

## CHAPTER 3:

# SPENDING ON HEALTH BY DEVELOPING COUNTRY GOVERNMENTS

While data on development assistance for health (DAH) can help the global health community identify gaps in funding and assess the impact on health outcomes, it represents only a fraction of total health spending worldwide. To fully understand countries' investments in health, tracking health spending from private and governmental sources is also needed. In most developing regions, government health spending that is financed by countries' own revenue is much larger than DAH. In 2009, it was 16 times the size of total DAH in developing regions. Given the key role public domestic health spending plays, it has generated much interest among policymakers in donor countries and citizens in developing countries alike.

This section explores developing country government spending on health. While we were able to develop preliminary estimates of DAH for 2010 and 2011, we were only able to estimate government health spending through 2009 due to lack of data for more recent years. In the future, the Institute for Health Metrics and Evaluation (IHME) plans to further explore health spending in developing countries by measuring out-of-pocket health expenditure.

People in developing countries are using data on their governments' domestic health spending to lobby for more spending on health. In Uganda, two families whose relatives died in childbirth are suing the government for failing to provide maternal health care that might have saved their lives.<sup>85</sup> Health activists in Uganda have rallied in support of these families and used information about government health spending to put pressure on the government to provide more and better quality health services.<sup>86</sup> In Kenya, health care workers and non-governmental organizations (NGOs) are raising awareness about government health spending in the face of growing disease burden to convince their elected officials to spend more money preventing and treating noncommunicable diseases and HIV/AIDS.<sup>87</sup>

Many policymakers in donor countries care about tracking recipient country governments' domestic health spending due to concerns that these governments may reduce their own investment in health when they receive DAH.<sup>88</sup> Government officials in donor countries are also concerned about accountability to voters,<sup>89</sup> who may lessen their support for DAH if it is

### BOX 5:

#### *Financing Global Health 2010 main findings for government health expenditure*

- In the developing world, governments have greatly increased their commitment to health over the past two decades.
- In many countries where governments receive large amounts of DAH, these funds tend to partially replace domestic health spending instead of fully supplementing it. In contrast, government health expenditure appears to increase in countries where DAH flows primarily through non-governmental organizations.
- The quality of government health spending data is poor, and the two datasets on this subject from the International Monetary Fund and World Health Organization differ greatly.

not fully supplementing what they perceive to be inadequate levels of health spending in poor countries.

While DAH may help speed up developing countries' efforts to meet the Millennium Development Goals (MDGs) by 2015, countries' own spending often plays a much larger role. The importance of public domestic health spending in fighting infectious diseases was acknowledged by African leaders in 2001 when they pledged to spend 15% of their total budget on health, known as the Abuja targets.<sup>90</sup> African leaders recently reaffirmed this commitment at the 15th African Union Summit in 2010.<sup>91</sup>

Furthermore, governments' domestic health spending funds essential elements that form the backbone of health systems, such as the construction of hospitals, electricity or gas to power the refrigerators to prevent vaccines from spoiling, and the salaries of health workers. In contrast, much of DAH is earmarked by donors to combat diseases such as HIV/AIDS and malaria. While it may be vital for developing countries who find themselves struggling to fight specific diseases, DAH cannot adequately substitute for core health system funding provided by governments.<sup>89</sup>

Despite many different stakeholders' demands for public domestic health spending data, few organizations are pushing for increased transparency and improved quality in this area. Some organizations are drawing attention to the importance of transparency in budget and expenditure data in developing countries, such as the International Budget Partnership,<sup>92</sup> but they are not as numerous as the multiple organizations that monitor spending data on the donor side. In contrast, many academics, policymakers, NGOs, and advocacy organizations focus on the volume and transparency of development assistance from public and private donors. For example, organizations such as ONE, which advocates for poverty reduction and disease prevention around the world, track foreign assistance and monitor donors' fulfillment of their aid targets, while others such as the International Aid Transparency Initiative and Publish What You Fund encourage donors to put timely, detailed, and comparable aid data in the public domain.<sup>93-95</sup>

### Measuring government health expenditure from domestic sources

It is challenging for many reasons to measure government health expenditure as source (GHE-S), referring to public spending on health that comes only from domestic financing. The World Health Organization

(WHO) is the only organization to regularly publish estimates of government health expenditure in their National Health Accounts (NHA) database.<sup>96</sup> In the past, IHME obtained data on government health expenditure from the International Monetary Fund (IMF), but updated estimates for recent years are not currently available.<sup>97</sup> Having more than one data source is useful because it allows us to compare the consistency of our findings across different sources. In *Financing Global Health 2010*, our overall conclusions were similar across datasets. For certain countries, however, the two datasets yielded conflicting results. The availability of multiple datasets serves as an additional means to test the strength of our findings.

In addition to having only one regularly updated data source to work with, another challenge lies in the large quantity of data (53%) that were either partially or fully created by WHO using modeling techniques that could not easily be replicated by others, or were unrealistically high or low compared to trends we observed within and across countries. A small portion of observations in the dataset (7%) were not reported by WHO.

In order to produce the best possible dataset of public domestic health spending, we used only portions of the government health expenditure data that were derived from sources such as consultations with ministries of health, publications from governments, the IMF, the World Bank, and NHA reports. We also improved the NHA dataset by using a widely used method that could be replicated by other researchers to estimate data not derived from cited sources (for more information, see the online Methods Annex at [http://www.healthmetricsandevaluation.org/publications/financing\\_global\\_health\\_2011\\_methods\\_IHME.pdf](http://www.healthmetricsandevaluation.org/publications/financing_global_health_2011_methods_IHME.pdf)). While IHME can use rigorous scientific methods to compensate for gaps in the data, the most important improvements in the data need to be made by donors and organizations involved in the collection of these data. Given the relevance of government health expenditure data to policymaking and planning, increased investment in the collection of this information is urgently needed.

Another issue that we highlighted in *Financing Global Health 2010* is that the data provided by WHO include government health expenditure as agent (GHE-A), which is government health spending financed by both domestic taxpayers and foreign donors. In order to obtain GHE-S from the WHO data, IHME subtracts its estimates of DAH channeled to governments (DAH-G) from GHE-A provided by WHO.

**BOX 6:**  
**Acronyms**

- DAH-G** Development assistance for health channeled to government
- DAH-NG** Development assistance for health channeled to non-governmental sectors
- GDP** Gross domestic product
- GGE** General government expenditure
- GHE-A** Government health expenditure as agent, domestic- and donor-funded financing
- GHE-S** Government health expenditure as source, domestic-only financing

**TABLE 4:**  
**Data sources used to estimate GHE-S**

Data sources used	Percentage of data points															
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	All years
WHO NHA database	40%	38%	38%	43%	43%	42%	40%	41%	41%	43%	53%	45%	42%	37%	29%	41%
WHO NHA database plus covariates*†	52%	54%	54%	49%	49%	50%	53%	52%	52%	51%	50%	48%	52%	57%	65%	53%
Covariates*‡	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%

\*Covariates include government health expenditure as agent as a fraction of national GDP (GHE-A/GDP) and government health expenditure as agent as a fraction of general government expenditure (GHE-A/GGE) from IMF; DAH channeled through a country's government as a fraction of national GDP (DAH-G/GDP); DAH channeled through non-governmental sectors as a fraction of national GDP (DAH-NG/GDP); debt relief received by government as a fraction of national GDP (debt relief/GDP) from the IMF; national GDP per capita from the IMF with a one-year lead and lag; HIV prevalence as a percentage of national population; average per capita income over the past 10 years; GDP per capita growth rate; general government expenditure as a fraction of national GDP (GGE/GDP) from the World Bank and WHO; and current as well as three-year leads and lags of government health expenditure as source as a fraction of national GDP (GHE-S/GDP) from WHO NHA data. "Lags" and "leads" refer to using previous and future values of a given variable to impute a value for a given year.

†Covariates and Bayesian priors based on plausible WHO NHA data were used to refine our estimates of government health expenditure as source.

‡WHO NHA data were not used because data points were missing from WHO NHA database.

## Trends in country spending on health programs in developing regions

This section explores trends in three different types of health spending in developing countries, public domestic health spending, DAH flowing to governmental sectors, and DAH channeled to non-governmental sectors, over the period 1995 to 2009.

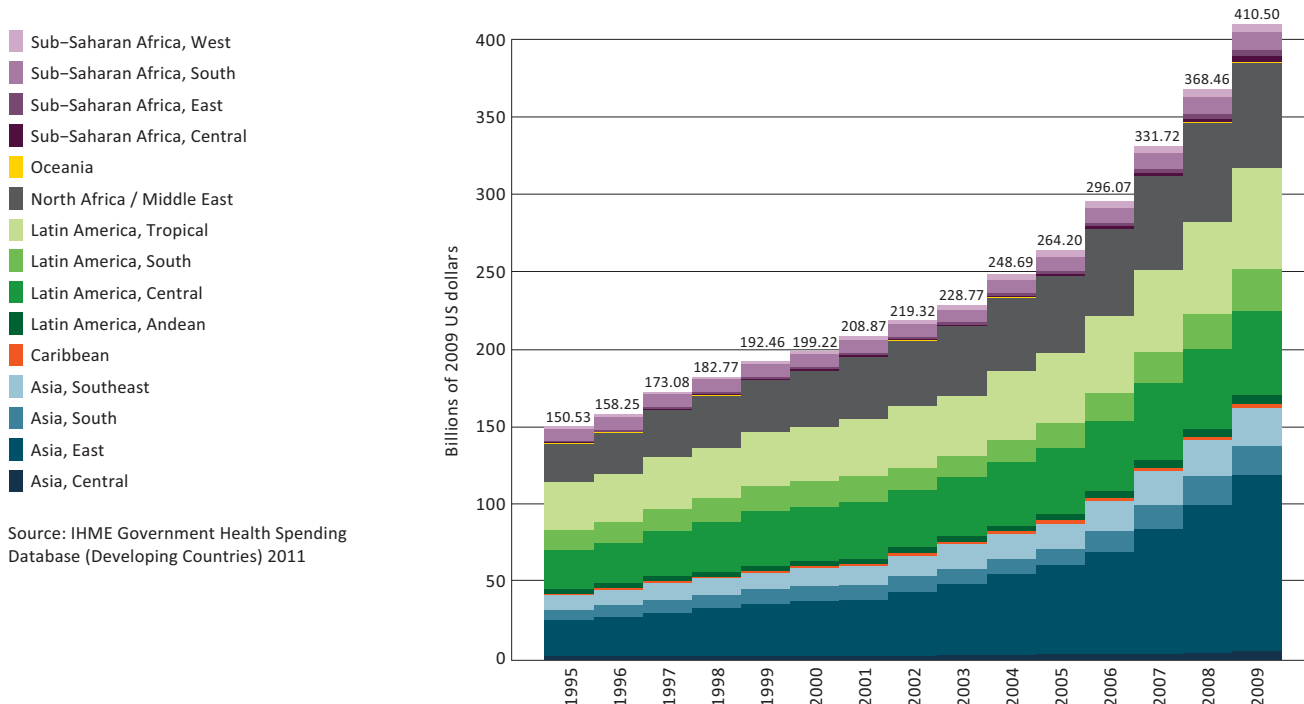
Our findings show that governments' domestic health expenditure has increased over time in developing regions, growing at a rate of 5% between 2000 and 2003 and 9% from 2003 to 2006. As global financial woes spread to world economies during the period 2008 to 2009, many global health leaders and development organizations predicted that the recession would lead to reduced government health spending in developing countries due to declines in gross domestic product (GDP) and donors slashing foreign aid budgets.<sup>18,98</sup> Instead of slowing as a result of the global financial crisis, our estimates indicate that the growth rate of public domestic health spending actually sped up between 2008 and 2009, increasing from \$368.46 billion to \$410.50 billion. These findings bode well for the attainment of the MDG targets by 2015.

The East Asia region, which is driven by China's health spending, accounted for 44% of this increase from 2008 to 2009, while the regions of Tropical and South Latin America were also responsible for this upward trend, accounting for 15% and 10% of the increase in GHE-S, respectively.

Trends in governments' domestic health spending have shifted over the last decade. Back in 2001, public domestic health spending from North Africa/Middle East and Tropical Latin America represented a greater share of the total than East Asia. That year, North Africa/Middle East and Tropical Latin America represented 19% (\$39.64 billion) and 18% (\$37.20 billion) of total GHE-S, respectively, while East Asia represented 17% of total GHE-S (\$36.08 billion). Similar to what we reported last year, the region that spent the largest amount of its own resources on health in 2009 was East Asia (28% of total GHE-S, or \$113.85 billion), followed by North Africa/Middle East and Tropical Latin America, each of which represented 16% of total GHE-S in 2009 (\$67.69 billion and \$65.34 billion, respectively).

The regions where governments spent the smallest amounts of their own resources on health were

**FIGURE 27:**  
GHE-S by Global Burden of Disease developing region, 1995-2009



Source: IHME Government Health Spending Database (Developing Countries) 2011

Oceania, the Caribbean, and East and Central sub-Saharan Africa. GHE-S from each of these regions made up approximately 1% or less of total GHE-S from 1995 to 2009. In 2009, these regions spent \$358.13 million, \$2.91 billion, \$3.26 billion, and \$4.31 billion, respectively.

Yet another way to quantify levels of government investment in health is to measure dollars spent per person. Measured this way, governments in South, Tropical, and Central Latin America and South sub-Saharan Africa ranked highest for dollars of domestic health spending per person during the period 2000 to 2009. These regions spent \$452, \$327, \$241, and \$169 per person in 2009, respectively. East and West sub-Saharan Africa and Southeast and South Asia ranked among the lowest five regions in terms of public domestic health spending per person over the period 2000 to 2009, and spent the following amounts per person in 2009, respectively: \$10, \$17, \$41, and \$12.

While some of the poorest areas in the world, such as East, Central, and West sub-Saharan Africa, spend very little on health compared to wealthier regions,

public investment in health continues to grow in these regions. For example, in East sub-Saharan Africa, GHE-S was \$1.69 billion in 2000. In this region, governments' domestic health spending nearly doubled over the last decade, reaching \$3.26 billion in 2009.

To better understand what was happening at the regional and country level in terms of external investment in health, we tracked DAH through different channels of assistance to governmental (DAH-G) and non-governmental (DAH-NG) sectors in countries and subtracted loans from these estimates. In most regions, DAH was much smaller than public domestic health spending. In Southeast Asia in 2009, for example, GHE-S was 30 times greater than DAH to governmental and non-governmental sectors combined. The only developing region where DAH flowing to governmental and non-governmental sectors is greater than governments' domestic health spending is East sub-Saharan Africa, where it was 11% larger in 2009.

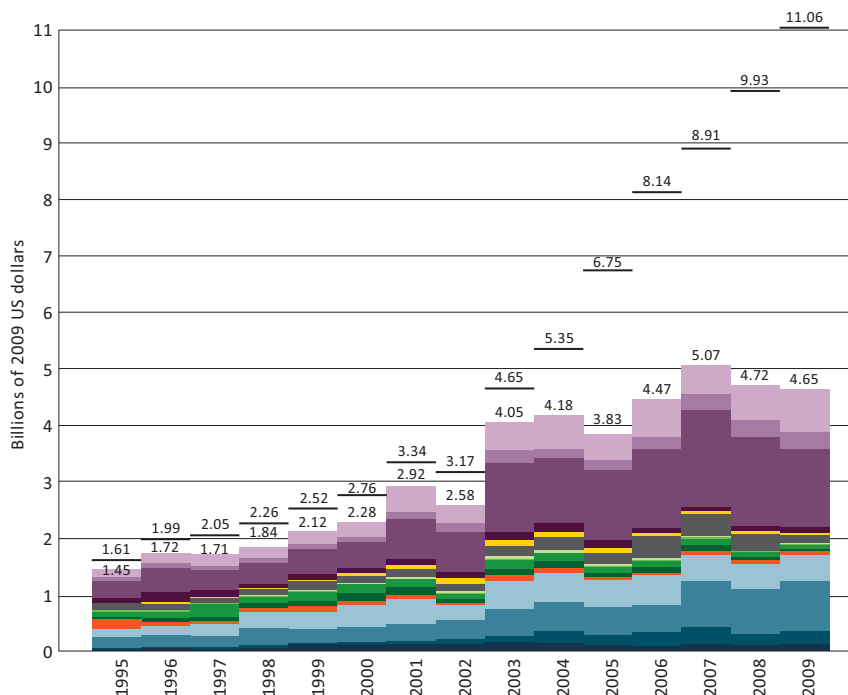
DAH to governments has generally increased over time. Its growth rate was 57% from 2002 to 2003 (\$2.58 billion to \$4.05 billion), which represented its

**FIGURE 28:**  
DAH-G by Global Burden of Disease developing region, 1995-2009

The upper-most number in each column is the sum of DAH-G and DAH-NG for each year.

- Sub-Saharan Africa, West
- Sub-Saharan Africa, South
- Sub-Saharan Africa, East
- Sub-Saharan Africa, Central
- Oceania
- North Africa / Middle East
- Latin America, Tropical
- Latin America, South
- Latin America, Central
- Latin America, Andean
- Caribbean
- Asia, Southeast
- Asia, South
- Asia, East
- Asia, Central

Source: IHME DAH Database 2011



largest single increase during the entire period of 1995 to 2009. DAH-G continued to grow at a slower rate through 2007, with the exception of an 8% decrease between 2004 and 2005 (\$4.18 billion to \$3.83 billion). From 2007 to 2008 and 2008 to 2009, however, it actually declined by 7% (\$5.07 billion to \$4.72 billion) and 1% (\$4.72 billion to \$4.65 billion), respectively.

In 2009, three regions stood out as receiving large shares of total DAH-G: East sub-Saharan Africa received 30% (\$1.38 billion), South Asia received 19% (\$880.28 million), and West sub-Saharan Africa received 17% (\$771.36 million). South Asia's share may be explained by the fact it includes some of the most populous countries such as India, Pakistan, and Bangladesh. The fact that two sub-Saharan African regions are among the top recipients of DAH-G recipients tells us that much of this assistance is flowing to some of the poorest areas of the world. In contrast, three Latin American regions received the lowest amounts of DAH in 2009: Tropical Latin America, Andean Latin American, and South Latin America combined receive only 1.6% of total DAH-G.

Trends in DAH to non-governmental sectors differed markedly from DAH to governmental sectors. DAH

received by non-governmental sectors grew much more dramatically during the last decade compared to DAH-G. Its rapid increase is largely due to the US President's Emergency Plan for AIDS Relief (PEPFAR) program that began disbursing funds for HIV/AIDS in 2004. DAH-NG increased nearly 10-fold from \$601.62 million in 2003 to \$6.41 billion in 2009.

The non-governmental sectors in regions receiving some of the largest shares of DAH since 2002 were located in sub-Saharan African regions (East, West, and South) and South Asia. In 2009, these regions received \$2.23 billion, \$1.16 billion, \$805.32 million, and \$689.39 million, respectively. Similar to DAH received by governmental sectors, the largest amounts of DAH-NG went to East sub-Saharan Africa in 2009 and represented 35% of the total. Oceania and Tropical and South Latin America have consistently obtained some of the smallest amounts of DAH to non-governmental sectors over time. In 2009, these regions received less than 1% of total DAH-NG (\$72.29 million, \$33.31 million, and \$1.70 million, respectively).

**FIGURE 29:**  
DAH-NG by Global Burden of Disease developing region, 1995-2009

The upper-most number in each column is the sum of DAH-G and DAH-NG for each year.

- Sub-Saharan Africa, West
- Sub-Saharan Africa, South
- Sub-Saharan Africa, East
- Sub-Saharan Africa, Central
- Oceania
- North Africa / Middle East
- Latin America, Tropical
- Latin America, South
- Latin America, Central
- Latin America, Andean
- Caribbean
- Asia, Southeast
- Asia, South
- Asia, East
- Asia, Central

Source: IHME DAH Database 2011

