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Global health funding: how much, where it comes from and where it goes

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Global health funding has increased in recent years. This has been accompanied by a proliferation in the number of global health actors and initiatives. This paper describes the state of global heath finance, taking into account government and private sources of finance, and raises and discusses a number of policy issues related to global health governance. A schematic describing the different actors and three global health finance functions is used to organize the data presented, most of which are secondary data from the published literature and annual reports of relevant actors. In two cases, we also refer to currently unpublished primary data that have been collected by authors of this paper. Among the findings are that the volume of official development assistance for health is frequently inflated; and that data on private sources of global health finance are inadequate but indicate a large and important role of private actors. The fragmented, complicated, messy and inadequately tracked state of global health finance requires immediate attention. In particular it is necessary to track and monitor global health finance that is channelled by and through private sources, and to critically examine who benefits from the rise in global health spending.

Keywords Health financing, donor coordination, global health

KEY MESSAGES

- It is frequently stated that global health funding has increased dramatically over the past decade. However, there are inadequate data to describe the precise volume of global health expenditure; the source of this funding; its management; and how it is spent.
- A detailed description of global health funding is needed to improve the efficiency, accountability, performance and equity-impact of the many actors that populate the global health landscape.
- In particular, it is necessary to track and monitor the activities of non-OECD donors as well as the funding that is sourced by and channelled through private actors.

Introduction

By most accounts, global funding for health has increased dramatically. According to the World Bank, development assistance for health grew from US$2.5 billion in 1990 to almost US$14 billion in 2005 (World Bank 2007). A recent article in *The Lancet* claimed that *official* development assistance (ODA) grew from US$8.5 billion in 2000 to US$13.5 billion in 2004 (Kates *et al*. 2006). In addition to the increase in ODA, there has been an increase in private funding for global health, which is said to now account for about a quarter of all development aid for health (Bloom 2007).

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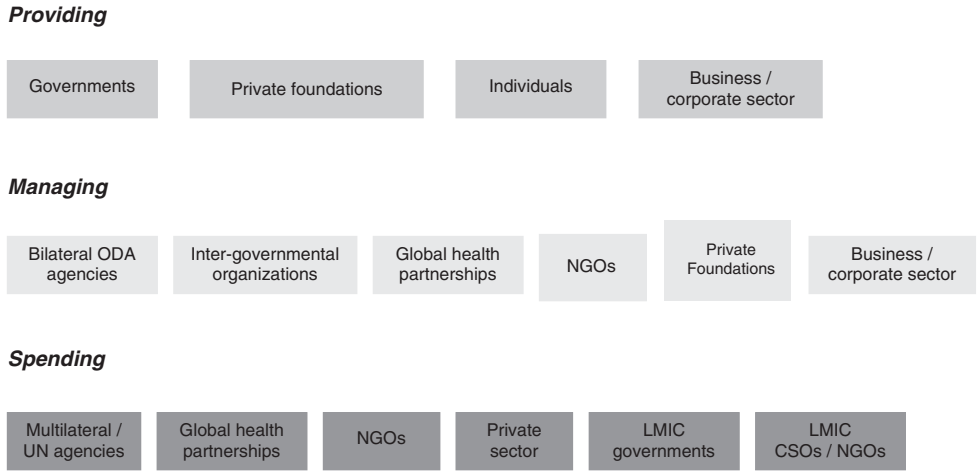

Figure 1 Schematic of the global health financing landscape

The increase in global funding for health has been accompanied by a rapid and large increase in the number of global health actors, transforming the global health landscape and making it more difficult to study. In 2004, a Global Health Resource Tracking Working Group was established to calculate the amount of funding devoted to global health. It concluded, more than 2 years later, that the task was too difficult because of: the large and diverse number of public and private sources of funding; the many types of activities and programmes that fall under the term 'global health'; the use of 'in-kind' donations of drugs and other inputs; inadequate financial management information systems; and poorly designed donor accounting structures (CGD 2007). One of its key recommendations was for better tracking and monitoring of global health financing.

This paper uses existing data on global health financing (mainly in 2006) to paint a picture of global health financing and to raise a number of policy issues and questions about 'global health'. It defines 'global health financing' as any external finance channelled towards the *health sector* of low and middle income countries (LMICs) in order to meet the needs of predominantly poor population groups. This definition excludes external finance aimed at reducing poverty, food insecurity, and the lack of access to water, sanitation and education, which are important for health, as well as emergency/humanitarian aid (e.g. in response to conflict or natural disasters), even though this includes medical care. In addition, commercial bank loans and private foreign investment directed at the health sector of LMICs are also excluded.

We mainly use publicly-available secondary data from the published literature and the annual reports of relevant actors. In addition, we quote a few unpublished data on the global health grants of some private foundations from a paper that is currently in press elsewhere. Presenting data on income and expenditure is complicated by different annual financial reporting cycles, different accounting practices and different currencies. However, we have not adjusted the data in order to standardize for a given period or time. Most of the secondary financial data were available as US dollars. Where this was not the case, we have converted currencies to US dollars based on average nominal currency exchange rates for the relevant year.

A schematic for the global health financing landscape

The schematic (Figure 1) we developed consists of three functions related to global health finance combined with a set of categories for the various actors involved in global health. The first function is labelled 'providing' and is concerned with the need to raise or generate global health funds. It consists of four main categories of actors: donor country governments; private foundations; the general public; and businesses/private corporations.

The second function is 'managing' and is concerned with the management or pooling of global health funds as well as with mechanisms for channelling funds to recipients. It has six categories of actors: the official bilateral aid agencies of donor countries such as USAID (US) and DFID (UK); intergovernmental organizations (IGOs) that provide grants or concessionary loans for health improvement, in particular the World Bank and European Commission; global health partnerships (GHPs) with a primary funding role such as the Global Fund to fight HIV/AIDS, TB and Malaria (Global Fund) and Global Alliance for Vaccines and Immunization (GAVI); non-governmental organizations (NGOs); private foundations; and the business/corporate sector.

The third function is 'spending' and is concerned with the expenditure and consumption of global health finance. It consists of six main categories of actors: multilateral agencies with a health focus such as the World Health Organization (WHO), UNICEF and UNAIDS; GHPs; private sector, for-profit organizations; LMIC governments; and LMIC civil society organizations (CSOs).

While this schematic reflects the appearance of an ordered global health landscape, the reality is much more chaotic. For example, several actors perform all three functions simultaneously, thus obscuring the different operational components of global health finance. In addition, the system for

categorizing the different actors does not reveal the overlapping and fuzzy boundaries between them, nor the existence of hybrid organizations. Nonetheless, we believe that the schematic provides a useful framework for describing and studying global health finance. This article will now unpack and discuss each of the three functions of global health finance and their respective categories of actors, before discussing the overall picture of global health finance and various policy implications.

Providing global health finance

Governments

The official development assistance (ODA) budgets and programmes of donor country governments are a major source of global health finance. The Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) monitors the development assistance of 22 major donor countries[1] plus the European Commission. In 2006, the total amount of ODA disbursed by the DAC donors was US$104.4 billion, including US$7.5 billion of debt relief (OECD 2008b).

Table 1 shows DAC donor commitments and actual disbursements of ODA for 'Health' and 'Population' (which includes reproductive health care, family planning, control of sexually transmitted infections, and HIV/AIDS) in 2004, 2005 and 2006. It also provides figures for 'Water and Sanitation' and 'Emergency Response' (which covers material relief assistance and services, emergency food aid, relief co-ordination and protection services, but excludes longer term reconstruction and rehabilitation, and disaster prevention and preparedness).

The data show a clear rise in ODA for health and population, with disbursements increasing from US$5.96 billion in 2004 to US$9.58 billion in 2006 (about 10% of total ODA in that year). They also show a significant difference between commitments and actual disbursements of ODA to health. In 2006 for example, disbursements were more than US$4 billion less than commitments. If 'water and sanitation' are combined with 'health and population', the shortfall between what is pledged and what is actually disbursed increases to about US$7 billion.

The data also indicate that the figures quoted earlier about the increase in development assistance for health (the Lancet article estimated a figure of US$13.5 billion in 2004 and the World Bank estimated that development assistance for health had increased to almost US$14 billion in 2005) appear to be exaggerations. Actual *disbursements* of ODA for health and population by DAC donors only amounted to US$9.58 billion in 2005.

While these data represent important landmarks on the global health financing landscape, there are a number of points to note. First, increases in the volume of ODA for health may be offset by reductions in domestic spending and budget allocations. Ultimately, what matters are trends in overall health spending at the country level. Secondly, although the data from DAC covers the major donor governments involved in global health, several non-DAC countries are significant providers of ODA.

It is generally accepted that there are poor data on non-DAC ODA (Harmer and Cotterrell 2005; Brown and Morton 2008). However, the World Bank (2008) has estimated that non-DAC ODA in 2006, excluding ODA from China, amounted to US$5.17 billion. The size of China's ODA is not known with any degree of accuracy, but a general view is that China is becoming a significant player. For example, it has been reported that aid from China to Africa will reach US$1bn in 2009, over and above support for debt cancellation and training of African professionals (Manji 2008). India is also showing increased presence as a donor. India's allocation of foreign aid for 2007–08 amounted to just under US$226 million, most of which was allocated to the countries in the region, particularly Bhutan and Afghanistan (Sridhar 2008).

Although there are no data on the size of the contribution of non-DAC donors to global health, a couple of general points about non-DAC ODA might be used to estimate the size of their contribution to global health. First, many non-DAC countries provide the bulk of their ODA for emergency and humanitarian crises (Harmer and Cotterell 2005). According to one analysis, non-DAC humanitarian assistance in 2006 amounted to US$435 million (Development Initiatives 2008, p. 10). If spending on the health sector is assumed to be half that of spending on humanitarian assistance, the non-DAC contribution to global health finance would be estimated to be about US$220 million. Secondly, it seems unlikely that non-DAC countries would allocate a higher proportion of their overall ODA to 'health' compared with DAC countries. Therefore, if a relatively generous assumption is made that 10% of non-DAC ODA is allocated to health and if total non-DAC ODA amounted to about US$7 billion in 2006, our estimate of the non-DAC contribution to global health finance would be about US$700 million.

Private foundations

Data on the contribution made by private foundations towards international development are relatively limited. The World Bank stated that in 2005 private donors gave roughly US$4–4.5 billion to international development, but noted that philanthropic giving 'is significantly under-researched due to the lack of a world-wide data collection procedure' (Sulla 2006).

Table 1 Development assistance from Development Assistance Committee (DAC) donors for selected sectors, 2004–06 (US$ millions)

	2004			2005			2006		
	H & P	W & S	ER	H & P	W & S	ER	H & P	W & S	ER
Commitments	8495	4828	6042	10 340	6031	8210	13 645	6382	6712
Disbursements	5962	2309	5283	8112	3351	8216	9577	3476	6797

Source: OECD (2008a).

Notes: H = Health; P = Population; W = Water; S = Sanitation; ER = Emergency Response.

Table 2 Total expenditure and value of international health grants awarded by selected private foundations in 2006

	Total expenditure 2006 (US$ million)[a]	Value of international health grants awarded in 2006 (US$ million)
Wellcome Trust	1000[b]	US$42[b]
Rockefeller Foundation	193.24	US$15.7
Ford Foundation	683.98	US$7.5
UN Foundation	306	–
Aga Khan Foundation	184.9	–

[a]*Sources*: Wellcome Trust Annual Report and Financial Statements 2006; The Rockefeller Foundation 2007 Annual Report; Ford Foundation Annual Report 2006; Aga Khan Foundation Annual Report 2006.
[b]Rough approximation, converted from UK sterling.

Private foundations have been important actors in the health sector for decades, mainly because of their ability to use funding to shape international health policy and the broader discourse around global health (Birn and Solorzano 1999; Fox 2006). However, the entry of the Bill & Melinda Gates Foundation into the global health landscape (bringing with it also the donation of US$30 billion by Warren Buffett) has taken private, philanthropic funding for international development, especially for health, to new and unprecedented heights. One estimate of the amount of private foundation spending on global health in 2005 was US$1.6 billion, much of it coming from the Gates Foundation (MacArthur 2006).

In 2006, the Gates Foundation awarded 195 global health grants amounting to US$2.25bn in total (McCoy *et al*. 2009). In terms of money paid out to global health grants, US$916 million and US$1.22 billion were disbursed in 2006 and 2007, respectively. The Foundation is now a bigger international health donor than all governments bar the United States and the United Kingdom.

Other prominent foundations operating in the health sector include the Rockefeller Foundation, the Wellcome Trust, the Ford Foundation, UN Foundation and the Aga Khan Foundation. The total expenditures of these foundations in 2006, together with an estimation of the international health grants awarded by the Wellcome Trust, the Ford Foundation and the Rockefeller Foundation, are shown in Table 2.

Finally, it should be noted that, particularly in the US, tax breaks afforded to private foundations amount to a public subsidy of their budgets and expenditure. In the US, it is estimated that 45% of the US$500 billion that foundations hold actually 'belongs to the American public' in the sense that it is money foregone by the state through tax exemptions (Dowie 2002).

The general public

The general public contributes to development finance in LMICs mainly indirectly through their tax contributions to the public budget of donor governments. They also make direct contributions, mainly through donations made to NGOs and remittances made by migrant workers. The latter source of funding, although considerable and an important source of income for many poor households in LMICs, is not usually allocated specifically to health nor considered part of the development assistance architecture, and is therefore not considered further in this paper.

There are no reliable data on the amount of money raised by private individuals to support NGO health programmes and projects in LMICs. However, we know that the amount generated for humanitarian disasters can be considerable. Voluntary contributions for humanitarian relief to the Red Cross/Red Crescent and 19 of the largest NGOs in 2006 was estimated to amount to US$2.31 billion (Development Initiatives 2008, p. 10), and about US$5 billion was raised by the general public in response to the Indian Ocean tsunami in 2004 (Tsunami Evaluation Coalition 2006).

Another way of estimating individual contributions to global health is to examine the income of international NGOs. For example, in 2006, the total income of the Medecins Sans Frontieres (MSF) international movement was approximately US$714 million (converted from Euro), of which 71.2% came from private individuals (MSF 2006). The Rotarian Foundation is another NGO with a health focus that relies on contributions from private individuals—presently, the Rotarian movement has a target to raise US$100 million dollars over 3 years to support the international effort to eradicate polio. However, most of the wealthiest international NGOs tend to work across a range of development sectors, making it difficult to estimate the amount allocated to health specifically.

Business/Corporate sector

Private companies and corporations contribute to development objectives and global health through 'corporate social responsibility' programmes, or what is referred to by some as 'corporate philanthropy'. As with private foundations, the existence of tax exemptions for some such activities means that a proportion of the expenditure consists of a public subsidy.

There are few data on 'corporate social responsibility' programmes (CGD 2007). Some papers argue that corporate donations to charities are less in aggregate than those made by private individuals (Andreoni 2001; Charities Aid Foundation 2003). As an illustration, 3.5% of MSF's income in 2006 came from private companies compared with 72.9% from individuals.

The most important corporate actors in the health sector are the large pharmaceutical companies. Although contributions to global health by pharmaceutical companies can be seen as forms of marketing and investment in business development, their dollar amounts are not insignificant. A review of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) Health Partnerships Survey found that the industry's combined contribution to the health-related MDGs in 2006 totalled US$1.9bn (Kanavos *et al*. 2008). This included the costs of donated commodities, commodities sold at cost, cash, health care provision and training interventions.

As an example, the contributions to global health listed by Pfizer on its website include: providing 87 million treatments of azithromycin for the International Trachoma Initiative since 1998; donating US$735 million worth of fluconazole for AIDS treatment since 2000; funding 171 Pfizer Global Health Fellows

Table 3 Disbursements of official development assistance by Development Assistance Committee (DAC) donors, 2006 (US$ millions)

	2006		
	H & P	W & S	ER
Bilateral	7173	3074	5930
Multilateral	2404	402	867
Total	9577	3476	6797

Source: OECD (2008a).
Notes: H = Health; P = Population; W = Water; S = Sanitation; ER = Emergency Response.

(including Pfizer clinicians, epidemiologists, laboratory technicians, marketing managers and financial administrators) to work with NGOs in developing countries since 2003; and committing US$33 million to improve cancer and tobacco-related health outcomes in 2007 over 3 years.

Managing global health money

Bilateral aid agencies

About three-quarters of *disbursements* of official development assistance for health by DAC countries in 2006 were channelled bilaterally (see Table 3). As far as non-DAC countries are concerned, an even higher proportion of ODA is channelled bilaterally (Harmer and Cotterrell 2005). Much of this bilateral funding is directed by donor governments through dedicated 'aid agencies', often located within Ministries of Foreign Affairs.

The biggest donor governments for global health are the United States and the United Kingdom. UK aid for international health amounted to US$1.62 billion in 2006 and was mainly managed by the Department for International Development (DFID). Foreign assistance for health from the US amounted to approximately US$4.19 billion in 2006. However, unlike the UK, the US channels its foreign assistance through multiple government agencies including USAID, PEPFAR, the President's Malaria Initiative and the Department of State (Global Health Watch 2008).

Inter-governmental organizations

Most of the ODA for health that is channelled multilaterally flows through two inter-governmental organizations: the World Bank and the European Commission (EC), the latter in the case of European donor countries.

The World Bank provides global health funding in the form of grants and concessionary loans to recipient countries through the International Development Association (IDA), which is mainly funded from the ODA budgets of donor countries. IDA spending on 'Health, Nutrition and Population' amounted to US$0.8 billion in financial year 2006 (World Bank 2007, p. 42). The Bank also makes loans for development to governments through the International Bank for Reconstruction and Development (IBRD) and for private sector development through the International Finance Corporation (IFC). Some of these monies may be directed at the health sector but do not fall into the definition of global health finance used in this paper.

As far as the EC is concerned, their role in helping to manage global health finance is smaller than the World Bank, but appears to be growing. The EC is reported to have disbursed US$421 million to 'health and population' programmes in 2005 (Action for Global Health 2007), while in 2006, spending on 'health', 'population' and 'reproductive health' was said to have amounted to US$580.17 million (Action for Global Health 2008, p. 10).

Global Health Partnerships

The emergence of GHPs has been an important development of the global health architecture in recent years. Some have been established specifically to act as global health funding agents, two of which stand out: the Global Fund and GAVI.

Income to the Global Fund was US$2.56 billion in 2006 and US$3.15 billion in 2007; while expenditure was US$1.90 billion and US$2.71 billion in 2006 and 2007, respectively (Global Fund 2007a). GAVI's expenditure in 2006 was considerably less, at US$563.05 million (GAVI 2007). Although these two agencies are often described as *sources* of global health finance, most of their income comes from donor governments.

The Global Fund is funded by governments through bilateral channels as well as through the EC (which has pledged approximately US$1.18 billion between 2002 and 2010). Private funding to the Global Fund has been relatively small, although it increased in 2006 following a pledge of US$500 million by the Gates Foundation over 3.5 years. There has been some other private financing to the Global Fund through the (RED)^{TM} Initiative which gets participating companies to contribute a percentage of their sales to the Fund. As of March 2008, the Initiative had contributed US$61 million. So far the Global Fund has discouraged private sector assistance in the form of in-kind contributions (Global Fund 2008b).

Donors can support GAVI in three different ways. First, through direct donations; second, by making long-term pledges to The International Finance Facility for Immunization, which effectively allows GAVI to draw down on future government donor pledges towards development assistance; and third, by making pledges to the Advance Market Commitment mechanism which supports the development and availability of a pneumococcal vaccine for developing countries.

According to GAVI Alliance Progress Reports, cumulative support to countries from 2000 to 2006 and from 2000 to 2007 amounted to about US$962 million and US$1.411 billion, respectively (GAVI Alliance 2006; GAVI Alliance 2007). From this we can infer that cumulative support to countries in 2007 was approximately US$449 million. In terms of total expenses however, the figures were US$1.216 billion and US$793 million for 2007 and 2006, respectively (GAVI 2008a).

Most of GAVI's funding comes from government donors (GAVI 2007). The US, one of GAVI's original six donors, has contributed a total of US$421.81 million over 7 years. Another of GAVI's original six donors, the UK, contributed US$121.56 million between 1999 and 2008. Canada had contributed US$148.73 million by the end of 2007, and Norway's contributions by 2007 amounted to US$291.89 million. Both the World Bank and the EC fund GAVI as well, although in relatively small amounts. But funding from the Bill & Melinda Gates Foundation is much more significant. An initial 5-year grant

of US$750 million in 1999 helped establish the GAVI Fund. The Foundation pledged a further US$750 million in 2005, committing a total of US$1.51 billion to the end of 2014 (GAVI 2008b). Other foundations and individual donors contributed US$8.03 million between 1999 and 2007.

Two other actors worth mentioning are the Affordable Medicines Facility for Malaria (AMFm) and UNITAID because they exemplify the creation of global agencies charged specifically to manage the purchase of medical commodities. The AMFm was established to help purchase artemisinin-combined treatments for malaria, and is estimated to require a budget of US$1.5–1.9 billion over 5 years (AMFm 2008). UNITAID was established to provide long-term and predictable funding to purchase and help reduce the prices of drugs and diagnostics for HIV/AIDS, malaria and tuberculosis. According to its 2007 annual report, UNITAID's total expenditure from November 2006 to December 2007 was US$148 million (WHO 2008). However, it is thought that expenditure could rise to US$500m in 2009 (UNITAID 2008).

Most of the funding for the AMFm is expected to come from ODA. However, UNITAID is notable in that about 82% of its funding comes from an airline ticket levy (UNITAID 2008), pointing to the need to consider consumption taxes as a new source of global health funding.

Non-government organizations (NGOs)

As mentioned earlier, NGOs are major recipients of donations made by private individuals, effectively pooling and managing their contributions. Many NGOs also receive funding from governments and philanthropic foundations.

Over recent years, the non-government sector has grown to become a significant player in international development. An OECD-DAC Advisory Group (2008) estimated that CSOs raised US$20–25 billion in 2006, of which US$14.7 billion was raised from the ODA of DAC donor countries. It is not known what percentage of this funding is spent on health, but it is likely that the percentage is higher than the 10% of DAC ODA that is allocated to health. An estimate of 20% would mean that between US$4–5 billon was spent on global health by CSOs in 2006.

Most of the funding for international NGOs in Europe comes from private sources. For example, 87% of MSF's income comes from private donations, about two-thirds of which comes from individuals. However, the delivery of government foreign assistance through private voluntary organizations (PVOs) is a prominent feature of the United States. In FY2007, USAID channelled US$2.4 billion of ODA through PVOs (USAID 2007). The percentage of US ODA channelled through PVOs increased from 0.18% in 1980 to 6% in 2002 (OECD 2005). As a consequence, many US-based NGOs are heavily funded by the US government. For example, Care International USA receives about 60% of its income from the US government, while about a quarter of World Vision US's income comes from the US government.

NGOs also receive funding from philanthropic foundations. Some NGOs, for example, are major recipients of Gates Foundation grants. One such NGO is the Seattle-based organization PATH, which received a number of grants from the Gates Foundation between 1999 and 2007, the sum of which amounted to US$824.09 million (McCoy *et al*. 2009). Universities are also recipients of grants from the Gates Foundation and other foundations such as the Wellcome Trust. Johns Hopkins University, for example, has received US$192.32 million worth of grants from the Gates Foundation (McCoy *et al*. 2009).

Private foundations and the business/corporate sector

Private foundations and private companies can also be 'managers' of global health finance as well as 'providers' of global health finance by virtue of implementing their own programmes and projects. The budgets they manage are derived from their own income, although, as mentioned earlier, a significant amount of this income arises from public subsidies made in the form of tax exemptions.

Spending global health funding

Multilateral agencies/IGOs

UN agencies with a health mandate are one important category of recipients of global health finance. Three key agencies are the WHO, UNICEF and UNAIDS. The WHO has a budget of about US$4.2 billion for the current 2008/2009 biennium (WHO 2007a), an increase from the previous biennium budget of about US$3.3 billion. Although total income to UNICEF is greater, having risen from US$2.78 billion in 2006 to $3.01 billion in 2007 (UNICEF 2007), only a proportion of this is spent specifically on health. UNAIDS' expenditure, by comparison, is small. In 2006/07, it spent US$292 million, although US$120.7 million was transferred back to its 'cosponsors' (including WHO, UNICEF and the World Bank) to implement activities under its unified budget and workplan.

Inter-governmental organizations such as WHO and UNICEF tend to be mainly government-funded. However, private foundations are not a negligible source of funding for the WHO. In 2006, the Gates Foundation was the third equal largest funder of the WHO (Global Health Watch 2008). UNICEF also receives non-governmental funding. In 2007, while the public sector (governments and other IGOs) contributed to 65.4% of UNICEF income, private sector contributions totalled US$868 million (28.8%), most of which was raised by local UNICEF 'national committees' that run public fundraising activities. Foundations and GHPs also contribute to UNICEF, particularly for health. For example, in 2007, the UN Foundation contributed US$71.8 million, GAVI provided US$47.8 million, the Global Fund granted US$12.3 million, the Canadian Micronutrient Initiative gave US$10.3 million, and Rotary International awarded US$7.5 million.

While being major recipients of global health funding, WHO and UNICEF also fund other organizations, illustrating another example of the limitation of the schematic used in this paper. The WHO, for example, funds a considerable amount of technical work conducted by research institutes and universities. And similarly, UNICEF funds government and non-government agencies to conduct a variety of health care activities.

Global Health Partnerships

Unlike the Global Fund and GAVI, many GHPs are not funding agencies but are primarily implementing agencies (although some also award grants to other actors). They include the Stop TB Partnership, the Medicines for Malaria Venture, the International Trachoma Initiative, and several that have been established to develop new vaccines and medicines. Funding sources for these partnerships vary but usually include a mix of government ODA, philanthropic funding, private individual donations and in-kind contributions from the private sector. As many as seventy GHPs exist with aggregate annual expenditure running into hundreds of millions of dollars, although individually most spend less than US$100 million per year.

The expenditure of the Stop TB Partnership in 2006 was US$52.97 million, with 93% of this funding coming from governments, US$2.1 million coming from foundations and Novartis contributing US$3.2 million worth of drug donations (WHO 2007b). Income into the Medicines for Malaria Venture (MMV) was US$76.97 million in 2007, up from US$30.62 million in 2006 (79% of funding in 2007 came from 'private foundations and individuals', mainly the Gates Foundation) (MMV 2007). The Global Alliance for TB Drug Development spent US$20.09 million in 2006 (TB Alliance 2007), while the International AIDS Vaccine Initiative spent US$76.99 million and US$87 million in 2006 and 2007, respectively (over 80% of funding coming from governments). The International Partnership for Microbicides spent about US$72 million in 2006 (IPM 2006) and the Drugs for Neglected Diseases Initiative spent US$8.27 million in 2006 (DNDi 2006).

Non-government organizations

International NGOs are significant spenders of global health finance. There are now a huge number of NGOs operating in the field of international development and health. Their funding comes from multiple sources and it is not possible to establish an accurate figure for the amount of global health finance spent by NGOs. However, it is worth noting the budgets and expenditures of some of the larger NGOs in order to gain some perspective on the significance of their presence on the global health landscape.

Save the Children US and UK spent US$361.2 million and approximately US$280 million, respectively, in fiscal year 2007, a proportion of which would have been on child health. Care International USA and Oxfam Great Britain spent US$608 million and approximately US$426.5 million, respectively, in 2007. Total expenditure of the MSF international movement in 2006 was approximately US$700 million. The combined income of World Vision US and UK in 2007 was just over US$1 billion. The Clinton Foundation spent US$92.79 million in 2006, of which 30% was allocated to its HIV/AIDS Initiative which focuses on paediatric AIDS treatment, and 8% to its Global Initiative which funds a number of health programmes (William J. Clinton Foundation 2007). The Carter Centre's health programme expenses for 2006 were US$95.59 million.

Private sector

The private sector is also a big spender of global health finance, although a large amount of corporate contributions in the form of drug donations or discounts can effectively be viewed as money spent by those companies on themselves. In addition, a large amount of other global health spending is directed at the purchase of medicines and other commodities from private companies. For example, up to and including the Global Fund's six rounds of funding, an estimated 48% of expenditure was on commodities, products and medicines from the private sector (Global Fund 2007b). A large proportion of Gates funding is also channelled to the private sector, either to stimulate new research and development or to help purchase existing products. Similarly, a large proportion of spending by the GAVI Alliance, the Clinton Foundation, the Affordable Medicines Facility for Malaria and UNITAID will be on commodities from the private sector.

Low and middle income country (LMIC) recipients

Developing country governments are clearly important recipients of global health funds, particularly through the channels of bilateral and multilateral ODA, as well as from the Global Fund and the GAVI Alliance. Civil society organizations in LMIC countries are also recipients of global health finance from various sources. For example, developing country CSOs may receive grants directly from donor governments, northern-based international NGOs or the general public. There are, however, limited data on the amount and distribution of global health finance channelled to CSOs in LMICs.

Discussion

This paper presents a conceptual map of the contours of global health funding using a schematic that (a) differentiates the source, management and spending of global health funds, and (b) draws attention to the different categories of actors in the global health landscape. Figure 2 shows the main actors in global health finance in dollar terms for 2006 and their inter-relationships, showing the many routes by which global health funding is channelled. Given the many actors and the lack of data, the map we present is imprecise and hazy. However, this only serves to emphasize the need for a framework with which to describe and analyse the roles and relationships of the many actors operating in the messy and complex reality of global health.

A number of points stand out from Figure 2 and the earlier discussion. First, global health financing is fragmented, complicated and inadequately monitored and tracked. While the increase in number of global health actors may positively reflect the greater amount of resources and attention for global health, it may lead to an uncoordinated and competitive environment that is problematic for governments and CSOs in LMICs. Many transaction costs come attached to the proliferation of global health actors and initiatives and to the convoluted channels of financing. Ensuring adequate financial and programmatic accountability to the public of government donors, international NGOs, UN agencies and philanthropic foundations has become difficult, if not impossible.

In its latest Health, Nutrition and Population Strategy, the World Bank itself noted that having to work with so many organizations and initiatives at the global level was challenging, and that there was a need for it to be more selective over its

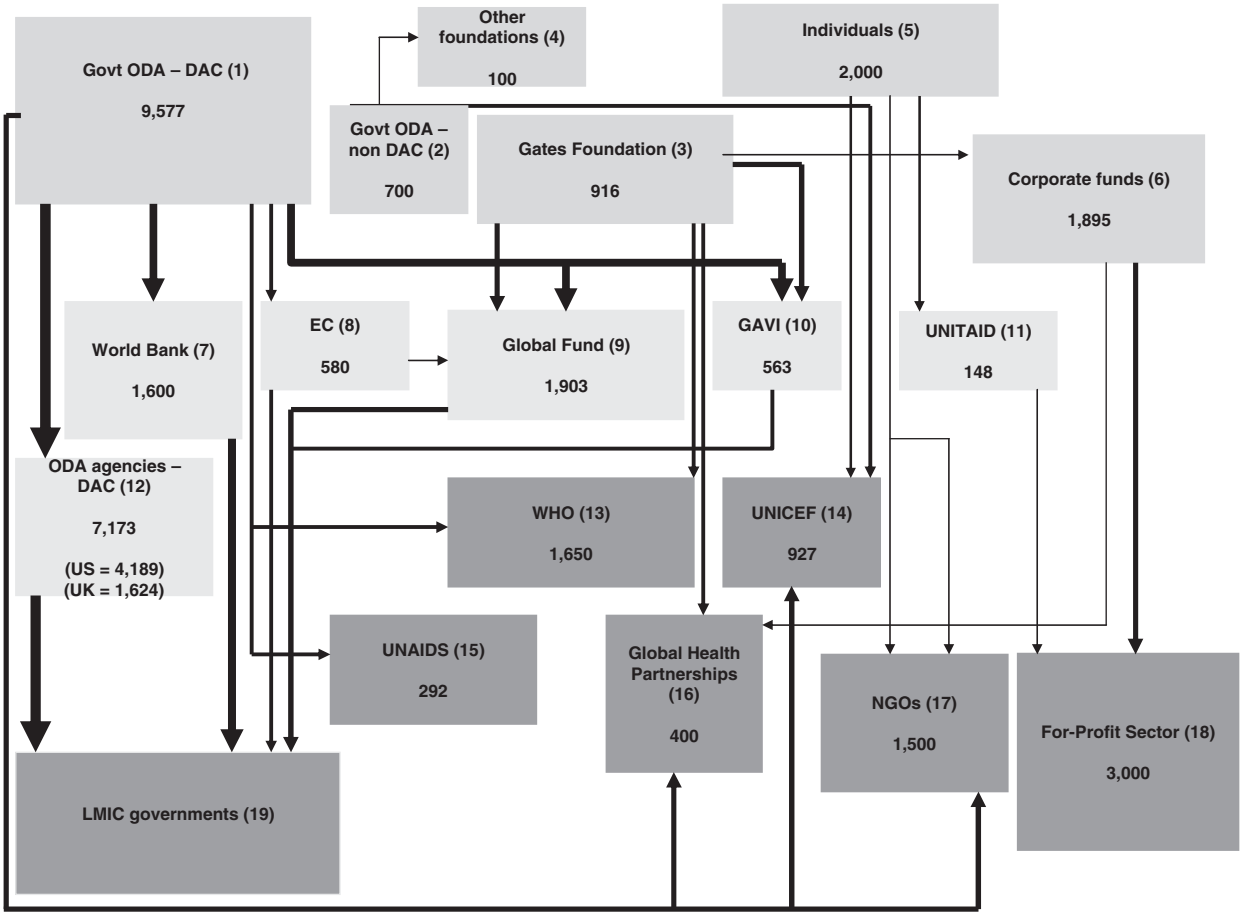

Figure 2 Overview of the main blocks of global funding for health in 2006
Notes: (1) This figure refers to the calculation by the Development Assistance Committee (DAC) of actual disbursements made for health and population in 2006. It is expressed in 2004 dollar terms having been controlled for inflation and fluctuating exchange rates.
Source: OECD (2008a). (2) This figure is an estimate based on a guesstimate that total non-DAC official development assistance (ODA) in 2006, including China, was about US$7 billion and that health sector spending would be no more than 10% of this figure. (3) This figure represents expenditure for 2006. It is worth noting that expenditure for 2007 was US$1220 million. (4) This figure is a guesstimate based on a calculation of the grants awarded for health programmes by three of the bigger health-funding foundations: Wellcome Trust, Rockefeller Foundation and Ford Foundation (Rachlis *et al*. unpublished). (5) This figure is a guesstimate based on an assumption that voluntary contributions to health may be similar in size to voluntary contributions to humanitarian relief as estimated by Development Initiatives (2008). (6) This figure comes from the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) which estimated the size of the pharmaceutical industry's contribution to the health-related MDGs in 2006. (7) This figure represents International Development Association (IDA) spending on Health, Nutrition and Population as reported by the World Bank. (8) This figure indicates European Commission (EC) spending on 'health' and 'population and reproductive health' and comes from a report by Action for Global Health. (9) This figure represents expenditure/disbursements for 2006. (10) This figure is the total expenses of GAVI. Source: GAVI (2007). (11) This figure comes from the UNITAID annual report. It is expected that expenditure will increase to US$ 500 million in 2009. (12) (13) This figure represents half of WHO's reported biennial budget for 2006-07. (14) This figure is a guesstimate based on the assumption that a third of UNICEF's total income in 2006 would have been spent on health. According to UNICEF's Annual Report, total expenditure through direct programme assistance on HIV/AIDS and child survival and development was US$1197 million (UNICEF 2006, p. 40). (15) This figure represents total UNAIDS expenditure for the FY 2006/07. (16) This figure is a guesstimate derived from the budgets of the global health partnerships described earlier in the text. (17) This figure is a guesstimate derived from the expenditure of Médecins Sans Frontières (MSF) and the budgets of several of the large international NGOs described earlier in the text. (18) This figure is a guesstimate derived from the data on corporate contributions to global health together with estimations of GAVI, Global Fund, UNITAID, Clinton Foundation and Gates Foundation funding of commodities. (19) According to the OECD, 96.4% of DAC funding for health was allocated to low and lower-middle income countries. From this, a spending figure of US$9230 million can be estimated for 2006 (using the same exchange rates used in Figure 3).

engagement with other actors. It went on to warn that 'unless deficiencies in the global aid architecture are corrected and major reforms occur at the country level', the international community could squander the rise in attention and money directed at improving the health of the world's poor (World Bank 2007). Similarly, the UK government has described the 40 bilateral donors, 90 global health initiatives, 26 UN agencies and 20 global and regional funds working in global health as being 'over-complex' (DFID 2007). At times GHPs are established to help coordinate efforts in a particular area or aspect of health, but inevitably end up adding to the problem of an already over-complicated architecture and an over-crowded landscape.

The importance of coordination and accountability (including mutual accountability) is further heightened by the vertical and disease-based focus of many global health initiatives,

together with the growing adoption of output-based performance measures that further encourages verticalization at the expense of the wider health system and country ownership. The chase for funding, success and public attention undermines efforts to ensure a more organized system of mutual accountability, coordination and cooperation (Buse and Harmer 2007).

While the Paris Declaration on Aid Effectiveness and the International Health Partnerships are designed to improve coordination and harmonization amongst donors, success has been limited. For example, one of the findings of a recent report published by the OECD on the Paris Declaration was that many donors still insist on using their own parallel fiduciary systems even where country systems are of good quality (OECD 2008c). It also reported on 14 000 separate donor missions having been conducted in 54 recipient countries in one year, with Vietnam fielding an average of three per day.

A second point relates to the volume of global health funding. It is generally accepted that global health funding has increased over recent years as a result of a rise in ODA from donor governments and the emergence of the Gates Foundation as a major donor. However, the extent and scale of the increase in ODA for global health appears to have been inflated. Disbursements for 'health and population programmes' by DAC donor countries amounted to US$8.11 billion and US$9.58 billion in 2005 and 2006—less than the figure of US$14 billion which is commonly used to describe levels of development assistance for health.

Alarmingly, the total volume of ODA from DAC donor countries fell by 8.4% in real terms in 2007 relative to 2006 (OECD 2008b). According to a recent survey conducted by the OECD, although 102 recipient countries can expect a real increase in their aid by 2010, only 33 of them will experience an increase of US$100m or more. More worryingly, 51 recipient countries can expect a decrease in aid by 2010, while ODA to eight Least Developed Countries and four fragile states is expected to fall by over US$20bn (OECD Development Assistance Committee 2008). The current level of development assistance for health therefore falls far short of the *additional* US$22 billion required by 2007 as estimated by the WHO Commission on Macroeconomics and Health (2001). The current world financial crisis and the prospect of a worldwide recession, with donor governments cutting back further on aid budgets, present additional and serious concerns that will need to be faced.

A third issue concerns the pattern of global health spending and consumption. Global health is a multi-billion dollar industry and there are clearly competing interests amongst different actors to make use of this funding. An important question is whether global health financing is organized to suit the interests of particular actors.

For example, pharmaceutical companies appear to benefit considerably from global health programmes that emphasize the delivery of medical commodities and treatment (as well as from the positive image created by their participation in GHPs). NGOs, global health research institutions and UN bureaucracies also have an interest in increasing or maintaining their levels of income. The expanded role of NGOs is especially noteworthy. Many NGOs are now large multi-national enterprises. The MSF international movement, for example, although consisting of fairly autonomous country 'chapters', commands an annual budget of about three-quarters of a billion dollars. The income of the Seattle-based non-profit organization, PATH, in 2006 was over US$130 million (PATH 2007).

Careful attention and debate also needs to be applied to the possibility of global health funding and policy development being 'captured' by vested interests and used to support inappropriate spending on the private commercial sector, or on a large and costly global health bureaucracy and technocracy based in the North. It is important to look at not just the volume of money raised, but also how it is spent and who it benefits so as to help ensure that the needs of recipient countries are kept at the forefront.

However, the lack of data on many aspects of global health finance makes it impossible to conduct a comprehensive and detailed assessment. The gap in data and analysis on international health funding by non-DAC government donors and private foundations, and on funding that is channelled through and spent by NGOs, GHPs and the private sector, needs to be filled. Better data on the pattern and flow of global health financing would enable a more critical analysis of the performance of funders and global health actors in delivering appropriate and effective development assistance for health to LMICs.

While better data are required at the global level, what is perhaps more important are financial management and information systems in recipient countries that are capable of providing a composite picture of health expenditure that integrates external and domestic financing for health. Initiatives to strengthen budgeting and expenditure reporting systems such as the promotion of National Health Accounts and the Creditor Reporting System (CRS) of the OECD are important steps, but need to be expanded and improved. Greater use by donor governments of sector-wide or multilateral approaches to development assistance would also help considerably.

Finally, all the recommendations made above must be accompanied by the development of civil society capacity within countries to play a 'watchdog' role on how governments and external agencies are performing. An empowered and informed civil society in LMICs, including local universities and other research institutions as well as the local media, must begin to engage with the complex and fragmented supranational infrastructure of finance, actors and initiatives, and help to ensure that it impinges upon their fragile health systems in a more positive way.

Endnotes

[1] Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States.

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