FOLLOWING THE MONEY: TOWARD BETTER TRACKING OF GLOBAL HEALTH RESOURCES

REPORT OF THE GLOBAL HEALTH RESOURCE TRACKING WORKING GROUP

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Contents

Acronyms and Abbreviations

AFRO	Regional Office for Africa
AiDA	Accessible Information on Development Activities
AMP	Aid Management Platform
APR	Annual Progress Report
BIS	Budget Information Service
CDC	Centers for Disease Control and Prevention
CEP	Costs, Effectiveness, Expenditure and Priority Setting
CHOICE	CHOosing Interventions that Are Cost-Effective
CREDES	Centre de Recherche, d'Étude et de Documentation en Économie de la Santé
CRIS	Country Response Information System
CRS	Creditor Reporting System
DAC	Development Assistance Committee
DCPP	Disease Control Priorities Project
DELSA	Directorate for Employment, Labour and Social Affairs
DoD	Department of Defense (U.S.)
DOL	Department of Labor (U.S.)
DPT	diphtheria, pertussis, and tetanus
ECLAC	Economic Commission for Latin America and the Caribbean
ECSA	East, Central, and Southern African
EU	European Union
Eurostat	Statistical Office of the European Communities
FCAA	Funders Concerned About AIDS
FSP	Financial Sustainability Plan
FTF	Financing Task Force
FUNSALUD	Fundación Mexicana para la Salud (Mexican Health Foundation)
FY	fiscal year
GAVI	Global Alliance for Vaccines and Immunization
GDP	gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GNI	gross national income
GRID	Global Response Information Database
HA	health account
HBC	high-burden country
HDN	Human Development Network
HMN	Health Metrics Network
Hib	*Haemophilus influenzae* type B
HNP	Health, Nutrition and Population

HRSA	Health Resources and Services Administration
ICHA	International Classification for Health Accounts
ICPD	International Conference on Population and Development
IDASA	Institute for Democracy in South Africa
IDB	Inter-American Development Bank
IDML	International Development Markup Language
IEC	information, education, and communication
IMF	International Monetary Fund
IND	indicator database
INDIX	International Network for Development Information Exchange
INSP	Instituto Nacional de Salud Pública (Mexico National Institute of Public Health)
INTAL	Institute for the Integration of Latin America and the Caribbean
IPPF	International Planned Parenthood Federation
IRDES	Institut de Recherche et Documentation en Économie de la Santé
ISIC	International Standard Industrial Classification
LAC	Latin America and the Caribbean
M&E	monitoring and evaluation
MDG	Millennium Development Goals
MIS	management information system
MOH	ministry of health
MTBPS	medium-term budget policy statement
MTEF	medium-term expenditure framework
NASA	national AIDS spending assessment
NCU	national currency unit
NGO	nongovernmental organization
NHA	national health account
NHEX	National Health Expenditure
NIDI	Netherlands Interdisciplinary Demographic Institute
NIH	National Institutes of Health (U.S.)
NORAD	Norwegian Agency for Development Cooperation
NPISH	nonprofit institution serving households
NTP	national tuberculosis control program
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PARIS21	Partnership in Statistics for Development in the 21st Century
PEFA	Public Expenditure and Financial Accountability
PEPFAR	President's Emergency Plan for AIDS Relief (U.S.)
PETS	public expenditure tracking survey
PHN	Population, Health and Nutrition
PHR	Partnerships for Health Reform
PHRplus	Partners for Health Reform*plus*
PM	project management database
PPP	purchasing power parity

PQMD	Partnership for Quality Medical Donations
PVO	private voluntary organization
RID	research inventory database
SCA	Statistical Conference of the Americas
SHA	System of Health Accounts
SIDA	Swedish International Development Cooperation Agency
SIDALAC	Regional AIDS Initiative for Latin America and the Caribbean
SNA	System of National Accounts
SWAp	sectorwide approach
THE	total health expenditures
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
USDA	Department of Agriculture (U.S.)
WDI	World Development Indicators
WHO	World Health Organization

Acknowledgments

This report started with a simple question—"How can we tell how much funding is devoted to global health programs?"—and ended (more than two years later) with an answer that is far from simple.

As those who have tried know well, tracking health-related funding is challenging in any setting, given the range of public and private sources and the many types of services and programs that fall within the definition of "health sector." It is made all the more complicated when significant external support from donors and private charities plus in-kind donations of drugs and other inputs are taken into account. The task is made yet harder by inadequate public expenditure management systems in countries where public agencies' capacity is stretched very thin and by donor accounting structures that are not designed to respond in a timely way to policy questions. In short, a simple question leads down a winding path.

In 2004, the Center for Global Development convened the Global Health Resource Tracking Working Group as part of a broader effort to understand the constraints to more effective development assistance for health. The scope of the work, which was supported by a grant from the Bill & Melinda Gates Foundation, included an examination of both donor- and country-level financing flows from both public and private sources. In addition to yielding useful discussions among officials at OECD, WHO, the World Bank, UNFPA, UNAIDS, major foundations, and other organizations, the work resulted in this report, which provides an outline of how, over time and with new resources and political commitment, a coordinated approach could produce a coherent system to track important financial flows in global health. We hope that it proves to be a useful point of departure for future activities by those seeking to improve coherence within a fragmented environment.

Many individuals have been extraordinarily helpful throughout the project. Thanks are due, first, to the members of the Working Group, who devoted time, attention and valuable insights to this effort (Appendix A). We also thank Elisa Eiseman, Donna Fossum, Amanda Glassman, Malcolm Holmes, Eric Lief, A. K. Nandakumar, and Dorota Rasciborska for preparing useful background papers (Appendix B). Thanks are due, as well, to the many individuals who participated in group or individual consultations related to this project and who shared both optimistic and pessimistic views on the potential for diverse actors to engage in a coordinated resource tracking system (Appendix C presents a list of individuals consulted). Finally, many thanks go to Katherine Blumer, who served as the project coordinator for most of the life of the project and who contributed greatly in all ways.

Executive Summary

Good planning and policymaking in the health sector require timely, accurate information about spending on inputs and services, as well as funding prospects in the near and medium terms. While some routine data are available on total health expenditure (divided into public and private spending) for most countries, more timely, complete, and detailed data are required for policymaking.

In many developing countries, neither government agencies nor development agencies have routine access to such information at a level of detail that is useful for answering key policy questions. This information gap contributes to governments using incremental, rather than strategic, approaches to health-sector budgeting and thus missing opportunities to get more health for the money.

At the global level, mobilizing resources to accelerate progress toward the Millennium Development Goals (MDGs) depends on an ability to determine how funds are allocated and on measuring the results that are achieved. Donor agencies, aid analysts, and advocates use "best guesses" about how much funding is available relative to what would be required to achieve both near- and long-term health goals. Lack of credible estimates of donor commitments and actual funds available to global health programs greatly impedes planning, decision making, and advocacy efforts. Data systems and access to information lag behind the rhetoric of greater transparency and accountability in international agencies. For many health areas, both funders and observers find it impossible to know whether the development community is living up to its commitments to provide greater and more effective transfers and timely flows of development assistance.

The Global Health Resource Tracking Working Group (the Working Group) was established in 2004 to examine these problems and undertake collaborative analyses to develop recommendations that would improve policy-relevant data on financial flows in global health. The group, which included representatives of leading funding and technical organizations, was convened under the auspices of the Center for Global Development as part of a broader agenda of policy research on the effectiveness of development assistance for health. The project was funded by a grant from the Bill & Melinda Gates Foundation.

Through its work, the Working Group determined that many of the most challenging problems in global health resource tracking can be solved. The combination of political commitment, methodological advances, and modern information technologies could produce a step-change in collection and dissemination of information about resources within the health (and other) sectors. The solution requires combined attention to improving the management of public-sector expenditures in developing countries, strengthening and

institutionalizing national health accounts work, and improving the timeliness and comprehensiveness of reporting of external support from bilateral, multilateral, and private sources.

The Problem

Despite progress toward greater availability of data and analyses on public-sector health budgets and expenditures, information about health-sector resource flows resembles a poorly sewn patchwork quilt, with many essential pieces missing. Major weaknesses at the country and global levels include the following:

Weak country-level information systems

- National health accounting (NHA) exercises, many supported by donors, have not yet realized the method's potential. Few countries have been able to integrate the collection and use of data on public and private expenditures into the routine business of policymaking and program implementation. Such institutionalization is hampered by lack of resources, limited in-country capacity, and weak coordination among donor agencies. In addition, decision makers often are not aware of, or do not fully appreciate, the utility of NHA for policymaking.
- The source data for expenditure-tracking exercises suffer from problems of timeliness, comprehensiveness, and accuracy. Few low- and middle-income countries currently adhere to sound public financial management and reporting practices.
- Despite the fact that private spending can account for half or more of all health expenditures, information on private spending is hard to obtain. Surveys that seek to capture information on household spending tend to be expensive, infrequent, and subject to significant measurement error.
- Lack of information about spending on services and programs concerns donors that are shifting to sectoral and general budget support. Without such data, it is impossible to know whether spending patterns are consistent with poverty reduction strategies and national commitments to greater, more equitable, and more effective social-sector investments.

Limited global-level information system

- Detailed information about how much donors are committing and spending on priority health programs in specific countries is available mainly retrospectively, through cumbersome questionnaire-based exercises. Timely information is not readily available on domestic financing of health in developing countries. This lack of data significantly impedes the work of advocacy groups seeking to mobilize resources and monitor the gap between available and needed resources and of officials in donor agencies who wish to understand the broader landscape of spending on global health so that they can better allocate resources.
- The Organisation for Economic Co-operation and Development/Develop-

ment Assistance Committee (OECD/DAC) Creditor Reporting System was not designed for sector-level policymaking and so cannot respond to increasing demands for more timely and detailed information about donors' spending by type of health program. More flexible use of data resident in agency financial and activity management information systems might improve timeliness and disaggregation into policy-relevant categories.

Some actions have been taken to address these issues, with notable progress. Improvements have been made in the OECD/DAC's ability to capture both disbursements and commitments of external resources. For country-level expenditure tracking, major advances have been made in the development of proven national health accounting methods that permit cross-national comparisons and inform major health financing and policy questions. Tracking exercises focused on AIDS and other specific diseases (called "subaccounts") have provided information that is valuable for both donor and national policymaking in many countries. At the global level, the World Health Organization (WHO) NHA database publishes information for its member states annually on indicators of health expenditures, including external flows spent in the country for its member states annually. These indicators are produced by accessing publicly available figures on spending in general, including those on health, although reports on subaccounts are not routinely included.

Major problems remain, however. Efforts to generate information about financial flows in global health have been undertaken in a relatively uncoordinated manner, and some of these efforts have given limited attention to the quality of the primary data sources. At the country level, much of the primary data from the public financial management system is of inadequate quality. Among organizations working on national health accounts, there has been only limited success to date in generating national-level demand for, and institutionalization of, expenditure tracking, and subaccount exercises often are not well integrated into a broader NHA framework.

At the global level, organizations interested in the flow of donor funds have launched a veritable barrage of efforts to collect data from donor agencies about individual health conditions and interventions—from malaria to tuberculosis to immunization to health research and development (R&D) to reproductive health to child health to AIDS. This trend risks overworking and exhausting the patience of those who are faced with an onslaught of data requests, degrading the quality of all data collection, and confusing policy audiences who may be unfamiliar with the potential shortcomings and unofficial nature of the data. Moreover, major sources of resource transfers, including private charities and the pharmaceutical sector, are not included in most data collection efforts.

Toward a Solution

The Global Health Resource Tracking Working Group sought to identify ways to accelerate progress toward a coherent, effective resource tracking system. This document summarizes core recommendations about actions the interna-

tional community should support to improve in resource tracking, resulting from a series of analyses and deliberations by the group.

Several core principles underlie the recommendations:

1. **Place the highest priority on responding to needs of in-country decision makers.** Ensuring that the data required by in-country decision makers for sound policymaking are available, with the timeliness and in the form that correspond to the countries' budget and policy constructs, merits the largest investments. At the country level, there is a need to build on existing assets, systems, and resources and to strengthen these to more effectively respond to local needs. Moreover, the Paris Declaration on Aid Effectiveness commits donors to rely increasingly on countries' public financial management systems to monitor and report on their aid flows.
2. **Coordinate, collaborate, and do no harm.** Donor and other international agencies can advance the cause of better information systems in part simply by not making a bad situation worse. This means, for example, fighting the temptation to create duplicative data collection efforts to respond to short-term information needs and to instead build on existing systems. It also means finding ways for multiagency collaboration and coordination in the methods used among institutions with the mandate for data collection, analysis, and dissemination. It further means, however, sensitivity to the reality that without additional resources, these institutions can be tasked to undertake only a small marginal effort without degrading the quality of their work as a whole. Finally, it means that these institutions themselves must become more quickly responsive to new information needs.
3. **Make the best use of modern information management technology.** Information systems both in some donor agencies and in some middle-income countries are structured to permit automated collection and reporting of policy-relevant information. As such systems are replaced and upgraded, with improved search functions, the accuracy and comprehensiveness of data reporting can be increased and time lags reduced. The use of unobtrusive measures, such as data mining and data weaving, have the potential to yield more detailed information.
4. **Think long-term.** Although there are some immediate ways to make progress, development of a functional, policy-responsive integrated system to track resources is a long-term proposition. It will require not only a resource commitment but also the patience to work within a common framework of action that will allow consistent information to flow from different information systems and be widely available.

Specific Recommendations

Conscious of the ambitious nature of the work ahead, the Working Group sought to identify important steps that the international community could take to make progress toward a more coherent and effective system of tracking resources within the health sector. These recommendations are highlighted below and laid out in more detail in Chapter 5 of the report.

- **Recommendation 1: Support improvements in the ability of developing country governments to develop sound budgets and report on their execution.** The essence of this recommendation is a recognition that the most important primary data upon which virtually all successful resource tracking relies are those generated within developing countries, and so efforts should be made to reinforce the initiatives currently under way to bring budgeting and expenditure management and reporting systems up to an international standard. As a complement to these efforts, donors should identify and support in-country institutions to track the correspondence of public-sector budgets to national priorities, serving as an independent check or "watchdog" on public-sector agencies.
- **Recommendation 2: Support the integration and institutionalization of national health accounts into policymaking in developing countries.** This recommendation recognizes that the methods for developing internationally comparable and policy-relevant estimates of health spending have been developed and have proven useful in many settings. These methods are not yet sufficiently institutionalized, and decision makers do not use the estimates in the routine business of the public sector. Efforts toward this end should be stepped up.
- **Recommendation 3: Improve data on private spending.** A major gap in the data on financial flows for the health sector corresponds to private spending (including out-of-pocket spending), charitable contributions, and the transfers from pharmaceutical companies (through drug donations and/or concessionary pricing). Special efforts can be made to fill in this gap, including collecting data on household spending, nongovernmental organizations (NGOs), and firms (for example, through insurance programs), as well as donations by private entities; this would provide a more complete and realistic picture of the total flows.
- **Recommendation 4: Support and refine global-level information systems.** There are several elements to this recommendation, including not only short-term consolidation and harmonization of the multiple resource tracking efforts that are undertaken on an ad hoc basis to answer particular types of question about external flows, but also long-term movement toward a system that takes advantage of technological advances to collect data in a more real-time fashion. Connections and consistency of classification need to be strengthened between global- and national-level reporting.

Following the Money: Toward Better Tracking of Global Health Resources

Report of the Global Health Resource Tracking Group

I. The Need for Better Resource Tracking

Many major problems in global health are very difficult to solve. They require a daunting level of funding, know-how, and political negotiation: these include, for example, problems such as reaching the poorest with essential health goods and services, and sustaining scaled-up health programs that require spending far in excess of current budgetary envelopes in low-income countries. But deliberate and affordable actions can solve one major problem, and that solution would have important spillover benefits for the more arduous challenges. The problem is the lack of accurate, up-to-date information about how much money is dedicated to the health sector in low- and middle-income countries and how that money is used. In concert with essential political and institutional commitments to transparency, the solution lies in support for good budgeting practices, the application of modern technological solutions, and the use of proven methods of collecting and presenting expenditure data.

Tackling the agenda for better tracking of financial flows in global health represents a major opportunity for good coordination .

Tackling the agenda for better tracking of financial flows in global health represents a major opportunity for good coordination among international donors and technical agencies to support policymaking and program implementation in the developing world. It requires attention to three main elements: improving the management of public-sector expenditures in developing countries; strengthening and institutionalizing national health accounts work; and improving the timeliness and comprehensiveness of reporting of external support from bilateral, multilateral, and private sources. Because domestic resources are the major source of health funding and policymakers in developing countries are the most important users of data on resource flows, strengthening of national systems should be given primary priority.

This report describes the type of information about financial flows in international health that is needed for good policymaking, the type and forms of information now available, and the specific actions that could be taken by donors and technical agencies to improve and make such information more accessible. Many of these actions are already under way and should be strengthened with financial and technical support. Others are new. The recommendations are intended to inform ongoing policy discussions in the global health field, as well as in the broader domain of aid effectiveness and donor harmonization, and to provide a starting point for a coherent set of actions and investments.

Better-functioning health systems depend on improvements in the base of knowledge about how much funding is available in the health sector and how monies are used.

The report is organized as follows: The current chapter introduces the topic. *Chapter 2* highlights the various policy purposes and actors for which information on resource flows is required, as a starting point for assessing whether and how the current approaches require strengthening or rethinking. *Chapter 3* describes the primary and secondary sources of information and identifies the existing gaps and missing links. *Chapter 4* describes a vision of an improved and more coherent system for tracking of financial flows. *Chapter 5* presents recommendations for reinforcing or consolidating existing efforts and for undertaking new actions that the global community—donors, technical agencies, and other stakeholders—can do to promote the availability of more accurate, policy-responsive, and accessible information on financial flows.

The report is the result of the work of the Global Health Resource Tracking Working Group, which was convened by the Center for Global Development to examine the ability of existing data sources to respond to key policy questions and uses and to develop recommendations for a practical (albeit ambitious) way forward for international donors and technical agencies to improve the match between data and needs. While recognizing that developing countries play a key role—perhaps *the* key role—in system improvements, the focus of the Working Group's efforts was squarely on what the international community can do to *support* progress at the country level.

The Working Group included experts in various aspects of resource tracking from key stakeholder institutions (Appendix A presents the Working Group member biographies). The Working Group commissioned a set of background papers (Appendix B contains an annotated list of background papers, and the papers themselves are available upon request), debated both conceptual and technical issues, and consulted broadly through formal and informal venues (Appendix C lists the individuals consulted).

Information Matters

Two basic motivations drive improvements in the data on financial flows to the health sector: first, such information is essential to inform policies that promote better health; second, improved data availability is part of a broader movement toward good governance, and sound public-sector management at both global and national levels.

Better information is needed to achieve health goals.

Realization of the global community's commitments to better health in low- and middle-income countries through better-functioning health systems depends on improvements in the base of knowledge about how much funding is available in the health sector and how monies are used. This is by no means all the additional information required for good policymaking in the public sector or decision making by private-sector actors. It is clearly the case, for example, that decision makers at both global and national levels require information about the efficacy of different interventions and approaches to health system strengthening. But financial information is essential for understanding how large the gap is between the minimum required to deliver essential health

goods and services and the amount available; how resources could be coordinated better; and how efficient the production of health services (and health outcomes) is in a particular setting. Without financial information, those with the mandate to maximize the benefits of health spending in both public and private sectors find it impossible to make informed decisions about appropriate trade-offs and use of scarce resources—in large part because they may not even know how scarce the resources actually are.

Global attention to specific health conditions, such as AIDS, TB, malaria, vaccine-preventable diseases, and others that affect low-income countries, has only increased the underlying demand for data on resource flows. A large share of the dialogue in donor target setting, policy, and practices, for example, is focused on the gap between the available resources and the funding required to achieve the Millennium Development Goals and other health-related aims. The lack of confidence in the estimates of "available resources" at both global and country levels undermines resource mobilization and allocation efforts. These estimates are bedeviled by the time lag for data on official donor flows and the absence of data on foundation and NGO flows to health.

Global attention to specific health conditions, such as AIDS, TB, malaria, vaccine-preventable diseases, and others that affect low-income countries, has increased the underlying demand for data on resource flows.

In addition, there is wide consensus that resources in the health sector must be used more efficiently and in a more coordinated manner in support of strengthened health systems. Given the massive resource demands, wasting the limited funds that do exist through redundancy, lack of complementary inputs, overdependence on out-of-pocket spending, and other contributors to inefficiency and inequity makes a bad situation worse. Decision makers who do not have ready access to credible information about how much money is spent face an insuperable obstacle in efforts to optimize resource allocation.

Better information is needed to fulfill commitments to greater transparency and good governance.

Accountability and budget transparency are fundamental to good governance at all levels and to encourage community participation in health issues as taxpayers as well as consumers. At the global level, the bilateral and multilateral donors, as well as international financial institutions that provide a large share of the health funding in poor countries (through projects, sectoral "basket funding," or general budget support), have an interest in making available information about their financial commitments, the use of funds, and the results achieved—and a responsibility to do so. They have committed to harmonize their practices so that the distinct systems employed by different donors do not overwhelm the nascent public-sector management capabilities of many countries that receive donor inflows. In the Paris Declaration on Aid Effectiveness signed in 2005, donors committed themselves to using national financial management systems rather than stand-alone arrangements, whenever possible; developing joint and coordinated financing of major programs; and providing timely and comprehensive information on current-year aid flows to recipient countries, as well as indicative information about future aid flows for planning purposes. All of these commitments require attention to underlying systems of generating and reporting on financial flows, including both expenditures and future expectations.

At the national level, the government's executive agencies similarly have a responsibility to citizens to be accountable, providing information about the public budget and the public spend, so that the use of funds can be judged against national priorities.

Global and National Information Requirements Are Linked

Policymakers in both donor and national governments seeking to understand the magnitude of resources for health.

Global stakeholders' information needs are closely related to national-level stakeholders' information needs. As will become clear later in this report, existing information systems and one-time efforts generally have been developed to respond either to the interests and demands of global stakeholders, such as the high-level management within donor organizations and/or global advocacy groups, or to the interests and demands of national-level stakeholders in developing countries, such as the Ministers of Finance or Health. Increasingly, there is an appreciation of the links between these two sets of stakeholders, as national-level decision makers become more aware of the value of being able to project and predict the nature and amount of donor funding, during the public budgeting and planning processes, and as global actors grow to recognize that how external funds are used "on the ground" is very much a part of their responsibility. In addition, for policymakers in both donor and national governments seeking to understand the magnitude of resources for health and the impact of spending patterns on households at different income levels, information on out-of-pocket spending is critical (Box 1.1).

II. Uses of Financial Information in the Health Sector

Data generally are collected and compiled for specific uses that may or may not correspond to the breadth of important policy aims. In this section, we start from the "use" end to help identify the type of data of the highest priority.

Users of financial information in the health sector fall roughly into the following categories: politicians, public-sector administrators in developing countries, technical agents, donors, private-sector decision makers and interest groups, and advocacy groups in civil society (Box 2.1).

Uses of Information on Financial Flows

Measuring the flow of funding to the provision of health goods and services and community-level public health activities in developing countries is needed for at least five policy uses.

Use 1. Resource utilization.
Health resource tracking helps policymakers to determine whether scarce health resources are being used equitably and efficiently and to check the

Box 1.1 Global-National Links

Global-level stakeholders need better country-level reporting and tracking. Some $5 billion (5 percent) of official development assistance currently is transferred in the form of general budget support and otherwise unearmarked, nonproject funding. This is likely to increase as donors scale up aid in support of national development strategies.

Donor agencies transferring funds through these mechanisms will know how the resources are being used only if they have the capacity to observe how government monies are spent at the local level. In addition, many donors, whether providing funding through budget support or earmarked projects, are concerned with "additionality"—ensuring that national government spending on priority programs (e.g., health, education, and other sectors) is not reduced as external funds are made available.

The vast majority of spending on development priorities in most countries, even the poorest, is done by the domestic public and private sectors. External expenditures on health account for only 0.3 percent of total expenditures on health globally—1.3 percent in the non-OECD countries and 6.5 percent in the WHO Regional Office for Africa countries. Private spending is particularly important in the lowest-income countries, where it can account for up to 80 percent of total spending. Thus, information about aid flows provides only a partial picture and does not permit meaningful analysis about whether the total volume of resources is adequate for priority investments and programs. Any type of "gap analysis," which is often used to inform donor aid policies, has little meaning without information about country-level spending, both public and private.

National-level stakeholders need better global-level reporting and tracking. Significant volumes of development assistance are transferred from global entities and are effectively "off budget" from the perspective of the recipient countries. In many cases, information needed for better decision making at country level-such as the expected allocations from global entities-resides at the global (headquarters) level. Donor funds nominally allocated for particular countries may not end up "on the ground" in cash form because they are used for technical assistance, pharmaceutical product procurement, or other inputs. Moreover, monies may be disbursed from the perspective of donors, but remain in the financial bureaucracy and are unavailable for programmatic use.

Stakeholders within developing countries need to know about the trends in external investment so that they can negotiate according to their national priorities.

match between the distribution of health resources within a country and the priority health programs (e.g., immunization, reproductive health) and population groups (e.g., women, children, indigenous populations). It is also essential for assessing whether the stated priorities of national governments, expressed in the poverty reduction strategies and commitments to the Millennium Development Goals, for example, are being reflected in spending by national governments and/or donors.

The vast majority of spending on development priorities in most countries, even the poorest, is done by the domestic public and private sectors.

To draw sensible conclusions about whether health-sector resources are being allocated in an optimal fashion, analysts require not only detailed information about spending patterns but also complementary information about epidemiologic, demographic, and utilization patterns. The information about resource flows must show detailed breakdowns of spending by source

Box 2.1 Potential Users of Information on Resource Flows

- **Politicians**—ministers, members of parliament, members of the cabinet, the president, and the prime minister, in both donor and developing countries. This group generally is concerned with "big picture" information: interregional comparisons, and/or spending trends in overall spending. They often are concerned with waste and misuse of funds.
- **Public-sector administrators in developing countries**—mostly from the ministries of health, finance, and planning and the president's or prime minister's office. Government officials generally look at spending trends, efficiency issues, recurrent costs associated with new investments, and the predictability of funding. Prospective estimates of funding are of special interest.
- **Technical agents—**epidemiologists, policy analysts, and economists within the ministries of health, national research institutions, and international organizations. These users will be interested in access to primary data on resource flows mostly to examine the allocation of resources across program areas.
- **Donors**—representatives of UN agencies, development banks, and bilateral donors. Donors generally are interested in spending trends by governments and other donor agencies, additionality, and allocation across sectors and programs.
- **Private-sector decision makers—**managerial and technical personnel within private philanthropies, as well as commercial firms that have an interest in supporting the health sector in developing countries, through corporate social responsibility or other programs.
- **Interest groups/advocacy groups—**NGOs providing global health care services and community organizations. These groups usually look at spending trends relative to estimates of resource requirements. They attempt to hold donors and governments accountable for rhetorical commitments.

The combination of the information about resources and the complementary data can yield powerful insights

(domestic vs. external, public vs. private) and by several dimensions of resource use: inputs (personnel, drugs, and so forth), level of service provision (hospitals vs. ambulatory care), and program (curative vs. preventive care) or type of services provided. This can then be complemented with information about national or subnational burden of disease or other epidemiologic data; population size and age structure; and patterns of health service utilization by income group, gender, or other relevant category. The combination of the information about resources and the complementary data can yield powerful insights about who is benefiting from public spending and whether the priority health problems and services are obtaining adequate support. These analyses can be used by advocacy and civil society organizations to hold the public sector accountable and by politicians and policymakers themselves to make policy corrections (Box 2.2).

Use 2. Resource mobilization.

Much of the emphasis in the global health advocacy community is devoted to mobilizing additional resources, both from donor agencies and from governments in developing countries. To do this effectively, a case is made that the resources available are less than what would be required to provide an

Box 2.2 Example of Using Data for Resource Utilization

In Bolivia, detailed information about spending on health, collected using a national health accounts (NHA) framework, was used by the Ministry of Health (MOH) as a tool to monitor the financial resources available for the implementation of key public policies in the health sector, including basic public health insurance. The information played a vital role in budgetary negotiations with the Ministry of Finance and agreements with the municipal governments. Analysis of the health finance data from specific national health programs provided the evidence needed to achieve increased funding for immunization. Local government officials used health accounts data to negotiate successfully with the central MOH for a better allocation of human resources to the municipality. After the local government made this argument based on NHA findings, the MOH increased its human resource spending in that municipality. In turn, the Ministry of Health used the NHA data to promote discussion on health-sector reform, as well as to negotiate with insurance funds the payment of contributions to the MOH for coverage of the Expanded Program on Immunization.

adequate level of health services—either in general or, more frequently, to deal with specific diseases (e.g., HIV/AIDS, malaria, or vaccine-preventable diseases). Advocacy for resource mobilization may also take the form of comparing one donor's contributions with those of other donors and assessing whether a "fair share" is being provided by all or of comparing one developing government's spending to that of another. Finally, within the context of discussions about resource mobilization, donors often are concerned about evidence that external contributions are "additional" to (as opposed to "substituting" for) health resources available from domestic sources (Box 2.3).

Much of the emphasis in the global health advocacy community is devoted to mobilizing additional resources.

Not only information on commitments and disbursements within the health sector but also complementary data are required to analyze funding gaps (both comparisons of "need" to resources provided and comparisons of rhetorical commitments to realized spending), relative contributions across donors, and "additionality." For analysis of funding gaps, information is required on the total spending on health goods and services, often by disease or programmatic category, and the estimated total or by-disease/intervention resource requirements. For analysis of the relative contributions across donors, information is required about the commitments and disbursements of donors to the health sector and, within that category, to specific diseases, populations, interventions, and/or geographic regions. For analysis of additionality, information is required about trends in domestic government health spending, trends in public spending across other sectors, and donor contributions to the health sector. Even with this information, analysis of additionality requires strong assumptions because the counterfactual—"What would have happened in the absence of donor contributions?"—is unknown.

In advocating for additional national government resources for the health sector, several approaches are taken, each of which requires credible data about current health spending. The various tactics include (a) the peer

Box 2.3 Example of Using Data for Resource Mobilization

In 2001, the government of Uganda received a grant from the Vaccine Fund (now the GAVI Fund) to introduce the new diphtheria, pertussis, and tetanus (DPT)-hepatitis B-*Haemophilus influenzae* type B (Hib) vaccine into the routine immunization program in Uganda. At that time, however, no rigorous analysis was conducted to estimate the then-current levels of public spending on immunization, and expenditures were not reported in a way that would permit such an estimate to be made. The long-term budgetary consequences of introducing a new vaccine into the program were not assessed.

Such an analysis was conducted midway through the five-year grant period with a special study, and the results showed that before the introduction of the new vaccine, Uganda spent about $4.6 million in program-specific inputs for immunization, 75 percent of which was funded by the government of Uganda. It was projected that during the first full year (2002/03) of utilizing the new combination vaccine (at a cost of $3.45 per dose), the routine immunization program cost $16 million, of which 44 percent was be attributed to the cost of the new vaccine. At the end of the Vaccine Fund grant period, the government of Uganda saw that it would be required to mobilize $23.4 million annually to continue including the new vaccine combination in its immunization schedule; however, the government is limited in its planning capabilities because major donors were unable to provide prospective information about commitments, even over the near future. This information, plus continued tracking of public spending on vaccines and other components of the immunization program, is crucial to the program's success.

pressure approach, with comparisons from one country to another; (b) the political economy approach, highlighting the extent to which health compares favorably or unfavorably with other sectors; (c) the production function approach, in which resources are mobilized according to the specified level of health outcomes or health status; and (d) the budgeting approach, mobilizing resources based on "bottom-up" analyses of the need to buy inputs.

Data generated by health resource tracking are also critical to optimizing the effectiveness of any new (additional) health resources from external donors.

Use 3. Coordination.

Data generated by health resource tracking are also critical to optimizing the effectiveness of any new (additional) health resources from external donors that are provided to developing countries and to minimizing duplication of effort. Increasingly, in an era of attention to results and poverty reduction, policymakers and program managers are interested in targeting new resources more precisely to specific geographic regions, population groups, or domains of activity. To maximize the chances of achieving these outcomes, health resource tracking data can be used to facilitate both global and in-country coordination of health resource distribution.

Data required for the purposes of coordination include detailed information about both what currently is being spent (and on what) by the major financiers of the health sector and what is committed, or likely to be committed, to specific programs, services, countries, and so forth. For the purposes of coordination, retrospective information—particularly if it is several years out of date—is not nearly as useful as prospective data (Box 2.4).

Box 2.4 Example of Using Data for Coordination

Sectorwide approaches (SWAps) for health development have become increasingly popular since the mid-1990s and are commonly defined in terms of their aims: "to achieve sustainability and national ownership by shifting external bilateral and multilateral funding from individual projects to the implementation of a country strategy and programs to deliver the strategy." The shift from individual project funding to a sectorwide approach is meant to correct for the lack of accountability and sustainability among donors and recipients that frequently results from the fragmentation of development assistance.

Moving to a SWAp or SWAp-like arrangement is information-intensive. With respect to resources, a workable SWAp requires that all donors and the government provide information about commitments, disbursements, and expenditures under a common and transparent framework. Information is used both for planning resource use against health-sector targets and for holding all partners accountable for living up to agreements regarding the volume and use of resources.

Use 4. Estimating input-output relationships.

The relationship between health spending and health outputs (e.g., service units provided) and outcomes (e.g., deaths averted) remains both complex and opaque. It is well known that some countries spending relatively little on health goods and services can achieve health outcomes far superior to those of other countries that spend more. It is also widely observed that the per unit cost of service provision varies tremendously from place to place as a result of organizational and management differences and of variation in both input prices and input mixes (e.g., use of paraprofessionals vs. fully trained nurses). It is of great policy importance to better understand the extent of, and reasons for, variation in costs across geographic areas and service levels. If the lessons from high-performing health systems can be learned, they can be applied in other settings to help governments and donors get "more health" for the same level of spending.

The relationship between health spending and health outputs and outcomes remains both complex and opaque.

The resource tracking information required for analysis of productivity within the health system is much the same as that required for analysis of allocation patterns: detailed breakdowns of spending by source (domestic vs. external, public vs. private) and by several dimensions of resource use (inputs, level of service provisions, and programs or types of service provided). The complementary information, however, includes correspondingly detailed information about the number of service units produced (e.g., vaccinations given, prenatal visits conducted, hospital bed-days) and, even more ambitiously, the changes in health status that might conceivably be linked to the delivery of health goods and services.

Use 5. Developing better financing strategies and monitoring reforms.

One of the major challenges faced by the health sector in both developing and industrialized countries is fostering a balance of financing across public and private payers (including out-of-pocket payments, private insurance, and

employer self-insurance). A typical pattern in developing countries is an over-reliance on out-of-pocket payments, often to the level of 50 percent or more of total health spending. Out-of-pocket expenditures are the most regressive means of financing services, with the burden generally falling most heavily on the poorest households, which operate in the agricultural or informal sectors and have no access to health insurance. Other major financing challenges for which data are often lacking include the development of payment schedules for public and private hospitals and the appropriate pricing for health insurance premiums.

For better understanding of current conditions and identifying feasible policy alternatives, analysis of financing patterns is essential.

While ultimately the choice of financing strategy will depend on a very wide range of factors, from political feasibility to the practical issue of how to collect insurance premiums, core analyses can inform the choices. For better understanding of current conditions and identifying feasible policy alternatives, analysis of financing patterns is essential.

The resource tracking information required for analysis of health-financing patterns includes detailed information about the expenditure levels by source, including external and domestic and public and private. Complementary information about household spending on health goods and services and about household income levels is also required.

A Summary of Policy-Relevant Data Needs

Two basic conclusions emerge from this synthetic review of potential uses of data on financial flows. The first is that the information on financing is rarely the only data required to inform particular policies. Information on health service use, effectiveness, health status, epidemiological profile, and the distribution of service use across income groups also represents important pieces of the puzzle. The second—more pertinent to the design of recommendations about improving data on financial flows—is that **the following core set of data would serve a very large range of the policy needs,** if the data were collected and made available on an ongoing basis and if the budget categories could be cross-linked to programmatic areas (e.g., disease, intervention

- Annual and medium-term public-sector budgeted funds and estimates of prior years' actual expenditures in low- and middle-income countries
- Annual and medium-term estimates of public donor agency commitments and disbursements
- Estimates of major resource flows from private agencies (NGOs, religious organizations, foundations, and others) and firms to the health sector
- Estimates of spending on total and specific types of health goods and services by households during a reference period, with sufficient power to estimate spending by income group

III. Data Challenges in Primary and Secondary Sources

The phrase "garbage in, garbage out" applies equally well to health resource tracking as to any system that uses information technology. If the data underlying tabulations, graphs, and policy analyses are of poor quality, then those secondary products are likely to be unhelpful for good policymaking. Conversely, data of high quality can lead to compelling and tremendously valuable contributions to evidence-based decision making.

In this chapter, we go back to the point of origin for the data that are required for such uses. Here, we are looking at the sources of primary data—factual information that is independent of, rather than subordinate to or derived from, other factual information (i.e., firsthand factual information). For precise definition of terms, see the Working Group glossary in Appendix D and health-sector boundaries in Appendix E. We then turn to the important secondary data collections and identify the key challenges and shortcomings of existing sources, relative to policy needs—this summarizes a much more detailed inventory in Appendix F.

There is broad variation in the extent to which governments exploit modern information technologies and/or make information available to the public.

Primary Data Sources

Policy uses highlighted in the previous chapter require many types of data on financial commitments, disbursements, and expenditures. These are listed below, along with information on their current characteristics and major efforts to improve the data sources.

At the country level

- **Public budget at the national and subnational levels**
  - **Main sources:** Published budget documents indicating anticipated spending levels and actual outlays, with categories corresponding to national budget frameworks.
  - **Current situation:** Countries vary widely in their adoption and implementation of good public expenditure management practices, for which international standards have been established and codified. There is also broad variation in the extent to which governments exploit modern information technologies and/or make information available to the public (Box 3.1). When external public or private funds are provided through off-budget mechanisms, they are not captured in the official public budget. The International Monetary Fund (IMF), the World Bank, and several other agencies make financial and technical resources available through a coordinated framework of assistance to strengthen basic public expenditure management systems.
- **Facility- or other micro-level expenditures**
  - **Main sources:** Special studies that examine resource use at hospital, district, clinic, or other level lower than that captured in the national budget framework.

Box 3.1

The International Budget Project of the Center on Budget and Policy Priorities assessed budget transparency systematically in five Latin American and five African countries. In the Latin American group, in 2002, Chile scored the highest overall rating in its level of budget transparency (5.9/10), while Argentina, Brazil, and Mexico all received scores of about 5. Peru received the lowest rating. In only in one of the fourteen areas covered by the survey—macroeconomic information—did more than half of the survey participants give their country's budget system a positive response. The results also found that weaknesses existed in the areas of citizen participation, accountability, and the accessibility and timeliness of government information.

In the African group, countries' results were classified into three groups, with South Africa as a high scorer, Ghana and Kenya in a middle range, and Nigeria and Zambia as weak. Both sets of studies found growing civil society and legislature demand for transparency, access, and better results. Although greater civil society and legislature monitoring of budgets is a relatively recent development, their intervention was found to contribute to modest first steps on the road to more open systems and can help launch a virtuous cycle of transparency, participation, and better spending results.

Household and provider surveys are implemented in many countries.

  - **Current situation:** These sorts of studies are relatively rare and in general are undertaken because of a particular policy imperative (for example, the development of a new approach to reducing leakage of public resources). An important example of this type of data collection is the World Bank's Public Expenditure Tracking Survey (PETS), which attempts to track to the micro level the public spending on core services such as schools and health clinics. PETS "assess[es] the leakage of public funds or resources prior to reaching the intended beneficiary."[1]

- **Household expenditures**
  - **Main sources:** Household and provider surveys, including retrospective questions about use of, and spending on, health goods and services during a defined reference period, are implemented in many countries—often as special-purpose, one-time efforts; sometimes as part of a continuing series of cross-sectional surveys (e.g., a module on a health spending as part of routine semiannual surveys whose main purpose could be to estimate changes in employment); rarely as part of a panel survey in which data are periodically collected on the same households over several years.
  - **Current situation:** Household surveys of some type (mainly household budget surveys) are conducted in most countries, and some elicit data on household spending on health goods and services, either as a single category or in detail. However, outside of some particular survey instruments (e.g., the World Bank's Living Standards Measurement Study household surveys), data collection is not sufficiently standardized to

1. "Budget Mechanisms and Public Expenditure Tracking in Kenya," Discussion Paper 37 (Nairobi: Kenya Institute for Public Policy Research and Analysis [KIPPRA], June 2004), 5.

date to provide estimates, including both formal and informal payments, that are directly comparable across countries.

- **Other private expenditures (e.g., employers)**
  - **Main sources:** Special-purpose studies have been conducted to examine insurance records, private firms' expenditures on health service delivery through enterprise surveys, and so forth.
  - **Current situation:** These studies rarely collect information on health expenditures separately. In many countries, these are typically conducted as part of particular donor-funded or other projects. Methodologies for data collection and analysis are not standardized to permit cross-country comparisons.

Methodologies for data collection and analysis are not standardized to permit cross-country comparisons.

At the global level

- **Donor budgets, commitments (or obligations), and disbursements (or expenditures)**
  - **Main sources:** Published budget proposals or (once approved by legislatures) acts of law, setting out anticipated spending levels, subdivided according to donor government national budget frameworks; individual funding agency transactional records of commitments and/or disbursements on particular projects, subsectors, types of assistance (e.g., technical assistance vs. budget support), (occasionally some) disease areas, and/or geographic regions, from which are derived published or unpublished reports varying in level of transparency and details.
  - **Current situation:** Donor agencies differ in the classification systems used, their application of "policy markers,"[2] the extent of integration, and their use of legacy or modern management information systems.[3]
- Private expenditures at the global level, including in-kind donations
  - **Main sources:** Special studies that examine financial flows from foundations, other philanthropies, and/or commercial firms to the health sector in developing countries.
  - **Current situation:** These studies are extremely rare, with the most advanced and consistent being those that seek to capture private donor spending on HIV/AIDS.

Secondary Data Sources

A secondary source of data comes from a source other than the primary one and could be considered a subordinate source of factual information. Secondary sources can be thought of as derived from, and/or aggregated versions of data from, primary sources.

2. Policy markers are "flags" on particular items (e.g., a project or program) to identify it as being related to a category of special interest; policy markers are used to identify DAC spending associated with gender equity, aid to the environment, participatory development/good governance, and the three Rio Conventions.

3. Eric Lief, *International Health Resource Tracking: New Goals, New Approaches* (March 2006). Background paper for the Global Health Resource Tracking Working Group, Center for Global Development.

As with primary data, secondary sources correspond to different levels and types of information.

At the country level

- **National health accounts**
  The most commonly used and best developed of the secondary sources of information about financial flows in the health sector are national health accounts (NHAs). National health accounts seek to document a comprehensive set of sources and uses of funding for the health sector. For the public expenditure part, the primary data source typically is government records of actual budget outlays; for the private expenditure part, the primary data source usually is derived from household surveys in which questions are asked about spending on, and use of, health goods and services in the recent past. If the NHA estimates are developed in accordance with international standards, it is often necessary to map or cross-walk the budget categories used within the national budget framework with those in the NHA methodology.

National health accounts seek to document a comprehensive set of sources and uses of funding for the health sector.

- **Data compilation and analysis by civil society organizations**
  In several countries, civil society organizations have taken an active role in examining public budget and outlay information—produced by the ministry of finance or equivalent—and in assessing whether the spending priorities correspond to the stated government priorities, whether resources are getting to the service level anticipated, and so forth.
- **Information on funding for specific programs**
  National health accounts have been used to assess expenditures on AIDS and are being considered for other priority disease areas. The Joint United Nations Programme on HIV/AIDS (UNAIDS) has supported some of this work, with the methodologies having been applied most widely by the Regional AIDS Initiative for Latin America and the Caribbean (SIDALAC) program of the Fundación Mexicana para la Salud (FUNSALUD) (the Mexican Health Foundation) and by Partners for Health Reformplus (PHR*plus*). In addition, the Global Alliance for Vaccines and Immunization has undertaken financial sustainability planning work in several dozen countries; the plans include a detailed examination of public (government and donor) expenditures on immunization program-specific activities. Similar work is being initiated to examine spending on malaria prevention and treatment. These initiatives tend to be infrequent, highly labor-intensive efforts in selected countries. They are limited for some policy uses because they present information in programmatic categories, rather than budgetary line items.
- **Information about the availability of donor funding within countries**
  The Aid Management Platform (AMP)[4] is a web-based tool for planning, monitoring, sharing information, and reporting progress on development activities. It is being piloted in Albania, Bolivia, and Ethiopia. AMP is

4. AMP is a product of the Development Gateway Foundation, in collaboration with OECD, UNDP, and the World Bank (AMP Brochure 2004).

designed to improve the way development resources are managed and coordinated. It promotes information sharing and collaboration on development programs that are supported by external assistance. Users enter data on a specific aid activity, store it in AMP, and then governments organize, consult, and retrieve the information as needed. In this way, funders, implementers, and stakeholders can improve their efficiency in information sharing while also forecasting trends.

At the global level

- **Donor commitments and disbursements**
  The Organisation for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC) operates the Creditor Reporting System (CRS), an online database that presents statistics for the financial flows of official development assistance. CRS, which depends on information reported periodically by DAC members according to an established common format and definitions, provides textual and numerical information on individual transactions. The primary data for this come from the agencies' internal documentation and reporting.
- **Donor commitments and disbursements for special programs**
  UNAIDS, the United Nations Population Fund (UNFPA), and the Netherlands Interdisciplinary Demographic Institute (NIDI) undertake an annual exercise to measure the funds that go to HIV/AIDS, family planning, reproductive health, and basic research. The StopTB and Roll Back Malaria partnerships are starting to undertake similar work. The Global Forum on Health Research attempts to estimate spending on research and development in health, disaggregated into spending on health problems of the developed and developing worlds. In general, these initiatives are based on a combination of information from the OECD/DAC database and specialized data collection at the global level, typically through questionnaires and/or interviews with key informants in international agencies, with a relatively high degree of detail. However, they are hindered by underlying constraints in the ability of donors and governments to report detailed information and the sustainability of such ad hoc exercises.
- **Health spending in WHO member states**
  WHO compiles and reports a five-year series on estimated health expenditure for all its member states (currently 192) annually in its *World Health Report* and a longer series on the Web site (www.who.int/nha). This includes estimates of total health expenditures, government health expenditures, and expenditures on private prepaid plans for health and social health insurance, as well as private out-of-pocket spending. Information is also presented on the external resources for health used in the country or derived from the OECD/DAC Creditor Reporting System. When data on country-level spending are unavailable from NHAs, estimates are generated using statistical models.

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Main Gaps and Missing Links

As the summary above makes evident, there is intense activity in the area of global health resource tracking; the activity is an indicator of the intensity of the interest and demand for up-to-date information for specific policy purposes. Multiple players, in both the official and private sectors, are generating, collecting, and compiling data on resource flows, either on a continuous or intermittent basis. Some of those efforts are special-purpose, geared to answer quite particular questions—for example, "How much is Rwanda spending on HIV/AIDS?" Others are routine data collection and reporting for a broad set of administrative and policy purposes.

Secondary data sources sometimes must make heroic efforts to obtain information in policy-relevant categories.

The main limitations on the utility of the resulting data for the high-priority uses outlined in Chapter 2 are the following:

- **Categories.** The primary data sources at both country and global levels are characterized by the use of budget frameworks that respond to specific institutions' needs, rather than to programmatic areas of interest; thus, the secondary data sources sometimes must make heroic efforts to obtain information in policy-relevant categories. This is done either through explicit mapping (cross-walking) by the generator of the secondary data (as in the case of national health accounts) or by implicit mapping by the individuals or agencies queried by the secondary data generators.
- **Timeliness.** Data on both commitments/budgets and disbursements/expenditures often are available to producers of secondary data collections only after a considerable lag time. For example, national health accounts are often constructed with data that are two to three years old. OECD/DAC data typically represent data that are at least one year old.
- **Connections.** Few relationships have been established among the multiple secondary, special-purpose data collections—for example, the collections on spending on particular diseases, interventions, or geographic areas. Distinct definitions, universes, and methods of collection are used (often using similar vocabulary, but with different meanings). This creates a situation in which it is impossible to create a coherent picture, adding up different component parts (e.g., malaria + AIDS), and the risk of misinterpretation or faulty comparisons is high. Equally important, special-use collection of data on the health sector prevents policymakers and analysts from placing health-sector spending within the broader context of overall social-sector plans, poverty reduction strategies, or even broader spending patterns.
- **Useful access.** Information is not readily available or in user-friendly format for the full range of potential users, along with information about methodologies, underlying assumptions, and corresponding strengths and limitations of the data. At times, this leads to unnecessary duplication of effort.

More specifically, relative to what would constitute a data system responsive to policy needs in international health, the following gaps and missing links can be identified:

There are challenges at the level of **primary data** generation:

- **Weak public budgeting systems in low- and middle-income countries.** The core data on which national health accounts, civil society budget tracking, and other worthy enterprises are built are the financial data reported by ministries of finance, including both forward-looking budgets, sometimes in the form of three- to five-year rolling plans, and actual expenditure estimates. Few developing countries fully adhere to international reporting standards, and a largely manual system in many countries introduces error and long reporting delays. Moreover, the budget categories—including the separation between capital and recurrent—are not designed to respond to programmatic or policy needs.
- **Patchwork data systems among donor agencies.** Donor agencies categorize their commitments and expenditures in ways that make sense for their administrative purposes, but are neither consistent among agencies nor oriented toward data users outside of the agencies. Those who are "data reporters" within agencies sometimes do not have access to knowledge about the substantive content of funded programs, particularly if the links between headquarters and field offices are weak.
- **The missing private sector.** Data on private-sector contributions and expenditures, including those from household, corporate, and foundation sources, are severely limited—this, despite the fact that in many developing countries, private funding constitutes close to 50 percent of total spending. Reporting uses methodologies that may not be consistent across funding sources or over time.

Few developing countries fully adhere to international reporting standards, and a largely manual system in many countries introduces error and long reporting delays.

Additional shortcomings exist at the level of **secondary data generation,** in part because weaknesses at the primary level limit the ability to obtain and report useful secondary data.

- **Time lags and aggregation of information on donor funding.** Relative to the needs for resource mobilization, resource allocation and donor coordination, no ongoing system provides comprehensive, current-period information about donor commitments and disbursements and national government budget allocations and actual expenditures by programmatic category, such as child health (disaggregated into immunization, diarrheal disease control, and other categories), reproductive health, HIV/AIDS, and so forth. This deficit has led to multiple interest groups conducting or commissioning special studies, which themselves are limited by incomplete information and analysis out of the context of broader information on health spending. Data collection often is based on a questionnaire-style approach, which may result in problems with accuracy and consistency across countries and institutions, as well as an excessive burden on data reporters at agencies and within developing-country governments (Box 3.2).
- **Limited availability and use of NHAs.** For the purposes of examining equity, efficiency, and health-financing options at the country level, NHAs have demonstrated potential to be important for policy dialogue. In addition, in countries where NHAs are institutionalized and have done well with detailed documentation of sources and methods, subsequent NHA updates

Box 3.2
Problems with Questionnaires for External Health Resources

The principal means of external health resource data collection rely on annual surveys and questionnaires. This presents a set of important challenges:

- The secondary databases that depend on manual rereporting are by definition "unofficial."
- Secondary databases populated by direct "official" data feeds can be considered "officially based." However, official financial systems array data consistent with national law and decision imperatives and, in most cases, in national languages and/or character sets that are inconsistent with external data frameworks.
- For the most part, survey-based collections imply significant time and labor costs on respondents.
- Partly as a consequence, labor-intensiveness and cost constitute serious impediments to data timeliness. Each has the effect of precluding more-frequent-than-annual data collection (notwithstanding the new reality of significant more-frequent-than-annual resource flow shifts). This, in turn, has the effect that survey submission and external database population may lag transactional recording by months or even years.
- Collection by manual means degrades accuracy, no matter how diligently the intervening reporters work.

are less costly. However, institutionalization of NHA is still limited, and to date donor support has not been well coordinated.

IV. Vision of Ideal Data Sources

The current sources of information about how much is spent on the health sector in developing countries are scattered and relate to each other in only a limited way. They do not respond well to policy uses and needs. Evidence of this is found in brand new efforts launched after organizations with particular policy questions and needs scan the available data sources and find them wanting.

Opportunities are missed to take advantage of modern management information system capabilities, such as text search functions, and to integrate information—for example, between the systems that document commitments to particular country programs and disbursements against the projects that are part of those programs. Currently, the pieces do not in any way constitute a coherent system or provide the type of data needed for the best policymaking.

Currently, the pieces do not in any way constitute a coherent system or provide the type of data needed for the best policymaking.

Taking an admittedly ambitious and long-term view, let's envision what a functional system would look like, in which the primary data sources are made available in a manner that is sufficiently disaggregated and up-to-date to permit direct use in secondary sources, with a minimum amount of additional manual processing:

- **Primary data on national-level budgets and expenditures,** generated in accordance with good budgeting and tracking standards. Information on commitments and expenditures made available in electronic form to donors, civil society actors, and other stakeholders.

Box 4.1
Unobtrusive Measures

Instead of using a questionnaire or other manual reporting method, "unobtrusive measures" exploit the routine business processes occurring within all bureaucracies to obtain and then array data on resource flows. For example, potentially rich data are routinely generated during the process by which finance personnel make funding commitments and cut checks. In many instances, information on financial flows is electronically linked to text records, such as the description of a project. This information typically is not thought of as "data" because it is not created with the intention of conducting analysis; it is simply part of the day-to-day business of both government and private-sector enterprises. But it can be a valuable source of information, whose collection does not require special manipulation by the organization concerned. In settings where electronic records are in widespread use, the transfer of data is very low-cost—often simply the burning of a CD.

To make the data useful for reporting and analytic purposes, additional work is required. Each organization classifies information (on expenditures and other items) in ways that respond to the organizational needs rather than to analysts' requirements, so the use of unobtrusive measures requires "data weaving" to map, cross-check, triangulate, and take other actions to array the data in ways that are meaningful for researchers and, ultimately, policymakers. Because the underlying data are highly disaggregated and, in many instances, are associated with text records, datasets created using unobtrusive measures lend themselves (more than questionnaire-generated data) to being mined for answers to questions that were not anticipated in advance.

- Primary data on donor commitments and disbursements, generated within an integrated framework that is fully automated and permits full search. Transactional data made available through unobtrusive measures (Box 4.1).
- Primary data on household expenditures, generated using reasonably standard methods, though periodic household surveys (for out-of-pocket spending), and made available on a timely basis, online for use in NHA and other secondary sources.
- Primary data on private firms' contributions, generated using standard methods for valuing contributions, through periodic enterprise surveys. Information made available on a timely basis, online.
- Secondary data collections that draw directly on primary sources, through interfaces designed to respond to particular types of policy uses and questions. These secondary collections could include, for example, NHAs that draw directly on the information in public budgets and/or donor agency reporting, with appropriate mapping of categories.
- Expanded use of budget and expenditure data in-country by both official and civil society organizations.
- Aid management platforms that make available data to key stakeholders, particularly national government decision makers, and provide information about donor spending and intent in a way that conforms to national planning processes.

"Unobtrusive measures" exploit the routine business processes occurring within all bureaucracies to obtain and then array data on resource flows.

To those who work extensively in the field of global health resource tracking, such a system may appear to be a distant dream, remote from the current

patchwork system. In fact, however, the required technologies are well known, as are the institutional arrangements that would help to increase the use at the country level of the information produced.

V. Recommendations for Better Resource Tracking in the Future

Donor and other international agencies can advance the cause of better information systems, simply by not making a bad situation worse.

The Global Health Resource Tracking Working Group sought to identify ways to accelerate progress toward a coherent, effective resource tracking system. This document summarizes core recommendations about actions the international community should support to improve in resource tracking.

Several core principles underlie the recommendations:

- Place the highest priority on responding to needs of in-country decision makers. Ensuring that the data in-country decision makers require for sound policymaking are available, with the timeliness and in the form that corresponds to the countries' budget and policy constructs, merits the largest investments. This is particularly true if the improvements are made in a way that increases the accountability of national governments to their citizens, through complementary support of civil society organizations that pay attention to the correspondence between public-sector budget and expenditure, and national priorities. At the country level, there is need to build on existing assets, systems, and resources and strengthen these to more effectively respond to local needs. Moreover, the Paris Declaration on Aid Effectiveness commits donors to rely increasingly on countries' public financial management systems to monitor and report on their aid flows, including for the results that they help to achieve.
- Coordinate, collaborate, and do no harm. Donor and other international agencies can advance the cause of better information systems, in part, simply by not making a bad situation worse. This means, for example, fighting the temptation to create duplicative data collection efforts to expeditiously respond to short-term information needs and to instead build on existing systems. It also means finding ways for multiagency collaboration and coordination in the methods used and additional support for institutions with the mandate for data collection, analysis, and dissemination. It further means, however, sensitivity to the reality that without additional resources, these institutions can be tasked to undertake only a small marginal effort without degrading the quality of their work as a whole. Finally, it means that these institutions themselves must become more quickly responsive to new information needs.
- Make the best use of modern information management technology. Management and activity information systems both in some donor agencies and in some middle-income countries are structured to permit automated collection and reporting of policy-relevant information. As such systems are replaced and upgraded, with improved search functions, the accuracy and comprehensiveness of data reporting can be increased and time lags

reduced. The use of unobtrusive measures, such as data mining and data weaving, have the potential to yield more detailed information.

- Think long-term. Although there are some immediate ways to make progress, development of a functional, policy-responsive integrated system to track resources is a long-term proposition. It will require not only a resource commitment but also the patience to work within a common framework of action that will allow consistent information to flow from different information systems and be widely available.

Development of a functional, policy-responsive integrated system to track resources is a long-term proposition.

Specific Recommendations

Recommendation 1: Support improvements in the ability of developing country governments to develop sound budgets and report on their execution.

- Reinforcing political commitment at the country level, donors and technical agencies should support the strengthening (and, where needed, rebuilding) of budgetary processes so that they become more policy-based and, hence, fully engage political leadership. In particular, donors should support and use the medium-term expenditure framework (MTEF) mechanism to
  - effectively link policymaking, planning, and budgeting;
  - strengthen a medium-term perspective to budgeting;
  - build links between inputs and outputs; and
  - develop budget processes, systems, structures, and data that link inputs to results through the budget cycle.
- Donors and technical agencies should support developing countries with a unified approach to public expenditure management reform, taking as the point of departure the Public Financial Management Performance Measurement Framework of the Public Expenditure and Financial Accountability (PEFA) Program. Of the twenty-eight indicators in the high-level performance indicator set, particular attention should be paid to the credibility of the budget (budget estimates to actual expenditure), budget transparency, political engagement in budget decision making, the quality and timeliness of in-year budget reports, and the effectiveness of external audit.
- In keeping with the Paris Declaration on Aid Effectiveness, donors should seek means to
  - provide complete and forward-looking financial information for budgeting and reporting on projects, programs and budget support being provided to a country and
  - manage aid through national processes of policy, planning, and budgeting.
- As national financial management systems are being strengthened, donors should work with relevant ministries to support the tagging of expenditure, including through “virtual poverty funds” to help focus on the role of the budget in supporting poverty reduction.
- The work of strengthening national financial management systems should be closely coordinated with the institutionalization of national health accounts at the country level. This will involve constructing explicit linkages

Donors and technical agencies should support developing countries with a unified approach to public expenditure management reform,

between budget and NHA expenditure classifications, assuring that data collected on a "routine basis" for expenditure reporting are also used for NHA and that financial management systems are responsive to the needs of NHA.

- Donor and technical agencies should coordinate to assure that NHA is integrated into, and builds on, ongoing efforts, including (among others) the Health Metrics Network, Virtual Poverty Funds, MTEF, and PEFA. For example, in the preparation of public expenditure reviews, the World Bank and its partners should make use of existing national health accounts data or, when NHA data are unavailable, support the collection of data using the standard methods.
- Donors should explore ways to support local civil society organizations to build their capacity to analyze budgets and monitor their implementation. This "watchdog" function can be an extraordinarily effective means of stimulating and reinforcing good budgeting and expenditure-tracking practices within the public sector. In addition, donors should support the selective use of methods to track expenditures to the facility level, to enhance accountability of the public purse.

Donor and technical agencies should cease to compete and should reduce the confusion about different methods for tracking health expenditures.

Recommendation 2: Support the integration and institutionalization of national health accounts into policymaking in developing countries.

- Donor and technical agencies should cease to compete and should reduce the confusion about different methods for tracking health expenditures. They should clarify and reiterate their support for tracking of health expenditures within the NHA framework that is responsive to country needs and permits cross-national comparisons. Efforts to develop disease-specific spending assessments or "subaccounts" should support the broader agenda of creating the capacity, demand, and methods for national health accounting, in addition to responding to the countries' needs for timely and policy-relevant disaggregated information.
- Donors and technical agencies should support the integration and institutionalization of health expenditure information into national and subnational policymaking in the following ways:
  - Working with in-country partners to identify an institutional "home" for NHA to move it from a "project activity" to a routine function of the government. Countries should be encouraged to start with basic information under the NHA framework and expand gradually as the needs for policy arise.
  - Using resources from the Health Metrics Network and other sources to support the development of capacity (including expertise in health management information systems and financial/accounting systems) to track and report on financial resource flows.
  - Ensuring that technical assistance for health accounting includes expertise in health management information systems and financial/accounting systems.
  - Strengthening capacity development (training) within the institutions responsible for undertaking health accounting exercises, as well as

disease-specific resource tracking, at both national and state/provincial levels.
  - Working to integrate health accounting classification into improvements in public budgeting and expenditure-tracking systems.
  - Designing and monitoring surveys to track expenditures on health from all government authorities (including ministries other than health), nongovernmental organizations, and private and public corporate-sector spending.
  - Using data on health expenditures in strategic planning exercises, including joint activities between donors and government ministries (e.g., poverty reduction strategies, sectorwide planning exercises, and others).
  - Providing or helping to mobilize sustained funding for regional networks and institutions that offer regional and local expertise, encouraging these networks and institutions to provide opportunities for professional exchange on methodological questions, and sharing of experiences about communication of analytic work to policymakers and how information on health expenditures has been used for policymaking.
  - In the case of donors who ask recipient countries for information about health spending on particular programs, recommend (or require) that they use national health accounts-compatible methods. This would include, for example, the Global Fund to Fight AIDS, Tuberculosis and Malaria; the GAVI Fund (formerly the Vaccine Fund); and others.
  - Within new initiatives to strengthen the health system, include support for both the conduct and the use of national health accounts.
- For the resource tracking of single-disease programs, like AIDS and others related to the MDGs, it is suggested that the general framework of the NHA be used, taking into account the need to generate more detailed information than the generic NHA. This should be done in a way that tries to preserve the general comparability within the NHA classification as much as possible. In addition, the cycles when this information needs to be generated must match the policy formulation schedules (i.e., to provide input to the development of budgets, costed strategic plans, and as a monitoring system to help correct the use of the funds). Thus, UNAIDS and country counterparts and partners suggest the annual production of financial tracking information containing the sources of the funds and the use of money (i.e., policy-relevant functions and beneficiaries). Other information may be produced with intervals similar to the production of NHA (in some cases, every four years). UNAIDS will continue to support countries in the production of these pieces of strategic information, as assigned to the UNAIDS Secretariat in the internationally agreed-upon division of labor of the UN for the provision of technical support.

Donors and technical agencies should provide technical and financial support to adapt routine household surveys so that they capture information about private health expenditures

Recommendation 3: Improve data on private spending.

- Donors and technical agencies should provide technical and financial support to adapt routine household surveys so that they capture information about private health expenditures and utilization of health goods and services. This would include the development and/or refinement of methods so

that cross-nationally comparable spending estimates can be generated, potentially with coordination through the International Household Survey Network, housed at the World Bank. Opportunities should be explored to introduce standardized consumption questions into the demographic and health surveys. Support should also be expanded for ongoing work in select environments to improve transactional data collection from service providers and insurers.

- A valuation road map for in-kind contributions by pharmaceutical companies should be developed and should include concessional commodity sales, voluntary licensing, transfer of manufacturing, R&D, monitoring and evaluation, or other technological know-how, as well as commodity and service donations.

Donors and technical agencies that have promoted and/or provided financial support for single-disease tracking surveys of donors should avoid continuing the proliferation of such activities

Recommendation 4: Support and refine global-level information systems.

- Donors and technical agencies that have promoted and/or provided financial support for single-disease tracking surveys of donors should avoid continuing the proliferation of such activities and adopt a more coordinated approach, ensuring adequate response to the evolving needs of high-quality, pertinent, and policy-relevant information. They might consider, for example, pooling resources for the conduct of a consolidated questionnaire-based survey, with the content negotiated among stakeholders. They should aim to draw on agency classification systems to define policy-relevant categories that respond to the majority of requests to major donor agencies for their spending on health by subsector, while recognizing that as more donors move to sectorwide and general budget support, such detailed information is becoming less available. Nevertheless, the prospects for more timely data on planned and actual flows to the overall health sector are good.
- The OECD/DAC should build on the Working Group's background analysis to expand the survey of donor agencies' accounting and reporting practices. The survey would describe and analyze individual agencies' budget frameworks, timing of finance-related decisions, type(s) of aid transferred, sector and subsectoral priorities and data breakdowns, use of policy markers, integration of information technologies, use of commercial information technology applications, and so forth. Of particular interest is the availability of detailed information about programmatic (i.e., disease- or intervention-specific) data within standard administrative systems.
- The survey should investigate a method to "map" or "cross-walk" the within-agency classification system to policy-relevant categories in a way that permits valid comparisons. Public and/or private donors should support both refinement of such a map for its application across sectors and the development of automated tools (information systems) to do the mapping on a periodic and frequent basis, as data are provided by the donor agencies (e.g., quarterly).
- The findings from this survey could form the basis for a sequenced enhancement of the reporting of donor commitments and disbursements to be forward-looking and more timely to support improved predictability, as called for

in the Paris Declaration. Subject to available funding, the OECD/DAC should be supported to develop the capability to be a portal for public access to detailed and frequently updated data on donor commitments and disbursements. Data would be required not only from OECD/DAC member countries but also for tracking the bilateral flows from nonmember countries and flows from private foundations and other agencies.

- Dependable financial support should be provided to WHO and other relevant agencies, as appropriate, for the collection, validation, compilation, and timely electronic dissemination of a basic set of indicators of health expenditures in countries. Within this context, coordinated efforts should be made to routinely update harmonized methodological norms and provision of technical assistance, where necessary, to ensure comparability of these estimates.

The agenda is large and complex, but feasible.

Conclusion

The agenda is large and complex, but feasible. Each of the actions above is likely to be of interest to a particular player in the broad international community. So, for example, while the IMF and World Bank public-sector management teams might have an interest in reinforcing their work with national governments to bring financial management practices up to a higher standard, WHO might naturally focus on finding ways for the Health Metrics Network to devote resources to capacity building for the conduct of national health accounts within countries that have not engaged in NHA exercises to date. Other actors may have similar particular areas of interest and expertise, which link to one or more of the recommendations above. It is the hope of the Global Health Resource Tracking Working Group that the full set of recommendations provides a logical set of building blocks that— together, but implemented separately—would contribute significantly to a more coherent and policy-responsive system.

Appendices

Appendix A. Global Health Resource Tracking Working Group Members

Sono Aibe, *The David and Lucile Packard Foundation*
Sono Aibe has been with the Population Program at the David and Lucile Packard Foundation in California since 1996. In her role as Program Officer, she developed the adolescent reproductive health and international advocacy strategies for the Program and handled the Foundation's early grant making in Myanmar and the Philippines. She is now a Senior Program Manager in charge of the Foundation's grant making in Ethiopia and for Global Institutions/Global Solutions. Before joining the Foundation, she worked at the Japanese Organization for International Cooperation in Family Planning, Inc., in Tokyo, on projects in Laos, Thailand, and Vietnam. Ms. Aibe has a bachelor of arts degree from Harvard University in history of science and a master's degree in health science in international health from the Johns Hopkins University Bloomberg School of Public Health.

Joseph Annan, *United Nations Development Programme (UNDP)*
Joseph Annan is Senior Policy Adviser of the HIV/AIDS Group at UNDP, Bureau of Development Policy, based in New York. His areas of work currently include HIV/AIDS and development, including MDGs, mainstreaming, and governance issues. He has more than twenty-five years of experience in the health-sector and development fields, working as a clinician, researcher, planner, and policy analyst. He is a specialist in national and global strategic planning and management, as well as the development and coordination of national AIDS responses. Over the past ten years, he has worked closely with UNAIDS and several bilateral agencies. He has worked extensively in the areas of policy, planning, and health economics, including community-financing fund management, health insurance, and decentralization. Over the past twenty years, he has published several studies, researches, and guides on a wide range of HIV/AIDS, health, and development issues. He is a Doctor of Dental Surgery and obtained a master's degree in health economics and health planning and financing from the London School of Economics and the London School of Hygiene and Tropical Medicine.

Mark Bura, *East, Central and Southern African Health Community*
Mark Bura is Health Systems Development Program Coordinator of the East, Central and Southern African Health Community (formerly the Commonwealth Regional Health Community for East, Central and Southern Africa in Arusha,

Tanzania.). Trained as a medical doctor specializing in child health, he currently works on health systems and health financing. He has more than 15 years of experience in health services management, including as director of Health Services of the Evangelical Lutheran Church in Tanzania. He initiated Community Health Funds, a managed health care program for 20 hospitals and a laboratory and drug supplies bulk purchasing unit for the northern regions of Tanzania.

Andrew Cassels, *World Health Organization (WHO)*
Andrew Cassels graduated in medicine from St John's College, Cambridge in 1975, and in public health from the London School of Hygiene and Tropical Medicine in 1984. He began his career in international public health in Nepal, where he worked as the director of an NGO carrying out innovative work in the field of tuberculosis control, and the financing of essential drugs. After a long-term assignment in India, he was appointed to the staff of the Liverpool School of Tropical Medicine. There he established a new post-graduate course on the management of primary health care, and developed a research programme focusing on donor policies in the health sector; decentralisation and the role of local government; and health care planning and management. Between 1992 and 1998, he worked as a senior adviser to a wide range of governments in developing and transitional countries, as well as to several multilateral and bilateral development agencies. In addition to work in the field, he has published widely on issues related to health sector reform and has pioneered new approaches to development assistance in health, including sector-wide approaches. In 1998 he joined the World Health Organization, was Director of the Strategy Unit in the office of the Director-General until 2003 and Director of the Millennium Development Goals, Health and Development Policy Department from 2003 to 2005. This Department merged with another group in January 2006 to bring together key elements of the work of WHO on health systems and development policy and became the Department for Health Policy, Development and Services.

Karen Cavanaugh, *U.S. Agency for International Development (USAID)*
Karen Cavanaugh, Health Systems Management Analyst in USAID's Bureau for Global Health, is a health systems, policy, and finance specialist with twenty-two years of experience in designing, directing, and evaluating projects, programs, and organizations to improve health and mitigate poverty in Asia, Africa, the Middle East, and Latin America and the Caribbean. She oversees USAID's support to the Health Systems 20/20 Project, a $125 million five-year global project to improve health finance, governance, and operations worldwide. She is actively engaged in the creation of the new Health Systems Action Network. She worked previously for the World Bank and CARE. She participated in drafting the OECD/DAC Guidelines on Poverty and Health. She holds a master's degree in international health planning from Johns Hopkins and a bachelor's degree in development economics from Georgetown.

Don Creighton, *Pfizer, Inc.*
Don Creighton is an Assistant Director of Global Policy in Corporate Affairs at Pfizer, where his responsibilities involve a broad array of international policy issues, including clarifying issues around the access-to-medicines debate. As part of this work, he has undertaken an extensive analysis on HIV/AIDS donor program financing in the developing world. Mr. Creighton has presented his findings to several forums, including the UNAIDS Global Resource Tracking Consortium for AIDS and the European Foundation Centre Sixteenth Annual General Assembly. He is currently supporting research to better comprehend the value of contributions from the pharmaceutical industry. Before joining Pfizer, he worked as a consultant for the biopharmaceutical industry and the World Bank.

Paul De Lay, *Joint United Nations Programme on HIV/AIDS (UNAIDS)*
Paul De Lay is the Director of Monitoring and Evaluation (M&E) within the Executive Office of UNAIDS. He served as Senior Adviser to USAID on HIV/AIDS and as Chief of USAID's HIV/AIDS Division, and he practiced clinical medicine for thirteen years. He is a physician from the University of California and holds a diploma of tropical medicine and hygiene from the London School of Hygiene and Tropical Medicine.

Jacqueline Eckhardt-Gerritsen, *Netherlands Interdisciplinary Demographic Institute (NIDI)*
Jacqueline Eckhardt-Gerritsen works as a researcher at NIDI, based in The Hague, the Netherlands. In February 2003, she was appointed Manager of the project "Financial Resource Flows for Population and AIDS Activities." The Resource Flows project was established in 1997 and is a joint collaboration among UNFPA, UNAIDS, and NIDI. The aim of this project is to monitor global financial flows for population and AIDS activities. Next to her coordination tasks, Ms. Eckhardt-Gerritsen is involved in not only donor and domestic data collection through mail surveys but also reproductive health accounting, including research on out-of-pocket expenditure. Between 1997 and 2001, she worked as a Program Officer and Consultant at the UNFPA Country Office in Mexico, focusing on reproductive health and family planning-related issues, domestic violence, and women's empowerment.

Tessa Tan-Torres Edejer, *World Health Organization (WHO)*
Tessa Tan-Torres is currently Coordinator of Costs, Effectiveness, Expenditure and Priority Setting (CEP) in the Department of Health Systems Financing in WHO. She is primarily responsible for the work on national health accounts and resource tracking, defining the costs of scaling up health interventions and measuring their cost-effectiveness and also the nonhealth impact of these interventions. She also is leading the work on a framework to accommodate ethics, equity, and efficiency considerations in priority setting and resource allocation in health in countries.

Tamara Fox, *William and Flora Hewlett Foundation*
Tamara Fox is a Program Officer in the Population Program at the Hewlett Foundation. Her work is focused on the topics of how population and reproductive health impact poverty reduction and economic growth, the training of population experts in Africa, advancing evidence-based policies and mobilizing resources that help improve reproductive health outcomes through research and communicating research findings, and promoting the effective collection and use of data for development planning. She has worked at the World Bank, the Urban Institute, and the Congressional Research Service examining policy-making on immigration, health care worker training, health care financing, and reproductive health in the developing world and the United States. She holds a Ph.D. from the University of California at Berkeley in Agricultural and Resource Economics, an M.Sc. in Health Planning and Financing from the London School of Economics, and a B.S. in Genetics and Biomedical Policy from Cornell University.

Charu Garg, *World Health Organization (WHO)*
Charu Garg is a health economist at WHO and has more than ten years of experience in health financing and policy. She is a senior member of the national health accounts team at WHO, managing the collation and institutionalization of country-level health-financing information for the Western Pacific, Southeast Asia region and the Commonwealth of Independent States and providing support to work in other regions as requested. She is leading the development and use of tools for NHA subaccounts to respond to emerging needs in important priority areas such as monitoring and use of external and domestic funds for specific population groups or specific diseases or regions. Ms. Garg has more than twenty years of research and teaching experience in India and the United States and consulting experience with several international organizations. She has published and presented widely and was a Takemi Fellow at the Harvard School of Public Health. Besides national health accounts, she has worked on health insurance and equity aspects of health financing and delivery.

Pablo Gottret, *World Bank*
Pablo Gottret joined the World Bank as Senior Economist in 2002 and is a member of its Human Development Network. He is responsible for overseeing the Bank's work on health financing, including public-sector financing, social security, and public/private insurance. Over the past year, he has concentrated his work in the relationship between health financing and macroeconomic issues. He has supported work in several countries, including Ecuador, Hungary, India, and Rwanda. Mr. Gottret was Vice-Minister of Budgeting in his native Bolivia between 1987 and 1990 and Chief Executive of the Regulatory Body for Private Pensions, Private Insurance, and Capital Markets between 1998 and June 2002. Between 1990 and 1998, he worked extensively in health-financing reform programs in various countries of Latin America, including

Argentina, Colombia, and Mexico. He has published in a number of journals and is coauthor of the book Health Financing Revisited (published by the World Bank in 2006).

Prea Gulati, *George Washington University*
Prea Gulati is a health economist on the Global Health faculty at the Georgetown University School of Public Health. Previously, she was the Project Manager for the Global Health Council's *Global Health Opportunities Report*, a document intended to provide policymakers with an update on the upcoming priorities and policy opportunities in global health. Before joining the Council, Ms. Gulati was a Research Fellow with the Global Equity Initiative at Harvard University, where she worked on issues of health and education and their link to human security. Previous assignments have included serving on the working group to develop the UNAIDS Global Strategy Framework for HIV/AIDS and the UN System Strategic Plan for HIV/AIDS. Her research work focused on the economics of obesity among adolescents in developing countries. Ms. Gulati has a doctorate in sociomedical sciences from Columbia University.

Brian Hammond, *Organisation for Economic Co-operation and Development (OECD) (co-chair)*
Since November 1996, Brian Hammond has been Head of the Statistics and Monitoring Division in the Development Co-operation Directorate of the OECD, which services the Development Assistance Committee. His Division is responsible for publishing statistics on aid and private flows to developing countries. While at OECD, Mr. Hammond has focused on organizing and coordinating (with the UN, the World Bank, and IMF) (a) work to select indicators for, and report progress toward, the Millennium Development Goals; (b) work with the Partnership in Statistics for Development in the 21st Century (PARIS21) on statistical capacity building; work with the Development Gateway on Accessible Information on Development Activities (AiDA) to provide wider access to information on development activities; work on the digital divide; and work with the World Trade Organization on a database on trade capacity building. Mr. Hammond has spent his career in development. He was a volunteer economist/statistician in Fiji and then worked for Britain's aid agency for twenty-five years—as a statistician in the British Virgin Islands, Luxembourg (Eurostat), Malawi, and London and as head of information systems.

Jose-Antonio Izazola-Licea, *Joint United Nations Programme on HIV/AIDS (UNAIDS)*
Jose-Antonio Izazola-Licea is a medical doctor, with graduate training in epidemiology and demography. He also holds a doctorate of international health and population sciences from the Harvard School of Public Health, and as a Fogarty Fellow, he obtained from the Harvard AIDS Institute a diploma on the epidemiology of AIDS in the developing countries. He started working on AIDS in the Ministry of Health in Mexico in 1985, while installing the first national response in that country; he continued in the Mexico Ministry of Health as Director of Research of the National AIDS Council until 1994. He was the first

Executive Coordinator of the Regional AIDS Initiative for Latin America and the Caribbean (SIDALAC) in FUNSALUD (the Mexican Health Foundation) in 1995 until he joined UNAIDS in January 2005 as the Senior Adviser for Resource and Financial Analysis and the team leader for the Resource Tracking and Projections Unit.

He led the initiative to adapt the national health accounts model to describe the financing of HIV and AIDS since 1996, producing a database for twenty Latin American and Caribbean countries (plus two West African countries) that represents the largest data set on AIDS financing. He currently is promoting the execution of national AIDS spending assessments to track resources for AIDS in the health sector, as well as in other sectors like education, social mitigation, etc., and to link this information to the policy development at country and global levels (in particular, linking the information of past expenditures with future resource needs).

Jennifer Kates, *Kaiser Family Foundation*
Jennifer Kates is a Vice President at the Kaiser Family Foundation and the Director of HIV Policy. She oversees all of the Foundation's HIV/AIDS policy projects, directing and conducting policy research and analysis focusing on both the global HIV/AIDS epidemic and the epidemic within the United States. Ms. Kates also works closely with the Foundation's entertainment media partnerships on HIV/AIDS in the United States and internationally and with companies such as Viacom, Black Entertainment Television, and Music Television, providing data and expertise on content and program development. She regularly provides HIV/AIDS information to numerous external stakeholders, including the news media, policymakers, and community members. Ms. Kates has been working on HIV/AIDS issues for more than fifteen years. She holds a bachelor's degree in political science and women's studies from Dartmouth College; a master's degree in political science from the University of Massachusetts; and a master's degree in public affairs, with a concentration in demography, from Princeton University's Woodrow Wilson School of Public and International Affairs.

Kei Kawabata, *World Bank*
Kei Kawabata joined the World Bank in 1984 and is currently its Sector Manager for the Health, Nutrition and Population (HNP) unit in the Human Development Network (HDN). Ms. Kawabata has also held positions at WHO, where she managed programs related to health systems development, resource tracking, and financing, and at UNDP, where she was based in Brazil and New York.

Ruth Levine, *Center for Global Development (co-chair)*
Ruth Levine, Senior Fellow and Director of Programs at the Center for Global Development, is a health economist with more than fifteen years of experience in health and family planning financing issues in Latin America and the Caribbean, eastern Africa, the Middle East, and South Asia. Before joining the Center for Global Development, she designed, supervised, and evaluated

health-sector loans at the World Bank and the Inter-American Development Bank. Between 1997 and 1999, she served as the adviser on the social sectors in the Office of the Executive Vice President of the Inter-American Development Bank. She is coauthor of *The Health of Women in Latin America and the Caribbean, Millions Saved: Proven Successes in Global Health,* and the reports *Making Markets for Vaccines: Ideas to Action,* and *When Will We Ever Learn: Improving Lives through Impact Evaluation.*

Daniel López-Acuña, *Pan American Health Organization*
Since 2003, Daniel López-Acuña has been director of program management at the Pan American Health Organization. He received his medical degree from the National University of Medicine in Mexico and did master's and doctoral studies in public health at the Johns Hopkins University. He has been a faculty member of the School of Medicine at the National University of Mexico and the School of Public Health of Mexico, and a visiting professor at universities in the United States, Spain, and Latin America in epidemiology, health systems, health planning and health economics, and other fields. López-Acuña joined the Pan American Health Organization in 1986 as program analyst and senior advisor on program planning and policy development. In 1992 he was appointed executive secretary of the Regional Plan for Investment in the Environment and Health, an initiative endorsed by the Iberoamerican and English-speaking Caribbean heads of state, whose implementation was coordinated by PAHO. In 1996 he was appointed director of the Division of Health Systems and Services Development. López-Acuña has published a number of specialized articles and several books; he is a member of the editorial boards of several technical and periodical journals and writes frequently for newspapers in Latin America and Spain.

Gustavo Nigenda, *Mexico Instituto Nacional de Salud Pública (INSP) (National Institute of Public Health) (co-chair)*
Gustavo Nigenda is Director of Innovations on Health Services and Systems at the Center of Health Systems Research. At INSP, he is also Coordinator of the doctoral program on health systems research. He received a doctoral degree at the London School of Economics and Political Science and a master's degree in health planning and financing at the London School of Tropical Medicine and Hygiene. He has been a researcher on health systems for almost twenty years, with specific focus on health-sector reform, human resources for health, reproductive health services, and public-private partnership. He has been adviser to several Mexican and international organizations. From 2001 to 2005, Mr. Nigenda worked at FUNSALUD (the Mexican Health Foundation) as head of the Center for Social and Economic Analysis in Health, and he was also coordinator of the José Luis Bobadilla Inter-American Network for Health Policy Analysis, which carried out extensive training in Latin America and the Caribbean on methodologies such as national health accounts, burden of disease, and human resources planning. His extensive publications cover a wide range of topics within the field of health systems research.

Ann Pawliczko, *United Nations Population Fund (UNFPA)*
Ann Pawliczko is senior project adviser in the Population and Development Branch, Technical Support Division of UNFPA. She holds a doctorate in demography and urban sociology from Fordham University. She joined the United Nations in 1992 after serving as assistant professor of sociology at Fordham and conducting research at the Population Council. At the UN Population Division, Ms. Pawliczko worked in the population policy area and contributed to such publications as *International Migration Policies, World Population Policies, The Challenge of Urbanization: The World's Large Cities, and Monitoring of Population Trends and Policies.* Since 1996, she has been with UNFPA, serving as Senior Technical Adviser to its project on data collection of resource flows for population activities. She prepares the annual "Financial Resource Flows for Population and AIDS Activities" and the "Financing the ICPD Programme of Action" advocacy brochure, as well as the reports of the Secretary-General to the Commission on Population and Development on international assistance and domestic funding for population activities. Ms. Pawliczko is editor of *Ukraine and Ukrainians Throughout the World: A Demographic and Sociological Guide to the Homeland and Its Diaspora (*University of Toronto Press, 1994).

Blair Sachs, *Bill & Melinda Gates Foundation*
Blair Sachs is a Program Officer in the Policy and Finance team at the Bill & Melinda Gates Foundation. She is responsible for developing and managing grants that explore and drive innovative policy and finance solutions to achieve sustainable improvements in global health outcomes. Ms. Sachs leads in developing the global health policy research portfolio and provides policy and finance guidance and analytics to the foundation global health divisions. Originally, her finance efforts focused on managing a major grantee in the immunization program, the Vaccine Fund (now the GAVI Fund). More recently, she has been concentrating on policy and financial issues related to the reproductive health and HIV programs. Before joining the Foundation, Ms. Sachs was a member of the business development team of a microbicide biotech firm. She also managed health programs with CARE International in Ecuador and assisted a USAID project, the Juhudi Women's Association, to initiate a medical dispensary in a rural ward in Tanzania. She earned degrees in public health and business from Johns Hopkins University.

James Sherry, *George Washington University*
James Sherry, Chair of the Department of Global Health at George Washington University's School of Public Health, is a physician with doctorate degrees in medicine (University of Michigan), biochemistry (Carnegie Mellon University), and clinical training in pediatrics (Children's Hospital of Michigan). He has extensive program, policy, political, governance, and institutional development experience in global health, including sixteen years as a senior officer and director in the United Nations System, with responsibilities ranging from the establishment of the Children's Vaccine Initiative, UNAIDS, and the Global Fund to Fight AIDS, Tuberculosis and Malaria; to the reestablishment of basic

health care services in postwar Rwanda; to supporting the negotiation of global health policy by the UN General Assembly and Security Council. Previous assignments have included serving as a U.S. Foreign Service Officer in India as Director of Biomedical Research and Technology Development with USAID and as Chief of Staff for a Member of the House of Representatives of the U.S. Congress. Currently, he is on temporary assignment from the United Nations Children's Fund to the UN World Food Programme.

Abdelmajid Tibouti, *United Nations Children's Fund (UNICEF)*
Abdelmajid Tibouti is a Senior Health Financing Adviser at UNICEF New York. Before joining UNICEF New York, he worked in Ethiopia for four years as Senior Program Officer in charge of the management of UNICEF programs. From 1996 to 2000, he held the position of UNICEF Regional Health Adviser for Eastern Europe. From 1992 to 1996, he was the Health Financing Adviser for UNICEF New York, and from 1987 to 1991, he held the position of Health Financing Adviser at the Ministry of Health in Morocco. Mr. Tibouti holds a doctorate in health economics from the University d'Aix-Marseille in France.

Viroj Tangcharoensathien, *Thailand International Health Policy Program*
Viroj Tangcharoensathien has been the Director of the Thailand International Health Policy Program in since 2003. After obtaining his medical degree from Mahidol University in 1979 he worked as a medical officer and administrator in several remote district hospitals between 1980-87. He pursued a doctoral degree in health economics and finance from the London School of Hygiene and Tropical Medicine between 1987-90. Upon returning to Thailand, he worked in the Health Planning Division of the Ministry of Public Health before being seconded by the ministry to work as a full-time health policy researcher. He has been active in developing the national health accounting in Thailand, and has multiple publications related to health financing.

Katherine Blumer, *Project Manager*
Katherine Blumer is currently a Technical Officer with the Health Metrics Network (HMN), where she manages the Country Log Book and the Monitoring of Vital Events Network (formerly Count the Dead). Before joining the Global Health Policy Research Network at the Center for Global Development, she was an Information Assistant with UNAIDS focused on coordinating global HIV/AIDS resource tracking efforts. Ms. Blumer holds a bachelor's degree in communications from the University of Utah and a master's degree in organizational management from the University of Phoenix.

Appendix B. Annotated List of Background Studies

Documents are available upon request from rlevine@cgdev.org.

"The Challenges of Creating a Global Health Resource Tracking System"
by Elisa Eiseman and Donna Fossum. RAND Corporation.
Available at: www.rand.org/pubs/monographs/MG317/

In recognition of the enormous health needs of developing countries (most notably stemming from infectious diseases and the lack of basic health care, clean water, adequate sanitation, and food) and, more recently, of the MDGs, governments, international organizations, for-profit corporations, and nonprofit organizations throughout the world regularly provide both cash and in-kind health resources to developing countries. These health resources are not tracked on a global level, however, which means that policymakers do not have the comprehensive, accurate, and timely data they need to identify resource gaps, target assistance, avoid duplication of effort, and track progress toward the MDGs. The RAND Corporation assessed existing systems for tracking health resource flows to and within developing countries to determine the purpose, content, strengths, and limitations of these systems, with the objective of determining the characteristics that a truly global health resource tracking system must have to meet the needs of potential users and address the limitations of current systems. The study involved extensive interviews with people key to the operation and/or management of all major health resource data collections, detailed analyses of these data collections, literature reviews, and a technical consultation with experts involved in health resource tracking.

"Gaps and Missing Links: What Do We Need to Know about Resource Flows in Global Health?"
by Ruth Levine and Katherine Blumer

With enhanced attention to scaled-up efforts to reach the MDGs for health, the international policy community has recognized the inadequacy of information currently available about resource flows to global health. Relative to what is needed for some important policy and planning purposes, information on donor contributions is characterized by the following shortcomings: too highly aggregated; not reported in a frequent and timely manner; lacking data on both disbursements and commitments; and missing most private flows. At the country level, information about domestic health financing suffers from the following main shortcomings: inconsistency in use of monitoring methods that would permit comparisons over time and across countries, such as NHAs; lack of transparency in budgets and expenditures; incomplete ability to capture donor flows and private transactions; and disconnect between the retrospective NHA framework and budgeting nomenclature and time frame familiar to ministries of finance.

These shortcomings systematically impede the ability of policy analysts to (a) assess the gap between current resource levels and required spending; (b) understand whether resources are balanced optimally across services, inputs, and beneficiary populations and coordinated across donors; (c) understand the relationship between how much is spent and how much health (or health care) is produced; and (d) identify potential improvements in health-financing strategies. This background analysis provides information about major policy uses for information about financial resource flows in global health; identifies key communities of data users, each of which have special needs; inventories the major data collections; and describes how well or poorly the existing data respond to policy needs.

"Institutionalization of Health Resource Tracking in Low- and Middle-Income Countries: Approaches and Alternatives"
by Amanda Glassman and Dorota Rasciborska

This background analysis explores the progress toward, and constraints to, the institutionalization of systems to track health revenues, budgets, and expenditures at national and subnational levels, through NHA and other methods. The paper reviews the status of institutionalization of NHA and analyzes the structure and effectiveness of external support to this effort. It also attempts to categorize countries with respect to their progress toward institutionalization and explores the experiences of donor and technical agencies in the strengthening of public-sector budget-tracking functions, particularly in the social sectors. Finally, the authors propose future areas of research and suggest that as donors move to budget support and as health budgets assume an ever-larger proportion of public expenditure, the need to monitor results greatly increases.

"Conceptualization and Preliminary Recommendations for Developing or Strengthening NHA, and Systems at National and Sub-National Levels,"
by A. K. Nandakumar

National health accounts is one of many tools that can support health resource tracking. Done well, NHAs should present a comprehensive and accurate picture of total resource flows within the health system of a country. Taking into consideration the gaps that exist in NHA and global health resource tracking, this background analysis attempts to develop preliminary recommendations on the possibilities of strengthening national health accounts, and health expenditure resource tracking in general.

To succeed in strengthening NHAs requires improved collaboration at the level of international agencies, greater responsiveness from countries, long-term commitment, and significant increase in investments. For NHAs to remain sustainable in the long-run, they need to become a routine function at the country level, with a permanent home and needed resources. In addition, the improvement in the regularity, timeliness, and validity of NHA results must be tied closely to improvements to the overall management of public expenditures and the development of improved and integrated information systems.

"International Health Resource Tracking: New Goals, New Approaches,"
by Eric Lief

A significant body of work exists to substantiate current and prospective global health resource needs in the developing world. Health resource gaps exceeding $26 billion annually by 2007 have been projected.[5] All credible formulas for closing these gaps rely on significant international resources.[6] Work to track, project, and guide such international health resource flows needs more support and new approaches.

Simultaneously, public resource management decision making in developed countries has become less long-term in orientation. The evolution in recent years of management information system (MIS) concepts and technologies has facilitated processes of more constant resource flow review and of redirection in response to changing externalities. This background analysis attempts to explore the advances in public health MIS technologies, with the vision that there can be important improvements made in external resource tracking relative to international health, and to other activity sectors as well.

Appendix C. Individuals Consulted

David M. Adamson, RAND
Negar Akhavi, Bill & Melinda Gates Foundation
Ross Antony, RAND
Mickey Aramati
Terri Bartlett, Population Action International
Amanda Behm, United Nations Refugee Agency – Washington
Julia Benn, Organisation for Economic Cooperation and Development/
Development Cooperation Directorate
Peter Berman, Harvard School of Public Health
Stan Bernstein, United Nations Population Fund
Stefano M. Bertozzi, Instituto Nacional de Salúd Publica
Manjiri Bhawalkar, PHR*plus* Project
Tristan Blanchard, GAVI Fund
Emily Byram, Foundation for AIDS Research
Ken Cahill, BearingPoint
Lisa Carty, Bill & Melinda Gates Foundation
Robin Cole, RAND
Kate Conradt, Basic Education Coalition
Donna Crews, AIDS Action
Susna De, Abt Associates
Bart de Bruijn, Netherlands Interdisciplinary Demographic Institute
Annette DeMattos, Social Sectors Development Strategies, Inc.
Shari Doi, Center for Health and Gender Equity

5. WHO, *Investing in Health for Economic Development,"* report of the Commission on Macroeconomics and Health (Geneva: WHO, 2001).

6. Ibid.

Tania Dmytraczenko, PHR*plus* Project
Rena Eichler, Management Sciences for Health, Inc.
Silvia Eiriz, State Department, Population Office
Elisa Eiseman, RAND
Zine-Eddine El Idrissi, World Health Organization (WHO), Eastern Mediterranean Regional Office (EMRO)
Sally Ethelston, Population Action International
David Evans, WHO
Katherine Floyd, WHO
Donna Fossum, RAND
Joel Friedman, Center on Budget and Policy Priorities
Minako Futamura, George Washington University
Ann Gavaghan, Office of Senator Hillary Rodham Clinton
Amparo Gordillo-Tobar, Pan American Health Organization (PAHO), WHO
Danielle Grant-Krahe, Center for Development and Population Activities, Futures Group
Andrea Greenblatt-Harrison, Women's Edge Coalition
Patricia Hernandez, WHO
Teresa Guthrie, Institute for Democracy in South Africa (IDASA)
Alison Hickey, IDASA
John Howe III, Project HOPE
Manfred Huber, Organisation for Economic Co-operation and Development (OECD)/Education Directorate
Maggie Huff-Rousselle, Social Sectors Development Strategies, Inc.
Kruti Kapadia, Save the Children
Benu Karki, Ministry of Health, Nepal
Judith Kaufman, Brandeis University
Danuta Krotoski, National Institute of Child Health and Human Development
Warren Krafchik, International Budget Project
Daniel Kress, Bill & Melinda Gates Foundation
Elizabeth Leahy, Population Action International
Patrick Lydon, WHO
Akiko Maeda, World Bank
Margaret Kruk, Millennium Project
James Kulikowski, Office of Management and Budget, Executive Office of the United States President
Patience Kuruneri, WHO
Rita Leavell, Abt Associates
Bill Leinweber, Research America
Maureen Lewis, Center for Global Development
Joel Lieberman, International Budget Project
Patricia MacWilliams, Interaction Associates
Lauren Marks, U.S. Agency for International Development (USAID)
Ray Martin, Christian Connections for International Health
Ernest Massiah, Inter-American Development Bank
William McCormick, USAID

William McGreevey, Futures Group
Catherine Michaud, Harvard Center for Population and Development Studies
Warren Mitchell, AIDS Vaccine Advocacy Coalition
Connie S. Moreno, RAND
Stephen Muchiri, Kenya Ministry of Health
Emiko Naka, Global Fund to Fight AIDS, Tuberculosis and Malaria
Paul Nunn, WHO
Mead Over, World Bank
Margaret Perkins, United Nations Children's Fund
Rudolphe Petras, OECD/Development Co-operation Directorate
Oscar Picazo, World Bank
Stacy Propst, Research America
Ravi Rannan-Eliya, Institute of Policy Studies, Sri Lanka
Dellaphine Rauch-Houekpon, Carelift International
Karen Ringheim, Global Health Council
Sharon Rudy, Public Health Institute
Oliver Sabot, Friends of the Global Fight
Belgacim Sabri, WHO, EMRO
Hossein Salehi, WHO, EMRO
Russ Scarato, USAID
Nina Schwalbe, Open Society Institute
Barbara Seligman, USAID
David Sevier, MAPA Ventures
James Sherry, Global Health Council
Dasa Silovic, United Nations Development Programme (UNDP)
Steven Sinding, International Planned Parenthood Federation
Preeti Singh, Burness Communications
Anil Soni, Friends of the Global Fight
Owen Smith, Abt Associates
Sergio Spinaci, WHO
Robert Steinglass, John Snow International
Ruben Suarez-Berenguela, PAHO, National Health Accounts
Todd Summers, Bill & Melinda Gates Foundation
Kaleb Tamiru, World Bank
Emily Thompson, Research America
Stephanie Vasquez, National Alliance of State and Territorial AIDS Directors
Carolyn Vogel, Population Action International
Ron Waldman, Millennium Project
Veronica Walford, Institute for Health Systems Development (U.K.)
Lynette Walker, CORE Group/World Vision
Joseph C. Whitehill, Congressional Budget Office, U.S. Congress
Mimi Whitehouse, John Snow International
Peg Willingham, International AIDS Vaccine Initiative
Jennifer Wisnewski Kaczor, Woodrow Wilson International Center
Virginia Yee, World Bank
Aster Zaoude, UNDP

Appendix D. Global Health Resource Tracking Glossary of Terms

During its deliberations, the Global Health Resource Tracking Working Group found it useful to adhere to standard definitions when discussing specific accounting concepts. These are offered below as a reference for others working in this field, or attempting to interpret technical materials.

Accounting: The systematic recording of the financial aspects of transactions, according to a stipulated **accounting basis** (i.e., a body of accounting principles), generally either

- **Cash accounting:** A system of accounting in which disbursements are recorded when a payment is made; or
- **Accrual accounting:** A system in which disbursements are recorded when goods are received or services performed, even though actual payment may occur at a different time; or
- **Obligation (or commitment) accounting:** A variation of accrual accounting, in which an obligation or commitment is recorded before initiating any acquisition of goods or services.

Activity: A discrete work area (e.g., human capacity building) usually defined in terms of competency, constituted in multiple projects.

Allocation or allotment: An administrative subdivision of a private budget or a public account, usually representative of a discretionary management decision.

Appropriations (Commonwealth: Supply) Act: A law technically permitting the expenditure of specific amounts of *public* funds for specific categories of purposes. One or more appropriations **accounts** are normally established for each distinct category (e.g., official development assistance [ODA]).

Baseline: A benchmark for measuring changes in revenues or spending, usually defined in terms of the amount of money received, budgeted, or disbursed during a given base year.

Bilateral assistance: Direct assistance from one government to, or on behalf of, one or more foreign countries. Can take the form of direct conditional or unconditional grants or concessional loans to one or more recipient governments; commercial contracts for execution of specific projects; grants to NGOs, which in turn execute projects; or direct provision of commodities or services.

Budget: A financial plan setting out aggregate amounts of public or private money available for use in new (or renewed) activities during a prospective time frame, usually a year. Budgets are successively *formulated, presented* or *proposed, modified, approved,* and *executed.* Most public institutions state the financial magnitude of what they are doing in terms of budgets. Budget

approval, for example, will often produce a pronouncement of money newly "dedicated" to a given purpose, even when disbursements are properly structured to extend over a subsequent multiyear period.

Budget execution comprises a series of managerial decisions—for example, to allocate available resources to a given suborganization for further subdivision or expenditure—that are routinely recorded in nonfiduciary budget execution databases.

Budget support: Conditional or unconditional transfer payments from one government to another, or from a multilateral lending institution (typically the IMF), in textbook form meant to bridge crisis-driven limited-duration gaps between a recipient government's revenues and spending needs.

Capital spending: Spending that creates (usually) physical assets with long life spans (for example, **infrastructure,** such as schools, roads, bridges, dams, harbors, and public buildings), often financed by long-term borrowing so as to spread costs to future beneficiaries. Distinct from **consumption spending** for expendable goods and services, typically financed from current revenues.

Concessional loan: A loan at less-than-market interest rates, for longer-than-market terms, and/or under easier-than-market conditions, the effect of which is that the borrower repays less of the real amount received than would otherwise be the case. Many multilateral development bank concessional loans, for example, are executed with nominal interest rates, twenty- to forty-year terms, and initial ten-year payment moratoriums, the effect of which is later repayment of principal, significantly deflated in value.

Direct (or mandatory) spending: Public spending grounded in permanent law, driven solely by legal demand (as opposed to financial supply) in terms of, for example, demographically driven increases in the number of beneficiaries meeting legal criteria. Certain national insurance and retirement systems, for example, are constituted on a direct spending basis. Distinct from **discretionary spending,** which requires annual approval in appropriations acts.

Disbursement, liquidation, outlay (U.S.), or expenditure: An actual payment executed—for example, for project activities, work performed, or goods delivered under a previously concluded agreement. Health economists define needs or capacity estimates in terms of disbursements.

Fiscal year: A yearly accounting period. For most OECD accounting systems and the UN, fiscal years and calendar years are congruent. For the United Kingdom, most Commonwealth countries, and Japan, fiscal years begin on April 1 and end on March 31 of the following year. The World Bank, Australian, and New Zealand fiscal years begin on July 1 and end on June 30, and the U.S. fiscal year runs from October 1 to September 30. Fiscal years are normally designated according to the calendar years in which they end; for example, the World Bank's 2004 fiscal year ended on June 30, 2004.

Grant: A nonrepayable transfer or series of transfers of money from a grantor to a grantee, or to an intermediary organization on a grantee's behalf. Grants can be unconditional or conditional—in the latter case, with terms stipulated in a grant agreement.

Household spending: Spending by private individuals, exclusive of any institutional financing (for example, in the form of reimbursements from national insurance plans).

Interest rate buy-down: A transaction, usually by a third party, prepaying part or the entirety of a borrower's interest obligation to a lender, the result of which (for the borrower) is a below-market-rate or zero-interest loan.

Loan guarantee: A promissory instrument issued to a lender on behalf of a borrower before the fact by a third party, legally committing the third party to repayment of a given loan in the event of borrower's default, the usual effect of which is to lessen the lender's risk and therefore the borrower's interest costs.

Multilateral assistance: Assistance from a multilateral organization to, or on behalf of, one or more countries, using funds provided unconditionally by contributors, and undertaken at the sole direction of the organization's governing body, taking any of the same executing forms as bilateral assistance. Distinct from **bilateral-multilateral assistance,** defined in terms of specific conditional grants from one or more governments or private entities to a given multilateral organization using funds *designated* by the grantor for specific activities, in furtherance of which the multilateral organization acts as an implementing agent.

Nominal or current value: A measure of spending or revenue in terms of immediate monetary value, without regard to purchasing power as affected, for example, by currency exchange fluctuations or inflation. Distinct from **real value,** a measure of spending or revenue adjusted to represent the power to purchase goods and services.

Obligation or commitment: An accounting transaction reserving a specified amount of budgeted money for a discrete operational action immediately before the fact; for most public spending, a fiduciary prerequisite to any such action (e.g., conclusion of a grant agreement) that legally binds one or more parties to future expenditure of funds.

Out-year: A fiscal year subsequent to that in which a budget, program, project, or activity is initiated. Disbursements during the second through fifth years of a five-year project's lifespan would be the project's out-year disbursements. The second and third years of a South African government budget, as presented in a medium-term budget policy statement (MTBPS), constitute budget out-years.

Program: A set of activities constituting the entirety of an organization's approach to a specified set of needs (e.g., the World Bank's Multi-Country HIV/AIDS Program).

Project: A specific undertaking, usually in a particular country, based on a discrete set of tasks to be carried out for a designated amount of money.

Resource mobilization: A process ending in activation of additional resources at an originating source. Distinct from resource allocation, which refers to decisions as to how already-mobilized resources will be distributed among countries and/or programs, activities, and projects. A decision by a multilateral development bank's board of directors to authorize an aggregate total of additional concessional lending, for example, would constitute an act of resource mobilization. Later approval by the same board of loans to specific countries within the previously approved total would constitute resource allocation.

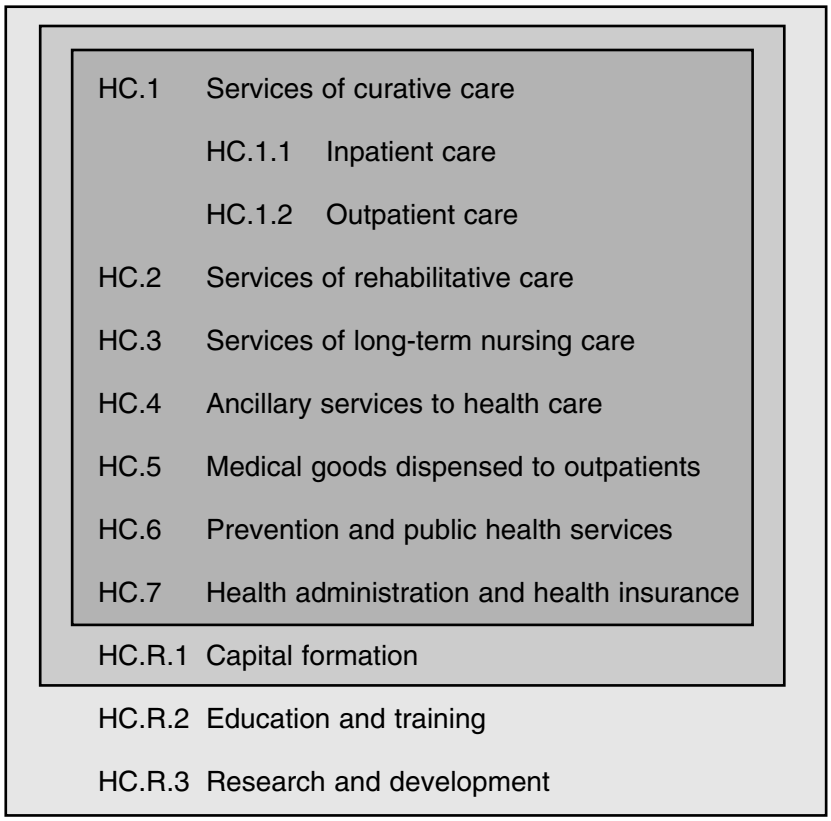
Revenues: Funds collected from the public that arise from the government's exercise of its sovereign or governmental powers. Public revenues consist principally of individual and business income taxes and contributions to retirement and insurance programs, excise taxes, transaction taxes, and customs duties. In some cases, forgone revenues resulting from favorable tax treatment of specific activities (e.g., charities, health R&D) can be deemed to constitute a form of direct public spending.

Sector: Major area of programmatic activity, defined according to desired outcome substance (e.g., education) and often disaggregated into **subsectors** (e.g., basic education).

Sectorwide approaches (SWAps): Coordinated budget support transfers by multiple assistance-granting entities, usually governments, to a single recipient government.

Subsidy cost: The estimated long-term cost to a lender or a third party of a concessional direct loan or loan guarantee. For direct loans, the subsidy cost is the difference between the *net present value* of projected loan disbursements and later (deflated) repayments. The World Bank usually expresses this as a "grant component" of concessional loan disbursements, typically 60–70 per cent of the total loaned. For loan guarantees, the subsidy cost is the net present value of estimated costs to insure against defaults and delinquencies.

Appendix E. Boundaries of the Health Sector



HC.R.4 Food, hygiene, and drinking water control

HC.R.5 Environmental health

HC.R.6 Social services in-kind

HC.R.7 Health-related cash benefits

National Expenditure on Health (NEH)—smallest box

Total Expenditure on Health (SHA TEH)—middle box

Total Health Expenditure (THE)—largest box

Source: World Bank, "Chart of National Health Accounts" (2005)

Appendix F. Inventory of Existing Initiatives to Track Financial Flows in Global Health

This appendix is an updated version of the work reported by RAND in The Challenges of Creating a Global Health Resource Tracking System, by Elisa Eiseman and Donna Fossum (http://www.rand.org/pubs/monographs/MG317/).

I. Data on Donor Aid

- Creditor Reporting System (CRS)—Database on Aid Activities
- Accessible Information on Development Activities (AiDA)
- Report on HIV/AIDS Grant Making by U.S. Philanthropy
- U.S. and Global Funding for HIV/AIDS in Developing Countries

II. Data on Donor Aid and Country-Level Data

- United Nations Population Fund/Joint United Nations Programme on HIV/AIDS/Netherlands Interdisciplinary Demographic Institute (UNFPA/UNAIDS/NIDI) Resource Flows Database
- Global Tuberculosis Control: Surveillance, Planning, Financing

III. Data on Country-Level Expenditures/Activities: National Health Accounts, National HIV/AIDS Accounts, and Other Disease-Specific Subanalyses

- Organisation for Economic Co-operation and Development (OECD) Health Data
- World Health Organization (WHO) National Health Accounts
- Pan American Health Organization (PAHO) Health Accounts/National Health Accounts
- Partners for Health Reformplus (PHR*plus*) National Health Accounts
- Regional AIDS Initiative for Latin America and the Caribbean (SIDALAC) National HIV/AIDS Accounts
- PHR*plus* HIV/AIDS, Malaria, and Reproductive Health Subanalyses
- WHO Disease-Specific Expenditures

IV. Data on Donor Aid and Country-Level Expenditures/ Activities: Other

- World Development Indicators (WDI) Database
- National Health Expenditure (NHEX) Database
- Data Base of Trade in Health Related Goods and Services in the Americas
- Institute for Democracy in South Africa (IDASA) Budget Information Service (BIS) Budget Briefs and Reports
- Immunization Financing Database
- Country Response Information System (CRIS)

V. Examples of Other Types of Databases and Health Data Collections

- World Bank Projects Database
- Global Fund Funded Programs Database
- UNAIDS Global Resource Tracking Consortium for AIDS

I. Data on Donor Aid

I. Creditor Reporting System (CRS)—Database on Aid Activities

Description. The Organisation for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC) is primarily responsible for carrying out OECD's work related to cooperation with developing countries. DAC collects and publishes statistics on aid and other resource flows to developing countries and countries in transition, based principally on reports from DAC members.[7]

The Creditor Reporting System (CRS), an online database developed and maintained by DAC, presents the official statistics for the financial flows of official development assistance (ODA) of DAC members. CRS provides financial information on individual transactions (e.g., specific projects). A CRS companion database, the DAC Database on Annual Aggregates, which provides aggregate data on the volume, origin, and types of aid and other resource flows to more than 180 recipients, is also maintained. This DAC database provides aggregate information on aid flows, and CRS provides detailed information at the project level. The objective of the DAC and CRS databases is to provide timely and comprehensive statistics of official and private flows of aid to recipient countries. DAC members are the primary clients of the databases.

Data Collection. CRS provides a set of basic data on financial flows of ODA that can be used to analyze where aid goes, what purposes it serves, and what policies it supports. Data are available at the level of individual projects or in aggregate tabular form. CRS contains the title and a short description of the projects, but no abstracts or detailed project descriptions are available online. Long descriptions are stored in an internal database at DAC and can be made available upon special request.

Data are provided via questionnaires submitted by all DAC members. Reporting to DAC by non-DAC donors is done on a voluntary basis. The database also includes loan transactions by the World Bank, the Inter-American Development Bank (IDB), the African Development Bank, the Asian Development Bank, and the International Fund for Agricultural Development, as well as the regular budget expenditures of UNICEF, UNFPA, and UNAIDS.

CRS reporting is quarterly, and the database is updated quarterly. Ideally, data for the previous year should be available by April of the current year (e.g., 2003 data would be available in CRS by April 2004). In reality, however, data for the previous year are not available until the end of the current year.

Funding amounts in CRS are commitments (obligations), and the total commitments per year comprise new undertakings entered into in the year in question plus additions to agreements made in earlier years. Cancellations and

7. DAC members provide more than 90 percent of all aid to developing countries. DAC members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United States, and the Commission of the European Communities (http://www.oecd.org/document/38/0,2340,en_2649_33721_1893350_1_1_1_1,00.html).

reductions of earlier years' agreements are not taken into account.[8] Data on disbursements each year are available at the activity level for approximately 70 to 80 percent of ODA. DAC has always requested these data, but they were unavailable until recently, when it became possible for most donors to link accounting (i.e., disbursements) to project management systems (i.e., commitments).

2. Accessible Information on Development Activities (AiDA)

Description. AiDA is an online database containing a catalog of information on development activities found on the Web sites of development organizations. Participating organizations share information on planned, current, and completed projects and programs that they fund, execute, or implement. AiDA aims to meet the demand for timely and reliable information about who is doing what in various locations and with what results.

AiDA is an activity of the Development Gateway Foundation, a nonprofit organization whose mission is to increase knowledge sharing, improve public-sector transparency and government efficiency, enhance the effectiveness of development assistance, and build local capacity. The Development Gateway Foundation, OECD/DAC, and the World Bank are jointly implementing this initiative.[9] AiDA builds on the work of the International Network for Development Information Exchange (INDIX) and the International Development Markup Language (IDML) initiative and organizations that are participating in this project.

Data Collection. AiDA contains a subset of information that participating organizations make available on their Web sites. It uses IDML to integrate information from multiple sources to enable search and retrieval from a common interface to give users a single, consolidated report that includes development activities of different agencies. Users can get information by various criteria, such as country, sector or topic, funding organization, or status of activity. Information is provided at an activity level; an activity may be a strategic objective, program, project, or subproject.

Organizations participating in AiDA include donors, implementing agencies, and content aggregators. They share information on planned, current, and completed projects and programs that is available on their Web sites, internal information systems or provided to the OECD/DAC's Creditor Reporting System. Data in AiDA do not replace official data found on the Web sites of participating organizations. AiDA contains a subset of information and refers users to the source sites for further information when it is available. The scope of information and the frequency of updates in AiDA vary by source. Information is updated monthly, quarterly, or annually, depending on the schedules of the participating organizations.

AiDA is the largest single source of integrated information on development activities, but it is not yet comprehensive or up-to-date. This directory currently

8. User's Guide to the Online Aid Activity Database, http://www.oecd.org/document/50/0,2340,en_2649_34469_14987506_1_1_1_1,00.html.

9. AiDA, http://aida.developmentgateway.org/AidaAbout.doc.

includes 500,000 activities, of which 130,000 ongoing and planned activities are in the live database.

In addition, organizations report on activities at different levels, ranging from strategic objectives, programs, projects, subprojects, technical assistance, and study grants. AiDA does not have detailed-enough information to make it possible to distinguish between these different levels.

3. Report on HIV/AIDS Grant Making by U.S. Philanthropy

Description. Funders Concerned About AIDS (FCAA), organized in 1987, is an affinity group[10] of grant makers whose mission is to mobilize "philanthropic leadership and resources, domestically and internationally, to eradicate the HIV/AIDS pandemic and to address its social and economic consequences."[11] FCAA has a core constituency of more than 2,600 individuals, including private foundations, corporate grant makers and giving programs, community and family foundations, United Ways, other charitable organizations, key government and public policy officials, UN officials, and media contacts.[12] FCAA is not a grant-making organization and does not provide direct assistance to HIV/AIDS organizations or others interested in identifying or seeking potential grants from private funders.

FCAA has produced a series of publications on HIV/AIDS-related grant making by all sectors of U.S. philanthropy. The most recent FCAA publication, "Report on HIV/AIDS Grantmaking by U.S. Philanthropy," includes lists of the top fifty HIV/AIDS grant makers for the years 2001 and 2002, data for 2001 and 2002 about U.S.-based HIV/AIDS grant making, research on the corporate response to HIV/AIDS, and information about the regional and international distribution of private U.S.-based HIV/AIDS grants (FCAA, 2003). This report serves not only as a practical tool for grant makers in developing and sustaining their HIV/AIDS efforts but also as a resource for those outside of philanthropy who want to better understand the critical role that grant makers play in the response to the pandemic and to work more effectively with grant makers in enhancing all types of resources flowing to HIV/AIDS initiatives.

Data Collection. The 2003 FCAA report summarizes HIV-related grant commitments for 2001 and 2002 from all sectors of U.S. philanthropy, including private, family, and community foundations; public charities; and corporate grant-making programs (FCAA, 2003). The report also contains information about the regional and international distribution of private, U.S.-based HIV/AIDS grants. In addition, it has information on in-kind donations that the corporate sector contributed to HIV/AIDS, such as resources in communications and marketing, logistics and distribution, human resources, and application of information technology, plus workplace programs such as

10. Affinity groups are groups composed primarily of grant makers. Group activities must be open to any Council on Foundations member who would like to participate. The services and programs offered must be primarily for the benefit of grant makers.

11. http://www.fcaaids.org/about/About_Mission.htm

12. Ibid.

nondiscriminatory policies; awareness and prevention (including distribution of condoms); and access to care, support, and treatment.

FCAA tracks and reports on grant commitments in each calendar year, rather than on grant spending in a given year. Multiyear grants are counted fully in the year when they are initially committed. This is consistent with the data collection methods of the Foundation Center; the Funders Network on Population, Reproductive Health, and Rights; and several other affinity groups (FCAA, 2003).

Information for the FCAA report came from a survey distributed in July 2003 to seventy-eight grant makers requesting specific information about their HIV/AIDS-related funding allocations in 2001 and 2002. When information was not available directly from these grant makers, FCAA conducted additional research and collected additional HIV/AIDS grant-making data from the Foundation Center and other sources to produce an unduplicated total set of 407 grant makers. Data collected by FCAA surveys and other research methods were also compared with Foundation Center statistics for 2001 and 2002. The 2002 data in the "Report on HIV/AIDS Grantmaking by U.S. Philanthropy" are less comprehensive and final than the 2001 data (FCAA, 2003).

4. U.S. and Global Funding for HIV/AIDS in Developing Countries

Description. The Henry J. Kaiser Family Foundation is a nonprofit, private operating foundation that focuses on the major health care issues facing the United States.[13] The Kaiser Family Foundation HIV/AIDS Policy Program focuses on the HIV/AIDS epidemic both in the United States and globally. The program's work in HIV/AIDS policy includes analysis and monitoring of the following:

- Key epidemic trends
- Global and domestic spending on HIV/AIDS
- Major programs that provide prevention, care, and treatment to people at risk for, and living with, HIV/AIDS
- Public opinion about HIV/AIDS
- The impact of the epidemic on those populations and regions of the United States and the world that have been most affected, including young people, women, and minority communities[14]

The Kaiser Family Foundation HIV/AIDS Policy Program performs primary research on U.S. funding and gathers secondary data on global funding for HIV/AIDS in developing countries. It produces a series of policy briefs, fact sheets, and other publications on domestic and global spending on HIV/AIDS. This work is ongoing and is updated on a regular basis. Examples of recent work include (a) the fact sheet, "U.S. Federal Funding for HIV/AIDS: The FY 2007 Budget Request," which includes a detailed accounting of recent and proposed U.S. government funding for globally HIV/AIDS(Kates, 2006); (b) the report, "Financing the Response to HIV/AIDS in Low and Middle Income Countries: Funding for HIV/AIDS from the G7 and the European Commission"

13. Henry J. Kaiser Family Foundation, http://www.kff.org/about/index.cfm.

14. From the Henry J. Kaiser Family Foundation, http://www.kff.org/about/hivpolicy.cfm.

(Kates, 2005), which provides 2004 commitments and disbursement data on donor government funding to address HIV/AIDS in developing countries; (c) the policy brief, "U.S. Government Funding for Global HIV/AIDS Through FY 2005" (Kates and Summers, 2004), which provides detailed data on U.S. government funding for the global HIV/AIDS epidemic through FY 2004 and for the FY 2005 budget request; and (d) and the policy brief, "Global Funding for HIV/AIDS in Resource Poor Settings"(Summers and Kates, 2003a), which summarizes data on the range of resources currently directed to address the HIV/AIDS epidemic in developing countries, including bilateral and multilateral support from donor governments, private-sector support (i.e., support from corporations, foundations, and NGOs), and domestic funding by governments of developing countries.

Data Collection. The methods that the Kaiser Family Foundation uses for data collection and the data that it makes available on global HIV/AIDS funding are not the same for U.S. government funding and for other funding (e.g., other major bilateral donors, affected country governments, and foundations). We thus describe them separately here.

U.S. Government Funding for HIV/AIDS in Resource-Poor Settings. The Kaiser Family Foundation has collected and analyzed primary data on U.S. government funding of HIV/AIDS in resource-poor settings that extend from the beginning of the U.S. government's role in global HIV/AIDS funding in FY 1986 through the President's budget proposal for FY 2005. The policy brief, "U.S. Government Funding for Global HIV/AIDS Through FY 2005" (Kates and Summers, 2004), presents an overview chart of federal HIV/AIDS spending for FY 1986 through FY 2005, broken down by whether the funding was for bilateral programs; contributions to the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM); or international research.

Data on U.S. government global HIV/AIDS funding are provided in detail for the President's Emergency Plan for AIDS Relief (PEPFAR)—a five-year, $15 billion initiative to address HIV/AIDS, tuberculosis, and malaria in fifteen of the hardest-hit countries in the world—at the program level for the federal departments/agencies that conduct U.S. international HIV/AIDS activities:

- Department of State
- USAID
- Centers for Disease Control and Prevention (CDC)
- National Institutes of Health (NIH)
- Department of Defense (DoD)
- Department of Labor (DOL)
- Department of Agriculture (USDA)

Other federal agencies may also engage in some international HIV/AIDS activities, primarily with funding provided through the agencies above, although in some cases they may use additional funds that are not necessarily attributed to international HIV/AIDS activities by the U.S. government. These agencies include the Health Resources and Services Administration

(HRSA), which provides support for treatment and care; the U.S. Census Bureau, which supports international epidemiology estimates; and the Peace Corps, which provides volunteers in many highly affected countries (Summers and Kates, 2003b).

Information is available about U.S. contributions to multilateral organizations, including the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and UNAIDS. General support from the United States to the UN, which indirectly provides funds to a wide variety of UN organizations involved in HIV/AIDS activities—such as WHO, UNICEF, and UNDP—is not included in the estimates of total U.S. global HIV/AIDS funding because the United States does not designate specific amounts for HIV/AIDS activities by these organizations within its general contributions (Summers and Kates, 2003b). Rather, these funds, if allocated to HIV/AIDS by the multilateral organization, should be attributed to that organization.[15]

Most of the data on U.S. government funding of HIV/AIDS represent funds specifically designated (earmarked) for global HIV/AIDS programs or initiatives, in accordance with either bill text or final report language of appropriations legislation (Kates and Summers, 2004).[16] These data are presented as appropriations by agency, year, and program. Data on NIH and CDC funding for international HIV/AIDS research are presented as self-reported expenditures of past funding and estimates of future funding (Kates and Summers, 2004).[17] The data are from a variety of primary sources, including congressional appropriations legislation, federal budget documents, reports and estimates from the Office of Management and Budget and government agencies, and analyses by the U.S. Congressional Research Service(Summers and Kates, 2003a).

Disaggregated information about how U.S. funding for global HIV/AIDS activities is used—including for research; for prevention; or for care, treatment, and support—has not been generally available because most U.S. agencies did not publicly report their funding levels according to these broad categories (Kates and Summers, 2004). This is likely to change, however, because PEPFAR is required to report on the uses of funds annually.

15. The fifteen priority PEPFAR countries are Botswana, Côte d'Ivoire, Ethiopia, Guyana, Haiti, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Vietnam, and Zambia.

16. Appropriations legislation sets funding levels both through specific references included in the actual text of bills and through "report language" from the written reports developed by the various congressional appropriations committees.

17. HIV/AIDS research is typically excluded from estimates of global need or overall spending that are prepared by UNAIDS and others, but it is included in U.S. government calculations of its support for global HIV/AIDS efforts.

II. Data on Donor Aid and Country-Level Data

1. United Nations Population Fund/Joint United Nations Programme on HIV/AIDS/Netherlands Interdisciplinary Demographic Institute (UNFPA/UNAIDS/NIDI) Resource Flows Database

Description. UNFPA collects data on, and reports on, worldwide financial flows to population and AIDS activities in a report entitled "Financial Resource Flows for Population and AIDS Activities." This annual report focuses on the flow of funds from donors through bilateral, multilateral, and nongovernmental channels for population and AIDS assistance to developing countries and countries in transition. It also includes grants and loans from development banks for population and AIDS activities in developing countries. Expenditures made by national governments and NGOs in developing countries and countries in transition are also summarized in the report.

NIDI, a research institute of the Royal Netherlands Academy of Arts and Sciences engaged in the scientific study of population, has been under contract to UNFPA since 1997 to collect data for the resource flows report. Working with UNFPA, NIDI created the Resource Flows Database of both donor and domestic expenditures on population and AIDS activities. NIDI also evaluates and analyzes the data in collaboration with UNFPA. In 1999, UNAIDS joined the UNFPA/NIDI collaboration.

The purpose of the UNFPA/UNAIDS/NIDI collaboration, called the Resource Flows Project, is to establish and constantly refine an annual data collection, monitoring, and information dissemination system on global financial flows for population and AIDS activities in developing countries and countries in transition. The Resource Flows Database includes expenditure data on "population and AIDS activities" in four categories: family planning services; basic reproductive health services; sexually transmitted disease (STD) and HIV/AIDS activities; and basic research, data, and population and development policy analysis. The category "STD and HIV/AIDS activities" has four subcategories: STDs, HIV/AIDS prevention, HIV/AIDS care and treatment, and HIV/AIDS support/social mitigation. The definition of population and AIDS activities used by UNFPA/UNAIDS/NIDI covers the "costed population package" classification system outlined in paragraph 13.14 of the 1994 International Conference on Population and Development (ICPD) Programme of Action and the key targets set out in the United Nations General Assembly Special Session (UNGASS) Declaration of Commitment on HIV/AIDS.[18]

Data Collection. Data are collected through mail surveys/questionnaires and the OECD/DAC database. The mail surveys consist of two independent parts: (a) an annual donor questionnaire distributed to approximately eighty donors[19] (OECD/DAC countries, foundations, multilateral organizations and agencies,

18. www. resourceflows.org

19. In the past, approximately 180 donors were sampled. To help minimize respondent fatigue and the logistical burden, since 2004 (data collection for FY 2003) only major donors are approached.

international NGOs, development banks, and universities and research institutions) and (b) an annual domestic questionnaire distributed to government departments, national NGOs, and national consultants in developing countries and countries in transition.[20] To avoid double-counting, the data are collected at the project/program level, but reported at an aggregate level.

The Resource Flows Project has conducted fifteen country case studies to supplement the information gathered by the surveys and thematic studies on resource tracking-related issues. In addition, since 2004, the project has been engaged in the development of reproductive health subaccounts and out-of-pocket expenditure surveys (for more information, please go to http://www.resourceflows.org).

2. Global Tuberculosis Control: Surveillance, Planning, Financing

Description. In March 2004, WHO released its eighth annual report on global tuberculosis control, "Global Tuberculosis Control: Surveillance, Planning, Financing" (WHO, 2004a) . The purpose of this series of annual reports is to chart progress in global tuberculosis control and progress in implementing DOTS (directly observed treatment, short-course), the strategy promoted by WHO and recommended internationally to control tuberculosis. The report contains data on the notification of tuberculosis cases and treatment outcomes from all national tuberculosis control programs that have reported to WHO. It also contains an analysis of plans, budgets, expenditures, and constraints on DOTS expansion for the twenty-two high-burden countries (HBCs) for tuberculosis.[21]

Data Collection. Beginning in 2002, the annual report on global tuberculosis control included financial analyses. The 2002 report presents annual financial requirements and funding gaps in the twenty-two HBCs for 2002 and for 2001–5, based on five-year plans and costing studies. The 2003 report analyzes the funding requirements, funding sources, and funding gaps for the twenty-two HBCs for calendar year 2003 and includes revised estimates of funding gaps for planning period 2001–5. The 2004 report (WHO, 2004a) presents more-detailed data, including total and per patient national tuberculosis control program (NTP) budgets and tuberculosis control costs, plus funding sources and gaps related to these budgets and costs for HBCs in FY 2003;

20. For fiscal years 1997–99, an annual survey was conducted; from 2000 to 2002, a biennial survey was implemented. In 2003, a decision was taken to split the developing countries and countries in transition into core and noncore countries. Since 2004, a core country survey and a noncore country survey are executed, alternately every year. For fiscal year 2003, data on domestic expenditures were collected from a set of sixty-one core countries, which are developing countries and countries in transition that represent 87 percent of the total population of these regions, 90 percent of previously reported expenditures, and a fair balance in regional representation, as well as priority countries from an HIV/AIDS perspective. The other, noncore countries will be sampled every other year on a rotating basis.

21. The HBCs for tuberculosis are Afghanistan, Bangladesh, Brazil, Cambodia, China, the Democratic Republic of Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, the Philippines, the Russian Federation, South Africa, Thailand, Uganda, Tanzania, Vietnam, and Zimbabwe.

total and per patient NTP expenditures and tuberculosis control costs, plus funding for these expenditures and costs for HBCs in FY 2002; estimates of the total resources required to meet global targets for case detection and cure for HBCs in FYs 2004 and 2005; and NTP budgets and funding gaps for other countries in FY 2003.

During 2003, a standard form for reporting surveillance and financial data was sent to 210[22] countries via WHO regional offices to request information about policy and practice in tuberculosis control, about the number and types of tuberculosis cases notified in 2002, and about the outcomes of treatment and retreatment for smear-positive cases registered in 2001 (WHO, 2004a). It also asked for information about NTP budgets, expenditures, and funding sources and about the way in which the general health infrastructure is used for tuberculosis control. NTP managers were asked to complete two tables, one about the NTP budget for FY 2003 and the funding and funding gaps related to that budget and the other about NTP expenditures and the source of funds for those expenditures for FY 2002. Data from GFATM proposals, WHO-CHOICE (CHOosing Interventions that are Cost-Effective) estimates of the costs of bed days and outpatient visits, and published and unpublished costing studies were also used. Costing guidelines developed for the Disease Control Priorities Project (DCPP) were used to identify the purchasing-power-parity exchange rates.

NTP managers in the twenty-two HBCs were also asked, via a separate questionnaire and interviews, to summarize plans for tuberculosis control from 2003 onward, focusing on activities to improve political commitment, expand access to DOTS, strengthen diagnosis, improve treatment outcomes, ensure adequate staffing, and improve program monitoring and supervision (WHO, 2004a). They were also asked about collaborative tuberculosis/HIV activities, the management of drug resistance, and the development of partnerships and to identify major constraints to reaching tuberculosis control targets (WHO, 2004a).

III. Data on Country-Level Expenditures/Activities: National Health Accounts, National HIV/AIDS Accounts, and Other Disease-Specific Subanalyses

General Description. National health accounts (NHAs) are an internationally accepted methodology used to determine a nation's total health expenditure patterns, including public, private, and donor spending (PHR*plus*, 2003a). NHAs address four basic sets of questions: where do resources come from, where do they go, what kinds of services and goods do they purchase, and whom do they benefit? NHAs attempt to answer these questions by showing the flow of financing from a source of funding to a particular use, to a user of that expenditure, or to beneficiaries, following a standard classification of health expenditure in the *Guide to Producing National Health Accounts* (WHO, 2003).

22. Financial data were received from 123 countries, 77 (of which 17 were HBCs) providing complete data on 2003 budgets, and 74 (of which 15 were HBCs) providing complete, disaggregated expenditures for 2002 (WHO, 2004a).

NHA methodology is being used to estimate health expenditures in increasing numbers of countries, with approximately a hundred countries having specific health accounts or comprehensive health-financing documents and studies (including both private and public sectors), and more than fifty NHAs have been conducted in low- and middle-income countries. However, many countries have conducted only one study, with no repeat studies in subsequent years. Only one-third of the countries conducting NHAs currently do so on a regular, sustained basis. Some countries that have been conducting NHAs for a number of years—Bolivia, China, El Salvador, Guatemala, Mexico, Nicaragua, and the Philippines—now have series of more than five years' worth of data. Other countries (e.g., Bangladesh, Egypt, Jordan, Kenya, Morocco, Uganda, and Zambia) also have multiple years' worth of data. Tracking health accounts over time allows trends in public and private spending on health to be monitored and analyzed.

NHAs are designed to be comprehensive, recurrent, standardized, and comparable measures of expenditures on health care. They allow countries to visualize national expenditures on health care and provide policymakers with information on the distribution of health funds within the system. NHAs can help policymakers in determining the health care system's level of efficiency and identifying areas of under- or overspending.[23] NHAs can provide policymakers with useful information about the strengths and weaknesses of the health system, possible strategies for improving the efficiency and equity of health spending and government action in the sector, and the effects of policy changes on public and private spending patterns.[24] In addition, NHAs allow the performance of one country's health system to be compared with those of others. NHAs have been designed to be straightforward and easily understood by policymakers, including those without a background in economics.

Several organizations are actively involved in the development, collection, dissemination, and analysis of NHAs. OECD has been involved in the development of health accounts in its member states for more than thirty years. More recently, WHO, PAHO, and PHR*plus* have been actively involved in conducting NHAs in developing countries. These three organizations work collaboratively on the implementation of NHAs, along with a number of other partners: the World Bank, the Swedish International Development Cooperation Agency (SIDA), Belgian Cooperation, the Asian Development Bank, IDB, the Norwegian Agency for Development Cooperation (NORAD), the European Union (EU), USAID, the African Development Bank, and others. These agencies also have been promoting networks and regional cooperations to carry the NHA work forward.

The flexibility of the NHA framework also allows for the analysis of data on targeted populations or disease-specific activities, such as health expenditures related to child health or HIV/AIDS. HIV/AIDS expenditures have been

23. LAC (Latin America and Caribbean) Health Accounts/National Health Accounts, http://www.iadb.org/sds/specialprograms/lachealthaccounts/

24. LAC Health Accounts/National Health Accounts, http://www.iadb.org/sds/specialprograms/lachealthaccounts/

tracked using national HIV/AIDS accounts in Latin America and the Caribbean, with the support of SIDALAC.[25] PHR*plus* has assisted countries in East, Central, and Southern Africa in collaboration with the East, Central, and Southern African (ECSA) Health Community to conduct NHA subanalyses to track expenditures on HIV/AIDS, malaria, and reproductive health. WHO is also currently developing NHA methodology to measure disease-specific expenditures and for population groups and geographical areas. National HIV/AIDS accounts and NHA subanalyses are important sources of information for evidence-based decision making for HIV/AIDS, but they are not simplistic exercises.

NHAs have their origins in the System of National Accounts (SNA). NHAs and SNAs share conceptual and methodological characteristics, but they evolved separately and are used for different purposes. SNAs track factors of production and types of goods and services produced in the context of a nation's economy as a whole, whereas NHAs track the flows of resources and expenditures among and between the various actors in the health system.

SNAs are standardized systems of statistical analysis that provide a comprehensive and consistent picture of a country's entire economy (OECD, 2000). They are built on decades of international consensus building and are internationally comparable and internally consistent (Rannan-Eliya, Berman, and Somanathan, 1997). SNAs are established in line with international accounting standards, as detailed in the *1993 System of National Accounts,* a joint publication of Eurostat (the Statistical Office of the European Communities), IMF, OECD, the United Nations Statistics Division, and the World Bank (Commission of the European Communities et al., 1993). This publication contains recommendations on constructing "functionally oriented satellite accounts," which are designed to support analysis of expenditures on a specific purpose, including health satellite accounts. These health satellite accounts have the same objectives as NHAs do, while maintaining an explicit linkage to the central SNA framework (Hjortsberg, 2001). The most fundamental difference is that NHAs focus on the flows of resources and expenditures between different institutional elements within a health care system, whereas SNA health satellite accounts show links between the health sector and the macroeconomy (Rannan-Eliya, Berman, and Somanathan, 1997).

The NHA data collection effort is not yet standardized—methodologies and definitions used by countries differ. Several instruction manuals have been developed in an effort to standardize and simplify the NHA process:

- *A System of Health Accounts (SHA).* In May 2000, the OECD published this manual to improve the quality of international comparisons of data on health expenditures. It contains guidelines for reporting health expenditure according to an international standard (OECD 2000).

25. National HIV/AIDS accounts are based on NHA methodology, but are not necessarily a subanalysis of NHAs. In the majority of countries that have conducted them, national HIV/AIDS accounts are stand-alone exercises. SIDALAC has developed national HIV/AIDS accounts in all twenty-two countries in which it has worked.

- *Guide to Producing National Health Accounts: With Special Application to Low-Income and Middle-Income Countries.* In 2003, WHO, World Bank, and USAID jointly published this guide, which provides conceptual and practical information about NHAs to assist countries in implementing NHAs to measure their national health expenditures. OECD's *A System of Health Accounts (SHA)* served as the basis for this guide (WHO, World Bank, and USAID 2003).
- *National Health Accounts Trainer Manual.* In December 2003, PHR*plus* published this training manual (PHR*plus* 2003a). It is a "tool kit" for NHA trainers; it contains lectures, PowerPoint presentations, interactive exercises, and supplemental reading. It closely follows the methodology presented in the 2003 *Guide to Producing National Health Accounts* published by WHO, the World Bank, and USAID.

The 2003 *Guide to Producing National Health Accounts* represents an effort to harmonize and standardize the different approaches for producing NHAs. However, some countries have not adopted the methodology presented in the guide. For example, three OECD member countries—Finland, New Zealand, and Poland—continue to use "locally produced health accounts" methodologies for determining health expenditures, and these differ from, and vary in their degree of compatibility with, NHA and SHA.[26] Importantly, in a September 2006 meeting, OECD, WHO, and Eurostat agreed to a revision of the System of Health Accounts as a global standard for health accounting. This was supported by several partners, including the World Bank and USAID, in an October 2006 meeting in Lund, Sweden.

NHAs track total expenditures on health, which encompass all expenditures for activities whose primary purpose is to restore, improve, and maintain health for the nation and for individuals (WHO, World Bank, and USAID 2003). Health expenditures are commonly defined as all expenditures for prevention, promotion, rehabilitation, and care; population activities; nutrition; and emergency programs for the specific objective of improving or maintaining health. Health includes the health not only of individuals but also of populations (Hjortsberg 2001). Total expenditures on health are a combination of both public outlays and private outlays on health, as follows:

- Public outlays on health. The outlays earmarked for the enhancement of the health status of population segments and/or the distribution of medical care goods and services among population segments by the following:
  - Central/federal, state/provincial/regional, and local/municipal authorities.
  - Extrabudgetary agencies and social security schemes, which include purchases of health goods and services by schemes that are compulsory and under governmental control.
  - External resources (mainly grants and credits with high grant components to governments). Grants to NGOs are accounted for as private expenditure, but in practice, they are not always easily separated from public grants.

26. *OECD Health Data 2006,* first edition, Note on General Comparability of Health Expenditure and Finance Data in OECD Health Data 2006, http://www.irdes.fr/ecosante/OCDE/411.html."

- Private outlays on health. The sum of the following:
  - Prepaid plans and risk-pooling arrangements, including private, commercial, and nonprofit insurance schemes; health maintenance organizations; and other agents managing prepaid medical and paramedical benefits (including the operating costs of these schemes).
  - Firms' expenditures on health, including both public and private enterprises, for medical care and health-enhancing benefits other than payment to social security.
  - Expenditures on health by nonprofit institutions serving mainly households.
  - Household out-of-pocket spending, including gratuities and in-kind payments made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services.

NHAs are essentially a standard set of tables that organize and present health expenditure information in a simple format. Production of NHAs requires extensive data collection from various ministries, donors, households, providers, and industry groups (e.g., private insurers, employers, pharmaceutical companies). Data come from a wide variety of sources, including government records (e.g., budget reports, tax reports, import and export statistics); other public records (e.g., ministry of health annual reports, financing and regulatory agency reports, NGO reports, academic studies, international agency reports); insurer records; provider records; and household surveys. Information is obtained from multiple sources to triangulate (i.e., verify) data.

NHAs are country data collection efforts supported by organizations such as WHO, PAHO, and PHR*plus*, which act as facilitators for country efforts and provide technical assistance and sometimes funding. WHO, PAHO, and USAID (through PHR*plus*) work collaboratively and have done so in many of the almost seventy countries that have conducted NHAs. In addition, WHO, PAHO, and OECD assemble, organize, and cross-check country data and make them accessible to the wider public. The work of OECD, WHO, PAHO, and PHR*plus* on NHAs is discussed in more detail below. National HIV/AIDS accounts and the use of NHA methodology for disease-specific expenditure analyses are also discussed.

1. Organisation for Economic Co-operation and Development (OECD) Health Data

Description. The Health Division of the OECD Directorate for Employment, Labour and Social Affairs (DELSA) collects data on health status and health care systems in the thirty OECD member countries.[27] DELSA examines employment and earning patterns, and its work on health focuses on ensuring an efficient and equitable delivery of high-quality health care services.[28] Work

27. The OECD member countries are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, the Republic of Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

28. More information on OECD DELSA is available at http://www.oecd.org/about/0,2337,en_2649_33729_1_1_1_1_1,00.html.

in the Health Division includes health policy analysis and health data collection, as well as studies on health and aging and international comparisons to assess the benefits and costs of pharmaceuticals. The Health Division also develops guidelines for improving international reporting of health expenditures through work on health accounting.

The OECD Health Division has been publishing health statistics since the mid-1980s. *OECD Health Data 2006* is the fifteenth edition of its electronic database on health systems. This database, which contains data on several key aspects of the health care systems in the thirty OECD member countries, is a tool that can be used by health researchers and policy advisers in governments, the private sector, and the academic community to carry out comparative analyses and draw lessons from international comparisons of diverse health care systems.[29]

Data Collection. *OECD Health Data* is an interactive database covering more than 1,200 indicators, for many of which the series goes back as far as 1960. Key items span the period from 1970 to 2001 or 2002, with selected Secretariat estimates for 2003. Data are presented in a demographic, economic, and social context.

The OECD health data are classified into ten main indicators: (1) health status, (2) health care resources, (3) health care utilization, (4) expenditure on health, (5) health care financing, (6) social protection, (7) pharmaceutical market, (8) nonmedical determinants of health, (9) demographic references, and (10) economic references.

The two main groups of indicators that deal with health expenditures—expenditure on health and health care financing—include total, public, and private expenditure on health care; expenditure on collective and personal health services; medical goods dispensed to outpatients; price indices; and health expenditure by sources of funds.

Implementing the System of Health Accounts in OECD Countries. In response to the pressing need to improve comparability, the OECD, in cooperation with experts from OECD member countries, developed the manual, A System of Health Accounts (SHA), releasing the initial 1.0 version in 2000. As a key component of the SHA, the International Classification for Health Accounts (ICHA) was developed. The SHA proposes a comprehensive framework, basic accounting rules, and a set of standard tables for reporting health expenditure data. It provides a consistent functional approach in order to define the boundaries of the health system.

Nearly all EU and OECD countries have, by now, at least started a pilot implementation of the SHA framework, with the exception of Italy and New Zealand (www.oecd.org/health/sha). SHA-based health accounts have become the basis for data reporting to *OECD Health Data* in twelve OECD member countries, and a further seven countries have harmonized major health expenditure aggregates with SHA boundaries. (Data from other countries rely on national

29. OECD, http://www.irdes.fr/ecosante/OCDE/31.html.

accounts or locally developed systems for estimating health expenditures.) The collection of data based on the SHA classification system is not only resulting in more comparable aggregate data on health expenditure, it is also opening up new opportunities for more in-depth analyses of how much is spent on different types of health services (inpatient care, outpatient care, pharmaceuticals) and how these health goods and services are paid for by different sources (public funding, private health insurance, or out-of-pocket spending).[30]

2. World Health Organization (WHO) National Health Accounts

Description. WHO is the United Nations specialized agency for health. WHO's goal is to promote the best possible health for all people of the world. Health is defined in WHO's constitution as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.[31]

Since the early 1960s, WHO has supported the collection and analyses of health expenditure data.[32] Over the past seven years, WHO has developed a systematic effort to measure resource flows in the health systems and has been reporting health expenditure estimates (public, private, and external) for five-year series annually in the *World Health Report* and on the WHO NHA Web site (http://www.who.int/nha). The main products and outcomes to date are as follows: database on the *World Health Report* and *World Health Statistics,* WHO NHA Web site, NHA database on indicators not published (ongoing work), methodological work on setting international standards for data reporting and tracking resources for specific priorities, capacity building, training workshops, and partnerships with other international organizations.

Data Collection. WHO reports data on all financing agents, along with external resources, in its *World Health Report* and on its Web site for 192 member states.[33] The indicators presented in the report and on the Web site include total health expenditures (THE) as a percentage of gross domestic product; public and private shares of the THE; indicators on social and private health insurance; external resources; out-of-pocket expenditures and per capita health and general government expenditures in U.S. dollars and international dollars; gross domestic product (in millions of national currency units [NCUs]); exchange rate (NCUs per US$); international dollar rate (NCUs per international $); and total population (in thousands).

Though the data are reported for only the sixteen indicators shown above, WHO collects information on more than fifty indicators on a regular basis and

30. The first results from the implementation of the SHA were published last year in Eva Orosz and David Morgan, "SHA-Based National Health Accounts in Thirteen OECD Countries: A Comparative Analysis," Health Working Paper 16 (Paris: OECD, 2004), http://www.oecd.org/dataoecd/10/53/33661480.pdf; also in a series of OECD Health Technical Papers (1–13) presenting the related country studies (www.oecd.org/els/health/technicalpapers).

31. WHO, http://www.who.int/about/en/.

32. With the support of WHO, Brian Abel-Smith conducted the first major national studies of health expenditures in developing countries. For more information on these original studies, see Abel-Smith (1963 and 1967).

33. WHO, http://www.who.int/whr/2004/annex/country/en/.

collects information on more than a thousand indicators wherever the information is available for the country.

Data used to produce NHA estimates come from a wide variety of sources that include NHA reports, government records, other public records, insurer records, provider records, household surveys, and academic papers. International reports are used to triangulate data obtained in national reports.

OECD and WHO work very closely together within a formal collaboration and agreement between the two institutions. OECD data are used for the OECD countries in the WHO NHA data reported in the annex of the annual *World Health Report.* WHO data are collated and analyzed in full collaboration among WHO headquarters, 6 WHO regional offices, and 141 WHO country offices. In addition, WHO health expenditure data for the past two years have been provided to the World Bank for use in its World Development Indicators (WDI) report (and in the UNDP Human Development report.

Besides collating data and pursuing communication and discussion with country experts and responsible personnel, WHO makes data validation adjustments to correct biases, errors, and discontinuities in the data sources. Conceptual adjustments are made to bring figures in line with the NHA framework and definitions. Adjustments are made along with member states to ensure that estimates exhaustively cover the relevant entities in the health system of each country. Increasingly, member states have been responding to the WHO requests for consultation on the data, with more than a hundred responses from countries in recent years.

3. Pan American Health Organization (PAHO) Health Accounts/ National Health Accounts

Description. PAHO, established in 1902, is an international public health agency that works to improve the health and living standards of the people of the Americas. PAHO is both the Regional Office for the Americas of WHO and the health organization of the Inter-American System. The member states of PAHO are all thirty-five countries in the Americas; Puerto Rico is an associate member. France, the Netherlands, and the United Kingdom are participating states; Portugal and Spain are observer states.[34]

The health accounts (HAs) and NHAs compiled by PAHO are estimates of total national spending on health, health care services, and national health care systems. PAHO provides technical assistance to countries and maintains regional databases on national health care expenditures and on international trade in health-related goods and services (detailed in sections that follow).

As of June 2003, most Latin American and Caribbean (LAC) countries had carried out HA/NHA estimation at least once, up from fifteen countries in 1999. Currently, most countries in the region have conducted at least an annual estimate of HAs/NHAs, several countries having estimated HAs/NHAs for more than five years or periods. However, eight countries in the region still have not undertaken comprehensive HA/NHA estimations, and most of these are in the Caribbean.

34. PAHO, http://www.paho.org/english/paho/What-PAHO.htm.

The approaches and methodologies used to conduct HA/NHA estimations within the LAC region vary widely. So do the types of institutions involved in HA/NHA estimation, although ministries of health, statistical bureaus, and central banks form the majority. PAHO began including a section on resources in health in its flagship publication, *Health in the Americas,* in 1994.[35] The 2002 edition of this publication, the most recent in the series, contains information covering 1997 through 2000.

Data Collection. Several different types of data are collected for HA/NHA preparation: budget information about public-sector spending, by institution, type of service, and input (such as personnel, medicine); information on private, out-of-pocket spending, which usually comes from analyses of household survey data; and data on other types of private spending, including expenditures by employers for insurance contributions and direct delivery of health goods and services to workers. Specific sources of data vary from country to country.

Country studies on national health care expenditure and financing issues may be based on country-specific concepts, definitions, and accounting procedures, which are more relevant for national policy debate (administrative-based studies), or on existing international standard concepts, classifications, and accounting procedures developed within the framework of the *Government Finance Statistics Manual* (IMF) and the UN SNA, which are more relevant for addressing public finance and international comparison issues related to national health systems expenditure and financing patterns (SNA-based studies; PAHO 2003).

PAHO also provides technical support and guidance in the development of pilot studies based on new and innovative HA/NHA approaches developed and promoted by other international organizations and by bilateral and multilateral agencies. These new approaches include the OECD System of Health Accounts; the Harvard/PHR National Accounts approach; and the *Guide to Producing National Health Accounts* published by WHO, the World Bank, and USAID (released in June 2003).

*4. Partners for Health Reformplus (PHR*plus*) National Health Accounts*

Description. The PHR*plus* project is the flagship project for the USAID Population, Health and Nutrition (PHN) Center for health policy and systems strengthening in developing countries and countries in transition. PHR*plus* provides technical assistance to USAID in health care reform, health policy, management, health financing, and systems strengthening. PHR*plus* focuses on health policy, financing, organization, community participation, infectious disease surveillance, and information systems that support the management and delivery of appropriate health goods and services. In addition, PHR*plus* conducts health systems research, implements performance monitoring and results tracking, provides training and capacity development, and is responsible for strategic documentation and transfer of experiences in health policy and systems strengthening.

35. *Health in the Americas* is published every four years.

PHR*plus* was funded for the five-year period of 2000 to 2005. It builds on two previous projects led by Abt Associates for USAID: the Health Financing and Sustainability project (1989–95) and the Partnerships for Health Reform (PHR) project (1995–2000). PHR*plus* is implemented by Abt Associates, Inc., in collaboration with Development Associates, Inc.; Emory University's Rollins School of Public Health; Philoxenia International Travel, Inc.; the Program for Appropriate Technology in Health; Social Sectors Development Strategies, Inc.; the Training Resources Group; Tulane University's School of Public Health and Tropical Medicine; and University Research Co., LLC.

PHR*plus* works in more than twenty-five countries spanning four regions of the world. It has close working relationships with NGOs and USAID-cooperating agencies and with international and developing-country partner organizations, including the World Bank, WHO, UNICEF, bilateral donors, private voluntary organizations (PVOs), foundations, universities, and host country government agencies.

PHR*plus* has provided support and technical assistance to countries conducting NHAs for the past eight years. It focuses on capacity building and institutionalization of NHAs in developing countries and on a variety of innovative NHA-based analyses. PHR*plus* has worked very closely with several donors on the development and institutionalization of NHAs, including WHO, SIDA, the World Bank, and EU. PHR, PHR*plus*, and other donors have supported national governments in more than fifty-one low- and middle-income countries in conducting, analyzing, and considering the implications of NHAs.[36]

Data Collection. NHAs conducted with the support of PHR*plus* track detailed information on health resource flows from the source of funding (e.g., government, donors, households) to the distribution to financing agents (e.g., ministry of health, ministry of education, social security, out-of-pocket) and all the way down to the level of functions (e.g., inpatient care, drugs). NHAs rely on information from several sources, including (a) secondary sources that already exist, such as studies from the ministry of health, ministry of finance, and universities; (b) government budget documents; (c) surveys/questionnaires to collect information not readily available from other sources; (d) annual donor reports; and (e) household surveys. Information is obtained from multiple sources to allow cross-checking (triangulation) of findings.

Many times it is necessary to rely on estimates of expenditures because the government reports on spending are not detailed enough. Some countries have a decentralized government, so it is necessary to include information obtained at the local level to get accurate expenditure flows.

Data on out-of-pocket expenditures by households are not always available. It can also be difficult to obtain information from the private sector (i.e., industry, insurance, NGOs) because it is not required to make its spending information public.

36. PHRplus, http://www.phrplus.org/focus_new8.html.

5. Regional AIDS Initiative for Latin America and the Caribbean (SIDALAC) National HIV/AIDS Accounts

Description. SIDALAC is implemented by FUNSALUD, the Mexican Health Foundation. In 1995, the World Bank asked FUNSALUD to execute this program. In 1996, UNAIDS came on board as a cosponsor with the World Bank. SIDALAC is now part of UNAIDS and is funded primarily by World Bank and UNAIDS.[37]

SIDALAC is a regional initiative focused on economics and HIV/AIDS. It has the following general objectives:

- To develop research projects that provide useful information for strategic planning in the prevention of HIV/AIDS and other sexually transmitted diseases (STDs) and the provision of adequate health care for affected individuals
- To widely disseminate the results of such research projects and to promote the interchange of country experiences and lessons learned

Data Collection. One of the main activities conducted by SIDALAC is the estimation of national AIDS expenditures (national HIV/AIDS accounts) in twenty countries in Latin America and the Caribbean and in Ghana and Burkina Faso.[38] "National HIV/AIDS accounts" is the term applied to the "systematic, periodical and exhaustive accounting of the expenditures and financing from the public and private sectors that are directed to the prevention and treatment of people with HIV/AIDS." The main purpose of the national HIV/AIDS accounts is to influence policy formulation and decision making and to improve the allocation of resources for HIV/AIDS.

SIDALAC national HIV/AIDS accounts track both health and nonhealth (e.g., research, training, policy dialogue, advocacy, and mitigation of HIV/AIDS—orphans, nutritional supplements, etc.) expenditures. Nonhealth expenditures are a small percentage of the total because the cost of care, antiretrovirals, and prevention strategies (e.g., blood banks, condoms) is very high in comparison. SIDALAC also tracks private, public, and international expenditures. Private expenditures include industry/private corporations, insurance, NGOs (domestic and international), and out-of-pocket spending; public expenditures include ministries of health and social security; and international expenditures include both multilateral and bilateral donors. The main questions addressed by national HIV/AIDS accounts are:

- In what proportion do government, social security funds, the nonprofit sector, households, businesses, and international cooperation agencies contribute to HIV/AIDS activities?

37. The majority of national HIV/AIDS accounts conducted in Latin America from 1999 through 2002 were funded by the European Commission.

38. The twenty countries in Latin America and the Caribbean in which SIDALAC has established national HIV/AIDS accounts are Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and República Bolivariana de Venezuela.

- What kinds of service providers are receiving resources earmarked for HIV/AIDS prevention, treatment, and administration?
- What programs and services receive funds and in what proportions?
- How is the funding distributed among geographic zones and human groups?

SIDALAC is tracking both monies and services, with services translated into or measured in money (the cost of the service being estimated if there are no records of money spent). Data are collected by a combination of interviews, surveys, and primary sources. (Household surveys are not often used, because they are too expensive.) SIDALAC depends on the information already available in a country. The most recent year for which SIDALAC has data is 2002 (and this is for only eleven of the twenty countries for which it has estimates). It is moving to a more continuous system, so that by the first quarter of the year information from the previous year will be available.

*6. PHR*plus *HIV/AIDS, Malaria, and Reproductive Health Subanalyses*

Subanalyses. PHR*plus* has helped countries use the NHA framework to track resource flows for HIV/AIDS in Kenya, Rwanda, and Zambia and is helping several other countries use this approach. In addition, the NHA methodology is being used to capture expenditures in other disease categories, such as malaria, and in reproductive health. Furthermore, WHO, along with other partners, including PHR*plus*, has initiated a process to standardize disease-specific subanalyses.

PHR*plus* is collaborating with SIDALAC on the tracking of HIV/AIDS expenditures, and the two organizations are mapping their methodologies onto each other. Though SIDALAC and PHR*plus* started from different perspectives in developing a methodology for tracking HIV/AIDS expenditures using the OECD SHA framework, they have arrived at remarkably similar methodologies. PHR*plus* is also collaborating on HIV/AIDS subanalyses with several other organizations, such as USAID, WHO, and UNAIDS.

7. WHO Disease-Specific Expenditures

WHO is in the process of producing a supplement to its *Guide to Producing National Health Accounts* that outlines the necessary framework for tracking resources for diseases such as HIV/AIDS and malaria and for other health priorities such as reproductive health. Special efforts are in progress to measure disease-specific expenditures and to measure additionality for HIV/AIDS, tuberculosis, and malaria. WHO has also funded country case studies to address the question of additionality, and based on these case studies, it has identified indicators that will require information from disease-specific accounts and NHA studies.

IV. Data on Donor Aid and Country-Level Expenditures/Activities: Other

1. World Development Indicators (WDI) Database

Description. The World Development Indicators (WDI) Database is the World Bank's premier annual statistical report about development. WDI includes approximately 800 indicators in eighty-seven tables, organized in six sections: world view, people, environment, economy, states and markets, and global links. The tables cover 152 economies and fourteen country groups, with basic indicators for a further fifty-five economies. The print edition of WDI provides a current overview of data from the previous few years. Time-series data from 1960 onward are available on the WDI CD-ROM version or WDI Online.[39]

Data Collection. WDI Online, available via paid subscription, provides direct access to 575 development indicators, with time series for 208 countries and eighteen country groups from 1960 to 2003, where data are available (2003 data are available for selected indicators only). The World Bank provides free access to WDI Online through Data Query, which offers a segment of the WDI database.[40] Data Query contains five years of data (1998–2002) for fifty-four indicators for 208 countries and eighteen groups.

The 575 indicators are broken down into the following categories: people, environment, economy, states and markets, and global links. The people category has a subgroup of indicators on health:

- Births attended by health staff (percentage of total)
- Health expenditure per capita (current US$)
- Health expenditure, private (percentage of GDP)
- Health expenditure, public (percentage of GDP)
- Health expenditure, total (percentage of GDP)
- Hospital beds (per 1,000 people)
- Immunization, DPT (diphtheria, pertussis, and tetanus) (percentage of children under 12 months)
- Immunization, measles (percentage of children under 12 months)
- Improved water source (percentage of population with access)
- Physicians (per 1,000 people)
- Improved sanitation facilities (percentage of population with access).

The World Bank is not a primary data collection agency for most issues other than living standards surveys and debt. The primary data collectors are usually national statistical agencies, central banks, and customs services.[41] Differences in the methods and conventions used by the primary data collectors may give rise to significant discrepancies over time both among and within countries. Delays in reporting data and the use of old surveys as the base for current estimates may severely compromise the quality of national data.

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39. World Development Indicators, http://www.worldbank.org/data/wdi2004/index.htm.

40. Available at http://devdata.worldbank.org/data-query/.

41. For the past two years, the World Bank has largely used WHO NHA figures in its world development indicators.

Data quality is improving in some countries; however, many developing countries lack the resources to train and maintain the skilled staff and to obtain the equipment needed to measure and report demographic, economic, and environmental trends in an accurate and timely way. The World Bank is working with bilateral and other multilateral agencies to fund and participate in technical assistance projects to improve statistical organization and basic data methods, collection, and dissemination.

2. National Health Expenditure (NHEX) Database

Description. The National Health Expenditure (NHEX) Database was developed and is maintained by PAHO to collect regional data on comparable international indicators of national health care expenditures. Information is presented in two ways: as graphs and tables providing snapshots of the data by different categories and groups of countries, and as a database with estimates from 1980 through 1998 for the Americas.

Data Collection. The NHEX Database contains estimates from forty-eight Latin American and Caribbean (LAC) countries and territories on public and private expenditures in health, including the following:

- Public expenditures—expenditures by governments, including social insurance funds and other public-sector institutions.
- Private expenditures—out-of-pocket expenditures by households in health-related goods and services (direct) and in health insurance and prepaid health plans (indirect), and expenditures on health by nonprofit institutions serving households (NPISHs). There are no estimates on health expenditures by financial and nonfinancial corporations.

The NHEX Database also contains time series of macroeconomic variables (e.g., GDP, population, exchange rates, and estimates on total government expenditures) commonly used for deriving national health expenditure indicators and projections: per capita expenditures, share of health expenditures as a percentage of GDP or gross national income (GNI), income-expenditure elasticity, and conversion to purchasing power parity (PPP). The estimates of national health care expenditures in the NHEX Database are based on the guidelines of the UN's SNA, the IMF's *Government Finance Statistics Manual,* and new international standards developed within the framework of the UN Statistical Commission, as well as on the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean (SCA-ECLAC).[42]

The definition of "public health expenditure" is problematic, given the variability of the health systems and national budgeting structures of each LAC country or territory in the database. For most countries in the region, data on central government health expenditures exist in some form. These figures are often produced by national financial authorities and ministries of health for international agencies such as IMF, the World Bank, IDB, and the UN, as well as for their own analyses. Expenditures at other levels of government (state,

42. PAHO, http://www.eclac.cl/scaeclac/index2.htm

provincial, municipal, etc.) are less well documented, but are becoming increasingly important in the region. In addition, the quality and availability of data on social security health expenditures vary significantly from country to country, and these data are often years out of date.

Finally, private expenditures on health are relatively undocumented, with no data available for a large percentage of countries in the region. These expenditures encompass not only household payments—both direct payments for health care received and indirect payments through health insurance—but also corporate health expenditures, as well as the health expenditures of community, religious, and charitable organizations and of other NGOs.

3. Data Base of Trade in Health Related Goods and Services in the Americas

Description. PAHO's Data Base of Trade in Health Related Goods and Services in the Americas is a report that contains information on statistics of international trade in health-related commodities in countries of the American region. It presents information on the estimated value of total exports and imports of health-related goods or commodities for Canada, the United States, and countries of the Latin America and Caribbean region for 1994 through 2000. It also specifically tracks the value of the exports and imports of two broad components of the international trade in health-related products: pharmaceutical, medicinal chemical and botanical products, and medical and surgical equipment and orthopedic appliances, as classified in the International Standard Industrial Classification (ISIC), Revision 3 (ISIC Rev. 3).[43] (All statistical information is presented in current U.S. dollars.)

Data Collection. The main source of data for the Data Base of Trade in Health Related Goods and Services in the Americas is DATAINTAL 4.1 (2003)—Trade Statistics System for the Western Hemisphere.[44] DATAINTAL is a system of import and export statistics of countries in the Americas. It was designed to meet the needs of decision makers, researchers, and analysts concerned with international trade and is a tool for analyzing historical data, looking at trends, gauging the competition, or discovering potential new markets. It consists of programs and databases that allow users to query the data and obtain current and historical trade data in a table format that can be printed or imported into other programs. DATAINTAL was developed by the Institute for the Integration of Latin America and the Caribbean (INTAL), in Buenos Aires, Argentina, and by the Unit of Statistics and Quantitative Analysis—both of which are units of the IDB's Department of Integration and Regional Programs.

INTAL collects trade data from official government organizations that produce national trade statistics and from international organizations. INTAL began collecting trade data in 1984, mainly for internal use by the IDB. In 1990, INTAL began distributing the data to foreign trade research and promo-

43. PAHO, http://www.paho.org/English/DPM/SHD/HP/trade-datab.htm.

44. DATAINTAL is available http://www.iadb.org/intal/bdi/i_ManualDATAINTAL_41.pdf

tion organizations in several Latin American countries; in 1998, the first DATAINTAL version in CD-ROM format was widely distributed.

The information in PAHO's Data Base of Trade in Health Related Goods and Services in the Americas covers only 1994 to 2000. The only year for which there is information for all twenty-nine countries in the DATAINTAL database is 1997, so 1997 was used as the reference year.[45] The information or averages shown for 1994 do not include figures from The Bahamas and Panama, which account for 1.1 percent of the total trade exchange (exports plus imports) in health goods in 1997. Similarly, statistics of 2000 do not include figures from The Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago. The participation of these countries in the total trade exchange of 1997 is around 2.3 percent.

4. Institute for Democracy in South Africa (IDASA) Budget Information Service (BIS) Budget Briefs and Reports

Description. The Institute for Democracy in South Africa (IDASA) Budget Information Service (BIS) uses data and budget information published by the South African government to analyze revenue and expenditure impacts on the lives of low-income, poor, and vulnerable communities. BIS performs issue-based and sector analyses of public spending on HIV/AIDS, health, education, social welfare, human resource and infrastructure development, and local government finance, as well as research on policy and budget allocations affecting vulnerable groups, such as children and women. The BIS units publish their budget analyses in several types of publication, including budget briefs, occasional papers, and books. This independent research is used to enhance the role of civil society organizations in their pro-poor and rights-based advocacy work, to inform parliamentarians in their oversight and monitoring of government departments, to engage government officials, and to influence and advocate budget decisions.[46]

BIS comprises several units/projects that track public spending on health care and are involved in training and advocacy, including the Children's Budget Unit, the Sector Budget Analysis Unit, and the AIDS Budget Unit.

Data Collection. The BIS Children's Budget Unit analyzes resource allocation by government for children in South Africa with respect to policy and legislation for children and to government expenditure and service delivery for child poverty alleviation. This unit has published several books focused on government spending on children in five key sectors: health, education, welfare, policing, and justice.

45. The twenty-nine countries are Argentina, The Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Ecuador, El Salvador, Grenada, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Uruguay, the United States, and the República Bolivariana de Venezuela.

46. IDASA, http://www.idasa.org.za/index.asp?page=Programme%5Fdetails%2Easp%3FRID%3D17

The BIS Sector Budget Analysis Unit is concerned with analyzing government budget allocations and implementations that contribute to eradicating poverty and inequity in South Africa and Africa and that foster human development to enlarge people's choices and raise levels of well-being.[47] This unit has a particular focus on provincial spending, where the majority of social-sector service delivery takes place, and has recently broadened its scope to include national and local governments and a wider range of sectors (e.g., housing, land, economic sector). This will enable the unit to provide a more comprehensive overview of the impact of public spending on the lives and well-being of poor people and to respond more swiftly to requests for budget information and research in the health, education, and welfare sectors.

The BIS AIDS Budget Unit provides research and analysis on the public finance issues related to government's response to HIV/AIDS. It monitors targeted allocations for HIV/AIDS interventions in the national and provincial budgets and analyzes the indirect impact of the epidemic on the public-sector budget. It conducts an annual HIV/AIDS budget analysis, which is a comprehensive list of national and provincial allocations for HIV/AIDS, and publishes budget briefs on relevant topics.[48]

In November 2003, the AIDS Budget Unit published a report, "Budgeting for HIV/AIDS in South Africa: Report on Intergovernmental Funding Flows for an Integrated Response in the Social Sector" (Hickey, Ndlovu, and Guthrie 2003), which examines provincial capacity and spending procedures for HIV/AIDS programs and gives recommendations on the most-effective ways to channel funds to the provinces to fight the epidemic. A companion document, "Where is HIV/AIDS in the Budget? Survey of 2002 Provincial Social Sector Budgets" (Ndlovu 2003), identifies (based on desk study and provincial interviews) HIV/AIDS-specific allocations in provincial education, social development, and health department budgets.

In addition to regularly analyzing HIV/AIDS budgeting and expenditures in South Africa, the AIDS Budget Unit, and the FUNDAR Centre for Analysis and Research jointly coordinated an international comparative analysis of HIV/AIDS expenditures and budgeting in nine countries: Argentina, Chile, Ecuador, Kenya, Mexico, Mozambique, Namibia, Nicaragua, and South Africa. This study, undertaken by NGO research institutes in each country, compares how governments are funding the fight against HIV/AIDS and builds capacity for HIV/AIDS budget analysis in the participating countries. The results of the study were discussed by researchers during a one-day meeting held in Benoni, South Africa, on September 20, 2004, and were published in an IDASA report, "Funding the Fight: Budgeting for HIV/AIDS in Developing Countries" (Guthrie and Hickey 2004).

5. Immunization Financing Database

Description. In July 2004, the Immunization Financing Database, a comprehensive database on immunization spending and financing developed by the

47. Ibid.

48. Ibid.

GAVI Alliance's Financing Task Force (FTF), became available online with information from twenty-two countries.[49]

Data Collection. The Immunization Financing Database provides information about baselines and trends on immunization spending and financial flows. This information was intended to help the GAVI Alliance fulfill its responsibilities of increasing the understanding of why there is inadequate funding for vaccines and immunization in the poorest countries and of identifying strategies to improve the capacity of governments, donors, and development banks to finance these needs.

The information in the database is derived from the detailed data on past and future costing and financing that countries submit in their Financial Sustainability Plan (FSP) to the GAVI Alliance at the midpoint in their funding from the Vaccine Fund.[50] All eligible countries are required to prepare an FSP and to provide regular updates through the annual progress-reporting mechanism.[51] Data are made available in the database after the FSP has been reviewed and accepted by the GAVI independent review committee and the data have been reviewed and analyzed by the immunization financing database team.[52] Future updates of existing data in the database will be done through the GAVI Annual Progress Report (APR) mechanism and throughout the implementation phase of countries' FSPs.

The data reported in the FSPs include detailed information by cost category and by funding source. The cost category covers recurrent costs and capital costs. Recurrent costs are vaccines; injection supplies; personnel; transport; cold chain maintenance; building overheads; training; social mobilization; monitoring; surveillance; and information, education, and communication (IEC). Capital costs are vehicles, cold chain equipment, and buildings. Retrospective data on costing and financing are required for two years, including a year before the GAVI Alliance and the Vaccine Fund (baseline year). Prospective data are required for two periods (about eight years): period one includes all of the remaining years with Vaccine Fund support, and period two comprises the immediate years following the end of Vaccine Fund support. A costing, financing, and gap analysis tool has been developed to help countries prepare this information for their FSPs.

It is difficult for countries to determine the donor country for the bilateral aid they receive through SWAp programs and national budget support. Therefore, countries are asked to report in FSP only the source of financing closest to the end use. This means that funding from bilateral donors to multilateral agencies,

49. As of July 9, 2004, the Immunization Financing Database is available online at http://www.who.int/immunization_financing/data/en/.

50. The Vaccine Fund (now called the "GAVI Fund") is a financing mechanism designed to help the GAVI Alliance achieve its objectives by raising new resources and swiftly channeling them to developing countries.

51. GAVI-eligible countries are governments in the 75 poorest countries with GNI below US$1,000 (from http://www.pasteur.fr/actu/presse/press/02GAVI-E.htm).

52. WHO Immunization Financing, http://www.who.int/immunization_financing/data/about/availability/en/.

to SWAp programs, and to national treasuries for budget support is not attributed to the donor countries.[53] In addition, the FSP focuses on program-specific costs, which means that the data do not account for the national government's contribution to such key inputs as personnel and facilities, which are shared across multiple health programs.[54]

6. Country Response Information System (CRIS)

Description. UNAIDS is the main advocate for global action on HIV/AIDS. The goal of UNAIDS is to lead, strengthen, and support an expanded response aimed at preventing the transmission of HIV, providing care and support, reducing the vulnerability of individuals and communities to HIV/AIDS, and alleviating the impact of the epidemic.[55]

In response to the need for improved information and analysis at national and global levels, UNAIDS has developed the Country Response Information System (CRIS) to facilitate the systematic collection, storage, analysis, retrieval, and dissemination of information on a country's response to HIV/AIDS. CRIS is designed to house information collected on indicators, resources, and scientific research relating to HIV/AIDS. CRIS, which operates in more than a hundred countries, provides a structure for countries to collect information relative to the epidemic, the response, and the impact, including epidemiological information; strategic planning, costing, and coordination capacities; budget allocations to AIDS programming and other resource flows; and project implementation rates.[56] CRIS allows direct country-to-country exchange of information and facilitates better collection, storage, analysis, and dissemination of information.

Data Collection. CRIS includes a core of standardized information on the HIV/AIDS situation and the response in participating countries, facilitating analysis of that information. CRIS comprises three databases: the indicator database (IND), the project management database (PM), and the research inventory database (RID).

IND, the first component of CRIS to be operational, supports the collection and analysis of local indicators of the HIV/AIDS epidemic. It consists of core fields and free fields. The core fields have predetermined definitions installed with the database that correspond to the indicators for measuring follow-up to the UNGASS on the HIV/AIDS Declaration of Commitment.[57] The collection of a standardized core of indicators will allow for improved local analysis and provide a better picture of the status of the national response to the HIV/AIDS epidemic. The free fields will allow the system to be customized to meet local needs.

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53. Ibid.

54. Ibid.

55. UNAIDS, http://www.unaids.org/en/AboutUNAIDS/default.asp

56.UNAIDS, http://data.unaids.org/Publications/IRC-pub02/jc885-cris_overview_en.pdf?preview=true

57.UNAIDS, http://data.unaids.org/Publications/IRC-pub02/jc885-cris_overview_en.pdf?preview=true

PM was developed to complement the IND, its purpose being to facilitate improved monitoring and evaluation of the national response to HIV/AIDS through the tracking of projects and programs (at country level).

RID, which is currently being field-tested in Bangladesh and Uganda, will enable countries to track research related to HIV/AIDS and STDs. RID will facilitate the collection of global data on research-funding agencies and research awards. This information can then be compared with the actual research conducted in countries.

The country-level CRIS will be complemented by a Global Response Information Database (GRID). Selected data from CRIS from all countries will be housed centrally in GRID by the UNAIDS Secretariat. Data from local CRIS systems will be aggregated and presented on the GRID Web site. Countries will be encouraged to share the core fields of CRIS with the UNAIDS Secretariat so that all countries' core fields can be replicated on GRID. The GRID Web site will provide tools to facilitate the creation of reports and pursue more-detailed analysis of global data from CRIS. GRID will also provide a referral point to national CRIS systems for further and more-detailed information about national epidemics, the responses being undertaken, and the impacts of these upon the respective country. GRID will be constructed so that when data are updated at the national level in CRIS, the changes will be reflected on the global site on a regular basis. GRID will allow for data searches across countries. It will also maximize links with other information systems of the UN system and other strategic partners.

V. Examples of Other Types of Databases and Health Data Collections

Several donors maintain databases that track their own activities. These databases usually contain specific information about the projects/programs funded by these donors. Some of these databases are online, searchable, and publicly available: for example, the World Bank Projects Database and the GFATM Funded Programs Database, both of which are described briefly below. In addition, there are several databases that contain specialized information:

- Databases tracking contraception:
  - UNFPA has maintained a database since 1990 that contains country-specific information reported by donors on the type, quantity, and total cost of contraceptives they provided to reproductive health programs in developing countries. Information in the database is the basis of an annual publication by UNFPA on donor support for reproductive health commodities.[58]
  - RH Interchange tracks procurement data on reproductive health commodities (condoms, contraceptives, and other essential reproductive

58. UNFPA's most recent report on reproductive health commodities, "Achieving the ICPD Goals: Reproductive Health Commodity Requirements 2000-2015," is available athttp://www.unfpa.org/upload/lib_pub_file/584_filename_achieving-icpd.pdf

health supplies) by country, method, and donor for the three major donors of reproductive health supplies: the International Planned Parenthood Federation (IPPF), UNFPA, and USAID.[59]

- Databases/reports tracking pharmaceuticals and medical equipment:
  - IMS Health, a private-sector consulting firm, is probably the best source of data on U.S. pharmaceutical production, sales, and flows from drug manufacturers, retail and institutional pharmacies, hospitals, wholesalers, prescribers, and others. IMS has data from more than ninety countries, covering all stages of a drug's life cycle, and is willing to do special studies for a fee (starting at $2,000).
  - Partnership for Quality Medical Donations (PQMD) is an alliance of private voluntary organizations and medical product manufacturers dedicated to raising standards of medical donations to underserved populations and disaster victims around the world. PQMD sponsored the first systematic assessment of U.S. pharmaceutical donations. Conducted by the Harvard School of Public Health, this study outlined policy recommendations to improve the donation process.
  - UNICEF provides supplies for children within the organization's priority areas of immunization, fighting HIV/AIDS, early childhood development, education, and child protection in emergencies.[60] UNICEF's Supply Division is responsible for overseeing the organization's global procurement and logistics operation, including bulk purchasing and distribution of medicines and medical supplies. Its "Supply Division Annual Report 2005" details how supplies are used and shows UNICEF's key commodities, where supplies are bought, and where they are used.[61]
  - WHO has an NHA database that contains aggregate information on pharmaceuticals, but this database is not publicly available. Information gathered for the NHA database covers the whole set of NHA dimensions (wherever available), including resource costs, financing sources, providers of care, health functions, and pharmaceuticals.
  - The United Nations Conference on Trade and Development (UNCTAD) focuses on the integrated treatment of trade and development and the interrelated issues of finance, technology, investment, and sustainable development.[62] The UNCTAD Handbook of Statistics On-line is a database that provides a comprehensive collection of statistical data relevant to the analysis of international trade, foreign direct investment, and development for individual countries and for regional and economic groupings.[63] It contains information on international merchandise trade; trade and commodity price indices; structure of international trade by region and by product; and international trade in services, including aggregate

59. RH Interchange, http://www.rhsupplies.org/text_only/index.shtml

60. UNICEF, http://www.unicef.org/supply/index.html.

61. UNICEF's Supply Division Annual Report 2005 is available at http://www.unicef.org/supply/index_report.html

62. UNCTAD, http://www.unctad.org/Templates/Page.asp?intItemID=1530&lang=1.

63. Ibid.

information on the imports and exports of medicinal and pharmaceutical products and medical instruments.
- DATAINTAL has databases (online and CD-ROM versions) that contain import and export statistics for countries in the Americas. It allows users to query the data and obtain current and historical trade data.
- ECRI (formerly the Emergency Care Research Institute) is an independent nonprofit health services research agency with a wide range of specialized products and services, many of which are provided within the framework of membership programs focused on health care technology (e.g., planning, procurement, and management). ECRI's PriceGuide™ is a member-searchable database of discounted prices of record actually paid for a wide range of single-use medical products, plus a clinical-equivalency testing service.[64]

1. World Bank Projects Database

The Projects Database provides access to basic information on all World Bank lending projects from 1947, when the World Bank started operations, to the present.[65] It was created to help make the World Bank's lending more transparent to the public and its partners and to encourage broader participation in the projects that it finances.

All World Bank projects are classified according to one of five sectors, which are a high-level grouping of economic activities based on the types of goods or services produced. The economic sectors listed in the UN International Standard Industrial Classification (ISIC) were used as a point of reference."

The Projects Database can be searched by country, region, sector, priority/goal, or theme. Searching by sectors or themes provides access to the health-related projects funded by the World Bank. The human development sector comprises the following themes:

- Child health
- Other communicable diseases
- Injuries and noncommunicable diseases
- Nutrition and food security
- Population and reproductive health
- HIV/AIDS
- Health system performance

2. Global Fund Funded Programs Database

The main purpose of the Global Fund to Fight AIDS, TB and Malaria (GFATM or Global Fund) is to attract, manage, and disburse resources to fight AIDS, tuberculosis, and malaria. Since 2001, GFATM has attracted US$4.7 billion in pledges and contributions; pledges have been made through 2008. In its first two rounds of grant making, it has committed US$1.5 billion in funding to

64. ECRI (formerly the Emergency Care Research Institute), http://www.ecri.org/Products_and_Services/Membership_Programs/Membership_Programs.aspx.

65. The Projects Database is available at http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,menuPK:115635~pagePK:64020917~piPK:64021009~theSitePK:40941,00.html.

support 154 programs in ninety-three countries worldwide.[66] The Funded Programs Database contains information about grant commitments and disbursements of GFATM grants:[67]

- Grant commitments represent liabilities based on signed grant agreements or, in the case of those countries with pending grant agreements (not yet signed), the dollar value of a proposal approved by the Global Fund board.
- Disbursements represent actual payments made by the Global Fund to grant recipients.

The database can be searched by region, country, funding round, two-year amount, and disease. Information about the funding amount and the text of the full grant proposal is also available.

3. UNAIDS Global Resource Tracking Consortium for AIDS

UNAIDS contracts with NIDI, SIDALAC, and other data collection organizations to provide an overall analysis of resource flows for HIV/AIDS. In 2002, UNAIDS also established a Global Resource Tracking Consortium for AIDS, comprising international experts who track the financial expenditures on HIV/AIDS at national and international levels. Partners in the Global Resource Tracking Consortium for AIDS include ABT Associates Inc./PHR*plus*, the International AIDS Vaccine Initiative, the Alliance for Mircrobicide Development, FCAA, the Futures Group, the Global Fund, the Kaiser Family Foundation, IDASA, the Instituto Nacional de Salud Pública (INSP), OECD, Resource Flows for Population Activities and AIDS, SIDALAC, UNFPA, the World Bank, WHO, and UNAIDS.

The Consortium endorsed in its meeting on September 2005 the development and implementation by the UNAIDS Secretariat and, as part of the division of labor of the UN organizations that provide technical assistance on AIDS activities, the execution of the national AIDS spending assessments (NASAs). These assessments are inspired by the national health accounts framework and are (in general) compatible with them. However, there are three major differences: (a) the resources tracked include both health and nonhealth; (b) the classification of functions was adapted to fit better the needs of the countries in policy-planning formulation, consistent with the resource needs estimation; and (c) the suggested time frame to produce the basic information—financing sources by functions—is annual, while the completion of the whole NASA country project is to occur every two to four years, identifying the vectors of financing (sources and financing agents), provision (providers of services and components of the production function), and use (beneficiaries and functions).

In recent reports from countries about monitoring of the Declaration of Commitment as signed in the UN General Assembly Special Session on AIDS in June 2001, there is information from ninety-six countries on the level of financial resources from public sources used for AIDS from 2001 to 2005. Most of these countries used NASA and NASA-like methodological approaches to provide such information.

66. Global Fund, http://www.theglobalfund.org/en/about/how/.

67. Global Fund, http://www.theglobalfund.org/en/funds_raised/commitments/.

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