NATIONAL HIV/AIDS ACCOUNTS

NATIONAL ESTIMATION OF FINANCIAL
FLOWS AND EXPENDITURES
ON HIV/AIDS

TECHNICAL HANDBOOK FOR ESTIMATING THE NATIONAL HEALTH ACCOUNTS ON HIV/AIDS

SIDALAC

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FOREWORD

The fight against AIDS has its own economic dimension. The disease poses a complex challenge, because resources are limited, costs are high, and the number of cases continues to rise. The economic impact of HIV/AIDS is high, both in terms of disability and of premature death of productive. In the majority of countries internal contributions to the financing of activities against HIV/AIDS are still minimal. Available resources do not always get allocated according to the priority, relevance or equitability demanded by programs, human groups or geographic areas.

The analysis of the sources of funding and the level of expenditures in response to HIV/AIDS offers useful information for the design of strategies that may improve the allocation of resources. Such studies contribute to identify challenges and opportunities for a public health problem that shares and competes in face of the priorities and scarcities posed by other basic needs of the population.

Estimating expenditure and its implications for action are a complement for the efforts of countries that are designing and implementing strategic plans to confront the HIV/AIDS epidemic. Information about the existing situation offers a rationale for reforms in the funding, distribution and use of resources in response to HIV/AIDS.

The Regional AIDS Initiative for Latin America and the Caribbean (SIDALAC) seeks to promote the development of activities focused on decision making in organizations involved in dealing with the epidemic caused by the Human Immune Deficiency Virus and the Acquired Immune Deficiency Syndrome (HIV/AIDS). Our aim is to provide information that may be useful in the strategic plans of programs to prevent HIV and to care for people living with AIDS.

Through this publication, SIDALAC attempts to promote the transfer knowledge and the development strengthening of national capacities that may be applied to the design of proposals oriented to increase the level and improve the use of resources allocated to combating AIDS in the Region.

The conceptual framework for this Handbook is the National Health Accounts approach developed by the Harvard School of Public Health and contributions to standardization recently made by the OECD Health Policy Unit. However, estimations may have a national focus or cover sub-national elements; such is the case of federated states, where it may initially be more feasible to perform estimations in one or several states, before integrating accounts at federal scale.

Above all, this “Technical Handbook” should be taken as an organically unfinished product to be enriched by the national efforts to which it seeks to serve and from which it learns. National HIV/AIDS health accounts have been completed in five countries already (Brazil, Guatemala, Honduras, Mexico, and Uruguay) and are underway in twelve (call spanish – speaking latin american countries including the Dominican Republic). Therefore, all and every comment and suggestion to improve this version will be greatly appreciated.

ABOUT THIS HANDBOOK

Why this Handbook was written

This handbook was written in order to facilitate the use of the methodology and stimulate studies about the flows and levels of financing and expenditure in response to HIV/AIDS in Latin American and Caribbean countries. At the same time it proposes procedural and classificatory conventions based on broader national account systems, in order to ensure the consistency and comparability of data.

For whom the Handbook is written

The Handbook seeks to provide support to national interdisciplinary teams interested in the economic dimension of the fight against the HIV/AIDS epidemics, so that they may organize, design and conduct national HIV/AIDS accounts studies. The handbook should facilitate the use of a common language among technical and administrative personnel, and between experts in the public and private sectors, which must reach agreements in the process of estimating expenditures in HIV/AIDS.

How this Handbook was prepared

In 1999 SIDALAC financed national HIV/AIDS accounts studies in Guatemala, Uruguay, Brazil and Mexico, and later on in Honduras, and the Dominican Republic .By the year 2000, and co-financing for the European Comission, SIDALAC started promoting the estimation of HIV/AIDS Accounts in all the other spanish-speaking latin american countries. The methodological debate, literature reviewed and the wealth of experiences generated in this stage were condensed in a collection of technical resources included in this handbook. It was also benefited from the review by participating consultants of the initial estimations and of those the countries in which the studies are still underway.

How to use this Handbook

The handbook offers a broad view of national HIV/AIDS accounts studies as a preliminary reading for national teams. This material may also be used to address specific issues that may arise during the project. It may be convenient to use the material as it is organized to follow through the various stages of the project. Reading, applicability, evaluation and double-checking are the elements of each phase of the study.

General Structure of the Handbook

The handbook includes an introductory study that permits the reader to become familiar with the background and basic concepts in the measurement of expenditures and financing flows in health systems. Afterwards, six modules the elements of a national HIV/AIDS health accounts study are presented: 1. Organization and Setup; 2. Planning of the Study; 3.

Collection of Data; 4. Data Processing and Analysis; 5. Interpreting Results; and 6. Publishing and Uses of the Information. Each chapter has an introductory section, a description of the steps of the process, an activities checklist and the annexes required for the application of each phase.

What is intended with this Handbook

This Handbook seeks to promote the systematic use of financial information that may be standardized and compared internationally to support the decision making process. Also, this book intents to identify strategies and formulate policies to increase the level of expenditures to simplify the flows of financing and to improve the efficiency in the fight against the HIV/AIDS epidemic in Latin America and the Caribbean countries.

INTRODUCTION

The information about the levels and flow of the financing for the health sector contributes to policy formulation and to the allocation of resources to alternative health programs, geographical units , health-care levels and population groups.

Information about the structure of expenditures contributes to the economic analysis about efficiency, effectiveness and equity. However, the feasibility of such analyses depends on the frequency and availability of data, organized into agreed-upon and stable categories. Historical series among geographical areas allow the understanding of trends and detection of changes in resource allocation.

In the specific case of the HIV/AIDS epidemic, financial information about sources, distribution and destination of institutional expenditures must be complemented with data documenting the social and macroeconomic impact of the epidemic. Additionally, an integral interpretation of the financial results requires to compare the amount of resources and the size of the affected population, its geographical distribution, demographic composition, cultural factors and human rights situation in the country.

Furthermore, the collection, distribution and final use of resources destined to face HIV/AIDS, thought sometimes as innovative, most generally involve the same economic agents, transfers and allocation mechanisms already in place in the health systems as a whole. The ways society is organized to answer its health problems constitutes the framework in which the specific response to HIV/AIDS is organized. Thus, in order to characterize the resource dynamic to address the epidemic, it is of primary interest to understand the logic of the transfer of resources to the health sector and among its economic agents.

The National Health Accounts is a methodological approach useful to characterize the dynamics of the economic resources from the origin to their final allocation, and to interpret the magnitude of the financial flow with respect to the progress of the epidemic and the structure of the health services system. It is important to understand the conceptual bases of this approach, as well as some of its variants in current use.

This chapter discusses these and other topics that, starting from the fruitful intersection between economics and health, provide a basis to the specific discussions in the subsequent chapters.

Economics and AIDS

The AIDS epidemic has rapidly turned into a priority on the global health agenda. According to UNAIDS in 1999 there were almost 34 million people living with HIV/AIDS worldwide. That year, 5.6 million cases were first detected and the there were 2.6 million deaths attributable to HIV/AIDS. Since the beginning of the epidemic, there have been 16.3 million cumulative deaths due to it. In the Americas, the cumulative number of cases is 1.1 million, of which almost a third has occurred in Latin America.(1)

The epidemic has caused concern due to the rate of its growth, to the lack of preparation of the national health systems to deal with this emergent disease in a sustainable fashion, to the difficulty in generating social mobilization due to prejudice and stigmatization of people living with AIDS and individuals and populations at risk. Additionally, it causes concern due to its heavy financial implications, not only within health budgets, but also upon a variety of aspects of the national economies.

Currently, the epidemic is concentrated within adult populations, occurring at ages when individuals are most productive. Out of the million cases reported by WHO/PAHO and UNAIDS, only 19,321 occurred in people under 15 years of age. By affecting the segment of the population corresponding to a country's labor force, AIDS has a negative impact upon the economy of families, businesses and whole nations. This impact is mediated through a variety of the disease's consequences: (2)

- Work absenteeism: companies suffer a reduction in productivity and a backlog due to bouts of the disease and opportunistic infections.
- Disability: the clinical phase of the disease, AIDS, disables individuals for work, and consequently diminishes productivity and reduces family income.
- Premature death: AIDS causes a reduction in the productive life of workers, which affects equally families and society. It also affects businesses, pressing upon work conditions, especially among qualified and specialized segments of the work force.
- Expenditures in treatment, mitigation and hospital care: the high expenses for families involved in care-giving, as well as the expenses of mitigation and interment reduce available income for these families, destroy capital reserves and detain saving. These consequences are usually combined with the cessation or reduction of the contribution of the sick person to the family income.
- Widowhood and orphanhood: Early death due to AIDS increases the number of single-parent families, as well as of orphaned children, increasing the population living at social risk.

Additionally, businesses may be affected due to the rotation of personnel and the consequent expenses involved in recruiting, induction and training. If the company does not cover health insurance or mortuary expenses, totally or partially, other adverse economic effects are also produced.(3)

A huge majority of people living with HIV/AIDS - almost 95% of the total - live in developing countries. The proportion tends to grow, as the spread of the virus is speeded in those countries with a coexistence of poverty, weak health systems and limited resources for prevention and treatment. (4)

This pernicious combination of factors suggests that, "if the cure of AIDS were simply to drink potable water, still a large number of people, especially in developing countries, would not have access to adequate treatment."(5)

Unfortunately, no cure or vaccine has been found, and treatment schemes are expensive and complex, especially in the more advanced stages of the infection. The introduction of Highly Active Anti-retroviral Therapy (HAART) offers hope due to the rapid recuperation it causes in many cases, with users attaining functional levels that allow them to work normally. However, for 1998, the annual cost of the anti-retroviral treatment (including preventive treatment and laboratory monitoring) was estimated at US$ 13,815 per patient.(6) For affected families, access to HAART is almost impossible: just purchasing anti-retroviral medication for a month's treatment is equivalent to 109 days of the minimum wage in Chile, 136 in Venezuela and 252 in Mexico, compared to 26 days in the United States.(7)

Over the last five years, the AIDS epidemic has generated a significant flow of national and international resources. In 1996, financing for AIDS programs worldwide was estimated at US$ 548.5 million, of which 49% were provided by governments, 19% by official development assistance agencies, 9% by the United Nations, and 23% by the World Bank. In general terms, over half of the resources assigned to AIDS by countries came from external sources. In less developed countries, the proportions change dramatically: the external contribution in Sub-Saharan Africa is 91%; in the Caribbean 92%; in Asia and the Pacific,

43%; in Latin America, 33% and in Eastern Europe 21%.(8)

How were these resources used? What populations did they benefit? How was the expense distributed between prevention and care activities? What supplies were bought with these funds? What kinds of organizations intervened as financing agents or as care providers?

These are some questions that draw attention about the need of information leading to the formulation and evaluation of policies related to the social response to HIV/AIDS. Some progress has come with the rise of investigations in different contexts directed at examining the direct and indirect costs of AIDS,(9) as well as measuring the effectiveness of diverse strategies with respect to costs. (10) Additionally, methodologies have been proposed to appraise the costs of preventive strategies, and medical services for people with AIDS, and to perform an economic assessment (mainly cost-effectiveness) of preventive and treatment programs.(11)

The wealth of this knowledge, however, is not available to many low and middle-income countries, and the questions concerning mobilization, allocation and distribution of resources in response to HIV/AIDS remain unanswered. The partial cost and cost-effectiveness studies, usually directed at a specific strategy or set of strategies, generally compare an innovation against current practice, or else compare a set of existing interventions against a financial ceiling that assumes the social willingness to pay. Such current cost-effectiveness analyses frequently overlook failures in the allocation of resources at the program or sector level. However, for many countries, identifying and correcting the inefficiencies in the global allocation of funds would give the health sector substantially greater benefits than a new technological component added to the existing situation.(12)

The identification of inefficiencies in allocation could be approximated by using general and complete inventories of resources actually mobilized and expenses incurred on AIDS programs. Frequently the results of such inventories are surprising, and provide effective arguments to induce action. The "novelty" of such results is due to the fact that economic and sector agents linked to the allocation of resources have access only to a segment of reality representing the institutional context within which they act. The total allocation is fragmented at the country, state or province level, depending on many specific decisions, and the sum of these does not necessarily lead to a congruent sector response, in financial terms, as related to the nature of the problem, its distribution, or the relative effectiveness of the strategies involved.

The networks of institutions processing decisions about the resource allocation and expenditures varies in coverage and linkages, depending upon the kind of health system present in each country. The following section presents a typology of these systems, and the implications each has upon the volume, distribution and impact of financing upon activities in response to HIV/AIDS.

National Health Systems

Latin American societies have organized the provision of health services in a variety of manners. Some countries rest upon a market rationale to balance needs for care with service delivery. At the opposite end of the spectrum, health services may depend exclusively upon the state. There are also intermediate options: systems based upon a social security system, with universal coverage, and pluralistic systems, where private and public forms of health service delivery coexist, as well as public and private insurance services with partial coverage. Each type of system has important implications (Table I) on the coverage of HIV/AIDS services.

Table I. Health systems typology in Latin America, and their coverage for people with HIV/AIDS

Type of System	Socialized	Social Security	Pluralistic	Free Market
Principle	Health care is a public service to be provided by the state	Health care is a service or good to be provided to the insured consumer	Health care is fundamentally a service or good for consumers	Health care is a commodity for personal consumption
Financing	Taxes	Deductions from payroll	Public and private	Private insurance and out-of-pocket
Provision	Government facilities	Social security facilities	Public and private health care facilities	For-profit and non-for-profit service facilities
Administration	Public	Social security system	Public and private	Private
Payment	Totally indirect	Mostly indirect	Direct and indirect	Mostly direct
Role of the government	Total	Central/indirect	Private and public	Minimal
Coverage for HIV/AIDS	Universal	Universal	Only population with mainly social security coverage	Very limited private coverage
Examples	Cuba	Costa Rica	Mexico, Brazil, Honduras	Chile, Colombia,

SOURCE: AVILA FIGUEROA, Carlos. La epidemia del VIH/SIDA en el contexto de las reformas del sector salud en América Latina. In: El SIDA en América Latina y El Caribe: una visión multidisciplinaria. José Antonio Izazola-Licea, editor. FUNSALUD-SIDALAC/ONUSIDA, Mexico, 1999.

The *pluralistic* system is the most frequent in Latin America, in which public and private forms of health services financing and provision coexist. In this type of system the state and social security cover only part of the population – which may even be the same for both entities – while the private sector – both for-profit and non – for- profit – attempts to fill in the vacuum or compete for users with financial and geographical access.

In general terms, the public sector includes the activities of government agents, and

agents strongly determined by government. The private sector includes activities by agents beyond government control: these may be individuals, businesses and non-for-profit organizations.

However, it is necessary to distinguish between financing (public or private) and services provision (public or private). Table II shows the combination (as a partial example) between private and public forms of health services financing and provision.

Table II. Examples of combinations between public and private health services financing and provision

Services Provision	Financing	
	Public	Private
Public	Free services provided in government clinics and hospitals. Resources come from taxes or official external cooperation.	Services in government facilities that charge users a fee. Social security services financed with worker and employer contributions.
Private	Services provided by NGOs under contract with the government, that provides financing.	Services provided by private providers, financed through out-of-pocket payment or private insurance.

SOURCE: Adapted from BERMAN, P and HANSON K. Assessing the private sector: Using non-government resources to strengthen public health goals. Harvard University, Research Triangle Institute/USAID. Boston, 1994.

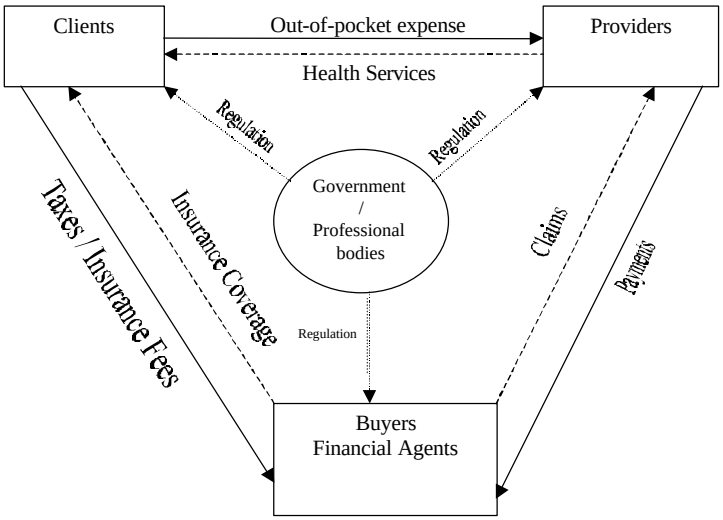
Consequently, in order to study the financing of a health system it is very important to classify the health care providers and their sources of financing. There is additionally a set of intermediary entities between sources of finance and care providers, known as “financial agents or funds”. The manner in which these agents relate in the flow of resources is described in the next section.

Financial Flows and Health Expenditures

In order to describe the flow of transactions that occur in a given economy, it is useful to distinguish between nominal and real flows. The real flow is composed by goods and services; in the process of their circulation among the economic agents devoted to intermediate or final consumption. The nominal –or financial- flow represents the money that circulates in the opposite direction to the real flow; for example, the money received for the provision of a good or service.

The circuit also operates in the market of health services, and in a similar manner. In it, in addition to the health services providers and users, there are regulatory agents that contribute to the operation of the economic circuit (Figure 1). The state and professional organizations play a major regulatory role, controlling the standards of practice, overlooking the response to users rights and controlling management issues under their jurisdiction.

Figure 1. Actors in the financing of health care



SOURCE: WHO, 1993. Evaluation of recent changes in the financing of health services: report of a WHO study group. WHO technical report series: 829.

In the health sector it is frequent that the purchaser of services not be the user; Table II presents two options: public resources buying services from private providers; or insurance resources being used to pay services provided to insured individuals. In government there are health institutions that receive public financing, financing from external cooperation agencies or fees from users, which later concentrate these resources and distribute them according to their own allocation criteria. Such entities (government, social security or private insurance), by capturing resources and paying for services, become financial agents performing the role of a "health fund". The presence of these agents in the health sector not only reduces uncertainty among users over financial losses due to disease, but also allows the public sector to subsidize, provide or guarantee the payments for services and their provision to populations of interest for public health policies.(13)

Figure 1 shows that health care providers may receive payment from users either directly or as payments from financial agents. The agents, at the same time, receive financing from users, either via taxes or as insurance premiums. A key player missing in this scheme, of vital importance in the flow of resources to HIV/AIDS is the external cooperation sector. These may be bilateral agencies (official development assistance), multilateral agencies (such as the United Nations agencies) and international financial agents (such as the World Bank).

In the analysis of the external financing it is important to distinguish between donations and loans. An official donation, for example, assumes that taxpayers of other countries have transferred resources, through an external financial agency, to an internal agency, or directly to one or more providers; the source of financing is made up of the external taxpayers. In contrast, a loan capital is the current use of resources to be paid in the future by the taxpayers of the country receiving the loan; the external financial agency acts only as an intermediary.

The analysis of the flows – where resources come from and where they end up – requires the specification of three components: entities, mechanisms and magnitudes, as detailed in the following paragraphs.

- *Entities*. Given that economic flows represent a relation of exchange between different entities, identifying the participant entities is a good starting point to analyze flows. The characterization of the flow requires knowing the attributes of these entities: their official name, the institutional sector they belong to (private, public, external) and what role they play in a flowchart (sources, funds or providers).
- *Mechanisms*. Transferring funds from one entity to another may follow a variety of rules. Three examples of the transfer from sources to funds in the health sector include: budget allocation (from Ministry of Finance to Ministry of Health); premium payment (from businesses to private health insurance companies); worker contributions (contributions by families to the social security system).
- *Magnitudes*. In addition to determine the exchange relation between entities, it is desirable to know the relative importance of that relation. This means that the amount concerning movements of resources allow to the characterization of flows, as a manner to rank the most important flows in the sector. This order helps to prioritize relations that must be found in order to total the sector's financing.

The national health accounts approach permits the organization of financial information from the sector in a way that joins overviews about the level, the distribution and the flow of resources among participating entities, as described in the following section.

National Health Accounts (NHA)

The quantification and characterization of the flows for financing and expenditure exercised to face HIV/AIDS is an effort collecting data effort that seeks to take advantage of the largest amount of available information about the use of resources on this subject, with as much precision as possible.

In some cases, difficulties exist in the availability, under registration and misclassification of the data required to perform the whole estimation of completing the accounting framework. In the meantime, and as long as data are not available, the available information aims at promoting a fuller understanding of the flows of resources, at the same time, promoting a greater willingness of potential partners to register and share their information, as results are divulged and its´ usefulness is shown.

The initiative to appraise expenditures in HIV/AIDS is supported upon the methodological approach known as the "National Health Accounts" (NHA). It is relevant to understand their definition, methods, steps and practical applications. These are briefly presented in the following section.

What are National HIV/AIDS Accounts? *

National HIV/AIDS Accounts is a 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.

- Such accounting must be exhaustive in its coverage of entities, services and expenses financed expenditures; periodical in their registration, integration and analysis, ideally annually; systematic, as it develops categories and recording systems that are consistent over time and comparable among countries.
- The financial flows refer to the tracking of resources from the financial sources for the provision of health services directed to HIV/AIDS, and which enter the health system through the financial agents that distribute them through service providers.
- HIV/AIDS expenditures comprise disbursements to acquire or contract goods and services required for the prevention and treatment of AIDS, and may be analyzed in their distribution according to type of service, user group, geographical area covered, type of establishment and others.

Box A. Questions addressed by National HIV/AIDS Account

- In what proportion do government, social security funds, the non-for-profit sector, households, businesses and international cooperation agencies contribute to AIDS activities?
- What kinds of service providers are receiving resources earmarked for prevention, treatment and administration of services to face HIV/AIDS?
- What programs and services receive funds and in what proportions?
- How is the funding distributed among geographic zones and human groups?

The ultimate goal is that the National HIV/AIDS Accounts strengthen the decision-making process and the formulation of proposals for intervention. The results must be combined in the analysis with indicators concerning the demographic, epidemiological and socioeconomic situation of the health services and institutions in a national context.

What are the National HIV/AIDS Accounts worth of?

The most direct objective of the national HIV/AIDS accounts is determining the resources flows and level of expenditures devoted to the prevention and treatment of the epidemic within each country. Also, as the relative distribution of the source of financing among public and private institutions, divided by use of funds (prevention and treatment). In other words, the national HIV/AIDS accounts allow the identification of who pays (payer), who receives the benefits (beneficiary), in what proportion (subsidies), and through what mechanisms (flows and agents).

This information has multiple applications; first, it contributes to the specification of the analysis of the current

* A more detailed exploration of the background of the National Health Accounts approach may be found in the appendix to this introductory chapter

situation and to trace its dynamic through time; in this case, studying national HIV/AIDS accounts pursues, among other ends:

- Measuring the response of the national health systems in the face of the HIV/AIDS epidemic, its importance on the public agenda, and the cost implied by the combination of providers, services and users that conform the strategy used to address HIV/AIDS;
- Establishing a continuous chronological registry of relevant decisions made in facing HIV/AIDS in each of the institutions shaping the health sector, whose analysis and evaluation provide lessons for strategic and operations planning, both at the institutional level and in the context of the health sector. And their monitoring.

The analysis of the sources of financing and the HIV/AIDS expenditures also supports the search of options to overcome the lack of resources earmarked to address the epidemic. Groups linked to the fight against AIDS and agents related to the health sector reform will find this analysis helpful to facilitate creative efforts in:

- Establishing innovative mechanisms to increase the flow of resources toward the sector;
- Diversifying the sources of financing for activities against HIV/AIDS;
- Establishing incentives to mobilize resources from sources with relatively lesser participation within the system;
- Identifying areas for greater locative efficiency of resources and greater equity in their distribution;
- Identifying the needs for regulation in the various stages of financial management, according to the organization of the care system and the role of intermediary agents in managing resources.

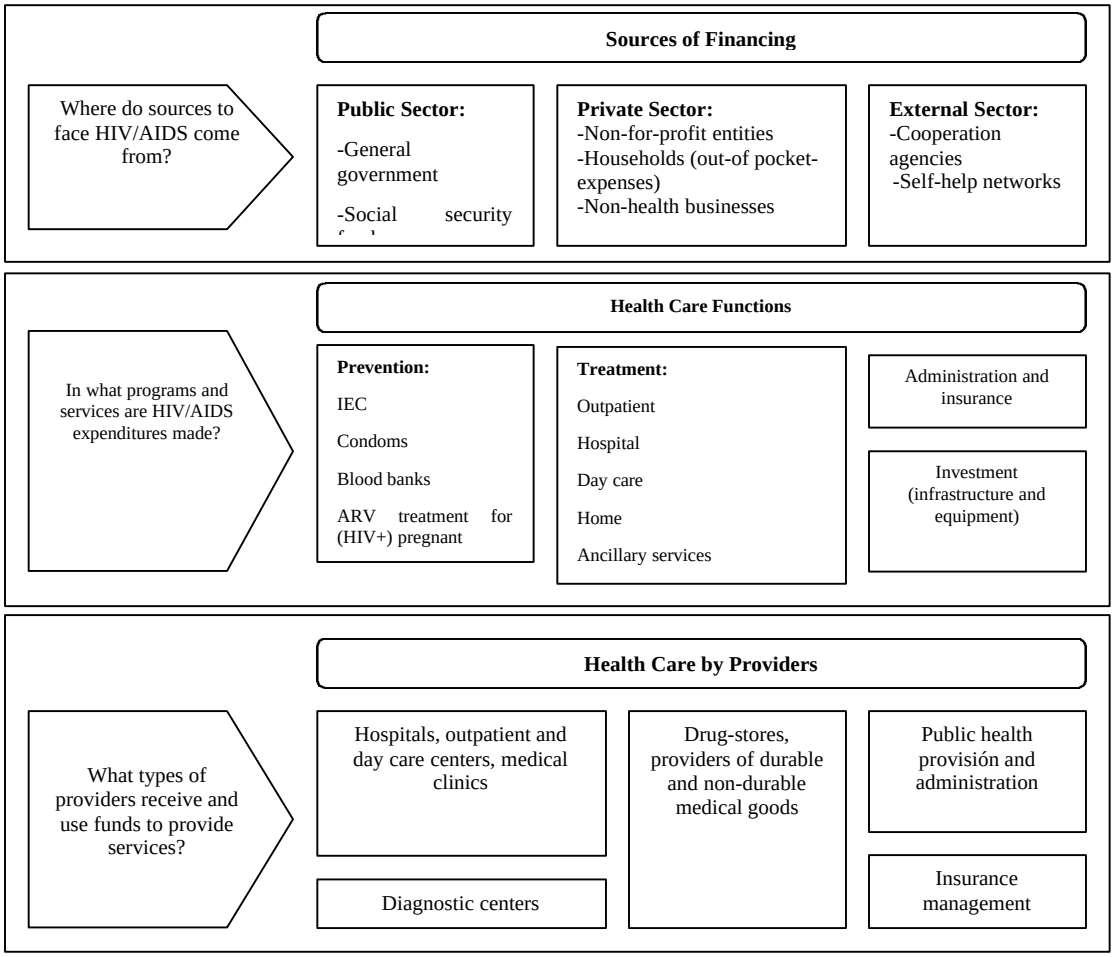
How are National HIV/AIDS Accounts Estimated?

The methodology proposed is generically known as "National Health Accounts" - NHA – and has been applied in sector-wide studies in a variety of countries in Latin America, Africa and Asia, in order to guide the health-sector reform. Some Latin American countries have started to apply this methodology specifically to the study of the HIV/AIDS.(14)

The methodology is based on a matrix system (two-entry tables) to represent the relationship of resources among entities. These matrices indicate the origin and destination of resources, avoiding double counting of expenditures.

The estimation usually covers annual periods, and reconstructs the resource flows from its origin to its final destination, in three groups: (i) the sources of financing; (ii) the providers of services, and (iii) the service functions. (15)The relations between these analytic dimensions are shown in figure 2. These dimensions originate mainly in the national health accounts system. However, conditions vary from one country to another, and in each context it is necessary to adapt contents from the sources of financing, care functions and providers.

Figure 2 Dimensions for HIV/AIDS Accounts Analysis



One of the advantages of analyzing a specific health problem, such as the HIV/AIDS accounts, is the possibility of understanding the distribution of expenses pertaining to human groups covered and ordered according to characteristics relevant to the analysis of the health problem. This adds a dimension about the destination of resources according to beneficiaries of services, which is important, among other reasons, because:

- There are core groups (Table III) upon which preventive investments have the greatest impact; however, these groups are frequently underserved, and the programs of education and communication are directed to the open population. The classification of expenses according to human groups makes locative inconsistencies in preventive expenses surface;
- Some inequities in the health care provision are due to discrimination, either by ethnic/racial differences, or according to sexual orientation, or gender. It is important to document the expense distribution that involves a discriminatory slant, because discriminated populations, given their particular vulnerability, face a high epidemic potential and require a comparatively higher investment in prevention and treatment.
- The national health accounts system, in general terms, leads to classify users of services in generic terms, whether socioeconomic status (income or health

expense quintiles, for example), demographics (sex and age group) or geographical (urban/rural or according to the administrative geographic divisions in each country). For a specific ailment, such as AIDS, it is possible to precisely classify users, and so gain a precise reading that is vital for epidemiological action and its translation in to programs and budgets.

Table III. Core Groups and Accessible Groups for HIV/AIDS Prevention

Core groups (high risk)	Preventive action
Men who have sex with men (MSM)	Promoting condom use Treating ulcerative STDs
Commercial sex workers	Promoting condom use Treating ulcerative STDs
Injected drug users	Avoid syringe exchange
Blood and blood product users	Screening in blood banks
Unborn children of seropositive mothers	Anti-retroviral treatment and maternal milk substitutes after birth.

What steps follow the estimation of the national HIV/AIDS accounts?

The estimation may be organized in different manners; this guidebook suggests a process including the following phases:

1. Organization and Setup

This phase assesses the convenience and feasibility of appraising national HIV/AIDS accounts, based upon prior information, the identification of agents and potential sources of information, the exploration of interest among users and key informants and the constitution of an inter institutional working group. This group is relevant, not only for the access to information, but also providing interpretative capabilities to the examination of data and to the dissemination of results.

2. Planning of the Study

There are methodological issues that must be known in order to appraise national HIV/AIDS accounts that must be known, discussed and adapted by the national teams. This phase comprises the design of the data collection strategy. The forms and tables for data entry and presentation are adapted to national needs and language, the initial analysis plan is developed, and activities and resources needed are programmed for the execution of the study.

3. Data collection

Health organizations do not easily share income and expenditures data. Thus, preliminary sensitization phases are important for the success of this stage. Data collection poses challenges

and requires care in training personnel, contacting institutions, verifying collected data and identifying alternate data sources within the research protocol.

4. Data Processing

To array collected information according to the national accounts matrices there are generic and specific national accounts software. The input of these data should allow for the identification of missing, inconsistent or duplicated data. Required data searches may be identified at this point, as well as needs and options for the estimation of data that could not be collected.

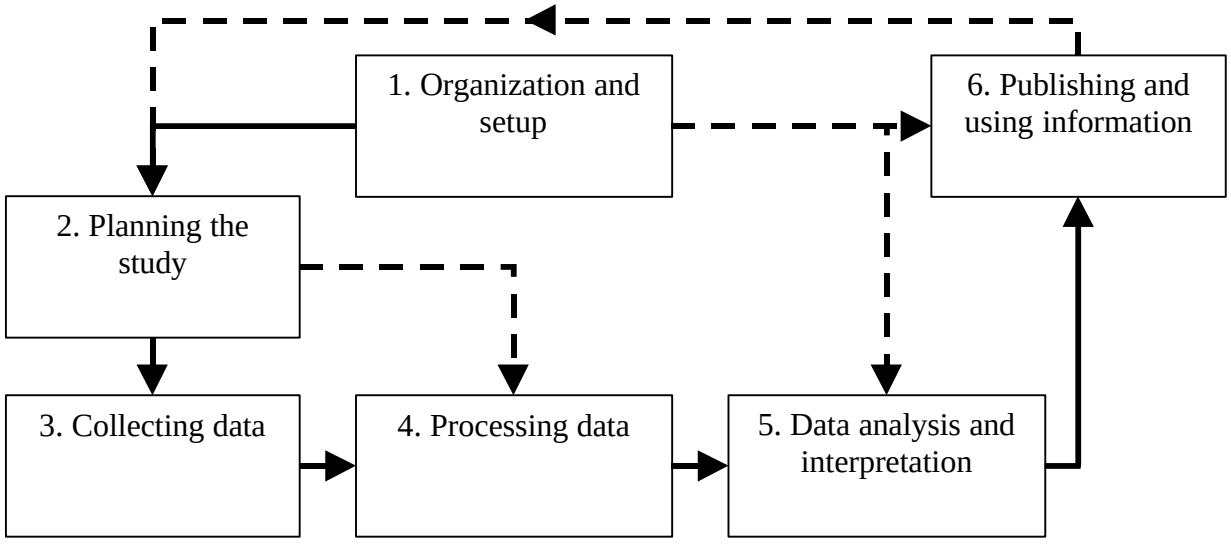
5. Analysis and Interpretation

This phase includes the estimations needed to complete and tally the income and expense flows. Indicators are calculated to relate HIV/AIDS expenses to other data, such as national health expenditures, population data and data concerning people with AIDS. Additionally, results are interpreted in the context of the AIDS epidemiological situation in the country, the conditions of the health services system and the financial expectations of the country and the sector. The study's discussion and conclusions come out of this phase.

6. Publication and Use of the Information

This phase is used to prepare the study report and other pieces for the dissemination of results, and to promote their application by policy agents and decision makers with the capacity to influence on the level and distribution of resources used to face HIV/AIDS. It includes efforts to convert results in material that is usable by decision makers in addressing problems and designing policies in relevant topics.

Figure 3 Phases in the Estimation of National HIV/AIDS Accounts



The figure shows how, in addition to the sequential relation between steps (indicated by solid lines) the starting point of the study (based upon the invitation for entities to participate in the determination and execution of the national accounts). This is a vital phase for the analysis and interpretation of data and for the dissemination and use of the information (as indicated by dotted lines). The last two phases of the study are opportunities to turn the organized information into action priorities for the mobilization of resources and to improve their distribution and use. This may be achieved if those entities that may increase the volume, efficiency and equity of the financing for HIV/AIDS involved early on in the process. Additionally, the execution of a first study leaves some lessons and interests that may be applied to the development of further editions of the estimation.

APPENDIX I. BACKGROUND TO NATIONAL HEALTH ACCOUNTS

National Accounts and National Health Accounts

Complete and trustworthy information about health expenses has become important for health policy analysts. The precise measurement of expenditures and its trends is needed to analyze the effectiveness of fiscal interventions as well as the evolution of the system.(16) In many countries, the expansion of private financing and the private provision of care services has led to a growing demand for trustworthy information about the private sector's activity, information not usually available from government's sources. In fact, even the integration of all public expenses in health is difficult in countries lacking accurate recording systems. A systematic format to assess and present information about health expenditures for each country is required. Such a format, which uses data from different sources to cross-check the validity of each source and the resulting expenditures estimates, is known as National Health Accounts (NHA). A variety of World Bank projects either include a component to develop an NHA Assessment or require it as a condition for the disbursement of a loan.

The National Accounts System (NAS) is a reasonable starting point to develop NHA. Just as NHA provides a framework to capture and present information about the health sector, the NAS provides a framework for the measurement of the Gross National Product (GNP). By doing this, NAS provides definitions of actors, limits and values that are important for the NHA.

Countries currently use the 1993 version of the NAS. According to this version, it is accepted that a global approach may be insufficient to capture all the information required to make comparisons among countries. Due to this, the use of satellite accounts is promoted, to "address the need to extend analytical capacities of national accounts for selected areas of social interest, in a flexible manner and without overloading or distracting the central system."(17)

The use of the practices and conventions of social accounting for NHA may provide a greater precision in results. Duplicating measurements by performing estimates from two different perspectives (such as providers and consumers) in order to reconcile these is among the best of such practices. However, what distinguishes NHA from other ways of presenting information is that NHA use matrices to assess and show the origin and destination of resources. The NAS uses a T-account presentation, showing consolidated data. A sample T-account is shown in Table IV. The T-account is a useful summary of the health sector, but does not show the important aspects of the sector's structure. A more useful presentation, as a matrix, is presented in Table V. The matrix presentation shares more information about the sector and configures a convenient framework for entry estimates.

Table IV. Hypothetical NHA Presentation using a T-Account

Income		Expense	
Institutions	300	Government	200
Physicians	200	Insurance Companies	200
Drugstores	50	Patients	150
	550		550

Table V. Hypothetical NAS Matrix Presentation

	Total	Government	Insurance Companies	Patients
Total	550	200	200	150
Institutions	300	100	150	50
Physicians	200	100	50	50
Drug Stores	50	0	0	50

Given that the matrices are central aspects for the NHA estimates, the terms used must be clearly understood. Matrices show two dimensions: in the previous example, one dimension are the providers (rows 3, 4 and 5), and another the sources (columns 3, 4 and 5). The matrix is composed of cells showing the combination of these two dimensions (rows and columns). For example, in Table V, the cell at the intersection between the "insurance companies" and the row "physicians" shows that the later received 50 monetary units from the former during the period under analysis. Each row and column has its own partial total; both converge upon a grand total cell, which acts as a test for the accuracy of the matrix.

In National Health Accounts, the first step is to identify the dimensions of the system that are of interest to policymakers and analysts. The dimensions may include:

Goods or services
Providers
Inputs/Factors
User Characteristics
Payers/Financial Agents
Sources of financing
Geographical Regions
Others

The Harvard approach (18)

Over the years a variety of guides and formats have been proposed to collect data about national health expenses in the public and private sectors.(19) Some suggest that this information be collected as an extension to the national accounts.(20) Others hold that elements of the national income accounting should be used in order to ensure compatibility as long as separate estimates are being prepared for health sector policy design.(21) The majority of authors agree that a standard group of definitions for health activities and expenditures categories for the various countries would increase the usefulness of information for policymakers and analysts, both national and international.

Peter A. Berman, PhD, an associate professor of international health economics at the Harvard School of Public Health developed a methodology for the assessment of national health accounts, with support from the "Data for Decision Making" and "Partnership for Health Reform" projects, both financed by the United States Agency for International Development (USAID). Dr. Berman had the chance to apply the methodology in Egypt, Bolivia, Ecuador, Peru, the Dominican Republic, Nicaragua, El Salvador and Guatemala. Based on these experiences and with the projects' support, he co-authored with David M. Cooper a specific software package allowing the registry and organization of NHA data.

The proposed system does not have standard definitions and categories; rather, these must be determined through a combination of national and international debates and consensuses, however, the program does provide an analytical system comprising three key elements:

- It requires the calculation and presentation of national estimates through a matrix of sources and uses;
- It allows a detailed description of sources of expense beyond the general categories of "public" and "private";
- It delivers a systematic framework to define the use of funds according to a variety of important and mutually exclusive categories.

The matrix approach requires all expenses estimated for the various sources to be specific, for example, all government hospital expenses should be attributable to specific sources. The totals and subtotals must add up and be consistent.

The need to know in an integrated form who pays, how much, and for what they pay, instead of simply separating who from what leads to the analysis of the flows of money through the health care system. To this end, an intermediary category – "financial agents" – is introduced, which accounts for the division between financing and providing services. The resource flow tables allow the user to easily distinguish the distribution of health care financing and provision.

The proposed NHA system includes five matrices:

- Sources to financial agents
- Financial agents to providers
- Financial agents to specific functions
- Financial agents to type of expense
- Financial agents to regions, provinces or human groups

The OECD System of National Health Accounts

The countries in the Organization for Economic Cooperation and Development (OECD) provide information about health expenses to the "Health Data Archive", where the data available in the different countries are adjusted in order to integrate national expenses within internationally comparable images. Given the dispersion among classifications, for a long time the effort was focused on a few aggregates that would synthesize the situation and make it comparable for a cross-analysis:

- Total health expense
- Public health expense
- Total and public expense on hospital care
- Total and public expense on ambulatory medical care
- Total and public expense on pharmaceutical products
- Public expense on capital goods for medical care

Additionally, price indices and care and services indices were calculated, in order to adjust national data for international comparison. The preparation of social protection indices (coverage of different costs), the use of medical services and the availability of human resources, as well as basic demographic, economic and epidemiological data were also considered.(22)

At the beginning of 2000, the OECD published on the Internet a Beta Version of the "National Health Accounts System" that seeks to generate a collection of categories that:

- Maintain compatibility with the accounting rules and classifications of the 1993 National Accounting System (NAS93) and other

conventions/standards of the classification adopted and promoted by the United Nations System;
- Would be enforced in the OECD countries and foreseeably include the national standards of developing countries with the capacity to periodically produce and maintain data on public and total expenditures.

Therefore, the published manual provides "an integrated, consistent and flexible system of accounts". It establishes a conceptual basis of statistical reporting rules and proposes an innovative International Classification of Health Accounts (ICHA) covering three dimensions: health care by health function; service providers in health care; and sources of financing.(23) These three dimensions give rise to corresponding classifications (that have been adopted in this guide for their application specifically to HIV/AIDS) within (ICHA) that define:

- Heath care by function (ICHA-HC);
- Health care providing industry (ICHA-HP);
- Financial sources for health care (ICHA-HF).

In the standard proposed by OECD, NHA try to answer three questions:

- Where does money come from (sources of financing)
- Where does money go (health services and goods providers)
- What kinds of services (defined by function) are performed and what kinds of goods are bought

As can be seen, the "financial agents" or "funds" of the Harvard approach are not present in the OECD Health Accounts System, and the entities generally considered as intermediaries are frequently included as sources of financing in the handbook. This difference is explainable using the typology of health systems presented before in this introduction. The majority of European countries present a variety of functions and providers fed by a limited number of "payers" or financial agents. In the United States (and many Latin American countries) there is an excessive dispersion of service buyers, both as original sources for funds and as financial intermediaries, which has been called the pluralist system. This explains the emphasis placed upon separating health entities between financial functions (agents) and provision (providers).

However, several Latin American countries, despite having a multitude of financial agents, frequently have institutional overlaps between the financial and provision functions. In other words, such functions have not led to forms of organizational specialization.

WHO Health Accounts: NHA-2000

The World Health Organization recently published on its World Wide Web site a report for discussion presenting the 1997 National Health Accounts estimates for 191 countries.(24) The report mentions that only a tenth of the countries affiliated to WHO have a recurrent flow of financial data for health. To accelerate the incorporation and institutionalization of NHA in the rest of countries lacking tools to monitor health expense and finance, WHO is providing a basic set of NHA indicators for the 191 member countries, called NHA-2000.

Among the most notable results of the 1997 estimates is the global gap in health expenditures: 15% of the world's population – living in high-income countries – spends 75% of global health expenditures.

The term "health expense" used in that report is equivalent to the sum of consumption and investment in health goods and services. The

NHA estimate depends on a well-known equation:

Value = Quantity (volume) * Price; i.e.: V= Q * P

Value represents total expenditure; quantity represents a list of all kinds of services or goods, in the quantities provided to final users; price represents a list of all goods or services, at the prices provided by the different kinds of provider institutions.

Public health expenditure means expenses paid by a government entity, whether it be central/federal, regional/state/provincial, local/municipal or social security institutions with compulsory affiliation for a given population segment. It also includes a supra-national level, to cover flows, for example, from the European Union to the health systems of countries, such as Ireland or Greece. The flows of external resources, of importance for many countries, were accounted for within public or non-government expenditures. Also included were subsidies to providers or transfers from governments to households, as health expenditure reimbursements.

Private health expense includes payment by companies for employee care, expenditures by non-for-profit lucrative institutions serving households, non-government organizations and households. The most bulky component of private expense in mid- and low-income countries was direct out-of-pocket expenditures, which is frequently obtained as a difference between total health goods and services consumption and private health insurance.

Among the expectation raised by NHA-2000 is the interest among Latin American countries to have a more active participation in the estimation process. As a result, training activities have been conducted in partnership with regional hemispheric organizations, and the intention exists to prepare technical materials for the adaptation of the NHA categories – that are based upon the OECD categories – to the characteristics of national and health accounting systems in Latin America.

These HIV/AIDS handbooks take advantage of the previous experience and work performed at the frontier of these developments under the auspices of the OECD and WHO, given that these tend to become international standards that may therefore be used and institutionalized by countries with sufficient foresight.

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1ST MODULE
ORGANIZATION AND SETUP

Objectives of this Module

Having finished the Organization and Setup module, the national NHA-AIDS team will have the capability to:

- Define basic categories for health financing in the country;
- Identify key actors to study flows of financing and expenditures in HIV/AIDS;
- Promote the constitution of a multi-institutional support team for the study.

Introduction

Studies in health financing use a variety of information sources. The more varied the mosaic of institutions in the health sector, and especially the set of organizations performing activities to face HIV/AIDS, the more diverse the sources of data are.

The number of sources will be smaller when there exist centers collecting financial data. Examples of these would be budget execution reports by health institutions; reports from cooperation agencies about resources transferred to non-government entities; national health expense surveys; reports by insurance companies to a financial system oversight agency; international commerce yearbooks (recording input importations). These publications must be examined in order to determine, as far as possible, if data are complete and correct.

The effort needed to integrate flows of financing and expenditures in response to HIV/AIDS will depend on the access to information that the working team may have. Many financial reports lack detail in programs and health activities (needed to identify expenses in response to HIV/AIDS). In some countries, public expenses by decentralized units are reported as global data. In other cases, expenditures in AIDS prevention and treatment (e.g. in the army) are kept confidential for "security reasons". Thus, it is important to perform a survey to determine the pertinence, feasibility and viability of the study within wide institutions.

The result of the survey will help to identify an execution strategy that may optimize opportunities and overcome obstacles. To gain viability, it is important to invite a variety of institutional representatives to take part in a multi-institutional support team.

In preparing the list of potential members of this team, care should be taken to include entities that participate in the financial flows, as well as those that compile data about health financing.

The team also has another important role. As institutional representatives, the members of the team may see early results, validate these and interpret them from their own perspectives and positions. The multi-institutional team will be a fertile setting for the publication and application of the knowledge produced.

These actors' reflections about the characterization of finance and expenditures flows may contribute to policy formulation that may increase the amount and improve the distribution of funds directed to combating the HIV/AIDS epidemic.

This module describes organization and setup, considering the tradeoffs and examining the steps that must be taken to design the study on a solid organizational platform.

1.1 Recovering Background Information

Information about the financing and expenditures in HIV/AIDS may be better interpreted if it is related to data about the progress of the epidemic, the degree of preparation and response of the health care system and national expenditures in health. The organization of the study will benefit from a literature review considering at least the following fields:

- **Situation and trends of HIV/AIDS in the country**. This includes data on the incidence, prevalence and lethality, as well as estimations about the number of people living with HIV or AIDS in the country, and how many of these require and demand services. Recognizing the demand implicit in these numbers, it is important to identify he geographic distribution of the epidemic and the social composition of the human groups affected. This information is useful during the organization and setup phase to orient the data search and to mobilize agents in support of the study. Additionally, the data will be used during the interpretation of results, in contrasting amounts and distribution of expenditures against the features of HIV/AIDS in the country (Table 1.1).

- **The health system's response to the epidemic**. For many in Latin America and Caribbean countries the health care system, including public, private and non-government entities, has taken between 15 and 20 years to develop its response to HIV/AIDS. However, not all sectors have responded equally, and not all services are available to those who need them. In setting up the national HIV/AIDS accounts system, it is convenient to identify studies and evaluation reports that inform about the prevention and care of the provided services, the type of provider offering these services and the groups being served. Evidently, the research group will want to identify the providers with the greatest volume of services and coverage, as well as those providing the most costly services. These will capture a greater part of the resources and the main part of the expenditures (Table 1.2). Furthermore, it is important to know if services provided are documented and set down as protocols, given that this information will be useful in comparing institutions and estimating expenditures based on costs of care. The prevailing conditions of the health markets, such as drug imports (especially anti-retroviral medication) and laboratory reagents, medical fees, programs for the social marketing of condoms, and other conditions affecting expenditures related to the AIDS response must be reviewed on a case-by-case basis in each country.

Table 1.1 Presentation of Data for the Analysis of the Epidemic

Region	Live Cases	% Cases according to transmission route			
		Sexual, HT	Sexual HM	Blood	Perinatal
North					
East					
West					
South					
Country					

References: HT= Heterosexual; HM= Homosexual.
Note: Blood transmission includes use of parenteral drugs and use of blood and its derivatives.

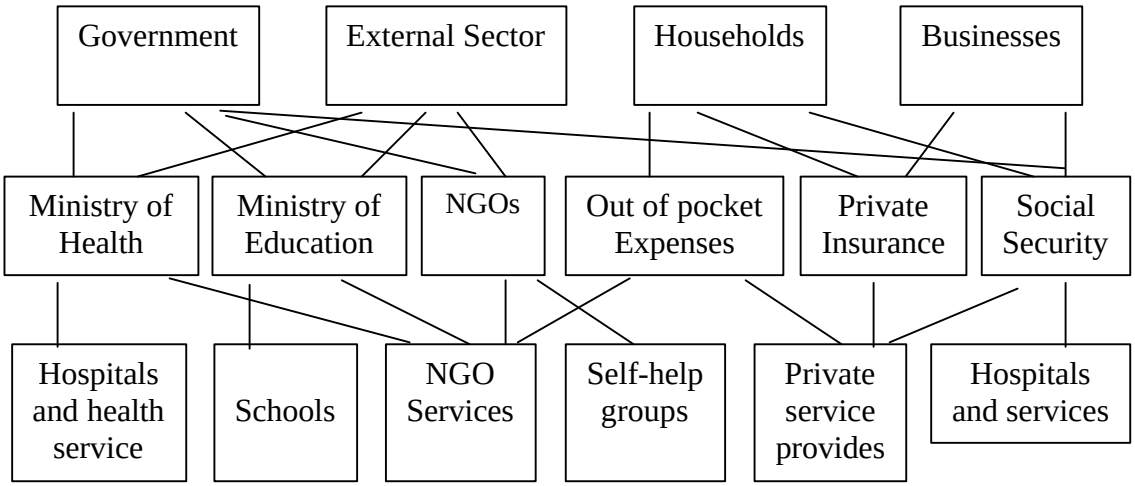
Table 1.2. Presentation of Information about Relevant Agents in the Response to HIV/AIDS

Entities	Groups covered	Activities performed		
		IEC-Prevention	Treatment	Mitigation
*Public Sector **				
Entity A				
Entity B				
Non Profit Private Sector				
NGO C				
NGO D				
For Profit Private Sector				
Insurance company E				
Hospital F				
External Sector				
ODA Agency				
UN Agency				

**This will include central government agencies, social security institutions and other autonomous or decentralized entities taking part in the HIV/AIDS response.*

- **National health expenditures estimations**. The Latin American countries have approximate figures for their national health expenditures, as well as descriptions of the flows and financing mechanisms from the origin to the final destination of their allocations. Several countries have estimations of their National Health Accounts; their reports detail how money is obtained and how much it is, who provides it, who manages it, and who benefits from it. The methodological summaries for these studies include guidelines for the search of the sources of information with the greatest volume and quality of data. Frequently, the national account studies describe existing flows through diagrams or tables showing what transfers occur between entities, and signal the transfer mechanisms used (Figure 4).

Figure 4. Financial Flow Schema: Sources, Agents and Providers.



- **Cost studies on HIV/AIDS services**. It is convenient to find out if the countries have performed studies of the costs of interventions to promote health, prevent sexually transmitted diseases or treat patients with AIDS. There are studies about the socioeconomic impact, and cost-effectiveness of interventions, about essential health services packages and other studies of an institutional nature, performed to evaluate decisions about what services to provide and what populations to serve. Such studies may offer reference data for new estimates, for example, when the mix of expenditures is unknown, but there is information about the number of services provided. It should be pointed out that average costs tend to be overestimated, particularly if they are calculated on the assumption of high efficiency. Although in this sense historical costs are trustworthier, frequently they are lower than expected, given the number of treatments not completed by patients, and those given without having all the necessary supplies. Another important point about the use of average costs pertains to used or idle capacity in establishments. If capacity has been built to deal with HIV/AIDS but its use is low, average cost may be high, but the cost of attending a new patient (the marginal cost) may be much lower.
- **Access and Quality of sources of information on health expenditures**. In the initial exploration it is important to make contact with documentary sources of information and check if the detail of the categories is compatible with the information needed for the estimation of expenses in AIDS. Some areas of estimation present special challenges; it is important to verify if there is some documentary source of periodical registration or specific studies that may offer information about these areas. A simple qualification of the records, quality and accessibility of the estimate's components is shown as an example in Table 1.3.

Table 1.3. Example of a Table for the Identification of Records for the Financial Components in response to HIV/AIDS

COMPONENT	RECORDS	QUALITY	ACCESS
External financing	Donation or loan agreements: reports	-Precision -Few details -Simple categories	-Good, in donations -Fair, in loans -Poor, if the topic is confidentiality
Taxes and other public resources	Budget period report Annual report of activities: service production	-May hide transfers -Too aggregated -Not always available for decentralized units	-Good, at central/federal level and for national AIDS programs -Fair, entities not belonging to health -Bad, at state/provincial or municipal/local level.
Contributions to social security	Budget report on health care Report on services provided	-Greater precision -Few details -Requires specific queries -Data concentrated at central level	-Good at aggregate level; -Fair or poor when seeking greater detail.
Contributions to private health insurance companies or pre-payment arrangement	Reports on premiums and reimbursements requested	-Too aggregated -Insufficient information about users	-Good at aggregate level; -Poor when seeking greater detail.
Donations and contributions to non-for-profit organizations (NFPO)	NFPO income reports (confidential)	-Inexact? -Does not describe use -Many NFPO	-It is forbidden to publish this information -NFPO are reticent to respond to requests for financial information
Direct out-of-pocket expenditures	Import records (condoms, ARV) and reports by the pharmaceutical industry	-Risks of double accounting -Purchase is not equal to consumption -Stock is not equal to final consumption	-Good for imports; fair for the pharmaceutical industry -Poor for payments to service providers.

All primary sources of data that may be identified are important and should be subjected to accessibility and quality screening. Additionally, there are multiple publications containing financial and statistical information on the World Wide Web. Specifically, some websites have reports on many countries (a list of these is included in the Further Readings section at the end of this module).

1.2. Identifying Key Agents

The search for answers will help to decide where to focus the research team's efforts; an attempt should be made that efforts in data recovery be proportional to the importance of the entity within total expenditures. The literature review will help to answer the questions:

- In what geographical zones and human groups may there be a concentration of HIV/AIDS?
- What institutions and entities have an important participation in the administration

of resources and the provision of services directed at combating the AIDS epidemic?
- What mechanisms do financial agents and health care providers regularly use to obtain financial resources?
- How do government, external cooperation agents, businesses and households take part in the transfer of resources to service providers that promote prevention or care for patients with AIDS?

The identification of key agents does not limit those who participate as sources of financing or service providers; other agents of importance for the study are those that:

- **Control the access to sources of information**: Central Bank, Statistics Institute, Ministry of Treasury (or Public Finance), financial entity of the Ministry of Health or Health Secretariat.
- **May contribute with the validation, analysis and interpretation of the data**: In addition of the previous agents, this may add: researchers, health policy analysts, officers in the national STD/HIV/AIDS program, representatives from organizations providing preventive services or caring for people with AIDS (Figure 5).

Figure 5. Key agents that may be identified in each country

Institutional agents assigning resources for addressing AIDS	Large or networked health service providers	Agents representing users or networks or social support
Agents overseeing public expenditures and expenditures by non-profit entities	Agents controlling income from external sources	Agents researching public expenditure, health expenditure and AIDS impact, etc.

1.3. Characterization of Financial Flows

The first phase, called Organization and Setup, serves the purpose of reducing limitations in access to information by considering entities and their relations as concerns the flow of resources to face HIV/AIDS.

It is recommended that a table be prepared that approximates the figures of financing and expenditures for HIV/AIDS. The starting point, identify sources of financing for HIV/AIDS in the country (table 1.4). The table has a generic classification, according to the OECD National Health Accounts system; however, with available information, the right column must be filled with the names of the appropriate entities in the country. Some of these entities are institutional, and that means that their administrative and accounting records may have information about disbursements they have performed. Other kinds of institutional entities pose the problem of being very numerous. It is necessary to determine if there is any kind of collective representation of such entities and whether financing is distributed to this group according to the 20%-80% proportion, where 20% of organizations perform 80% or more of the contribution to this kind of source; such distribution is not rare, and it allows the orientation of efforts towards organizations with the most of the information.

Increasingly in more countries the STD/HIV/AIDS control programs have established coordination among public, private and non-government organizations that perform activities against AIDS. If this is the case it will be simple to obtain a list of these entities. To this end, it is convenient to transfer the list of

organizations involved in fighting against AIDS to the matrix of industries providing health services based on the OECD system of national health accounts (Table 1.5).

This first draft will help the organization of the study, suggesting ways to divide the task and the kind of available institutional records (sources of information) about origin, destination and mechanisms for monetary transfers between sources and service providers.

Table 1.4. Sources of financing to HIV/AIDS Activities

Type of source	**Entities**
Public Sources	
Central governments	
State and municipal government	
Social security funds	
Private Sources	
Private social security funds	
Private insurance (if AIDS is covered)	
Non-profit organizations	
Households (out-of-pocket)	
Businesses (non health)	
External Sources	
Multilateral Agencies	
Bilateral Agencies	
Private Entities	

Table 1.5. Identification of Service Providers on HIV/AIDS

Type of provider	**Entities**
Providers of personal health care services	
Providers of therapeutic services:	
Hospitals	
Ambulatory care centers	
Medical, dental or psychological offices	
Alternative care providers	
Ancillary services providers:	
Laboratories and diagnostic centers	
Other providers of ancillary services	
Providers of personal goods:	
Drugstores	
Other providers of medical goods (including orthopedic equipment and other equipment for personal use)	

(Continues)

Type of provider	Entities
Providers of public health services	
STD/HIV/AIDS control programs	
Promotion and Prevention	
Social security entities	
Health insurance providers	
Other social insurance entities	
Private health insurance companies (if HIV/AIDS is covered)	

Using a strategic planning approach, alternate routes to data integration may be identified, but this requires a characterization of transfer mechanisms from one agent to another:

- **Relations** between public and private entities, as well as national and external agents. For example: from external sources to public agents, from private sources to private agents, from public sources to private agents; from private agents to public providers, and others.
- **Mechanisms** for the transfer of resources: transferences for self-benefit or benefiting others, prepaid or direct payment, compulsive or voluntary. For example: allocation of public monies, donations, fees, direct out-of-pocket payments, insurance premiums, expense reimbursements, and others.

The characterization of flows may be done in tabular or graphic form; frequently both forms are useful. It is recommendable to start with a table showing sources and providers, as well as transactions* allowing resource transfers (Table 1.6.).

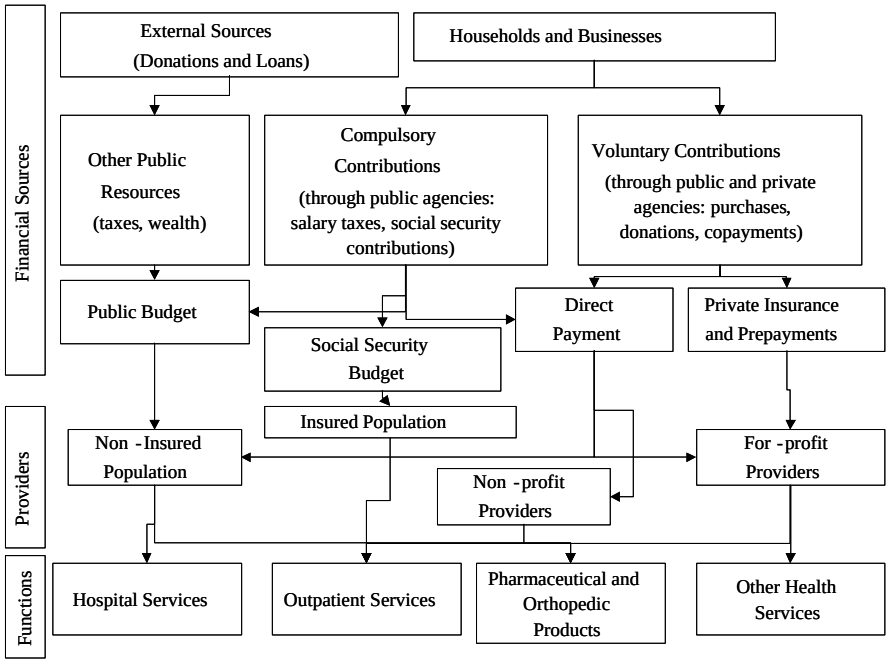
Table 1.6. Example of a table for the presentation of transactions between sources of financing and service providers

Sources	Providers	Transaction

* A discussion of financing mechanisms is included in the Introduction to this Handbook. See table II and section "Flows of Financing and Expense in Health".

The following illustration, taken from Poullier JP y Hernandez P (WHO, 2000), shows a scheme for financial flows in a health system, that may be adapted to the financing destined to HIV/AIDS.

Figure 6. Main Flows of Financing for Health (Example)



Although diagramming flows may appear simple, some components are hard to quantify: out-of-pocket household expenses, resources captured by for-profit providers and decentralized expenditure (especially elusive in federated republics). An appendix about these areas of greater complexity is included within this manual.

1.4. Surveying Interest among Key Players

There are major difficulties in estimating expenditures in HIV/AIDS when key agents identified in step 2 are not involved early on. These agents lend viability and feasibility to the study, and contribute to the interpretation and application of results. Preliminary information prepared as technical arguments with policy implications may serve to involve and mobilize agents who can aid access to information sources; agents of interest as users of the results of the study, and agents that can mobilize

resources (human, logistic, financial) to perform the study and disseminate its results.

- **Health authorities** must know about the study, its purposes, expected products and the contribution and support required from institutions.
- Representatives of **external financial agencies** that provide technical and economic support in the fight against AIDS must also be informed and encouraged to provide support to the initiative. These agents play a variety of roles, because they have records of transfers, they use this kind of information and, additionally, they may contribute technical expertise and financial aid to the National HIV/AIDS Accounts.
- NGO coordinating agencies and sectors against AIDS, country AIDS thematic groups may favor communication about this initiative and help to obtain support from other institutions. Occasionally there is some resistance by non-profit organizations and private practitioners that limits the flow of information, especially if it will end in the hands of the public sector. Therefore, it is convenient that the working group address doubts and establish guarantees proper use and confidentiality of the information. The organizing group may present a draft informed consent form that may be signed by representatives of the entities, which details the information to be provided and the limits and confidentiality to be observed in the use of the names of such entities within partial and final study reports.

These exploratory visits also offer an opportunity to promote a multi-institutional meeting at which the study will be formally launched, and determine the best moment for to do so.

1.5. Launching the Study

After surveying interest among key players, it is convenient to invite them to present the objectives of the study, its scope, requirements of support, and the importance that each sector name representatives that may ensure access to data and participation in data interpretation activities. This activity will benefit from having the backing of health authorities and representatives of international cooperation agencies, public and private service providers, and self-help organizations, among others.

The program to be covered should be publicized from the start, preferably by health sector authorities, including a presentation of the National Health Accounts, should they be available, and the purpose, justification and expected results of the current study. A presentation of background findings and a characterization of **resource flows** should also be presented. Preferably, this should include data about the **public sector** expenditures for the prevention and treatment of AIDS. Such openness to share data will reflect the willingness to exchange information and minimize other agents' reservations.

Although at this time the research protocol will not be ready, it is important to define tentatively the length of each phase, so that participants at the meeting may know when their cooperation will be required. The detailed protocol will have a more precise schedule, once the available level of support has been determined and possible bottlenecks identified.

It is expected that at this meeting, participants will express their commitment by appointing institutional focal points/representations that will contribute to the improvement of research instruments, the collection of data and facilitate the access to the data.

Further Readings

Given the nature and purpose of this handbook, the information presented in this module is primarily oriented towards action. However, a list of suggested readings is included for those wishing to expand their knowledge of the technical subjects discussed.

Data (epidemiological, program and financial) selection and analysis

UNAIDS. Reaching regional consensus on improved behavioural and serosurveillance for HIV: report from a regional conference in East Africa. UNAIDS Best Practice Collection. Geneva, 1998. In PDF format on the UNAIDS website: http://unaids.org/publications/documents/epidemiology/determinants/una98e9.pdf

SIEGEL G (1996). Policy Development and Advocacy in Three Central American Countries: Lessons Learned. WP1. AIDSCAP/Family Health International/USAID.

AIDS cost and socioeconomic Impact studies

Izazola Licea JA (ed). AIDS in Latin America and the Caribbean: a multidisciplinary view. FUNSALUD/SIDALAC/UNAIDS, 1999.

UNAIDS/WHO. Level and flow of national and international resources for the response to HIV/AIDS, 1996-1997. Joint United Nations Programme on HIV/AIDS (UNAIDS). World Health Organisation (WHO), Geneva, 1999. Available in PDF format on the UNAIDS website.

National Health Accounts studies

PARTNERSHIP FOR HEALTH REFORM PROJECT (1998). National Health Systems: Abstracts of National Eight Studies in Latin America and the Caribbean. Technical Report No. 21. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

POULLIER P-J and P HERNANDEZ (2000) Estimates of National Health Accounts (NHA) for 1997. GPE Discussion Paper Series: No. 27. EIP/GPE/FAR. Geneva: World Health Organization.

RANNAN-ELIYA RP (1997) Egypt National Health Accounts 1994/95. DDM Project / Harvard School of Public Health/USAID y Ministry of Health/Arab Republic of Egypt. Available in PDF format at: http://www.hsph.harvard.edu/Ihsg/publications/pdf.

Average and marginal costs

SCHEIFLER, Xavier. Economic Theory: microeconomy. Ed. Trillas, XIV print, Mexico, 1987.

Health Accounts classifications (OECD)

OECD Health Policy Unit (28-01-2000). A system of Health Accounts for International Data Collection. OECD: Geneva. Available in PDF format on the OECD website: http//www.oecd.org/els/health/sha/SHA_1.PDF; SHA_2.PDF; SHA_3.PDF.

Institutional websites that publish financial and statistical data sorted by country:

IIADB: http://www.iadb.org

PAHO: http://paho.org

SIDALAC: http://www.sidalac.org.mx

UNAIDS: http://www.unaids.org

WHO: http://who.int

Phase 1 Verification Sheet

✓	Review of Activity / Result	Comments
	1. Accurate and updated information about the magnitude, trends, distribution and composition of the epidemic.	
	2. Identification of the main social agents involved in the response to HIV/AIDS, their target groups and types of activity / service.	
	3. There is a graphic representation of financial flows in the health sector, including sources, agents and health service providers.	
	4. The main financial sources and the providers of most economic significance in the health sector have been identified.	
	5. A series of presentations and interviews with key actors has been conducted to determine their interest in the estimation of financing and expenditures in response to HIV/AIDS.	
	6. Interest and a commitment have been generated in agents through a multi-institutional invitation backed by the health authorities for the formal launching of the study.	

MODULE 2
PLANNING THE STUDY

Objectives

After using this module, the national AIDS-NHA team will be able to:
- Identify an efficient strategy for the execution of the estimation;
- Adapt research formats to the national context
- Select collection, processing and analysis techniques best fitting national conditions;
- Program the time-line for the study's execution.

Introduction

In planning the study its design is to be adjusted to the methodology, activities are programmed, and the resources for its execution are calculated. The previous phase, of organization and setup, contributed to define the scope and limits of the study and to provide information about the resources that may be mobilized. Planning the study leads to implement the strategy to capture the trustworthiest data relevant to the country.

The process begins with a review of categories, classification, matrices and indicators for the study, directed at doing the necessary adaptation of the country's terminology to the generic protocol, and make sure the same methodology is applied to every country, for comparison purposes among others. Additional aspects of interest to the country may be obtained without distorting the study. Once the data set to be collected is defined, potential sources of information must be identified, and access and trustworthiness of data from these sources assessed. According to this, the sources to be used in the study are finally selected. Each source has its own characteristics, requiring adaptations of the research technique to be applied in each case to collect and test the data. These decisions will lead to the revision of the data collection instruments, processing mechanisms, analytic activities and circumstances for the interpretation of findings.

Programming the study will imply quantifying the duration of its stages in a time table, according to the strategy and the activities for processing and analyzing data. It is also important to include dissemination and promotion activities with special emphasis on policy planners and designers and health services managers. The program should also identify inputs for each stage and specify responsibilities for their execution. These elements will translate into budget requirements and research items.

The plan may be integrated once all the options have been evaluated, the methodological decisions were made and the budget performed. The main purpose of this document is to guide and coordinate the field work and to define the commitment for each organization providing backing as well as technical and financial support to the study.

This module describes the steps for planning the study and suggests some criteria to aid decision-making. However, it is important to take into account that the project will constantly be challenged by difficulties emerging in the practice and in face of which the capability to act with flexibility are crucial, given that fieldwork continuously requires adapting tactics to the prevailing conditions.

2.1. Adapting Categories and Indicators

In the same manner as the National Health Accounts System is framed within the National Accounts System (that addresses all the economy), the National HIV/AIDS Accounts does relate to the categories, accounting principles, indicators and the matrices of the National Health Accounts. This methodological design allows a structure that is applicable to the majority of countries. However, there are differences in the health system and in the accounting terminology within and among countries that makes necessary reviw of the categories for the national context where the study is developed. It is important to notice equivalencies in definitions to ensure international comparability.

The classification of the health service functions, service provider industries, financial sources and human groups covered is based on international agreements registered in the OECD National Health Accounts (included in the Appendix of this module). However, given the peculiarity of the STD/HIV/AIDS epidemics and its programmatic response by the health systems, adaptations and classification proposals have been made.

Additionally, the task force that reviews categories, indicators, matrices and STD/HIV/AIDS accounting data must consider this as an opportunity to collect information about the epidemic that may be relevant to the country. For example, expenditures in political dialogue activities are not strictly a part of health care expenditures. However, if it is of national interest to gather this datum, it should be included in the collection forms, and the result will be added as a memorandum item below the total HIV/AIDS expenditure line. The fact that some categories may not be included in the definition of health functions should not prevent the country from collecting that information, specially when it is relevant for the program's strategic management.

Expenditure Classification according to Health Functions

In the National Health Accounts System the total expenditure classification includes two major categories: current expenditures and capital expenditure.

Current expenditure is the sum of expenditures incurred in providing and administrating health services. It is divided in two: a) *Personal health services expenditures* including all "private health goods", such as services benefiting specific individuals directly; and b) *public health expenditures*, including preventive and public health activities, as well as health administration and health insurance.

Capital expenditures covers the incorporation of goods to an entity, depreciation excluded. These include infrastructure, equipment and furnishings by providers of HIV/AIDS services.

There is a set of elements external to the strict definition of health expenditure, but they are related to the sector's activities, classified as **memorandum items**, they can be accounted optionally, without affecting the total health expenditure.

Estimating the National HIV/AIDS Accounts requires a great detail about the services provided. This level of detail is consistent with the National Health Accounts System. Table 2.1 shows in detail the items related with the STD/HIV/AIDS services directed to prevention, treatment and administration. Given the growing importance of expenditure in activities to confront AIDS which are not strictly part of the health expenditure, the memorandum items are also included in the total estimates.

Table 2.1.Functional Classification of Health Services in Response to HIV/AIDS

Total health expenditure
Current expenditure
Personal Health Expenditure
Therapeutic Services
- Hospital Care
- Ambulatory Care
- Home Care
- Long Term Nursing Care
Ancillary Services
- Diagnostic Tests
- Monitoring of patients on Anti-retroviral Therapy (ART)
- Patient Transfer
Non-durable Goods
- Anti-retroviral medication
- Other medication (Prophylaxis, STD treatment)
- Other non-durable goods
Durable Goods
- Orthetic and prosthetic devices and other equipment for personal use
Public Health Expenditure
Public Health Services
- Epidemiological surveillance
- Information, education and communication
Preventive Programs
- Condoms
- Syndromic STD treatment
- Perinatal prevention
- Syringe distribution
- Blood banks safety
Administrative Expenditures
Administrative expenditures
Capital expenditures
Infrastructure
Equipment
Memorandum items
Personnel Training
Research and Development
Administration and provision of social security to people living with AIDS (non-health care; mitigation)
Administration and provision of financial benefits to people living with AIDS
Organization and empowerment
Advocacy

Expenditure Classification by Provider

The classification of service providers is based on a functional criterion, rather than an institutional one; in other words, the type of establishment is defined by its interventions and complexity level, not by the sector (public, private or non-government) to which it belongs. The national health accounts system scheme differentiates direct care providers, ancillary services, medical goods and administration/insurance, in such a detailed way that might exceed the classification required by the National HIV/AIDS Accounts. However, the detail of providers must be kept during the data collection, in order not to discard types of providers that, although not expected, might show up in the provision system.

The classification by type of provider in the OECD national accounts system is related to the types of service (see Appendix 2.2); it is likely that the health care providers in some countries may belong to more than one of the provider industry categories. Therefore, the classification applied to a provider corresponds to the main good or service being offered.

Notice that the classification in Table 2.2 "social security and other insurance providers" appear as providers of financial services and not as providers of direct care, or support services of medical goods. Social security establishments that conduct these activities must be quoted according to their classification as health providers, even if they are separated as social security institutions.

The provider classifications, besides relating to the type of service, reflect the level of complexity. In the OECD National Health Accounts System entities for the prevention and control of diseases are relatively hidden, whereas treatment of diseases is minutely detailed. To characterize the response to AIDS, the public health program provision and administration has been detailed to include promotion and prevention organizations.

Table 2.2 Functional Provider Classification

Providers of personal health services
Providers of therapeutic services
• Hospitals
• Ambulatory care centers
• Physicians' offices
• Alternative care providers
Ancillary services providers
• Laboratories and diagnostic centers
• Other providers of ancillary services
Personal health goods providers
• Drugstores
• Other providers of medical goods (including orthopedic equipment and other durable equipment for personal use)
Providers of public health services
• STD/HIV/AIDS control programs
• Providers of promotion and preventive services
Providers of health insurance
• Social security entities
• Other social insurance
• Private health insurance (if they cover HIV/AIDS)

Given that users of the study will most probably use results according to their institutional affiliation, it is convenient to order information according to the institutional provider classification (Table 2.3).

Table 2.3. Provider Classification by Institutional Affiliation

Public sector providers
- Central government establishments - Establishments from autonomous and decentralized entities - Social security establishments
Private sector providers
- Non-for-profit organizations - For profit private providers
External sector providers

Classification by Financing Sources

According to the national health accounts system, economical resources may come from a public, private or international source. These broad divisions are subdivided, for the case of public expenditure, into direct government funding and social security funding. The private sector includes a diversity of entities, ranging from social and private forms of insurance, direct out-of-pocket expenditure by households, non-for-profit organizations to expenditures by businesses (excluding insurance).

In developing countries external sources include transfers from non-reimbursable international cooperation agencies. **Loans are classified as a governmental source**, given that it is the government that makes use of debt to finance activities against HIV/AIDS. In this case the external financial agency is a source for the national source.

Table 2.4.Classification of Financial Sources in response to HIV/AIDS

Public Sources
Central Government State and Municipal Government Social Security Funds
Private Funds
Private Social Insurance Funds Private health insurance (if they cover HIV/AIDS costs) Non-profit organizations Households (direct out-of-pocket payments) Businesses (excluding health services providers)
External Sources
Multilateral Agencies (Agencies from the United Nations System) Bilateral Agencies (Official Development Agencies) Private Entities (Private Voluntary Organizations – PVOs-)

Classification by Target Group

Although there are many possible ways to classify clients, in the classification of preventive AIDS expenditures it is important to differentiate expenditures applied to general population from expenditures directed to specific groups. Specific groups may be included in two classes:

Core groups: these are specific groups of individuals who practice risk behaviors and limited access through the general population strategies; this lack of access to preventive services is a consequence of stigmatization, prejudice and discrimination.

Accessible groups: these are groups whose conditions may expose them to risk of infection by their contact with the core groups. In other words, they are wider groups where there may be members of core groups that need not define themselves as such to have access to preventive services (table 2.5).

Table 2.5. Classification of Preventive HIV/AIDS Services by Target Group

Target groups
Core Groups
Men having sex with men
Commercial sex workers
Injected drug users
Accessible Groups
Children at risk of vertical transmission
Temporary migrant workers
Prison inmates
Armed and Police Forces

Economic Classification of the type of Expenditure

Objects of expenditure are all the elements serving as inputs to the production of goods and services for STD/HIV/AIDS. Generally they are identified as budget line items. The classification of expenditures presented underlines items that, within the global health budget, are normally implicit in other categories. The broadest expenditure groups are:

- **Personal services**: all payments to permanent and temporary personnel, including salaries, fees, social security fees and other payments
- **Materials and supplies**: non-durable or consumable goods.
- **Infrastructure and Equipment**: installations, equipment and durable goods.
- **General services**: services contracted with entities or persons without establishing an employment relation.

Table 2.6. Classification by Object of Expenditure

Objects of expenditure
Personal Services
Health personnel
Other personnel
Materials y Supplies
Medication
Medical and surgical supplies
Condoms
Reagents and laboratory materials
Food
Other materials and supplies
Infrastructure and Equipment
Construction and Remodeling
Medical equipment and furniture
Non-medical equipment and furniture
General Services
Basic administrative services
Consulting and research
Installation and equipment maintenance
Room, board and transportation
Other general services

Classification of the Expenditure by Strategic Program

Some of the Latin American and Caribbean countries have begun a process of convergence upon HIV/AIDS response priorities and are preparing national strategic plans through participatory and consensus-building efforts. This has allowed them to better focus efforts and conduct the application of their plans within the operative programs in each institution. In order to verify progress and limitations it is important to monitor expenditure in strategic programs set up to combat the epidemic. Such programs are a part of the promotion, prevention and treatment of the disease, but stand out as elements of common and necessary surveillance by all the countries. Therefore, it is expected that the results of the national HIV/AIDS accounts estimation will permit reporting and comparison between countries of the finance and expenditure situation in the categories shown in the next table.

Table 2.7. Strategic Program Classification

Strategic programs
Promotion
Information campaigns in the massmedia
Social marketing targeted at specific groups
Prevention in Specific Groups
Commercial sex workers (male and female)
Men who have sex with men
Injecting drug users
Vertical transmission prevention
Blood Bank Safety
Treatment
Anti-retroviral access

The accounting principles, definitions and classifications of the OECD National Health Accounts System may be reviewed in the beta version of the handbook published by the OECD Health Policy Unit, that is available for downloading in PDF format at: www.oecd.org/els/health.

2.2. Selecting Sources of Information

The search for information to estimate HIV/AIDS expenditures must be guided by criteria to select among alternative sources. The most evident criteria address data trustworthiness, validity and economic cost to obtain it. To these criteria, common to all research designs, the criteria of periodicity and legitimacy must be added, which make sense when trying to construct a systematic flow of data that can be integrated to broader accounting schemes, as is the case of national HIV/AIDS accounting

The information about expenditures in HIV/AIDS may be found in the records of financial sources, providers, or independent actors, such as the national statistics institutions, which usually perform socioeconomic and health expenditure surveys.

Table 2.8 presents a list to help data collection on HIV/AIDS expenditures, according to sources of funds. In addition to the sources identified here, other country-specific sources must be sought. The list of potential information sources must be subjected to cross-checking, quality of data, degree of difficulty involved in obtaining it and their applicability to the health arena. This exploration of the quality of each source will serve to define where and with whom contact is established to facilitate data collection. Alternative sources should also be identified, both in the case that information from a given source is not forthcoming, and to contrast and data from different sources (e.g. triangulation method to validate data).

Table 2.8. Sources of Information according to Sector and Specific Service financing Entities on HIV/AIDS.

Sector	Entity	Source
External sources	To the public sector	• Records of external funding of the public sector
		• Budget execution reports from each entity
		• In each external financing agency
	To the private sector	• In each external financing agency
		• In receiving entities (e.g. non-for-profit organizations)
Public expenditure	Government	• Budget execution reports from entities executing HIV/AIDS programs in the Ministry of Health
		• Budget execution reports from entities executing HIV/AIDS programs in decentralized units
		• Budget execution reports from entities executing HIV/AIDS programs in special programs (essential drugs, trust funds, etc.)
	Social security funds	• Budget execution reports from medical care programs (specifically STD/HIV/AIDS in social security institutions)
		• Reports of services contracted for HIV/AIDS patients
Private sector	Non-for-profit organizations	• Budget execution reports from the largest organizations in each main type of provider / service function
		• Reports on resources channeled towards HIV/AIDS non-for-profit organizations by external agencies
		• Reports on resources channeled towards HIV/AIDS non-for-profit organizations by government sources
	Health insurance	• Reports on services provided and claims for HIV/AIDS coverage from private insurance and private social insurance
	Businesses	• Business survey by type of productive branch
	Households: out-of-pocket expenditures	• HIV/AIDS service provider survey
		• Pharmaceutical sector: importation and expenditures on condoms, anti-retroviral medication and other medical supplies related to prevention and treatment
		• Secondary source: Home health expenditure surveys
		• Interviews with people living with HIV/AIDS
		• Expert estimates: providers and activists from HIV/AIDS self-help organizations

2.3. The Data Collection Strategy

Once the categories have been adapted to the country and the sources of information have been selected, the resources required for an efficient and effective data collection must be determined.

It is convenient to remember that at this point there should exist an inter-institutional team that can help to identify opportunities and means for the data collection. It is important that the team approves the sources of information and that commitments and agreements be established for access to information.

Key aspects in the data extraction phase

- The data collection forms must reflect the matrix approach used in National Accounting: if the data are returned as simple

frequencies it will be very difficult to perform cross-analyses, later on.

- It is advisable that personnel from administrative and financial units in the main data providing entities be involved in the data collection.
- One person must be in charge of the research process with sufficient time to devote to the project.
- It is convenient to inform and involve whoever has been delegated to the inter-institutional team; such person might turn out to be crucial for the fluidity of the process.

Operationalization Table

To summarize several of the previous steps it is convenient to prepare an operationalization table identifying, for each set of data, the sources of information that will be addressed the technique to be used and the title of the form or data collection instrument. This table shows how the needs for data will be addressed, how many forms must be prepared, and what entities must be contacted. An example of the format for the operationalization table is shown in Table 2.9.

Table 2.9. Operationalization of the Fieldwork

Data set	Source (Name of the entity, address, telephone number and person(s) to contact)	Collection Method	Instruments	Person in Charge
Central government expenditure				
Regional / state / provincial expenditure				
Social security expenditure				
Expenditures by non-for-profit organizations				
Expenditures by private insurance				
Expenditures by private establishments				
Out-of-pocket household expenditures				
National prevention and control program expenditures				
External financing				

Instrument Design

Forms for the collection of data should clearly state the institutional source of the study and the objectives to be served with the required information. They should also include a space for comments, both from the respondent and the interviewer.

For the purposes of the data collection to estimate national HIV/AIDS expenditures, the forms should have four main sections:

1. **Identifying information**: This includes information about the entity (name, address, telephone number, e-mail address), from which data are being collected, and information about the contact person providing the information. In the case of forms for the collection of documentary information, this section should contain a space for the reference of the source document. A key part of the identifying information includes the entity's mission and objective, as well as the type of institution it is, according to the functional and institutional classifications

2. **Data about services in response to AIDS**. As part of the institutional characterization, it is necessary to include in the form a section with the classification of services in response to HIV/AIDS, indicating which services the entity offers and the volume of these. Additionally, the target group must be stated, or if services are directed at the general population (table 2. 10).

Table 2.10.Type of service and volume registration form

Type of Service	Volume Produced		Main Target Group
	1999	2000	
(This column must contain the classification of types of service)			

3. **Data about the origin of resources**: whether the organization offers services or is a source of funds, this section in the main part of the instrument will record the sources of the funds destined by the entity to HIV/AIDS. This section may include two tables, one for each year under study (e.g. 1999 and 2000). The main column of the table will include the classification of financial sources. It is important to record the monetary unit used to record numbers in the table; national currency units should be used whenever possible, but applicable exchange rates to US dollars for the periods under study must be clearly started.

Table 2.11. Funds received by financial source and year form

Type of Financial Source	**Entity**	**1999**	**2000**
(This column must include the classification of financial sources)			

4. **Data about the destination of resources**: The format applied to the financial sources, the destination of funds by provider and type of service must be inquired. If the sources of funding do not have the necessary details about the services, at least a form detailing funds destined to each of the strategic programs – according to the previously presented classification – should be filled. If the form is destined to providers, data will specify the relation between service function and objects of expenditure. A format must also be included relating funding by type of service and target group.
5. **Additional data**: This section should include comments from the interviewer and interviewee. Some explanations about changes in patterns of expenditure in an entity may not be inferred from quantitative data, so these notes should be saved and systematized, in order to have them at hand during the interpretation of findings.

Period under study

Once decisions have been made about where information will come from, who will collect them, and the methods and instruments, the inter-institutional team must be acquainted with the procedure. Comments and modifications suggested by the group will be incorporated at this point, in order to have a validated set of data collection forms.

Decisions must be made about the period under analysis, that is, whether information about HIV/AIDS expenditures will be collected for one or more years, and which these will be. In the context of this initiative, the intent is to gather information for 1999 and 2000. It is convenient to collect information about more than one year, which permits an evaluation of changes occurring in financial flows over time and the composition of expenditures. Each country must consider the possibility of collecting information about previous years, in order to extract a greater benefit from the data collection effort.

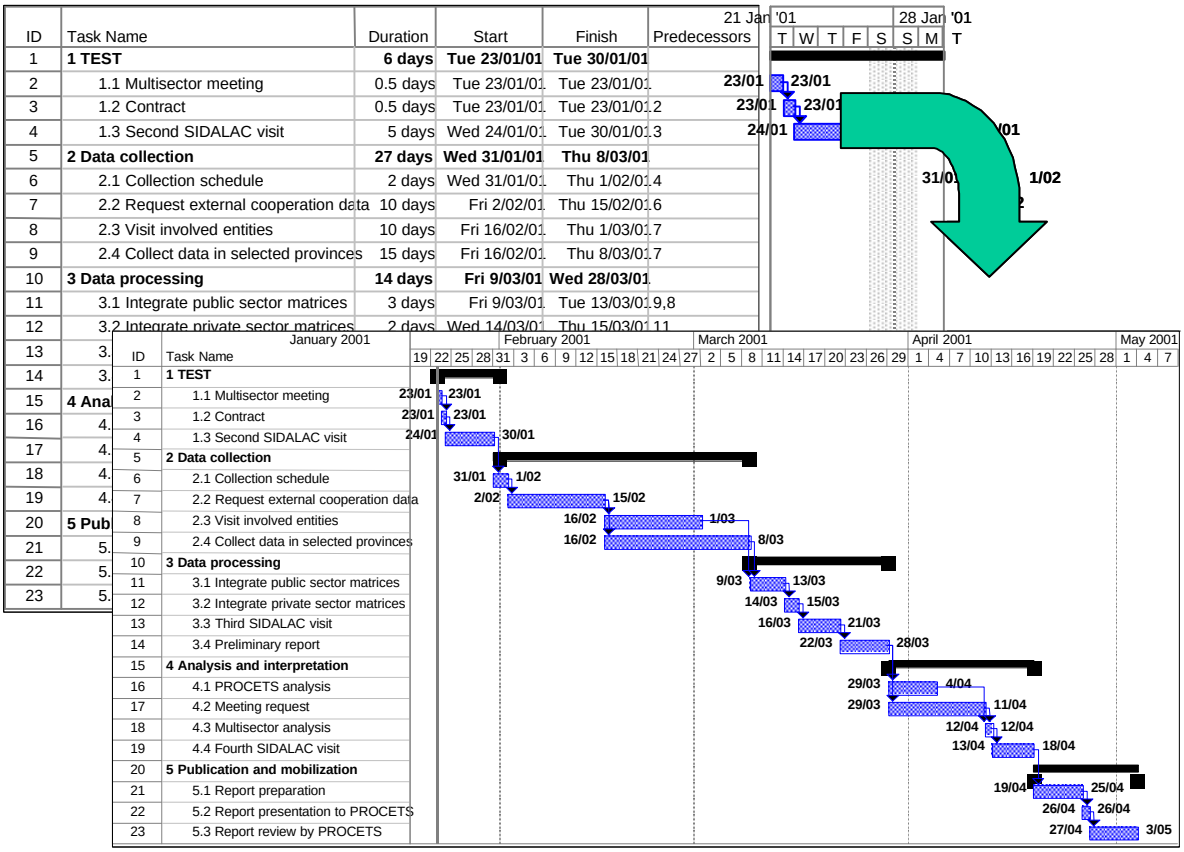
The final decision about the study period may be made once the availability of resources for the study, the access to information and quality of sources, and logistic aspects of the collection strategy have been pondered.

2.4. Programming the time-line of the study

In module 1 (organization and setup) the duration of the study and commitments to data presentation were broadly defined. In this step the study's activities are defined with greater precision and, considering available resources, their duration is specified. The project's milestones, as well as the activities linking these may be presented either in table or graphic forms. Software programs exist that greatly simplify the programming of activities.

Figure 7 shows a time-line table detailing activities for each phase of the project, the expected duration of the activities, the start and end dates and the participants / people in charge. This table permits the construction of a Gantt chart depicting the interrelation between activities.

Figure 7. Project activity program



ID	Task Name	Duration	Start	Finish	Predecessors
1	**1 TEST**	**6 days**	**Tue 23/01/01**	**Tue 30/01/01**	
2	1.1 Multisector meeting	0.5 days	Tue 23/01/01	Tue 23/01/01	1
3	1.2 Contract	0.5 days	Tue 23/01/01	Tue 23/01/01	2
4	1.3 Second SIDALAC visit	5 days	Wed 24/01/01	Tue 30/01/01	3
5	**2 Data collection**	**27 days**	**Wed 31/01/01**	**Thu 8/03/01**	
6	2.1 Collection schedule	2 days	Wed 31/01/01	Thu 1/02/01	4
7	2.2 Request external cooperation data	10 days	Fri 2/02/01	Thu 15/02/01	6
8	2.3 Visit involved entities	10 days	Fri 16/02/01	Thu 1/03/01	7
9	2.4 Collect data in selected provinces	15 days	Fri 16/02/01	Thu 8/03/01	7
10	**3 Data processing**	**14 days**	**Fri 9/03/01**	**Wed 28/03/01**	
11	3.1 Integrate public sector matrices	3 days	Fri 9/03/01	Tue 13/03/01	9,8
12	3.2 Integrate private sector matrices	2 days	Wed 14/03/01	Thu 15/03/01	11
13	3.				
14	3.				
15	**4 Ana**				
16	4.				
17	4.				
18	4.				
19	4.				
20	**5 Pub**				
21	5.				
22	5.				
23	5.				

ID	Task Name
1	**1 TEST**
2	1.1 Multisector meeting
3	1.2 Contract
4	1.3 Second SIDALAC visit
5	**2 Data collection**
6	2.1 Collection schedule
7	2.2 Request external cooperation data
8	2.3 Visit involved entities
9	2.4 Collect data in selected provinces
10	**3 Data processing**
11	3.1 Integrate public sector matrices
12	3.2 Integrate private sector matrices
13	3.3 Third SIDALAC visit
14	3.4 Preliminary report
15	**4 Analysis and interpretation**
16	4.1 PROCETS analysis
17	4.2 Meeting request
18	4.3 Multisector analysis
19	4.4 Fourth SIDALAC visit
20	**5 Publication and mobilization**
21	5.1 Report preparation
22	5.2 Report presentation to PROCETS
23	5.3 Report review by PROCETS

2.5. Budgeting

The study's program defines the amount of personnel needed (paid or unpaid) and the amount of time for their involvement in the various stages of the study. The program also defines events, their duration and number of participants, among others. The definition of the number of institutions to be visited, their location and types of forms required serves as a basis for the definition of supplies required. All these data will be used to calculate the study's budget.

Estimating personal services

Programming the study allows the identification of activities, their duration and the participating personnel. With this information a table may be prepared with an estimate of expenses for personnel. Specifying the type of personnel, the time units and the cost per unit it is possible to obtain the cost for each type of personnel. The sum of these costs is the project's budget line item cost for personal services.

The following table shows some details of the personnel budget. The measurement unit (month, day, and form) may vary according to the type of personnel. The cost of personnel that belong to the institution, that is, those who will not be contracted for the study, should be included in order to know the total cost of the study. The cost of personnel contracted specifically for the study should be included in a column detailing additional resources required to finance the study.

Table 2.12. Personal services budget calculation for a NHA-AIDS project

Personnel	Unit of Measure	Cost per Unit	Units Used	Total Cost	Additional Resources
Project Coordinator	Month				
Main Consultant	Day				
Analyst	Month				
Field worker	Form				
Data analyst	Form				
TOTAL					

Estimating materials

Expenditures in supplies and other materials include specific inputs for each stage of the study, as well as some supplies used during the entire project. Materials must include office supplies, computing supplies, audiovisual materials and form and report duplications, among others.

As in the previous case, some materials may be covered by the study's executing agency, but should be included in the budget; the cost of additional materials should be presented in a separate column.

Non-personal services and transportation expenses

Services such as material copying, telecommunications and hotel services (for participants in functions organized by the study) should also be included in the budget. Expenditures for food, board and transportation for fieldwork should be calculated according to the number of days in the field. Each entity has its own requirements concerning such expenses. As in the previous cases, in addition to the total cost column, a separate column should show the resources required in excess of those available to the executing institution.

Consolidating the budget

The budget summary must present a clear synthesis of total expenditures required by the project, as well as detailing the additional resources required for each budget item line. It is convenient to detail the percentage of the total budget required by each item line beside the numbers detailing the budget in monetary units.

2.6. Consolidating the study program

At this point, it is possible to draft the research design, putting together the inputs obtained in the previous steps of this phase, and some from the previous phase.

The study's **background** was to be compiled and summarized as the first step of the organization and setup phase. During that same phase, the identification of key agents, the survey of interest and the formal inauguration of the study all constituted opportunities to state, complement and write up the justification of a study of expenditures oriented at dealing with HIV/AIDS. Some of the purposes and results expected from a national HIV/AIDS accounts study are detailed in the introduction to this handbook; each national team may adapt and complete these with the **objectives** that may be of interest to the country.

The operationalization, the purpose of the study, its variables, dimensions and data were

discussed in the first step of the protocol formulation phase; these are inputs for the preparation of a chapter about **stating the problem**. This chapter will be useful to establish some decisions about the scope of the research:

- The period of the project will be part of the temporal definition;
- The way in which decentralized and out-of-pocket expenditures will be estimated, for they both need good documentary sources or an adequate budget for the capture of primary data.
- The conceptual delimitation of the term "HIV/AIDS expenditures" or "STD/HIV/AIDS expenditures": strictly as health expenditure, or as a more broadly encompassing concept.

Choosing information sources and the elements of the collection strategy are an important part of the **Methods**. A specification of the data processing, analysis and interpretation procedures (modules 4 and 5) must be added. The Work Plan has been prepared in step 4 of this phase, and the Budget in step 5.

The research protocol serves to favor communication among participants in the execution of the study and, as a document, it is a first approximation to the text of the research report.

Appendix 2.1. Classification by Health Functions from the OCDE National Health Accounts System

HC.1	**Curative care services**
HC.1.1	**Hospital care**
HC.1.2	**Day care services**
HC.1.3	**Ambulatory care**
HC.1.3.1	Basic medical care and diagnostic services
HC.1.3.3 (2)	Specialized ambulatory care (dental)
HC.1.3.9	Other ambulatory care
HC.1.4	**Home care**
HC.2	**Health rehabilitation services**
HC.2.1	Hospital rehabilitation services
HC.2.2	Day care rehabilitation services
HC.2.3	Ambulatory rehabilitation care
HC.2.4	Home rehabilitation care
HC.3	**Long term nursing care services**
HC.3.1	Long term hospital care
HC.3.2	Long term day care
HC.3.3	Long term home nursing care
HC.4	**Ancillary health care services**
HC.4.1	Clinical laboratory
HC.4.2	Imaging diagnostics
HC.4.3	Patient transportation and emergency rescue
HC.4.9	All other miscellaneous ancillary services
HC.5	**Medical goods offered to ambulatory patients**
HC.5.1	**Drugs and non-durable medical supplies**
HC.5.1.1 (1-2)	Drugs
HC.5.1.3	Non-durable medical supplies
HC.5.2	**Orthopedic equipment and other durable goods**
HC.5.2.1	Glasses and other eye-care products
HC.5.2.2	Orthopedic and prosthetic equipment
HC.5.2.3	Orthesis (hearing)
HC.5.2.4	Technical-medical equipment, including wheelchairs
HC.5.2.9	Other miscellaneous durable goods
HC.6	**Preventive and public health services**
HC.6.1	**General health protection and promotion**
HC.6.1.1	Nutrition programs, dietary supplements
HC.6.1.2	Prevention and control of accidental and violent injuries
HC.6.1.3	Prevention of addictions
HC.6.1.4	Surveillance and general security programs
HC.6.2	**Promotion and protection for specific population groups**
HC.6.2.1	Maternal and child health, reproductive health
HC.6.2.2	Adolescent and school-child health
HC.6.2.3	Oral health
HC.6.2.4	Occupational health
HC.6.2.5	Security and health promotion through lifestyle, including recreation and sports
HC.6.2.6	Prison health services

HC.6.2.7	Detection and rehabilitation of disabilities
HC.6.2.8	Support for the vulnerable elderly
HC.6.2.9	Programs in favor of gender equity and ethnic minorities
HC.6.2.10	Emergency support and refugee programs
HC.6.2.11	Mental health protection and promotion
HC.6.2.12	Programs for people with mental disabilities (and others)
HC.6.2.13	Programs for mental disorders and chronic depression
HC.6.2.14	Programs to avoid drug and alcohol dependency
HC.6.3	**Therapeutic and rehabilitation programs**
HC.6.3.1	Primary care technology diffusion
HC.6.3.2	Essential drugs and vaccines
HC.6.3.3	Traditional medicine
HC.6.3.4	Rehabilitation programs
HC.6.3.5	Palliative care (for chronic and terminally ill patients)
HC.6.4	**Environmental health promotion**
HC.6.4.1	Sanitation and quality control of water for human consumption
HC.6.4.2	Rural and urban development
HC.6.4.3	Chemical and toxic risk control
HC.6.4.4	Food security
HC.6.4.5	Veterinary programs
HC.6.5	**Disease prevention and control**
HC.6.5.1	Immunization and screening
HC.6.5.2	Control and eradication of selected transmissible and tropical diseases
HC.6.5.3	Action programs against other transmissible diseases (including AIDS and other sexually transmitted diseases)
HC.6.5.4	Interventions against chronic diseases and incapacitating diseases (sensory organ disabilities such as blindness, deafness, cancer, cardiovascular disorders and programs for the control of other diseases)
HC.6.6	**Health Policy Development**
HC.6.6.1	Health planning
HC.6.6.2	Experimental and demonstrative programs
HC.6.6.3	Social protection and safety network development and organization
HC.6.6.4	International health
HC.6.6.5	Other health policy development programs
HC.7	**Health administration and health insurance**
HC.7.1	General government health administration
HC.7.1.1	General government health administration (excepting social security)
HC.7.1.2	Social security administration, operation and support
HC.7.2	Health administration and private social insurance
HC.7.2.1	Health administration and health insurance: private social insurance
HC.7.2.2	Other health administration and health insurance: other private
HCR	**Health-related functions**
HCR.1	Capital formation in health care provision institutions
HCR.2	Health personnel education and training
HCR.3	Health research and development
HCR.4	Food, hygiene and water for human consumption control
HCR.5	Environmental health
HCR.6	Administration and provision of material social benefits to the sick and people with disabilities
HCR.7	Administration and provision of financial benefits associated to health

Appendix 2.2. Classification by Type of Provider from the OCDE National Health Accounts System

HP.1	**Hospitals**
HP.1.1	General hospitals
HP.1.2	Specialty hospitals (mental health and substance abuse)
HP.1.3	Long-term stay centers
HP.2	**Nursing care centers**
HP.2.1	Residences for the mentally retarded and patients with substance abuse
HP.2.2	Community care centers for the elderly
HP.2.3	Other types of residential care centers
HP.3	**Ambulatory care centers (1)**
HP.3.1(1-2)	Medical clinics*
HP.3.3	Paramedical clinics and clinics of other health professionals
HP.3.4	Ambulatory patient care centers
HP.3.4.1	Family planning centers
HP.3.4.2	Outpatient surgery centers
HP.3.4.3	Dialysis centers
HP.3.4.4	All other specialized and cooperative care centers
HP.3.4.5	All other ambulatory community and integrated care centers
HP.3.4.9	Ambulatory care providers (2)
HP.3.5	Medical and diagnostic laboratories
HP.3.6	Home care providers
HP.3.9	Other providers of ambulatory care
HP.3.9.1	Ambulance services
HP.3.9.2	Blood and organ banks
HP.3.9.9	Providers of all other ambulatory services
HP.4	**Providers of goods to ambulatory patients**
HP.4.1	Providers of medication
HP.4.2	Providers of eyeglasses and other vision care products
HP.4.3	Providers of products for audition
HP.4.4	Providers of other medical devices
HP.4.9	Providers of other miscellaneous medical goods
HP.5	**Provision and administration of public health programs**
HP.6	**Health administration and health insurance**
HP.6.1	Government health administration
HP.6.2	Social security funds
HP.6.3	Other social security
HP.6.4	Private security
HP.6.9	Other health administration providers
HP.7	**Other industries (rest of the economy)**
HP.7.1	Establishments offering occupational health services
HP.7.2	Households as care providers
HP.7.9	Other industries providing secondary health services
HP.9	**Rest of the world**

Appendix 2.3. Classification by Financial Sources from the OCDE National Health Accounts System

HF.1	Public health expenditure: general government
HF.1.1	Territorial (central + provincial + municipal)
HF.1.1.1	Central
HF.1.1.2	Provincial / state / regional
HF.1.1.3	Municipal
HF.1.2	Social security
HF.1.9	Other public expenditures
	General government consolidation (territorial + social security + others)
HF.2	Private sector
HF.2.1	Private medical insurance
HF.2.2	Other prepay schemes
HF.2.3	Direct out-of-pocket household expenditures (excluding cost sharing)
HF.2.3.1	Direct out-of pocket household expenditures
HF.2.3.2	Cost sharing: central government
HF.2.3.3	Cost sharing: state / provincial government
HF.2.3.4	Cost sharing: local / municipal government
HF.2.3.5	Cost sharing: social security funds
HF.2.3.6	Cost sharing: private social security
HF.2.3.7	Cost sharing: other private insurance
HF.2.3.9	All other cost sharing
HF.2.4	Non profit enterprises
HF.2.5	Corporation (excluding social security)
HF.3	External resources
HF.4	Refundable
HF.5	Non-refundable

Appendix 2.4. Disease Group Classification from the OCDE National Health Accounts System

CIE10 (1)

CI.11	Infectious and parasitic diseases
CI.21	Neoplasic diseases
CI.22	Metabolic and endocrine diseases
CI.23	Diseases of the blood
CI.24	Mental disorders
CI.25	Nervous system diseases
CI.26	Circulatory system diseases
CI.27	Respiratory system diseases
CI.28	Digestive system diseases
CI.29	Genitourinary system diseases
CI.12	Complications of pregnancy and birth
CI.210	Skin and subcutaneous cellular tissue diseases
CI.211	Muscle and bone system diseases
CI.212	Congenital anomalies
CI.213	Perinatal morbidity and mortality
CI.0	Badly defined symptoms and conditions
CI.3	Accidents, poisoning and violence
CI.9	All other categories

MODULE 3
DATA COLLECTION

Objectives of the Module

Having finished this module, the AIDS-NHA team will have the capacity to:
- Organize data collection
- Train and supervise participants in data collection
- Manage access to the data
- Verify the quality of data collected

Introduction

This module deals with managing the collection of data, within the time and cost constraints and identifies four basic steps to obtain a data set that is complete and of good quality: training field personnel, managing access to information, supervising fieldwork and controlling data quality.

Data collection among major institutions already represented in the inter-institutional group may be less complex than smaller entities, such as non-profit organizations and private service providers (hospitals, clinics). These organizations may have a representative in the inter-institutional group, without guaranteeing that all information is available, that they agree to take part, or that they are reserved about sharing information.

Frequently this depends on the commitment of field personnel, their identification with the study's objectives, their skills in using the research tools and managing their relations with the people who will provide access to the data. Therefore, within this module, special emphasis is given to the individuals who must receive initial information, be supervised during the process and whose products must be reviewed at the end of the fieldwork phase.

3.1. Field Personnel Training

Organizing the process of data collection requires the definition of the distribution of personnel to cover the various aspects of the study's information. Given that each aspect requires specific research tools, it is reasonable that personnel training will place special emphasis upon the content of questions, the matrices and aspects of interest for an observer.

Other aspects must be part of the training process. This should cover at least the following general issues:

- Expected objectives and results expected from the study
- Scheduling of data collection and supervisory activities
- Operational definitions
- Criteria for the presentation of the AIDS-NHA, the sponsoring entity and the fieldworker
- Elements of the research tool: contents and purpose of each one

- Means to pose research questions or, in the case of literature reviews, define information search.
- Recording responses or, in the case of literature reviews, classifying data in matrices.
- Recommendations for an effective ending for interviews or documentation visits.
- Instructions about data form presentations for quality review.

The scope of these contents will depend greatly upon the profile of the fieldworkers. If personnel trained and experienced in health research is employed, emphasis will probably be made on the accounting logic and terminology; however, if it is personnel with training and experience in financial research and analysis, emphasis will be placed on the terms and concepts relating to the natural history, prevention and treatment of AIDS, as well as the appropriate language dealing with HIV/AIDS. .

In any case, it is important to discuss with field personnel the negative consequences that prejudice-laden language, discrimination and/or stigmatization may have upon the study. Results will be much better if the group is given the opportunity to question its own beliefs and opinions, and define with their own ethics the adequate behavior, than simply to lecture the fieldworkers on the political correctness or incorrectness of any given expression.

3.2. Managing access to information

Letters explaining the purpose of the study, its preparatory activities and institutional backing should be sent to authorities before the institutions are visited for data collection. These communications should also specify who will visit the institution and when the visit will be conducted, offering the institution to request changes visit dates.

In the case of public or decentralized entities, these requests for cooperation may be more effective if accompanied by a letter of support from higher authorities. Therefore, the search for information in health ministries or secretariats, social security institutes and other national organizations should be prepared by contacting their higher authorities, requesting their backing to the project and the actual letters of support.

With similar results, albeit through different means, managing information is effective when directed to entities promoting coordination among organizations fighting against AIDS. With the support of people heading these “coordinating entities”, “subject groups” or “sector associations” it is possible to obtain written support for the data requests from private non-for-profit and for-profit prevention and treatment service providers.

Information about international cooperation may be found mostly in international agency coordination centers. At UNAIDS, information may be found about projects, executing entities and the composition of financing sources and recipients. Some countries have forms of “interagency coordination” which may make convenient forums for the presentation of the study and to request access to relevant information.

How much do services offered to people with AIDS by for-profit providers cost? How many people receive AIDS therapy in private practice? How are attention costs structured in these services?

Information-management faces great challenges when trying to establish figures for services and resources in transactions within the for-profit sector. The original design of the

study, having support from a representative from the medical profession on the inter-institutional task force may have information from care providers, yet finding that the access to the data is denied in behalf of the patient confidentiality. In such cases, the option may be to organize a Delphi process, combining questionnaires with discussion groups among private practitioners with expertise in the treatment of HIV patients. A rough approximation combines the follow-up information: 1) **Typical protocol** for each service function, 2) the **number of patients**, covered by each protocol, 3) **average prices**, in the private sectors, in order to estimate the **out-of-pocket expenses** involved in treatment offered by the for-profit sector. In some countries, an alternative procedure may be the combination of *detailed surveys* and *focus groups* in order to determine the patterns of expenditure among HIV infected individuals.

3.3. Fieldwork supervision

It is convenient to include fieldwork activities directed at cross-checking various components of the data collection. Besides determining if the collection of data is achieving the expectations embedded in the scheduled dead lines, contact with field personnel should serve to verify that the information is accurate and the sources and amounts are verified.

Supervision serves at least three purposes (Table 3.1). First, an ongoing process of correcting any mistakes before they are generalized to all collected data. Second, to identify information gaps that are showing up repeatedly. This might make an alternative plan necessary to cover the missing information (an example of this is information about the distribution of human resources expenses by type of service; many organizations don't record the *type of expenditure*, but they may report the *distribution of personnel time*).

A third objective of supervision is to address questions that may require decisions "on-the-go." Thus, field personnel won't be forced to introduce variants that, multiplied by the number of fieldworkers may lead to data heterogeneity.

Table 3.1.Field Supervisor Checklist

✓	*Informants understand the purpose of the study*
✓	*There is a good relation between and within field personnel*
✓	*Access to data has been satisfactorily provided*
✓	*Data registry is clear, complete and consistent*
✓	*Data collection progresses as programmed*
✓	*There are no complaints about field personnel*

3.4. Data quality control

Once data collection has ended it is necessary to meet with each fieldworker and review the data collection tools and the way data were entered or coded. This is an important activity, because any distortion in information is more easily corrected at this point than when outputs from the data processing are received.

Simple inspection of the forms may recognize gaps, blurred or unreadable annotation. Besides this review – important on its own – it is necessary to include in the instruments and instruction books, and to underline in field worker training that there are specific points at which the quality of data will be reviewed. Some elements that facilitate this crosschecking are:

- **The totals and subtotals in the matrices**. The matrices that classify expenditure by type of service and those that do it by type of provider must coincide in their totals. If the organization covers both prevention and treatment (besides administration, capital formation or memorandum items) these various subtotals must coincide among matrices that follow different classification patterns within the same budgeting cycle

- **The relation between services volume and amount of expenditures**. It is convenient to collect resource use data from the entity and the prevision or certification of the services actually provided with these resources. Although this may pose difficulties in specific subjects, in general information about the entity's production must be included, for the division between expenditures and services favors the identification of divergent data in the forms

- **The comparison of categories for different years**. When the study covers more than one period, the comparison among periods offers a means to identify sudden changes in trend. If there are no explanations for such variations, these may be earmarked for a quick telephone assessment that may check the plausibility or credibility of the datum at its source.

After verifying the quality, consistence and sufficiency of the data collected for the needs of the estimation, the processing stage may begin. However, the search for data – including secondary sources – may continue during the analysis and interpretation of findings, in order to complete less accessible aspects of the estimation.

As a part of the collection strategy it is possible and even desirable to involve the institutional counterparts named during the organization and setup phase as data collectors. Supervision will require adaptations in this case, given the reduced concerns surrounding the intrusiveness of field personnel, and their increase surrounding the plausibility of data and progress according to the research schedule.

MODULE 4
DATA PROCESSING

Module Objectives

After using this module, the AIDS-NHA team will be able to:
- Evaluate the consistency of collected data
- Organize and supervise the recording of data
- Integrate NHA matrices and AIDS-NHA matrices
- Identify gaps in information and limitations in data collection

Introduction

The processing of the data may start as soon as the first collected data are obtained. At that point it is important to have already defined the resources and procedures that will be used to organize, review and systematize the information.

The primary recording of data may be done on any worksheet software. Tables for the recording of data should have been previously prepared. The primary worksheets must record the same information as the data collection forms.

Following this, summary worksheets must be prepared within the same workbook as the estimation. It is convenient to prepare a separate summary sheet for each matrix category. For example, in the case of sources, a summary sheet should be prepared for international cooperation, linking information from the primary sheets containing data about international agencies and NGOs that provided information to the study.

Finally, integrating the matrices is the final test of the estimation. Questions, gaps and duplications arise when the various sources of information, each with its own logic for recording, cataloging and consolidating, had not been combined.

Once the matrices have been completed with the available data, close this phase of the research with a list of annotations about issues that do not fit, missing data, and distributions of expenditures that is necessary to perform as part of the interpretation of the data.

4.1.Worksheet preparation

This step includes designing the worksheet file where the collected information will be recorded. The field may be prepared in any of the available software but it is preferable that it be a program capable of managing several worksheets at the same time. Three kinds of worksheets will be used (and must be prepared):

- ***Primary Data Sheets*** (one for each informant): These sheets coincide, in content and format, with the data collection forms. It is necessary to make, within the same file, as many copies of the instrument as entities have been visited. For institutions with many units (such as is the case of Secretariats or Ministries of Health) it is convenient to

prepare an independent file containing, one unit on each of the sheets.

- ***Summary Sheets*** (one for each category): Within the workbook in which the matrix estimation will be done it is necessary to prepare a summary sheet for each of the categories.

What is the typical content of the summary sheets? These have a column for each organization included in the classification (in the previous example, non-for-profit organizations would have three columns, and one column for totals. The rows would cover different expenditure categories:

- By origin of resources
- By type of provider that received the resources
- By service function provided
- By type of user to whom services were destined
- By geographic zone in which expenditure was performed

- **AIDS-NHA matrices**: Primary information by entity and summary information by type of agent is finally consolidated in the main AIDS-NHA matrices. The matrices are agreed-upon means to group information about the source of funds, and their allocation to providers, service functions, target group and objects of expenditure. They are prepared with the totals from the columns in the summary sheets. The following pages show the basic matrices required to successfully completing the estimation.

The design of matrices, summary sheets and primary data sheets is a step that may significantly limit the time required to input and process data; especially if the work sheets are linked in a way such that the input of data allows the automatic feeding of the summary sheets and matrices.

Matrix 1. Flow from Sources of Financing to Type of Service in HIV/AIDS

Service Functions	Public			Private					External		
	Central Government	Sub-national Government	Social Security	Social Insurance	Private Insurance	NGO	Households	Businesses	Multilateral	Bilateral	Private
Personal Health											
Treatment											
Hospital											
Ambulatory											
At home											
Mitigation											
Support services											
Diagnostic tests											
PWA monitoring											
Patient transfer											
Non-durable goods											
ARV											
Other medication											
Other goods											
Orthopedic and other equipment											
Public Health											
Public Health											
Epidemiological surveillance											
Information, education and communication (IEC)											
Prevention											
Condoms											
STD treatment											
Perinatal											
Syringes											
Blood banks Safety											
Administration											
CURRENT EXPENDITURE											

(Continues)

Service Functions	Public			Private					External		
	Central Government	Sub-national Government	Social Security	Social Insurance	Private Insurance	NGO	Households	Businesses	Multilateral	Bilateral	Private
Investment											
Infrastructure											
Equipment											
TOTAL EXPENDITURE											
Memorandum items											
Personnel training											
Research and development											
Material benefits to PWA											
Financial benefits to PWA											
Organization and empowerment											
Political dialogue											

Matrix 2. Flow from Financial Sourcegs to Providers of HIV/AIDS Goods and Services

Destination of Funds	Public			Private					External		
	Central Government	Sub-national Government	Social Security	Social Insurance	Private Insurance	NGOs	Households	Businesses	Multilateral	Bilateral	Private
Personal Health											
Treatment											
Hospital											
Ambulatory care center											
Physician's office											
Alternative providers											
Ancillary services											
Diagnostic centers											
Other ancillary services											
Drugstores											
Other providers of goods											
Public Health											
STD/HIV/AIDS programs											
Promotion and prevention entities											
Insurance											
Social security											
Private social insurance											
Private insurance											

Matrix 3. Flow from Providers to Type of Service in HIV/AIDS

Service Functions	Treatment				Diagnostic Centers	Other Ancillary Services	Drugstores	Other Providers of Goods	Public Health		Insurance		
	Hospital	Ambulatory Care Center	Physician's Offices	Alternative Providers					STD/HIV/AIDS Programs	Promotion and Prevention Entities	Social Security	Private Social Insurance	Private Insurance
Personal Health													
Treatment													
Hospital													
Ambulatory													
Home Care													
Mitigation													
Ancillary Services													
Diagnostic tests													
PWA monitory													
Patient transfer													
Non-durable goods													
ARV medication													
Other medication													
Other goods													
Orthopedic and other equipment													
Public Health													
Public Health													
Epidemiological surveillance													
IEC													
Prevention													
Condoms													
STD													
Perinatal													
Syringes													
Blood Banks Safety													
Administration													
CURRENT EXPENDITURE													

(Continues)

Service Functions	Treatment				Diagnostic Centers	Other Ancillary Services	Drugstores	Other Providers of Goods	Public Health		Insurance		
	Hospital	Ambulatory Care Center	Physician's Offices	Alternative Providers					STD/HIV/AIDS Programs	Promotion and Prevention Entities	Social Security	Private Social Insurance	Private Insurance
Investment													
Infrastructure													
Equipment													
TOTAL EXPENDITURE													
Memorandum Items													
Personnel training													
Research and development													
Material benefits to PWA													
Financial benefits to PWA													
Organization and empowerment													
Political dialogue													

Matrix 4. Flow From Preventive Care Services to Target Groups in HIV/AIDS

Type of Service	Core Groups				Accessible Groups			
	MSM	**CSW -M**	**CSW -F**	**IDU**	**CRVT**	**TMW**	**PI**	**AFP**
Preventive Subprogram								
Condoms								
Syndrome treatment of STDs								
Perinatal								
Syringes								
Blood Banks								

References

MSM	Men having sex with men
CSW - M	Comercial Sex Worker- Male
CSW- F	Comercial Sex Worker- Female
IDU	Intravenous drug users
CRVT	Children at risk of vertical transmission
TMW	Temporary migrant workers
PI	Prison inmates
AFP	Armed forces and police
CSW - M	Comercial Sex Worker- Male
CSW- F	Comercial Sex Worker- Female

Matrix 5. Flow from Care Providers, institutional classification, to Personal Health Service Functions

Service Functions	Public			Private		External
	Central Government	Decentralized	Social Security	Non-for-Profit	For-Profit	
Personal Health						
Treatment						
Hospital						
Ambulatory						
At home						
Mitigation						
Ancillary Services						
Diagnostic tests						
PWA monitory						
Patient transfer						
Non-durable Goods						
ARV medication						
Other medication						
Other goods						
Orthopedic and other equipment						

Matrix 6. Expenditures in Type of Service by Type of Expenditure

Service Function	Personal Services		Materials and Supplies						Infrastructure and Equipment			General Services				
	Health Personnel	Other Personnel	Pharmaceuticals	Medical and Surgical Supplies	Condoms	Reagents and Materials	Food	Other Materials	Construction	Medical Equipment and Furniture	Non-medical Equipment and Furniture	Administrative	Research and Advising	Maintenance	Travel expenses and Transportation	Other General Services
Personal Health																
Treatment																
Hospital																
Ambulatory																
At home																
Mitigation																
Ancillary services																
Diagnostic tests																
PWA monitory																
Patient transfer																
Non-durable goods																
ARV medication																
Other medication																
Other goods																
Orthopedic and other equipment																
Public Health																
Public Health																
Epidemiological Surveillance																
Information, Education and communication (IEC)																
Prevention																
Condoms																
STD treatment																
Perinatal																
Syringes																
Blood banks Safety																
Administration																
CURRENT EXPENDITURE																

(Continues)

Service Function	Personal Services		Materials and Supplies						Infrastructure and Equipment			General Services				
	Health Personnel	Other Personnel	Pharmaceuticals	Medical and Surgical Supplies	Condoms	Reagents and Materials	Food	Other Materials	Construction	Medical Equipment and Furniture	Non-medical Equipment and Furniture	Administrative	Research and Advising	Maintenance	Travel expenses and Transportation	Other General Services
Investment																
Infrastructure																
Equipment																
TOTAL EXPENDITURE																
Memorandum Items																
Personnel training																
Research and development																
Material benefits for PWA																
Financial benefits for PWA																
Organization and empowerment																
Political dialogue																

Matrix 7. Flows from Sources of Finance to Preventive Programs

Sources	Promotion		Prevention					ARVA
	MMC	Social Marketing	CSW-H	CSW-H	MSM	IDU	VTP	
Public								
Central government								
Sub-national government								
Social Security								
Private								
Social insurance								
Private insurance								
NGOs								
Households								
Businesses								
External								
Multilateral								
Bilateral								
Private								

References

MMC	Mass media information campaigns
CSW – H	Commercial sex workers male
CSW – F	Commercial sex workers female
MSM	Men having sex with men
IDU	Intravenous drug users
VTP	Vertical transmission prevention
ARV-A	Anti-retroviral access

Table 4.8. Auxiliary Matrix 1. Classification of Provider Expenditures according to Institutional and Functional Categories

Providers	Public Sector			Private Sector		External
	Central Government	Decentralized Entities	Social Security	Non-for-profit	For-profit	
Personal Health						
Treatment						
Hospital						
Ambulatory care center						
Physicians office						
Alternative care providers						
Ancillary Services						
Diagnostic centers						
Other ancillary services						
Goods						
Drugstores						
Other goods providers						
Public Health						
STD/HIV/AIDS programs						
Promotion and prevention entities						
Insurance						
Social security						
Private social insurance						
Private insurance						

Table 4.9. Auxiliary Matrix 2. Origin of Public Funds in response to HIV/AIDS

Source of Funds	Central Government	State and Municipal Government	Social Security Funds
Tax deductions			
Social contributions			
Business contributions			
Dependent worker contributions			
Contributions by self-employed workers			
Other current transfers			
Current transfers within government			
Current international cooperation			
Various current transfers			
Capital Transfers			
Internal debt			
External debt			

4.2. Primary data entry

The people in charge of data entry will use the information from the forms, already discussed before, to feed the previously prepared worksheets. Their task is to input data for each entity[*] in the primary datasheet. The same data-entry person will be in charge of verifying that annotated data fully correspond to those in the collection form.

Some descriptive elements about the entities will be recorded at the beginning of the primary data sheet, for they will be used to complement the description of the social response to the epidemic, one of the background chapters of the report. The informant's data will also be recorded, in order not to have to return to the form each time a datum elicits doubt or sources may need to be consulted.

The primary data sheet must contain the following basic data:

- Entity identification, location, and person responsible for the collected information.
- The type of organization to which the entity belongs, using, according to each case, the classification for financial sources or providers, as well as the institutional sector classification.
- Mission, objectives and influence zone for the organization.
- The origin of the organization's resources, especially in the case of service providers, but also in the case of financial sources. It is important to detail the amount of such resources according to the destination expected from their origin, by service function, expenditure element or target group, as the case may be.
- The resources' destination will be detailed through the appropriate sheets. If the entities reported are financial sources, amounts allocated to each service provider will be detailed, crossed against the relevant classification that served to transfer resources: target group, service functions, expenditure objects.
- In the case of provider entities, the production of services must be indicated in the pertinent measure: days of stay, consultations, and tests, according to the service function being reported. Additionally, expenditures involved in such production must be recorded, crossing the service classifications against the objects of expenditure used to provide the service.

When recording data, the following points must be taken into account:

- Each datum must have a specific reference to a source of information, given that it is probable that multiple sources be used for the same entity.
- The gaps in information that have required the authors' own estimations must be indicated; if the software used allows it, it may be enough to color the empty cells.
- The heading of each table should also record the year of reference for the data, the monetary unit used, and the manner in which the data are expressed, either as current prices for the year, or as a constant purchasing power with respect to a given base year.
- Finally, the primary data sheets must record the date when the data input ended and the date they were reviewed by the main researcher.

[*] **Entities** are the statistical units whose information is compiled. They may be either an observation unit about which statistics are compiled, or an analytical unit created by accountants by dividing or combining observation units through estimation or imputation, in order to provide more detailed or homogeneous data than would otherwise be available (OECD 2000. A System of Health Accounts. Version 1.0 OECD Publications: Paris).

4.3. Summary Table Preparation

The summary tables record expenditures of the various entities belonging to the same classification, such as source of financing or service provider in HIV/AIDS. For example: In the financial source classification, the first group refers to central government. A summary table of the central government could contain information about the Ministry of Health and other Ministries allocating resources to AIDS, such as those in charge of services for the armed forces, police, prison inmates, schools and others.

In the provider classification, hospitals are included at the beginning of the list. All hospitals recorded during the estimation would be included in the summary table, according to the institutional classification (government, social security, non-for-profit, for profit and external institutions).

The preparation of the tables will be made easier if links are made between the primary data and the summary tables, within the same workbook. If the tables were designed before the data collection, it is necessary to check the links after the primary sheets have been filled, to ensure that the summary sheets are actually compiling and integrating the information. The summary tables may be adjusted at this point, adding any entity not included *ex ante*, or changing the entity to another table, as a result of a more adequate classification.

The integration of totals through formulas linking various worksheets (a useful skill at this point), is a task that is generally explained in software manuals and online help.

4.4. Matrix Integration

The previous steps serve to order the information about each entity. The current step serves to fill the pivot tables reflecting the relationships between entities. It may be that income from a certain source described by a provider does not coincide with the expenditure reported by that same provider. It may happen that data are not consistent between the different sectors. As part of the processing phase, the matrix integration is a first attempt to integrate flows within a national expenditure total. However, it will be when the data are analyzed that calculations and estimations needed for the final integration of the HIV/AIDS accounts will be finalized.

- ***Verifying Links***. In the previous step attention was given to the preparation of summary tables, discussing the possibility of modifying the tables through addition, relocation or elimination of certain entities. These changes may sever links between matrices, requiring that their integrity be corroborated, or that the links be refreshed to reflect changes.

- ***Identifying gaps and inconsistencies***. The integrated matrices may have cells for which no certified data are available. In other cases, there may be a lack of coincidence in the magnitude reported by a source and a destination of a financial flow. Such cases must be signaled and summarized in a report that will serve at the beginning of the data analysis and interpretation.

- ***Identifying needs for standardization****:* Both information about the type and the quantity of services provided, and information about income and expenditures of the entities may be related (added, proportioned, etc.) only once certainty exists that it is presented in comparable units. It is probable that entities have might have provided information using different service units; the case might also be that different monetary units have been used, or that these express, either constant or current values. When such needs for standardization arise, they must be added to the report for the analytic phase, and the link between such information and the summary matrices broken.

- ***Data migration***: At the beginning of this module it was pointed out that it is possible to input data in any software program capable of manipulating spreadsheets. However, the accounts matrices and other analytic tools have been developed as a specific program by Harvard University, and national USAID missions may provide information about obtaining a set of diskettes and a handbook for its setup.

Organizations participating in the preparation and application of National Health Accounts have institutional Websites on the World Wide Web that may be consulted on this and other topics: ***Data for Decision Making****: Department of Population and International Health. Harvard School of Public Health. In* http://www.hsph.harvard.edu/ddm.html ***Partnership for Health Reform****. In:* http://www.phrproject.com.

Appendix 4.1. The Set of Linked Spreadsheets

Given the need to establish links among the primary data, summary and matrix spreadsheets needs to be a set of linked spreadsheets is created, its complexity is independent of the expense level of a country, but it is increase in relation to the number of financial entities and/or service providers.

If there is a provider classification table it is possible to identify the summary spreadsheets needed. The following table includes an example, which is neither representative nor exhaustive, of the list of providers corresponding to the hospital category. These establishments could be included in a summary sheet, whose totals would be integrated in the "hospital" row within the matrices containing the "provider" functional category, with the detail required according to service function, source of financing and institutional classification.

If the number of providers in a given category in the institutional classification were very large, a specific summary spreadsheet could be prepared for these. In the example, such could be the case of the central government hospitals.

Table 4.10. Provider Identification and Classification

	Provider	**Institution to which it belongs**	**Functional and institutional classification**
1	National Reference Hospital	Ministry of Health	Hospital, Central Government
2	Military Hospital	Ministry of Defense	Hospital, Central Government
3	Police Hospital	Ministry of the Interior	Hospital, Central Government
4	Infectious Diseases Hospital	Social Security Institute	Hospital, Social Security
5	Common Diseases Hospital	Social Security Institute	Hospital, Social Security
6	Specialty Hospital	Private For-profit	Hospital, Private For-profit

The summary spreadsheet must contain a variety of tables crossing classifications included in the matrices (rows on the tables) against the different establishments included in the summary sheet. For example, the following summary table contains in the totals column, the cells that will be transferred to matrix 2, flows from financial sources to providers, and the column totals in the summary table would be registered in the corresponding columns along the "hospital" row.

Table 4.11. Matrix of Financial Sources within the Hospital Summary Spreadsheet

	Provider: Hospital				Total
Financial Sources	1	2	3	4	
Central government					
Regional/state government					
Municipal/local government					
Social security					
Social insurance					
Private insurance					
NGOs					
Households					
Businesses					
Multilateral external agencies					
Bilateral external agencies					
Private external agencies					

The same logic must be followed for the other matrices that consolidate provider expenditures by functional classification. Additionally, the summary sheet will contain totals by institutional provider classification, in order to feed the corresponding cells. In the example it would be necessary to include expenditures in personal care in matrix 5 (expenses by type of treatment, according to provider in the institutional classification) and transfer expenditure subtotals to auxiliary matrix 1 (provider expenditures according to functional and institutional classifications).

To consolidate data in pivot tables that do not include the type of provider, as is the case of matrix 1 (service functions according to financial source, summary tables must include subtotals for each source at the end of the lines for service functions, as shown in the following table. This table uses the example data presented previously. For this example it is enough to two service functions, in the case of social security hospitals.

Table 4.12. Summary matrix of expenditures by service function, divided by financial source, within the summary sheet

Service Functions	1	2	3	4	TOTAL
Treatment	0	0	0	0	0
Central government	0	0	0	0	0
State/regional government	0	0	0	0	0
Households	0	0	0	0	0
Hospital treatment	0	0	0	0	0
Central government					0
State/regional government					0
Households					0
Ambulatory treatment	0	0	0	0	0
Central government					0
State/regional government					0
Households					0

This example assumes that public hospitals operate with central government funds, that they also receive state contributions and recover costs through user fees. The cells showing zeroes contain formulas that add the different sources addressing a specific treatment. The totals column transfers expenditures in, for example, hospital treatment, divided into contributions from central government, regional/state government and households, to the main matrix, in correspondence with the source columns for the hospital treatment row.

The consistency of the primary sheets implies that the totals for each establishment coincide in all classifications: by source, by service function, by target group. Such consistency must also be attained in the summary sheets; however, this usually does not happen in the data processing phase. Data that not add up must be reported in order to determine if they are cases of missing information or non-coinciding data, and so perform reviews, make decisions about conflicting sources or estimate missing data.

MODULE 5
ANALYSIS AND INTERPRETATION

Module Objectives

After using this module, the AIDS-NHA team will be able to:
- Consolidate information in sector matrices
- Estimate unavailable amounts to consolidate the national expenditure flow in HIV/AIDS
- Calculate and interpret HIV/AIDS expenditure indicators
- Identify notable findings in the study

Introduction

This phase of the study of National HIV/AIDS Accounts expenditures is of the utmost importance. Having data does not guarantee that their wealth be extracted. Perfect accounting reports are not evidence of success, just the base of an understandable, useful interpretation that may be applied to planning and decision making, based on the financial situation of actions against HIV/AIDS in the epidemiological, institutional and economic context of the society under study.

In this phase the data, organized by entities, will be related, fulfilling adjustment and standardization requirements. From such relationships it will be possible to reconstruct the distribution of national and international contributions to combating the epidemic, the distribution among the diverse institutions and agents that together reflect the country's strategy. The access for different human groups and the functional distribution of tasks among providers will be better known. Therefore, contextual information becomes important as a means of evaluating the pertinence of allocations as reflected by expenditures, the efficiency of expenditures as related to the volume of services and the equity of the system in the distribution of the benefits of preventive and therapeutic expenditure.

5.1. Estimating Services and Expenditures

During the data processing phase a report of data gaps is generated. These gaps must be filled to complete the estimate. Sometimes there is no registered, certified or detailed information about an entity; other times, information is spread in a large number of locations (for example, as in private and decentralized expenditures). In some cases the working team may not have authorized access to the data. In all such cases, there is the option to declare the datum not available (N/A.) or alternatively to attempt to estimate it. The lacking data may refer to expenditures or to the amount of services; in any case, some options for estimating data are discussed here.

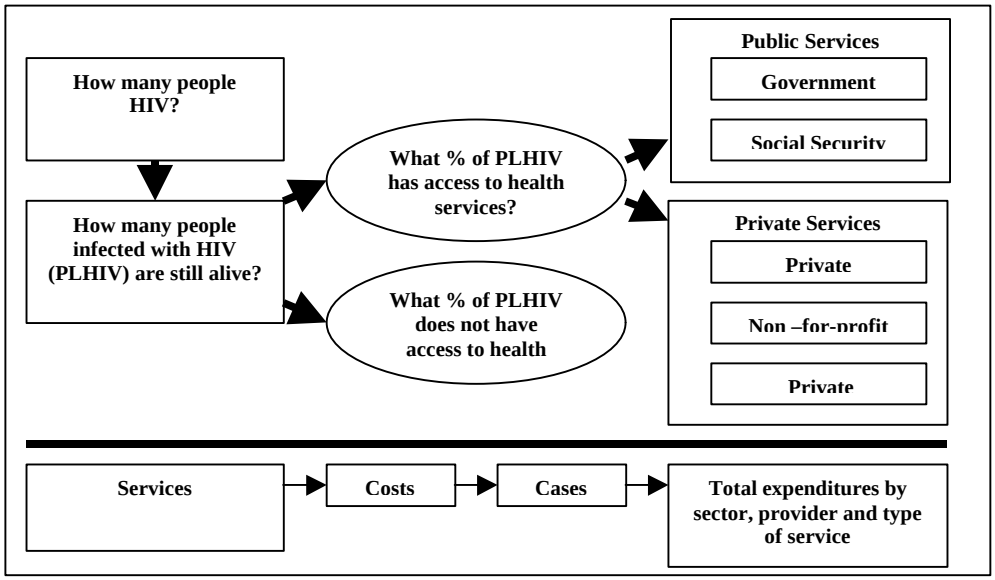
- **If volume of services is known, expenditures may be estimated.** In some cases expenditures are unknown, but there is a registry of services produced. The average cost of services provided is a good basis for estimation in such cases. A historical average is preferable to a simple standard. Average cost multiplied by services volume will give an approximation to the total amount of expenditure. If the service cost estimation (c)

corresponds to a different year from that of the services (q) under valuation (v) the resulting product (v=c*q) will correspond to monetary units for that year. Translating this into monetary units for the current year is part of a second step: adjusting and standardizing data. The opposite process is also admissible: if the expenditure (v) is known, the quantity of services (q) may be estimated, as long as there is an estimation of the cost of services (c), through the form: q=v/c.

- **If previous consumption is known, current consumption may be estimated.** In some cases, available information does not correspond to the year under study, but there exists a historical series that may back the point estimation of consumption using, for example a least squares regression. The result is a "clean" estimation, especially if there were no sudden changes in the factors that explain the volume of consumption under analysis. This approach may be used to estimate the direct purchase of condoms and the diagnostic tests in private laboratories, among others. In cases where historical information is lacking to perform a statistical estimation, explicit assumptions may be used. For example, if the variation index of a previous period is known, the datum may be estimated by assuming that the consumption rate has remained stable across the years. It is very important that such assumptions are explicit; thus, allowing the reconstruction of the research results, using the same method.

- **If the number of patients is known, estimate the distribution by service scheme**. It is probable that some countries lack resources to collect data in every entity participating in the financing or service provision in HIV/AIDS. In such cases, a structured expert consultation method may be applied. This includes the use of questionnaires and meeting in order to determine national HIV/AIDS expenditures. The process described in figure 8 intends to determine how many patients are covered by each service sector, the basic services they receive and the cost of these services. The result of combining patients, services and the structure costs of each entity is a reconstruction of expenditures by sector, institution, type of services and, in the best of cases, type of user.

Figure 8. Expert consultation for the estimation of HIV/AIDS expenditures



- **Estimates for specific sectors**. Depending on characteristics of the country and the conditions of the epidemic, some countries may have difficulty collecting information. For example; HIV/AIDS in the armed forces, direct household expenditures in treating AIDS (and their distribution), expenditures by decentralized units (state or municipal), NGO expenditure (particularly when these exist as a large, dispersed group with low levels of expenditure). The estimates based on the logic presented in the previous figure (patients in each scheme, services included, costs by service) may temporarily address issues to be dealt later. Some of theses "thorny" issues (such as private and decentralized expenditures) will be treated additionally in extensions to the basic methodology.

5.2. Adjusting and Standardizing Data

When the information is finally complete, some are primary data, and others are secondary data or provisional data. The first draft for the global estimation has been assembled. Now it is necessary to convert the data into comparable units for their consolidation. Data adjustments can be of a variety of types. This section deals with the most frequent adjustments in this type of estimation. The review of the adjustment techniques is not intended to substitute available texts in statistics or financial mathematics. Rather, they point the way to identifying and addressing discrepancies in the nature of the data.

- **Health expenditures**. The first adjustment consists in verifying that the recorded amounts do not include items that may not be considered health expenditures. In HIV/AIDS, some important activities include the political visibility of the epidemic, the defense of the rights of people living with HIV/AIDS and the development of networks for the empowerment of sex workers. These activities have a positive influence on the capacity of addressing the epidemic and

preventing it, but are not within the limits of health expenditure. Therefore, it is recommendable to separate these expenditures, without discarding them, in order to add them as "memorandum items" whose importance must be underlined, without modifying the value found for personal and total health expenditures in HIV/AIDS.

- **Shared expenditures**. Administrative and some infrastructure expenditures may be shared by HIV/AIDS prevention and treatment subprograms. When expenses in these two programs (or any other distribution) is to be established without separate budget lines item for shared expenditures, a rule may be followed to allocate these expenditures according to the percentage weight of each subprogram (see Table 5.1).

Table 5.1. Examples of Shared cost distribution among main programs.

1	**Sum of the main programs**	Prevention + Treatment=$100
2	Weight of each subprogram	Prevention = $25/$100= 25% Treatment =$75/$100= 75%
3	Value of shared costs	$40
4	Shared cost distribution	Prevention = $40 * 25% = $10 Treatment = $40 * 75% = $30
5	New numbers for the main programs	Prevention = $25 + $10 = $35 Treatment = $75 + $30 = $105
6	Double-check	Main programs plus shared costs = $100+$40 = $140 Sum of programs adjusted by shared costs = $35+$105= $140

- **Monetary unit.** Official establishments and other providers record their income and expenditures in the country's monetary unit. Other sources, such as non-profit organizations and cooperation agencies may express their income or expense in other currencies. It is necessary to convert all foreign monetary units into the official currency of the country in which the estimation is being made; later on, it may be necessary to express the total integrated expenditures in some foreign currency (for example, U.S. dollars) but the conversion should be performed on totals expressed in the country's currency. Three cases may be distinguished in considering the conversion:
  - Income is expressed in foreign currency, but expense is known in national currency; thus expenditures should be used.
  - Expenditure is not known in national currency, and funds come from a United Nations System cooperation agency. In this case, the average United Nations exchange rate should be used.
  - Expenditure is not known in the national currency and funding comes from other cooperation agencies. The official exchange rate of the country's monetary authority should be used (generally, the Central Bank).

When an amount in foreign currency is converted to the national currency, a footnote should report the original currency, the exchange rate and the source of the parameter used for the conversion.

- **Current and constant numbers**. Some estimators may be found expressed in constant values. The datum (for example, unitary cost of a service) is presented in monetary units with the purchasing power of a reference year ("at 1995 constant dollars"); this means that the changes in appreciation or depreciation of the currency are treated as if they had not affected the cost of the service's input since the reference year. In order to add the expenditure in constant terms to other expenses it is necessary to perform a conversion that incorporates the effect of changes in the value of the currency. The indicator of these changes is called the "Consumer Price Index" (CPI). The statistical, monetary or economic authority in each country publishes this number periodically. In order to convert constant to current monetary units it is necessary to multiply the figure expressed as a constant value by the ratio obtained by dividing the CPI for the current year by the CPI for the base year (see table 5.2). When expenditures are compared in a time series, it is recommendable to perform the opposite process: convert all values to constant monetary units in order to eliminate the effects of inflation (which is why the procedure is called "deflation").

Table 5.2. Example of the conversion of constant to current values.

1	Number in constant monetary units for 1995		250
2	Consumer price index for 1995		400
3	Consumer price index for the current year (1999)		500
4	Current price conversion factor	=500/400	1.25
5	Number in current monetary units for 1999	=250X1.25	312.50
6	Loss of purchasing power for each monetary unit between 1995-1999	=1-(1/1.25)	0.20
7	Loss of purchasing power in 312.5 monetary units	=312.5X0.20	62.50
8	Double check: number at current value less loss of purchasing power = number at constant value	=312.50-62.50	250

- **Producer prices and market prices**. When collecting data it is very important to establish if prices are expressed as "factor costs", production prices, or market prices, that is, may be affected by taxes and subsidies. An example in the HIV/AIDS estimations is found in the condoms expenditures. More likely the estimator combine the cost of condoms provided by international cooperation agencies to non-for-profit organizations and the cost of condoms distributed through drugstores. The difference is relevant if condoms are taxed when distributed through one channel but not another; or if they are subsidized only through one chain of distribution. Subsidies and taxes are government transfers to consumers or vice versa; therefore, there could be an important distortion if prices expressed at the cost of factors are combined with prices including taxes and government subsidies. When information is incomplete it is preferable to express everything at market prices; however, ideally the various sources should be differentiated to clearly express the

difference between factor costs and market prices to achieve factor cost equalization.

- **Purchasing power parity**. As mentioned, it is usual to national accounts in foreign currency to allow international comparison of data. This assumes that the exchange rate from the national to the foreign currency reflects differences in the purchasing power of the two monetary units. This is not necessarily true, and frequently there are important distortions between the exchange rate of a currency and its internal purchasing power. Among other explanatory factors for these distortions – and the list is not intended to be exhaustive – are the salary structure of the country, the relation between prices for trading articles and non-trading articles, the level of inflation from non-exchange sources and the terms of exchange in international commerce. International financial organizations have found it very useful to establish a common measure for countries to express their production and per capita income in comparable units: purchasing power parity unit. These figures are published in the UNDP and World Bank development reports. If any number is known (per capita income, GNP) and expressed in dollars and purchase power parity units, it is possible to build a conversion factor to convert amounts in dollars to purchase power parity units (known an PPP). Multiplying expenditure in US dollars by the GNP quotient in PPP by the GNP in US dollars results in expenditure expressed in PPP, as shown in the following table.

Table 5.3. Example of the conversion to purchase power parity units

1	Expenditure in $US (millions)		20
2	GNP in $US (thousand millions)		120
3	GNP in PPP (thousand millions)		45
4	$US to PPP conversion factor	=45/120	0.375
5	Expenditure in (millions of) PPP	=20 X 0.375	7.5
6	Cross check:		
	Percentage expenditure in (millions of) $US divided by GNP in (millions of) $US	=20/120,000	0.02%
	Percentage expenditure in (millions of) PPP divided by PNB in (millions of) $US	=7.5/45,000	0.02%

These adjustments allow us to:

- Differentiate health expenditures in response to AIDS from expenditures related to AIDS but not considered health expenditures;
- Present all financial figures in a single monetary unit, preferably the national currency;
- Differentiate figures expressing current value of the currency from those reflecting a constant buying power for a reference year;
- Differentiate goods and services to which health expenditure in HIV/AIDS is finally destined, considering if prices are presented as product or market prices;

- Express HIV/AIDS expenditure figures in other currencies or purchase power parity to facilitate international comparisons.
- Perform an integrated reading of the data, further aided by the construction of indicators and the final interpretation of results.

5.3. Constructing and analyzing indicators

Studies of the financial response to HIV/AIDS seek to critically evaluate equity and efficiency in the pattern of expenditures. Therefore, data generated during this estimation need to be combined with other economic, geographic, demographic, health care services and epidemiological data, in order to build useful and complex indicators for decision making, interventions and programs design. The starting point, however, is the organization of the data generated by the study into simple indicators expressing the composition of the origin and final distribution of expenditures incurred to address the AIDS epidemic.

Indicators reflecting the composition of income and expenditure. The most obvious indicators relate specific figures about entities, programs and users with the total HIV/AIDS expenditures. What the most representative and useful results are, will depend upon the circumstances in each country. Table 5.4 presents a variety of indicators using only internal data from the estimation to present the weight of the entities at the origin or destination of resources for AIDS.

Table 5.4. Examples of indicators based on figures from the estimation

Origin of resources	**Destination of resources**	**Origin and destination**
Percentage weight of expenditures by public, private or international sources.	Percentage weight of expenditures by main program (including shared expenditures)	Public expenditures in prevention by subprogram
National HIV/AIDS expenditure, which is: Public, 34% Private, 48% External, 18%	National HIV/AIDS expenditure, which is: Prevention, 26% Treatment, 68% Administration, 6%	Public expenditure in HIV/AIDS prevention, which is: Information, Education and Communication, 30% Condom distribution, 24% Blood Banks, 22% Syringe Distribution, 0% Treatment for VIH (+) pregnant women, 24%

- **Indicators reflecting change over time**. When the estimation covers more than one annual period it is desired to perform comparisons between years. It is possible to compare total expenditures, the contribution of different sources to total expenditures, the change in importance of a given service, program or set of users, and also changes in the orientation of expenditure in favor of prevention or treatment. As mentioned, all these indicators require that figures be expressed as constant values, to avoid errors in interpretation due to inflation and/or devaluation across years. Assuming data are presented in constant terms, the comparison may use at least three indicators: the **variation index** describes the total change in a period and permits the conversion of any previous value to a future value (for example, multiplying a dollar amount from a previous year by the variation index yields the dollar value for the current year); the **percentage**

growth presents the difference between one year and another as a proportion (although the example in Table 5.5 uses the previous as the base year, the following year may alternatively be used); and the **growth rate**, that presents the geometrical average of the yearly growth for periods longer than two consecutive years; in the example the period is four years.

Table 5.5. Example of indicators of change through time

		1995 expenditure =	1,200
		1998 expenditure =	1,800
		1999 expenditure =	2,000
1	Variation index	= (1999 expenditure/1998 expenditure) X 100	111%
2	Percent increase	=((1999 expenditure – 1998 expenditure)/1998 expenditure) X 100	11%
3	Growth rate	= ((1999 expenditure/1995 expenditure) –1/4) –1	13.62%

- **Indicators relating production and expenditure**. The convenience of complementing financial information with data about service production has been underlined previously. For example, comparing production and expenditure data (with **average cost by type of service** indicators) between public and private entities, or between for-profit and non-profit entities may offer interesting results for the comparative analysis of efficiency. A word of caution is in order, however: as long as information about the comparability of care protocols is lacking, average cost comparisons should be taken as preliminar or tentative. In other words some establishments may have lower average costs due to a lower quality in the services provided; at the same time, others could have higher average costs, not due to a better quality, but to higher "hotel" expenses. Therefore, we may only affirm that an entity makes a more efficient use of resources when information is available about the scope of goods and medical activities involved in the service being compared.

- **Indicators relating level of expenditures to population served**. Per capita expenditure indicators may be of two types: those that relate total expenditures to officially allocated total population for an entity (e.g., in the case of social security: expenditures per affiliated individual) and those that relate total expenditures to the population actually covered by the services on which expenditures were made. The first is a general indicator; a measure that permits an estimation of whether, given a redistribution of expenditures among components and programs, there would be sufficient funds for all of them. The second is specific for the target group served, and is a measure of the financial weight of covering a new service user, and may be used in combination with AIDS epidemiological projections. This kind of indicator may result overly demanding in data concerning specific populations: numbers of sex workers, men having sex with men, prison inmates, intravenous drug users, etc. If the data are not available, the indicator could lead to unwarranted speculations about the total of potential users, and to the comparison of that number with the volume of currently allocated funds. Another index used is the per capita HIV/AIDS expenditure, which relates total expenditure in response to the epidemic with the total population in the country.

- **Indicators relating HIV/AIDS expenditures to overall health expenditures**. A set of widely used indicators in national accounts may equally be applied to HIV/AIDS expenditures. This includes comparisons with national health

expenditure, social expenditure and GNP, among others. These indicators provide an idea of the weight that the financing HIV/AIDS has within the health system. In some cases this will underline a deficit in financing the social response. In other cases it may show an alarming growth in expenditures directed toward HIV/AIDS as compared to the growth in total health expenditure.

Table 5.6. Example of indicators that relate HIV/AIDS expenditures and health expenditure estimates

1	HIV/AIDS expenditures (HANE) as a percentage of GNP	=(HANE/GNP) X 100
2	HIV/AIDS expenditure as a percentage of National Health Expenditure (NHE)	=(HANE/NHE) X 100
3	Public HIV/AIDS expenditure (PHAE) as a percentage of public health expenditure (PHE)	=(PHAE/PHE) X 100
4	Household HIV/AIDS expenditure (HHAE) as a percentage of household health expenditure (HHE)	=(HHAE/HHE) X 100
5	Preventive HIV/AIDS expenditure (PrHAE) as a percentage of preventive health expenditure (PrHE)	=(PHAE/PrHE) X 100

5.4. Validation of the results

Closing the accounting procedure is normally a difficult process requiring the identification of overlaps, duplications and deficiencies. Along period of time will be and should be used in testing the various sets of indicators, in order to choose the most useful one for the interpretation of results. The new result estimates require to be subjected to expert validation and consistency tests. This process may take three paths:

- **Review of the literature**. It is convenient to contrast the major results with values found in previous studies in the country, or with standards suggested for the region or subregion of which the country is part. During the literature review it may have been possible to identify sources of reference data for comparison. This is the time to use these databases to identify gaps between the estimation and data from other studies. In addition to comparing the institutional and program scope of these numbers, the time between the data collections and the historical or projected character of the data, reasonable explanations for these gaps should be sought. An effort should be made to determine if these discrepancies reflect errors in the estimation. Even if this were not so, the data should be kept and used in the discussion chapter in the final report

- **Expert validation**. From the beginning of the estimation, during the organization and setup phase, an effort will be made to include institutional representatives, who will serve as experts to validate results. They will examine the set of indicators, attempting to identify if the expenditure profile found is reasonable, if the levels of expenditure make sense or represent under- or over-estimations. The experts may suggest data relations and combinations that may produce useful indicators for decision-makers. In fact, they are the first users of the information. At the same time, they may offer their opinion about the means and targets for the publication of results that the data suggest to them.

- **Comparison with studies in other countries**. Finally, but no less importantly, results must be confronted with those in other countries conducting similar estimations. The differences in the size and maturity of the epidemic, the organization of the health services, the health finance schemes used in general and for HIV/AIDS in particular, as well as the government's social expenditure policy may help to explain differences. However, significant discrepancies may also be found, which will draw attention to some aspects of the estimation. In this case, and having passed two validation filters, it is important to return to the data, and once certainty has been reached about the correctness of these, address the asymmetries discussed in the final chapter.

5.5. Interpreting the findings

From now on the participation of institutional representatives becomes inescapable. Only in this way will it be possible to fully address the implications of any findings. In previous steps the information was prepared and inspected as best possible, to facilitate the identification of patterns of expenditure and their relation (closeness) to the allocation needs, in terms of distribution and volume.

The interpretation of results leads to the answer of the questions posed at the beginning of the study. In making these answers explicit it is necessary to assume a position with respect to the evidence: Are the level and distribution of resources destined to fighting HIV/AIDS adequate? Are the expenditure and its distribution by programs, providers and users equitable and appropriate? A single agent's answers to such questions are less useful than the results provided by a discussion among a variety of actors. Therefore, it is recommended that work sessions be conducted to identify:

- **Relevant findings**: numbers and indicators showing the main expenditure allocations.
- **Main implications**: comments about the equity and efficiency of expenditures and sustainability of the resource mobilization strategy.
- **Further analysis**: comments about discrepancies, deficiencies, risky estimations and other limitations in the research that need to be overcome before firm conclusions may be expressed.
- **Recommendations**: specific actions directed to agents and institutions that, based on the evidence presented, will improve the collection and distribution of resources in response to HIV/AIDS.

It may be convenient to hold work sessions for the validation of data and the interpretation of results. These may first be conducted with homogeneous groups (cooperation agencies, public sector, non profit organizations and private providers) and later with wider groups where ideas structured in each group may be submitted to the opinion of other sectors. All material collected in these sessions will be part of the final report, whose preparation is detailed in the following module.

MODULE 6
PUBLISHING AND USING INFORMATION

Objectives of this Module

After using this module, the NHA-AIDS team will be able to:
- Prepare the final study report
- Design a strategy for its publication
- Promote the use of the study's results

Introduction

The study of levels of financing and flow of expenditures on HIV/AIDS represents an analysis providing the economic dimension to the fight against AIDS.

The background, purpose, procedures and findings of the study must all be put together in the final project document. This report will be the source for all communications that will thereafter be prepared as part of the strategy for the publication of the study.

Publishing results should be the product of a careful work, for it may otherwise use up resources without guaranteeing the effectiveness of communication. The publication strategy must seek the best audiences, media and contents so that the study may favor changes in the obtention, distribution and use of resources to combat the epidemic.

6.1. Actualizing the project's text

The introduction and methods chapter of the final report (table 6.1) are based on the original research proposal. Any change usually results from unforeseen circumstances and *ad hoc* decisions are made to ensure the study's viability.

Once the estimation has been completed, and the final report is being prepared, a critical reading of the project and annotation of variations must be made explicit. The protocol elements may be summarized and included in the final report, and others may be explained more broadly as a result of the experience. For example, the introduction to the final report may have several "summary" sections, whereas the methods chapter may include explanations about how the process was actually conducted in the field, complementing the details from the protocol.

The methods chapter must explain the accounting methods and the advantages of its application in the study of expenditures addressing HIV/AIDS. In addition to the specific methodology, the report should present the scope and limitations of the study, so that its results may be adequately weighted.

Table 6.1. Basic Components of the Final Report

Chapter	**Components**
Introduction	Background Justification for the study Objectives Methodological summary Discussion
Methods	The NHA methodology Organization for the execution of the study Statistical design Collection procedures Analytic procedures
Results	Background Description of flows Source, provider, service type and user matrices Indicators of size and composition of expenditures
Discussion	Main findings Patterns of expenditure Relation with previous literature Limitations of the study
Conclusions and recommendations	

6.2. Completing the final report

In this step, the study results are integrated into the final report document. This assumes that the introduction and methods chapter have been completed. The results chapter must begin with an explanation of the frame of reference within which the analysis of expenditures in response to HIV/AIDS is placed. This includes general characteristics of the country and the evolution of the AIDS epidemic, both in general terms and in relation to the affected human groups and the transmission dynamics. An important detail concerns the time that has passed since the beginning of the epidemic, and what is the state of indicators that determine if the epidemic is in an introductory phase or is consolidated.

Additionally, it is important that the readers have, before examining the financial data, an overview of the social response to the epidemic. It is necessary to summarize the organization of the health sector in the country, the type, number and distribution of health care establishments, as well as global data about national, public and out-of-pocket health expenditures. Evidently, not all countries have such a detailed framework concerning national health accounts. Reference may be made to the volume of national health expenditures with respect to social expenditures and the total government expenditure. The specific description of the institutional response to AIDS should present both the health sector establishments offering services and the non-for-profit organization that make an important contribution to the visibility, prevention and control of the epidemic.

An important contribution on this topics is in included in "Management and Implementation of the National Response to HIV/AIDS", a document presenting a set of indicators for the monitory of the social response to AIDS, prepared through an initiative of the HIV/AIDS Strategic Planning Network (REDPES) in countries of Latin America and the Caribbean.

It should be noted that service institutions might have great differences in the way they manage cases (i.e. standards of care); it is important to present the features of the care protocols and basic care packages being used, identified during the estimation process. The purpose here is to show differences among human groups with varying coverage, for example, variations in treatment offered by government, social security and private services.

The report must describe the financial flows in response to HIV/AIDS and the transfer mechanisms from sources to service providers. This description will facilitate the reading of the matrices that, in the crossing of columns and rows specify the relations of fund transfer. A first effort to characterize the flows of financing and expenditures was conducted during the organization and setup of the study (module 1), and tested during the data collection. The final report will include those findings.

The results of the estimation of expenditures concerning HIV/AIDS will address various issues:

- **Total National expenditure by year**. In addition of presenting absolute numbers, this is the place to compare the volume of expenditures in response to HIV/AIDS with national health expenditure and the GNP. The per capita expenditure, related to the total population of the country will serve as a comparable indicator with respect to estimations in other countries. It is also useful to examine changes in financing in relation to the number of AIDS cases for the years of the estimation.

- **The composition of financial sources**. The relative weight of each source in financing preventive and curative activities in AIDS will make the relative importance of the mechanisms used to mobilize resources evident. It is interesting to show the contrasts between public and private financing, and between entities offering insurance and those offering services to an uninsured population. This information must be complemented with qualitative data about political decisions that have led specific organizations to have more or less participation in financing HIV/AIDS expenditures.

- **Expenditures by type of service, according to financial source**. This is an important financial flow, because it shows the emphasis of the sources in HIV/AIDS prevention or treatment, including subprograms for each type of care. This corresponds to Matrix number 1. Each country will adapt the matrices, both in language and in the categories included. However, it may be convenient to have a second set of matrices, based on the international conventions registered by the National Health Accounts System (NHAS). This information must be complemented with numbers and comparative analyses about the type and quantity of services produced.

- **Expenditures by type of provider according to financial source**. This matrix shows the providers that are financed by the various sources, according to their functional classification rather than by their institutional origin. In other words, it is of interest to see what sources fund hospital care, ambulatory care centers, laboratories, preventive entities, etc., in a **functional** division (hospital, clinic, ambulatory care center, etc.) rather than by institutional sector affiliations (government, social security, private insurance, non-profit organizations, for profit private providers). This is the organization used in matrix 2.

- **Expenditures by type of service, according to provider**. The functional division of providers, when crossed with the different types of care, leads to the identification of organizations that channel financing to key elements in the AIDS response strategy. Matrix 3 presents the distribution of

preventive and therapeutic activities, ordered by type of provider offering the service. This matrix is complemented with data about the distribution of services provided by the type of provider. This permits the comparison, for example, of the costs of ambulatory visits when conducted in medical clinics, ambulatory care centers, and hospitals.

- **Expenditure on Prevention by demographic group**. The analysis of this flow, based on matrix 4, offers the chance to analyze the relative weight of the preventive AIDS subprograms and relates it to the number of users served. Information about incidence in specific groups and the distribution of the AIDS cases according to categories of transmission will result useful as contrasting the choices reflecting the financial flows and the epidemiological trends of the disease.

- **Provider expenditures on AIDS treatment according to institutional classification**. The institutional classification of service providers, unlike the functional classification presented in the previous point, is a division that reveals the institutional origin of the provider: whether it is an entity belonging to government or the social security, a private insurance company, a non-for-profit organization or a private for-profit provider. As mentioned earlier, the differences in treatments offered by each provider shapes the volume of expenditures and their relation with the scope of services, the quantity produced and the people covered. Therefore, it is important to present, in addition to the financial information, data about the limits of coverage by each provider and the differences in their treatment schemes and service packages.

- **Expenditures by type of service, according to the type of expenditure**. The expenditure items may be as broad as those shown in matrix 6, or have very detailed expenditure items. For example, the materials and supplies item line allows a first division between medical and non-medical supplies; within the medical supplies drugs, condoms, orthopedic devices, etc., may be individually identified. Although a first estimation of the relation between inputs and products is based on scarcely detailed information, the numbers presented may produce interest in a more detailed registry of the production of services.

The **discussion of results** is a key element in the final report, it contains both the arguments about positive and laudable elements found in the financial flows for AIDS as well as areas showing weakness. It should start by underlining the most notable findings of the study, that is, the main frame of reference to understand the financial situation of AIDS in the country. After that, it is necessary to offer evidence of the patterns of expenditure found in the period studied. These elements must be confronted with the review of the literature, in order to reveal the areas of convergence and difference, explainable by the project and which will require more in-depth analysis. The discussion should point the limitations experienced in the study, thus placing the conclusions in perspective. The conclusions summarize, in direct sentences, the notable findings and their implications. A tight relationship between the conclusions and the recommendations of the study should be sought. In preparing recommendation, care must be taken on:

- Making reference to strengths, overcome weaknesses, avoid threats and take advantage of the opportunities found through the study. In other words, these should serve to orient decision-makers, planners and policy designers;
- Identifying – even in a generic form – the audience for each recommendation. In this way it is more likely that they will be taken into account;

- Recommendations are endorsed by the members of the support team and should have been reviewed thoroughly by participants; the team collaborated in the interpretation of data and made suggestions to improve the current analysis.

The final report should include a wide variety of appendices and annexes, including the references; data collection forms; individual institutional contacts and participating institutions, institutions selected for data collection; and statistical tables, charts and other material not presented in the main text. The result is frequently a voluminous document that becomes a key reference for the implementation of a publication strategy.

6.3. Publication strategy

At the beginning of each module there is a figure linking with a dotted line the study's organization and the use of its information for publication. This line expresses that, the greater the participation and commitment to the study, the greater the possibilities to distribute the information in an effective manner, and to link it with participatory and collective decisions by stakeholders involved in fighting against AIDS.

The strategy seeks to reach the following objectives:

- To identify opportunities for the promotion of the HIV/AIDS topic before public opinion and institutional agents within and outside the public sector (i.e. health sector);
- Specify objectives to be achieved through the circulation of the information;
- In accordance to the previous two points (audiences and purposes), to identify the messages, arguments and evidence that must be presented;
- To identify and prioritize activities, means and resources necessary to promote the information and its use.

Decision makers at government, international cooperation agencies and sectorial planning bureaus require information placed in perspective. This constitute a very important part of the audience, given that allocation and distribution of resources decisions are usually made at levels above those of the agents currently involved in AIDS programs.

Health authorities and officials in charge of HIV/AIDS programs and cooperation agencies would have been linked early on to the project, and those who were not, probably look forward to analyzing the results with as much interest as the ones who did take an active part in the research. Therefore, it is important to publish appropriate versions of the report, with a length that makes it easy to read, but of sufficient depth to interest these specialized audiences.

6.4. Preparing presentation materials

After some time of being involved in preparing the study, it is usual to lose sight of the challenge that the topic poses to those hearing about it for the first time. In preparing presentation materials, the following points should be taken into account:

- Present clearly and from the outset the objectives of the study and how it is thought that the information will contribute to improve the national AIDS response strategy;
- Present the definitions and orientations that will help to interpret information that will be forthcoming. Addressing this need for a common language with participants will increase the effectiveness of the presentation materials and of the results.
- Begin with simple and general results and percentage distribution, before showing matrices.
- Take the national accounts matrices as a last resource for communication; this data arrangement involves a highly analytic tool, but it is too intricate for an easy reading and for its conversion into criteria and indications for decision and action.
- Include, at the end of the presentation, a summary of noteworthy findings and implications for the future. The recommendations will find echo in this environment and will open participation and exchange with interlocutors.

6.5. Promoting data use

Establishing a systematic record of flows of financing and expenditures is the main objective of national accounts studies. The current HIV/AIDS national accounts initiative seeks to provide support so that countries in Latin America and the Caribbean may develop the capacity to institutionalize estimations. The sustainability and the quality of its contents, as in any information system, depends on the degree of use of the information processed and analyzed by the data producers. Thus, it is reasonable that in order to promote its use it should be necessary to make it available to all those who derive utility from its possession.

- Independent researchers, academic institutions and planning teams are habitual users of information; divulging information to these groups promotes knowledge about the study through references and quotations they may make in their own work. They are also important groups in the validation of results and in the accreditation of the quality and relevance of the study.
- Entities involved in the education of health personnel, both managerial and service providers, frequently need recent and pertinent analytical material concerning topics of interest. By circulating information from the study in training and education circuits it is possible to reach future decision makers and place on their agenda important issues in health finance that have gained growing interest as an important part of the health manager's profile.
- Academic meetings and seminars offer a valuable opportunity to promote the use of information. Not only drives interest about the methodological approach and results of these studies, but also generate interest in the application of data for strategic initiatives that may improve the efficient allocation of resources. In fact, starting with the National HIV/AIDS accounts, specific studies about the effectiveness of a variety of interventions and the construction of measurements of efficiency and equity in multiple institutional scenarios may be undertaken.
- The planning and budgeting cycles of the sector's entities, both in general and in the specific field of HIV/AIDS, frequently

require basic information to establish criteria for prioritization, programming and financial allocation. It is necessary to pay attention to the schedule of such cycles, in order to ensure the availability of the information generated by the study when those involved in the cycles need it.

- Currently, there are important debates about the most effective strategies to face the epidemic and what instruments may offer the highest social returns. Decision about *packages of services in prevention*, *palliative care* and *anti-retroviral treatment* need to be based on empirical evidence that is frequently not available. The knowledge about such debates and the actors involved in them helps to direct the information effectively towards those who can best use it.

NHA HANDBOOK
GLOSSARY

ACTIVITY: Program category that expresses the production of goods or services. Some of the categories it may contain are:

- Administration: resources destined to establish, perform and control the administration of human resources, materials and financial resources in (central/decentralized) entities.
- Health politics and planning: resources destined to establish coordination tools, to implement, direct and evaluate health activities.
- Production of medical inputs and curative materials: resources destined to generating a variety of inputs required for health care.
- Development of basic, applied and experimental science and technology: resources used in planning and evaluating policy that promotes basic, applied and experimental science and technological development.
- Promotion and regulation of the national training program: resources used to promote the professional, technical and scientific training and education of workers.
- Health regulation and promotion: resources destined to detecting risks and harm by transmissible and non-transmissible diseases, and to the control of epidemic diseases.
- Expansion and improvement of the physical resources in education and training: resources used to establish buildings for education and training.
- Buildings for health and social security services: resources applied to establishing building for health care and for social security services.
- Administrative buildings: resources directed to establishing buildings for the administration, planning, monitory and evaluation of health services and payment. Buildings for associative, cultural and sports activities of health personnel.

ADMINISTRATION: this includes direct expenses by central offices and the various provincial or regional offices in managing resources in support to health care management. Management expenses incurred by hospitals, day-care centers and other providers are considered an auxiliary activity in health care.

ADVERSE SELECTION: this describes the situation when an insurance coverage includes a large proportion of individuals with a high proportion of risk to incur medical expenses of high cost.

AIDS PROGRAM FINANCING: resource flows in the national health system destined to AIDS programs.

AMBULATORY CARE: diagnostic and treatment care for patients, including promotion, prevention, recuperation and rehabilitation directed at the individual, the population or the environment, but not requiring internment. In hospitals and specialized care centers with mixed services the term refers to outpatient care.

BENEFITS PACKAGE: health services and means included in an insurance scheme.

BUDGET: financial expression of a plan published periodically and which determines *ex ante* the magnitude and characteristics of resource allocations.

CAPITATION: a fixed payment to providers per person covered in a health care scheme. The service provider receives the payment per person independently from the risk level of the insured person, according to the benefits package agreed upon for a given period (a year, for example).

CATASTROPHIC COSTS: costs associated to the treatment of a disease that exceeds the payment capacity of the health services user (see notes).

COFOG: a classification of government functions prepared by the United Nations and the institutions that edit the NHA system. It provides a nomenclature of activities performed by the public administration.

COICOP: a classification of individual consumption by purpose, [international of products].

COINSURANCE: the percentage of total charges for a service that the insured person or beneficiary must pay directly out-of-pocket.

CONSOLIDATED EXPENDITURES: expenditure grouping under summary categories that must coincide in value and express expenditure in its various forms of disaggregation.

CONTRIBUTION: the manner in which resources are mobilized by insurance entities. The origin of resources may be compulsory or voluntary. Businesses are the potential beneficiaries.

COPAYMENT: payment by the users of an insurance or service each time they use it.

CURATIVE CARE: care provision related to a pathological condition.

CURRENT EXPENDITURES: expenditures performed continuously by industries in the production of goods and services.

DEDUCTIBLE COST: cost covered as an out-of-pocket expenditure by the user before the activation of a benefits package.

ECONOMIC UNIT: all entities that may own assets, establish debts and act in financial and economic matters.

ENTITIES: the statistical units whose information is compiled. They may be either an observation unit about which statistics are compiled, or an analytical unit created by accountants by dividing or combining observation units through estimation or imputation, in order to provide more detailed or homogeneous data than would otherwise be available (OECD 2000. A System of Health Accounts. Version 1.0 OECD Publications: Paris).

ESTIMATIONS: mathematical calculations based on trustworthy data, according to the country's situation, performed when basic information is insufficient to obtain detailed data about health expenditures.

EXPANDED IMMUNIZATION PLAN: expenditures on the prevention of diseases that may be prevented through immunization.

EXPENDITURE OBJECT CATEGORIES: the classification of expenditures according to factors of production. The expenditure estimation will be the sum of expenditures estimated by sector, which in the case of the public and social security sector includes provider institutions, grouped in both categories, as recorded in the budget exercised in each one and that is specific for AIDS-related activities.

EXTERNAL FINANCING: resources originating in a source outside the country that are directed at any kind of health care. Previously expenditure accounts only recorded financial flows received without including material benefits received by the system, whereas donors accounted for both.

FINAL CONSUMPTION: this includes the goods and services consumed by households.

FINANCIAL AGENTS: entities that make decisions about expenditures, receive financial resources from the sources and transfer them as payment to health care providers. May also include households as an agent, in making out-of-pocket expenditures.

FINANCIAL FLOWS: the flow of resources from the financial source to the entities that administer these and finally to the provider institutions that execute them. This reflects the creation, transformation, exchange, transfer or extinction of economic value. Therefore, the flows are the variation between two positions of a given stock associated to the provision of health services or goods, stock being understood as an accumulation of value in time.

FINANCIAL SOURCES: the origin of financial resources in health. In institutional terms it covers the economic entities that provide financial resources to the national health system. It includes households, businesses and governments. External resources – both loans and donations –may be channeled to the public and social security sectors through governments or directly through private services.

FIXED CAPITAL: resources used repeatedly in goods and services production processes over more than a year. This includes structures, machines and equipment, as well as trees and animals included in production and intangible goods used in production, such as software.

FUNDS OR FINANCIAL AGENTS: these are the institutions that act as receivers that concentrate and manage financial resources directed at health care activities.

FURNISHINGS: physical objects whose useful life is longer than a year.

GROSS FORMATION OF FIXED CAPITAL: this measures the value of the acquisition of fixed assets. It does not include the value of their consumption.

GROSS NATIONAL PRODUCT (GNP): monetary value of the production of goods and services destined for final use in an economy during a year, whether oriented to the satisfaction of consumption by families, to the investment by businesses (the gross formation of fixed capital), public

consumption and investment, and external demand for a country's products.

HEALTH BRANCH: this includes all economic units that share an interest and responsibility in the conservation or improvement of health conditions in the population and the individuals.

HEALTH CARE: a set of activities seeking to preserve and/or improve the level of health of an individual or a collective.

HEALTH CENTER: an operational unit established to produce integrated ambulatory health services, preferably located in capital cities.

HEALTH EXPENDITURE: expenditures performed with the immediate and direct object of providing, preventing, recuperating or rehabilitating health. This is a disbursement performed to finance the provision of health goods or services in a direct form to individuals and populations. Expenditures in water and sanitation, food and housing, although important determinants in individual and community health, are not classified in the health function.

HEALTH EXPENDITURES IN HIV/AIDS: expenditures performed by the national health system directly with the purpose of avoiding or treating infection by HIV, as well as treating and rehabilitating complications in AIDS patients. This includes the promotion, prevention, treatment and rehabilitation activities related to HIV. Given that AIDS patients need social support in activities not directly health related, these must be included adjacently to the expenditure accounting.

HEALTH POST: minimal health unit operated by auxiliary personnel to provide simplified health care and environmental control and sanitation.

HEALTH PROMOTION: the empowerment of people to increase their control and improvement of their own health. It includes 5 main areas: the construction of public health policy, creating supporting environments, favoring community action, developing personal abilities and reorienting health services. A recent contribution is the Health Scenarios approach, which promotes networking and projects to create healthy environments in schools, hospitals that promote health, healthy cities and healthy work environments. A basic premise is that every organization or community has the potential to develop health.

HEALTH SERVICES INSTITUTIONS: these are the operative units that perform expenditures, manage health care services and are in direct contact with the population.

HEALTH SERVICES PROVIDER: an entity providing direct health care to individuals and populations. This covers health care provision institutions, professional practice groups, independent practitioners and all individuals, organizations or entities providing promotion, prevention, and treatment or rehabilitation health services.

HEALTH: the set of conditions favoring the greatest individual and collective human welfare and development. WHO has adopted a broader definition that is difficult to make operational: ["the state of complete physical, psychological and social welfare, not just the absence of disease"].

HIV/AIDS: the Acquired Immune Deficiency Syndrome is the last phase in the infection caused by the Human Immune Deficiency Virus (HIV-1 and less frequently HIV-2). The virus was first isolated in 1983 and since 1985 there exist tests that permit its detection.

HOSPITAL CARE: services provided for the diagnosis and treatment of patients, including promotion, prevention, recuperation and rehabilitation activities directed at the individual, the population or the environment, and that include internment. In mixed services units the term refers to inpatient care.

HOSPITAL: the establishments dedicated to health care, either ambulatory or inpatient, whether they be state entities, private or belonging to the social security, and of high or low degrees of complexity.

INTERMEDIARY CONSUMPTION: this includes non-durable goods and services used for production in an industry, in this case, health services. This excludes capital goods and includes repairs and maintenance.

INVESTMENT EXPENDITURES: expenditures used in acquiring productive goods. Together with this material investment (called productive investment if performed by a business), there is an immaterial investment (expenditures in research and development, software, training, etc.) Capital is a stock that increases if gross investment, that is, the aggregate of new investment flows is greater than their amortization. The difference between gains and losses in such stock is the net investment. The gross investment minus the net investment equals the replacement investment.

LOCAL GOVERNMENT: these are the diverse geopolitical units managing the financial resources under study.

MATRICES: the double-entry tables used for the detailed description of two corresponding categories.

MORAL HAZZARD: the impact on demand of a service when the amount paid by the individual is less than the cost of the service received. The difference is covered by insurance.

NATIONAL HEALTH ACCOUNTS: this refers to the systematic, periodic and exhaustive recording of expenditures directed at health care. The estimation has an annual basis and is based on the construction of matrices of flows finance including sources of finance to funds (matrix 1), funds to care providers (matrix 2), care providers to types of service (matrix 3) and expenditure categories (matrix 4). Optionally, and according to the features of each health system it may be convenient to include other matrices, such as types of service by expenditure category, etc.

NON-REIMBURSABLE FUNDS: external non-recoverable resources that do not have to be restituted to the country of origin, whose use in health care do not generate interests.

OUT-OF-POCKET EXPENDITURES: direct payments by users of services. This includes expenditures that are performed to receive health care due to unexpected needs in the absence of a prepayment.

PER CAPITA HEALTH EXPENDITURE: this is the result of dividing total health expenditure by the number of inhabitants in a country.

PER USER HEALTH EXPENDITURE: this is the result of dividing total health expenditures of an institution by the number of its beneficiaries. A beneficiary is anyone who has used the services at least once during the period of reference (usually 1 year).

PERSONNEL EXPENDITURES: payments of all kinds performed to employees and workers, according to legal provisions, including subsidies and transfers to social security. This excludes expressly payment for room and board, transportation and others covered in the service expenditures group.

PREVENTION: a set of activities performed to avoid the development of diseases.

PRIMARY CARE LEVEL: essential sanitary assistance provided by outpatient units as the first contact between services and the population. Usually under the responsibility of the Health Area, charged with solving the most frequent health problems requiring technologies of low complexity. This kind of assistance is provided in an integral manner by health sub-centers, health centers (basic care) and health centers/hospitals (basic and complementary care).

PRIVATE HEALTH EXPENDITURE: this is the expenditure performed by private and non-government entities, such as households and businesses. Additionally, businesses may be for profit or not. A for-profit business is that which may receive benefits through its service offer to be distributed according to the owners' convenience. A non-profit business distributes benefits that must not be directed at the owners or managers of the institution. Private expenditures are directed to the payment of general and specialized medical services, clinical and hospital services, and include expenditures by businesses on health insurance premiums or other clinical or hospital services, expenditures by non-government organizations and organizations whose main sources of income are private.

PRODUCT PRODUCTION AND MARKETING: expenditures directed at producing or marketing drugs.

PROMOTION: activities directed at establishing favorable conditions for the subject's development, whether physical, psychological or social. Its results translate into the provision of health education to the population, an appropriate nutrition, environmental sanitation, early stimulation, adequate work conditions, etc.

PROVIDER-INDUCED DEMAND: a phenomenon resulting from imperfect patient information about cost, danger or alternatives to treatment. This is one of the reasons health care costs increase. Regulation seeks to ensure that health providers inform patients adequately about services offered.

PUBLIC HEALTH EXPENDITURE: this is expenditure performed by government entities through the MOH and its entities, or through transfers to other government entities operating their own budgets, such as social security institutions. In decentralized levels this includes expenditures by local or sub-national governments and other social programs supported by public funds.

PUBLIC HEALTH: the set of activities and services directed at protecting the health of the population as a collective unit, that is, the means of social or public interest such as general health promotion and prevention measure, the control and surveillance of epidemics, health education, environmental sanitation, sanitary regulation and nutritional care, among others.

PUBLIC WORKS OR BUILDINGS: budgetary allocations destined to the construction of buildings contracted out to other entities. This includes major repairs and restorations. Allocations for the performance of directly managed works are excluded, for they are included in the corresponding expenditure.

REHABILITATION: the last phase in the healing process. Its purpose is to diminish the deterioration caused by illness in order to take advantage of the greatest available functional capacity in the individual.

REIMBURSABLE FUNDS: external recoverable resources that must be restituted to the country of origin, whose use in health care generates interests.

REIMBURSEMENT BASED ON THE USE OF SERVICES: retrospective payment of an administratively determined amount for each case or episode of a disease. Services are valued according to reasonably homogeneous cost categories.

RESEARCH: the promotion, design and performance of analyses for the production, use and evaluation of knowledge and technology in health and medical care.

RISK POOLING: a population group covered by the same insurance scheme.

RISK RATE: basis for the determination of individual or group contributions (premiums) to an insurance scheme. In a risk payment scheme the contribution is calculated according to the expected cost of the service, rather than according to the payee's income level (as happens in social insurance).

RURAL AREA: municipalities and settlements with less than 5,000 inhabitants (including the periphery, in the case of small cities), and parishes with less than 5,000 inhabitants, both in their concentrated and dispersed areas.

SECOND LEVEL OF CARE: this represents the first reference level for care in the four basic specialties: pediatrics, obstetrics/gynecology, surgery and internal medicine, and includes provincial hospitals that deal with medium-complexity health problems.

SECTOR COORDINATION: support agreement signed by institutions implying disbursements for activities related to health services.

SERVICES: the economic product of a productive activity or process that has no material form and is therefore non-transferable. Services are generally consumed at the point of production. In fact, the processes of production and consumption are inseparable. They cannot be bought and later resold.

SNA93. 1993 SYSTEM OF NATIONAL ACCOUNTS: an international standardized system for the compilation of national accounts statistics. It includes standardized concepts for the different fields of economic statistics.

SOCIAL SECURITY: a system for financing care through contributions to a fund that operates within a framework of state regulations. It usually involves obligatory contributions associated to the income of employers and employees.

SPECIALTY HOSPITAL: a health unit of the highest degree of complexity, serving for national reference and conducting diagnosis and treatment of patients in different medical specialties.

SUBSIDY: payments by government to businesses based on the level of their productive activity or the amount or value of goods and services produced, sold or imported. Subsidies are equivalent to negative production taxes. Even when subsidies are not paid to the final consumer they permit the existence of a difference between sale price and production costs of the products being promoted. The subsidies given by government to businesses to finance capital formation or to compensate damages to their assets are treated as capital transfers.

SUPPLIES AND MATERIALS: a budget allocation group destined to the purchase of goods required for the operation of services and that are used up totally during the process. Some examples are discardable medical implements, laboratory reagents, drugs and pharmaceutical products, other products used in laboratories and minor medical implements, among others.

TARIFFS: retrospective payment for a type of service provided. Its amount is established by market mechanisms or through administrative procedures.

THIRD LEVEL OF CARE: the provision of highly specialized services with sophisticated diagnostic and therapeutic procedures, directed at solving complex health problems in national specialized or specialty hospitals.

THIRD PAYEES: entities responsible for the payment of insurance contributions to service providers. These may be public or private service providers.

TRAINING: the activities performed in order to make current knowledge and abilities in health personnel.

TRANSACTIÓN: all economic interactions established by mutual agreement between two institutions.

TRANSFER: allocations between the public and private sector and external allocations provided without an obligation for repayment.

TYPE OF EXPENDITURE: expenditure distribution by mode according to the economic classification. Expenditures may be personal services, non-personal

services, supplies and materials, infrastructure and equipment. Transfers, if they are present, are included in this classification.

- Personal services: these include all types of payment to permanent or temporary personnel, such as regular pay, special pay, social insurance contributions or benefits.

- Materials and supplies: these include materials for administration, food and utensils, diverse raw materials for production, construction materials, chemicals, pharmaceutical and laboratory supplies, fuel and lubricants, clothing, bedclothes, protective garments, preventive and public security materials and other materials.

- General services: these include basic administrative services, rent, advising and research, commercial, banking and financial services, repair, maintenance, adaptation or installation services, publications, information, public ceremonies, and transportation and travel expenses for clinical or administrative personnel not included within personal services.

- Infrastructure: including expenses for expansion, remodeling and construction, equipment purchases, construction works and pre-investment studies, social works for hospital and administrative personnel. Transfers are the most important segment to track in operative areas where this expenditure is performed, in order to avoid double accounting. This category does not include the payment of debts nor financial investments.

TYPE OF SERVICE: this refers to the exhaustive and systematic description of health functions expressed as actions included in the prevention and care of patients with AIDS.

URBAN AREA: provincial capitals, main towns and parishes with 5,000 or more inhabitants.