÖBIG, 2007 (**http://ppri.oebig.at/Downloads/Results/Norway_PPRI_2007.pdf**, accessed 10 April 2010).

[b] Andrew M el. Norway's national drug policy: Its evolution and lessons for the future development dialogue. *The Journal of the Dag Hammarskjöld Foundation*, 1995, 1:25–53.

[c] Brekke KR, Holmås TH, Straume OR. *Are pharmaceuticals inexpensive in Norway? A comparison of prescription pharmaceuticals between Norway and nine west European countries.* Bergen, Institute for Research in Economics and Business Administration, 2008 (SNF report no. 05/08; (**http://apps.who.int/medicinedocs/documents/s16197e/s16197e.pdf**, accessed 10 April 2010).

[d] *Pharmaceutical pricing policy in a global market.* Paris, OECD Publishing, 2008.

There are differences in data availability among income groups and geographical regions. However, more disaggregated information on spending on pricing related factors as well as those linked to quantity determinants, such as prescription medicines as opposed to over-the-counter (OTC) medicines, by inpatients versus outpatients, and also on insurance reimbursements versus out-of-pockets payments would be needed to improve the analysis of potential interventions and the rational use of resources in the pharmaceutical field.

To further improve the quality of medicines-related information and institutional arrangements to ensure that in the future data are collected according to a standard methodology represents a significant challenge. WHO and its Member States need to continue to improve and institutionalize the process of NHA generation in order to better monitor pharmaceutical spending and also to develop a broader and a more robust evidence base (*13*,*14*,*15*) for policy-makers upon which to guide future spending decisions. There is also a need to integrate NHA data with other sources of information on pharmaceutical expenditures, such as that collected by ATC group, so as to provide a more complete picture of the factors that underpin trends in health expenditures, and on medicines expenditure in particular.

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ABBREVIATIONS

GDP	Gross domestic product
HAI	Health Action International
MDG	Millennium Development Goal
MPR	Median price ratio
NCUs	National currency units
NHAs	National Health Accounts
NoMA	Norwegian Medicines Agency
OECD	Organisation for Economic Co-operation and Development
OTC	Over-the-counter
PPP	Pharmacy purchasing prices
THE	Total health expenditure
TPE	Total pharmaceutical expenditure
VAT	Value added tax

ANNEX

Tables

Figures

TABLE **A1.1** **Total pharmaceutical expenditure in absolute and per capita level by income level of country group, 2005/2006 (million US$)**

WB Income group	N	Population (000s)	Absolute amount (million US$)	Per capita (US$)
High	46/48	1 011 957 (16.0%)	$674 011(78.5%)	$434.7
Up-mid	37/42	812 489 (12.9%)	$87 862.8 (10.2%)	$88
Low-mid	44/54	3 379 873 (53.5%)	$88 745.6(10.3%)	$34
Low	34/49	1 114 890 (17.6%)	$8 594.7 (1.0%)	$7.7
Total	**161/193**	**6 319 210 (100.0%)**	**$859 214.1 (100%)**	**$155**

Note: N is number of countries

TABLE **A1.2** **Total pharmaceutical expenditure in absolute and per capita level by region of country group, 2005/2006 (million US$)**

Region	N	Population (000s)	Absolute amount (million US$)	Per capita (US$)
AFRO	31/46	629913 (9.97%)	$8 101.1 (0.9%)	$21.1
AMRO	35/35	890 361 (14.1%)	$356 882.1(41.5%)	$117.8
EMRO	16/21	481 711 (7.6%)	$12580.5 (1.5%)	$59.8
EURO	50/53	871 998 (13.8%)	$293 187.9 (34.1%)	$325.8
SEARO	9/11	1 696 228 (26.8%)	$25 575.7 (3.0%)	$16.0
WPRO	20/27	1 749 000 (27.7%)	$162 886.8 (19.0%)	$142.8
TOTAL	**161/193**	**6 319 211 (100.0%)**	**$859214.1 (100.0%)**	**$155.4**

Note: N is number of countries

TABLE **A1.3** **Total pharmaceutical expenditure per capita in US exchange rate by region**

Region	N	Pop (000s)	Mean	Median	Min	Max
AFR	31/46	629 913	21.1	9	1.8	127.3
AMR	35/35	890 361	117.8	66.9	9.6	924
EMR	16/21	481 710	59.8	35.8	9.1	156.4
EUR	50/53	871 998	325.8	242.9	7.5	1 015
SEAR	9/11	1 696 228	16	11.1	2.2	49
WPRO	20/27	1 749 000	142.8	28.8	8.3	640
Total	**161/193**	**6 319 210**	**155.3**	**55.1**	**1.8**	**1 015**

TABLE **A1.4** **Total pharmaceutical expenditure share of GDP in 2006 by region**

Region	N	Pop (000s)	Mean	Median	Min	Max
AFR	31/46	629 913	1.38	1.30	0.30	3.60
AMR	35/35	890 361	1.6	1.5	0.7	3.8
EMR	16/21	481 710	1.34	1.15	0.30	3.50
EUR	50/53	871 998	1.72	1.70	0.40	3.50
SEAR	9/11	1 696 228	1.17	1.30	0.40	2.00
WPRO	20/27	1 749 000	1.44	1.60	0.40	3.30
TOTAL	**161/193**	**6 319 210**	**1.52**	**1.40**	**0.30**	**3.80**

TABLE **A1.5** **Total Pharmaceutical Expenditure share of Total Health Expenditure by region in 2006**

Region	N	Pop (000s)	Mean	Median	Min	Max
AFR	31/46	629 913	24.9	23.8	7.7	56.6
AMR	35/35	890 361	24.1	22.7	9.3	39.7
EMR	16/21	481 710	26.8	23.1	11.2	67.6
EUR	50/53	871 998	23.1	21.0	8.7	50.9
SEAR	9/11	1 696 228	31.8	28.3	10.8	56.5
WPRO	20/27	1 749 000	26.5	24.1	10.4	54.7
TOTAL	**161/193**	**6 319 210**	**24.9**	**23.1**	**7.7**	**67.6**

TABLE **A1.6** **The composition of Total Pharmaceutical Expenditures per capita at exchange rate by region 2006 (US$)**

Region	Public	Private	Total
AFR	6.0 (28.4%)	10.6 (50.2%)	21.1
AMR	41.9 (35.6%)	75.5 (64.1%)	117.8
EMR	25.6 (42.8%)	28.9 (48.3%)	59.8
EUR	200.7 (61.6%)	124.2 (38.1%)	325.8
SEAR	8.9 (55.6%)	7.1 (43.8%)	16
WPRO	84.1 (58.9%)	51.4 (36.0%)	142.8

TABLE **A1.7** **1995–2006 Per capita TPE (US$ at PPP) (2005 US constant)**

Year	AFR	AMR	EMR	EUR	SEAR	WPR	Total
1995	39.6	104.9	87.3	198.0	21.7	101.3	122.2
1996	36.5	110.7	82.0	205.1	24.3	103.5	126.0
1997	37.9	120.0	85.4	222.2	25.1	105.9	134.4
1998	39.9	126.2	106.4	237.4	23.1	107.5	140.6
1999	43.4	133.1	96.6	247.8	24.2	116.9	149.3
2000	34.9	136.6	88.5	256.9	24.7	117.6	149.6
2001	35.7	145.4	99.4	283.4	26.0	123.6	162.9
2002	37.6	143.0	120.2	307.8	27.9	134.5	178.4
2003	45.3	146.9	110.7	298.1	30.4	154.7	179.0
2004	35.4	152.6	122.4	319.2	32.6	160.0	182.52
2005	37.1	156.6	120.6	334.0	34.4	181.3	193.4
2006	39.9	162.6	100.4	335.1	36.4	173.5	181.5

TABLE **A1.8** **1995–2006 TPE Share of GDP (%)**

Year	AFR	AMR	EMR	EUR	SEAR	WPR	Total
1995	1.24	1.29	1.13	1.25	1.11	1.08	1.22
1996	1.17	1.29	0.91	1.27	1.16	1.11	1.21
1997	1.18	1.36	0.90	1.32	1.12	1.07	1.24
1998	1.19	1.38	1.33	1.37	1.11	1.16	1.30
1999	1.41	1.44	0.94	1.40	1.12	1.17	1.33
2000	1.36	1.53	1.10	1.40	1.13	1.24	1.37
2001	1.31	1.57	1.22	1.46	1.14	1.23	1.39
2002	1.39	1.59	1.23	1.53	1.17	1.21	1.44
2003	1.35	1.59	1.25	1.73	1.19	1.38	1.53
2004	1.30	1.61	1.32	1.76	1.17	1.43	1.54
2005	1.28	1.62	1.33	1.77	1.19	1.47	1.55
2006	1.38	1.60	1.34	1.72	1.17	1.44	1.52

TABLE **A1.9** **1995–2006 TPE Share of THE (%)**

Year	High-income	Up-mid-income	Low-mid-income	Low income	WHO Member states
1995	17.9	21.7	28.5	27.0	23.3
1996	17.7	21.3	26.3	27.6	22.6
1997	18.3	21.6	26.4	27.3	22.9
1998	18.7	21.6	25.7	29.4	23.2
1999	19.1	22.2	26.1	31.9	23.9
2000	19.7	22.7	25.4	31.1	24.1
2001	19.5	22.7	25.3	30.2	23.8
2002	19.6	22.2	27.0	28.2	23.6
2003	19.7	23.1	29.3	33.2	25.4
2004	19.7	23.3	29.4	32.8	25.5
2005	20.3	23.1	29.2	33.8	25.6
2006	19.7	23.1	27.6	30.4	24.9

TABLE **A1.10** **1995–2006 TPE Share of THE (%)**

Year	AFR	AMR	EMR	EUR	SEAR	WPR	Total
1995	29.1	22.3	31.5	19.2	32.0	22.8	23.3
1996	27.7	22.2	22.8	19.1	32.9	22.6	22.6
1997	27.1	22.9	24.4	19.5	32.6	22.1	22.9
1998	26.5	23.1	25.3	20.0	31.5	22.5	23.2
1999	30.7	23.1	23.7	20.4	32.8	23.6	23.9
2000	29.8	23.4	25.1	20.6	32.8	23.6	24.1
2001	28.2	23.1	25.7	21.3	32.7	22.4	23.8
2002	26.1	23.3	24.0	21.2	31.7	23.7	22..6
2003	26.8	23.8	28.4	23.9	32.5	26.0	25.4
2004	25.5	24.5	26.9	23.7	33.4	27.2	25.5
2005	25.4	24.5	27.3	23.8	33.1	28.0	25.6
2006	24.9	24.1	26.8	23.1	31.8	26.5	24.9

FIGURE **A1.1**

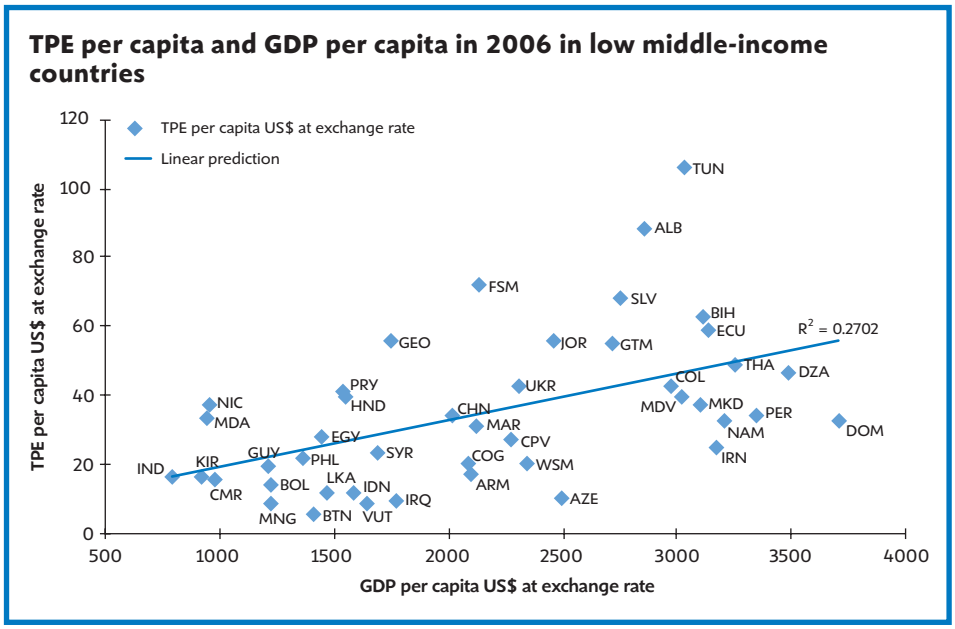

FIGURE **A1.2**

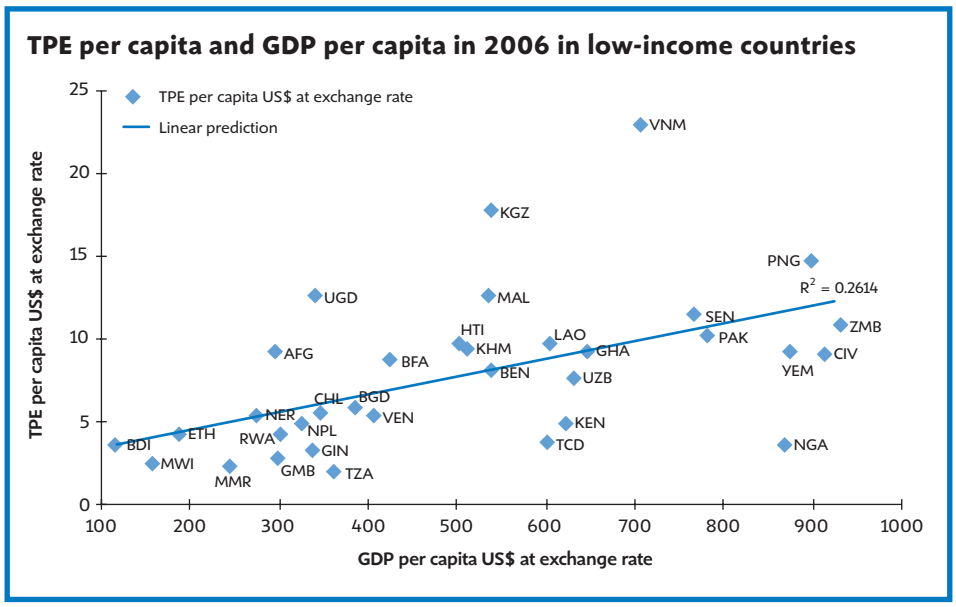

FIGURE **A1.3**

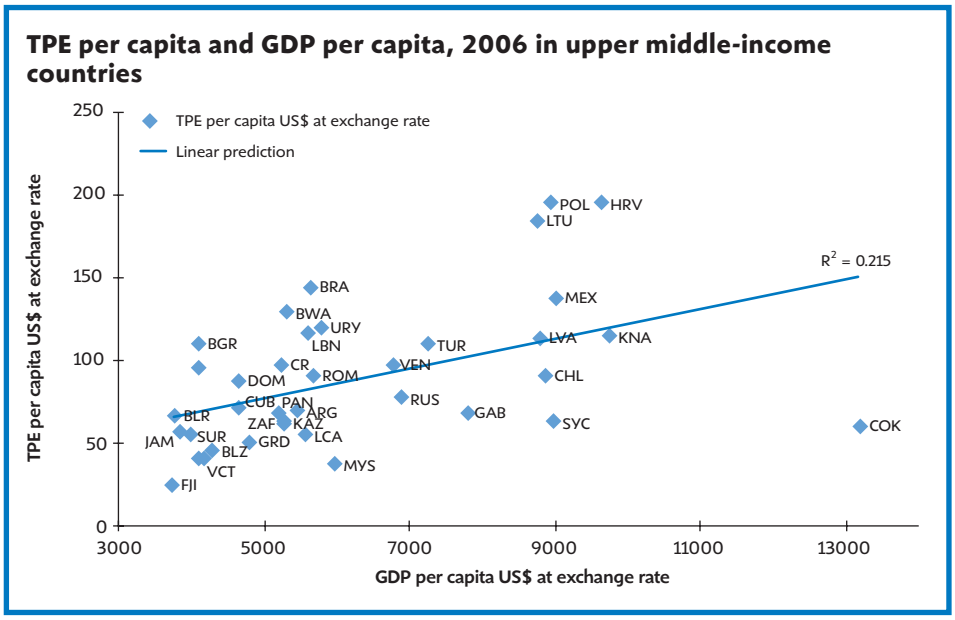

FIGURE **A1.4**

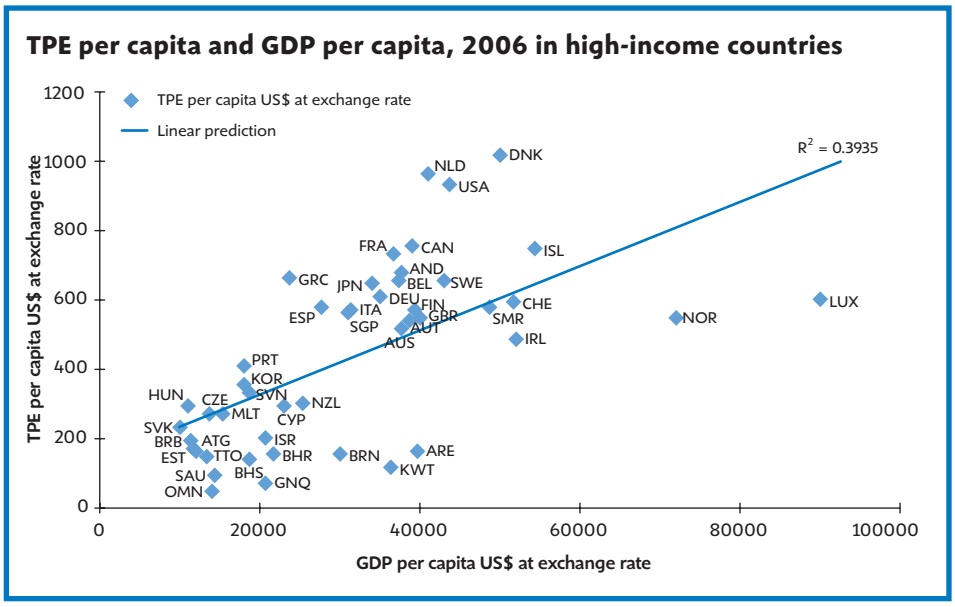

FIGURE **A1.5**

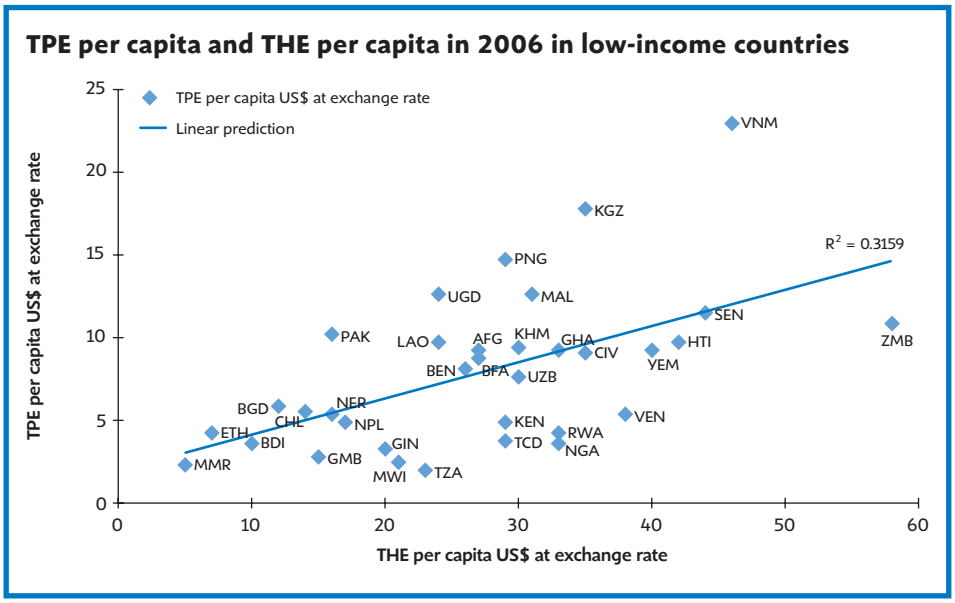

FIGURE **A1.6**

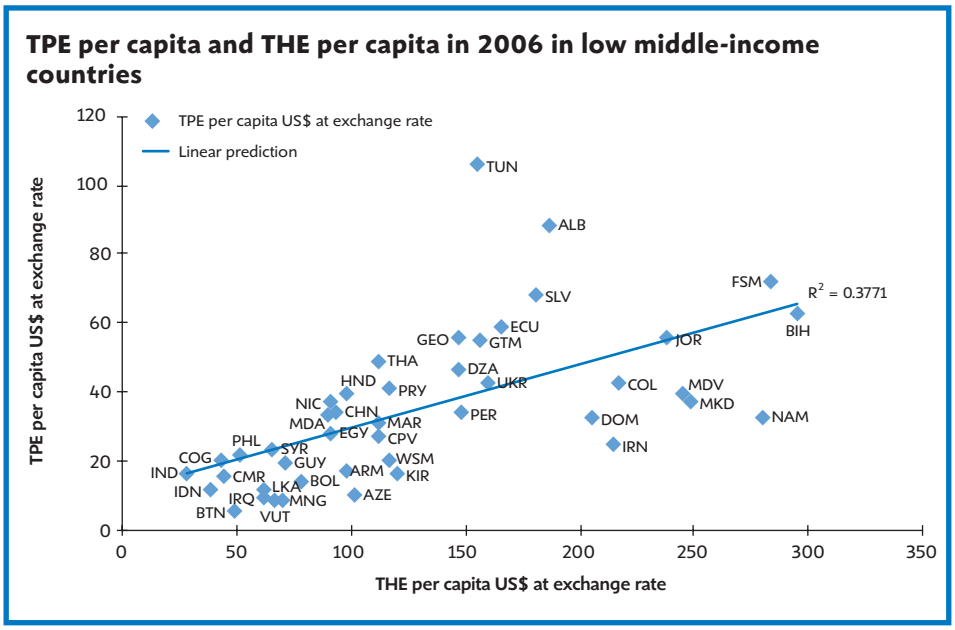

FIGURE **A1.7**

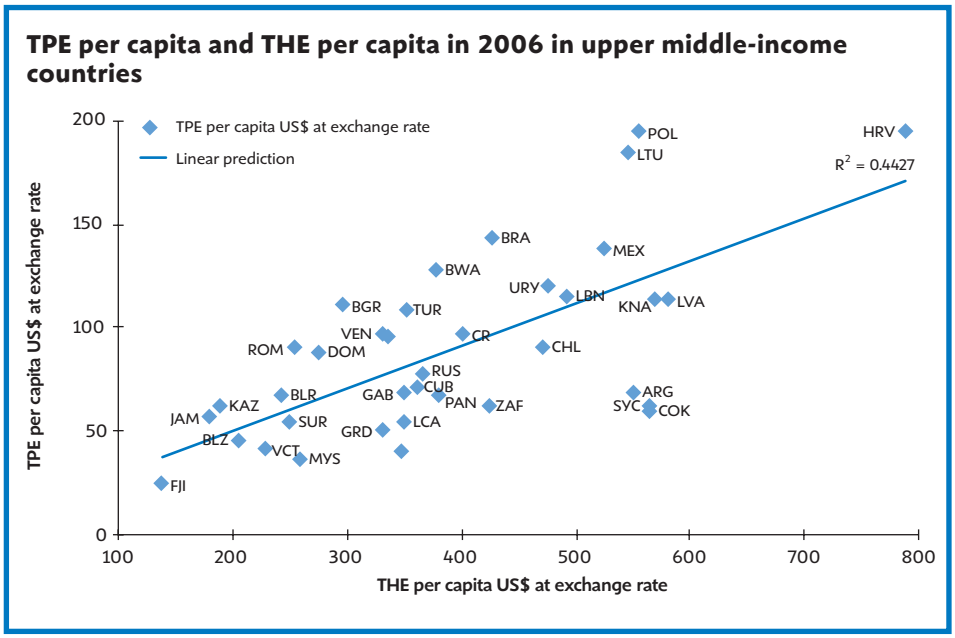

FIGURE **A1.8**

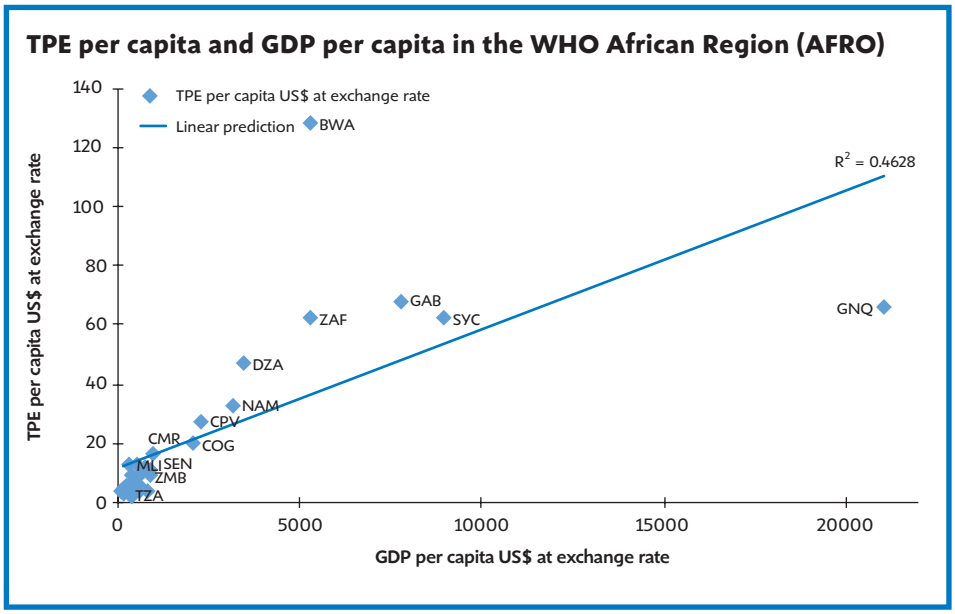

FIGURE **A1.9**

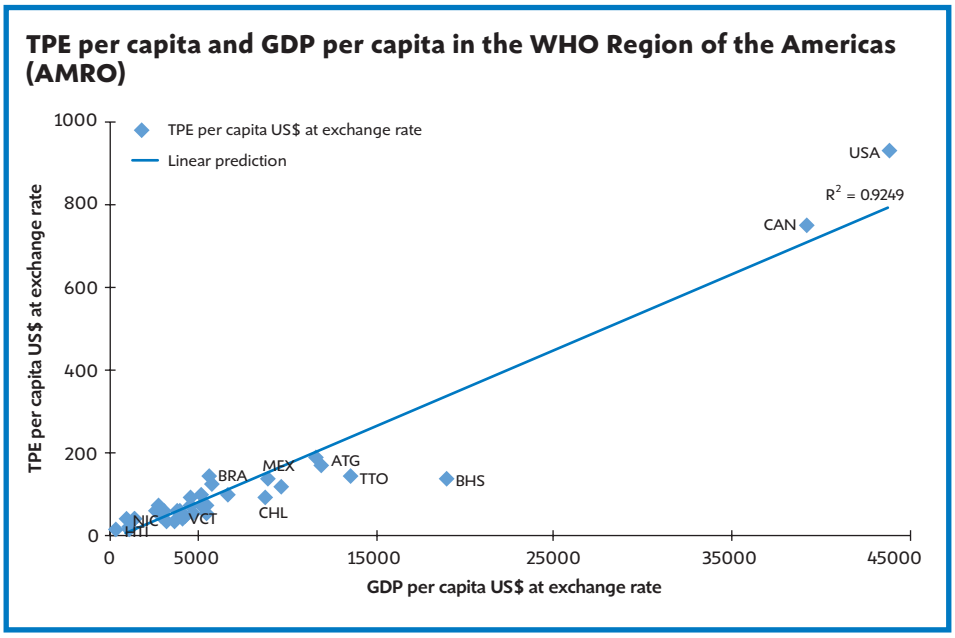

FIGURE **A1.10**

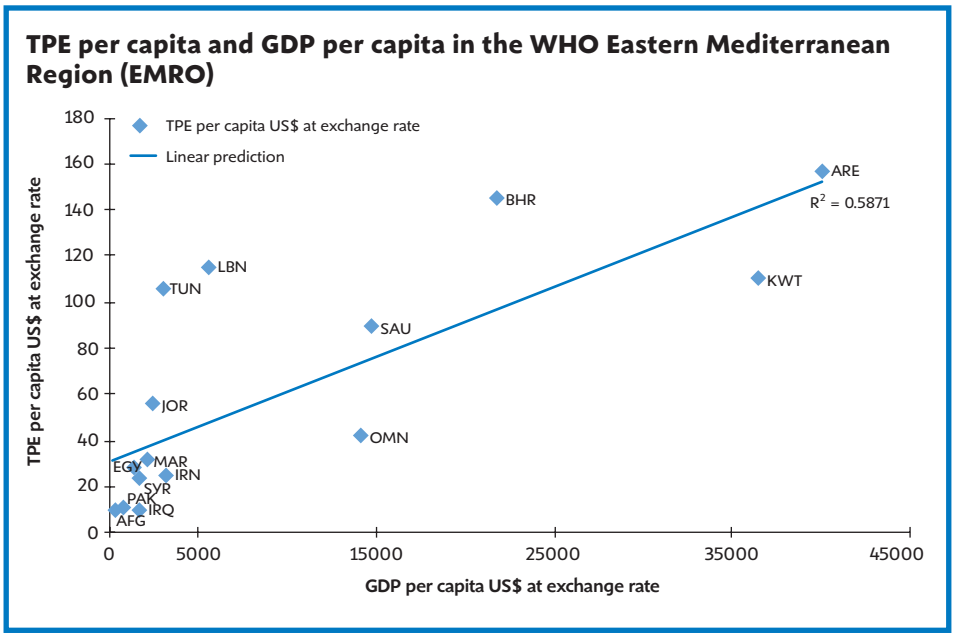

FIGURE **A1.11**

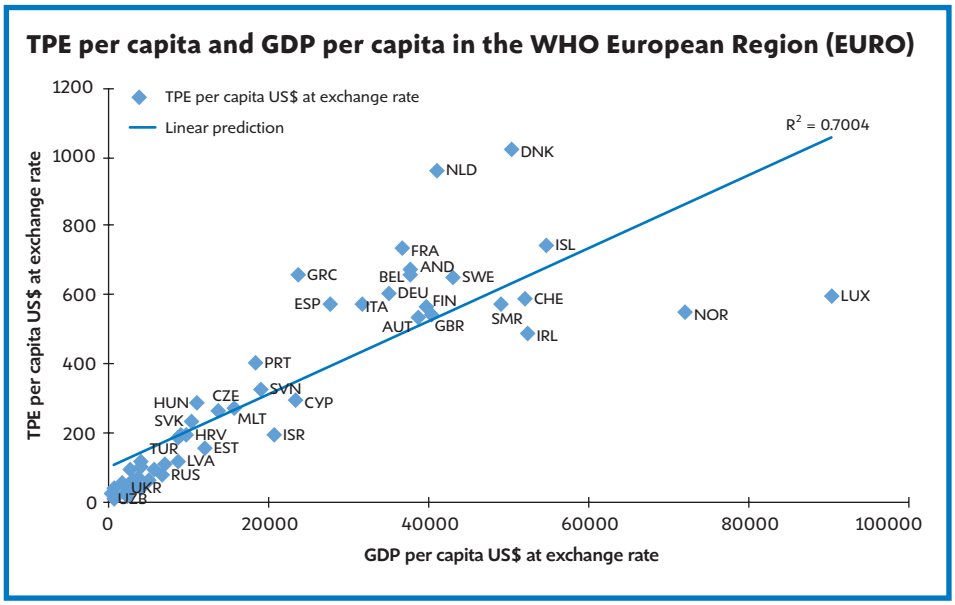

FIGURE **A1.12**

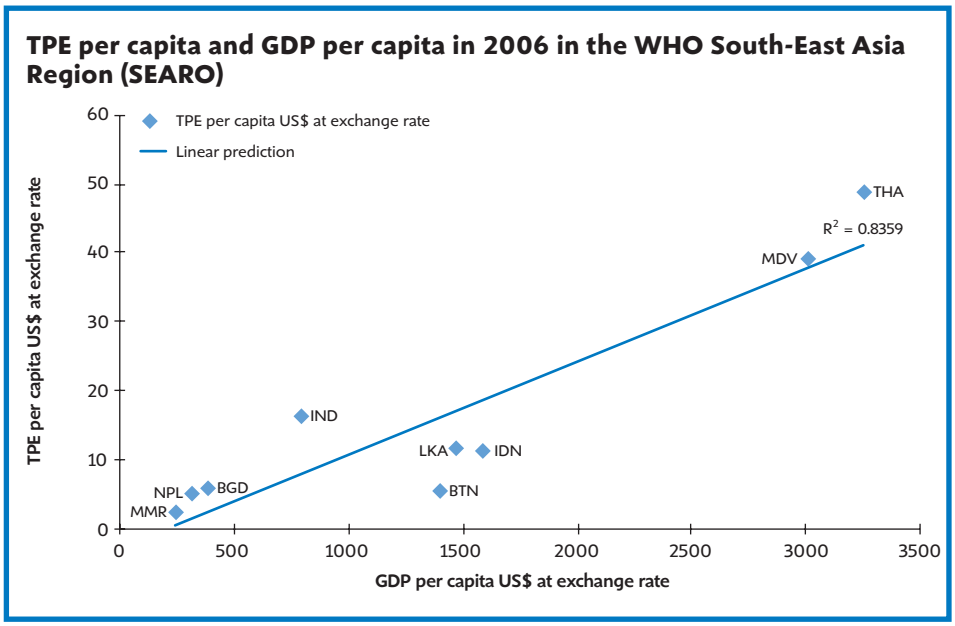

FIGURE **A1.13**

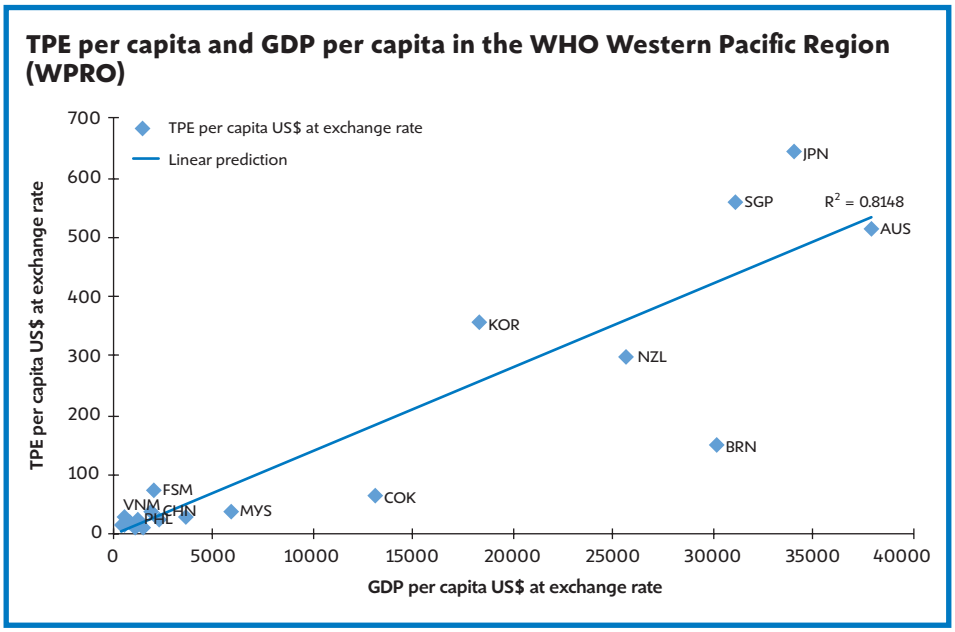

FIGURE **A1.14**

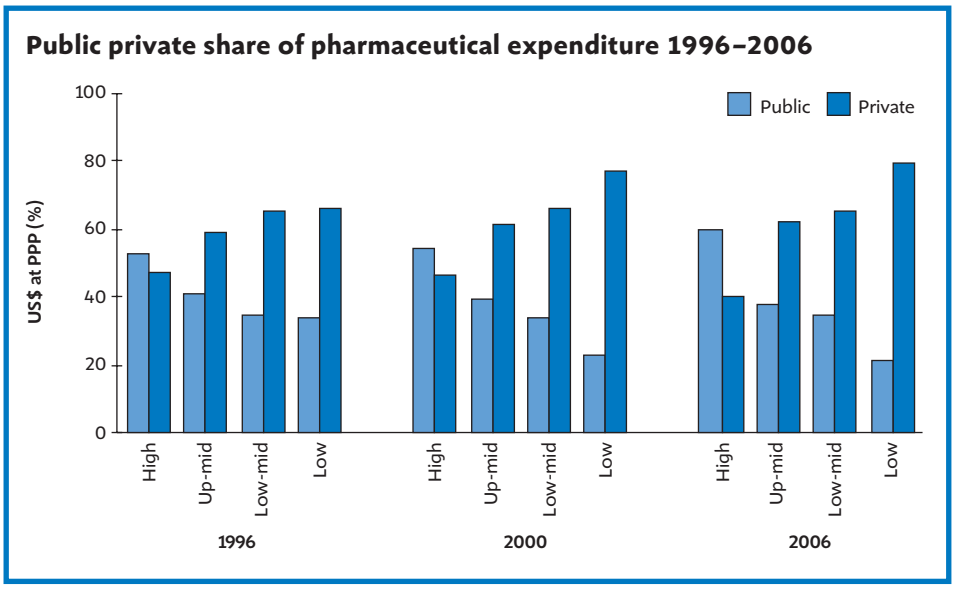

FIGURE **A1.15**

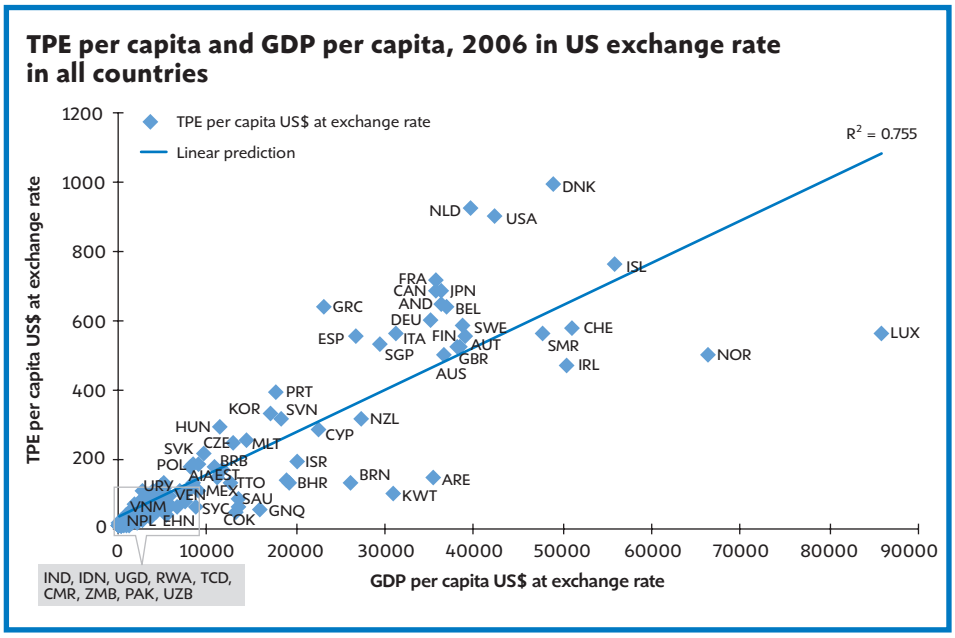

FIGURE **A1.16**