



**Evaluation of ARV Procurement and Supply Management Systems  
in West and Central Africa Region**

**Final Report**

**June 2008**

**UNICEF - WHO - GIP ESTHER**

---

*This report was prepared during the period 1st August 2007 to 29 February 2008 by Mrs Caroline Damour (pharmacist, GIP ESTHER), Mr. Jean-Marc Guimier (consultant for the UNICEF Regional Office for West and Central Africa) and a team of four consultants who conducted field surveys : Mrs Maryse Dugue (Public health doctor, in Ghana and Central African Republic), Mrs Marie-Louise Ngoko (pharmacist, in Benin and Cameroon), Pr. Anglade Malan Klan (pharmacist, in Burkina Faso, Congo and Côte d'Ivoire) and Mr Jean-Louis Roche (pharmacist, in Democratic Republic of Congo).*

*Have also collaborated in the development of the report : Tifenn Humbert (pharmacist, HIV/AIDS Programme Officer, UNICEF Office for West and Central Africa), Eric Mercier (medical Officer, HIV/AIDS Regional Advisor, UNICEF Office for West and Central Africa), Saliyou Sanni (medical officer, HIV/AIDS Specialist, UNICEF Office for West and Central Africa), Vincent Habiyambere (medical Administrator, HIV/SSH/AMDS Department, WHO), Helen Tata (pharmacist, Technical Administrator, TCM Department, WHO), Thomas Lapnet-Moustapha (pharmacist, WHO AFRO, Regional HIV/AIDS Programme), Gilles Forte (pharmacist, TCM Department, WHO), Magali Babaley (pharmacist, Technical Administrator, TCM Department, WHO).*

*This publication expresses the views and interpretations of the authors and not necessarily the decisions of UNICEF, WHO and GIP ESTHER or those of their affiliate institutions or people acting on their behalf.*

*All adequate measures were taken to check on information presented here. However, the material published is disseminated without any express or implicit warrant. The reader is the sole responsible for the interpretation and use of this material. In no case whatsoever shall UNICEF, WHO and GIP ESTHER be held accountable for any prejudice related to its use.*

*Authors wish to thank national authorities, UNICEF country offices, UNICEF WCARO and WHO AFRO regional offices and GIP ESTHER project coordinators for their support during the evaluation exercise, especially during field surveys. We also highly appreciate the quality collaboration of HIV/AIDS professionals met during the evaluation.*

**CONTENTS**

SUMMARY ..... 5

1. BACKGROUND TO THE EVALUATION CONTEXT..... 8

2. ACTIVITIES CONDUCTED DURING PHASE 1 OF THE EVALUATION PROCESS ..... 8

    2.1 Interviews with officers from institutions and organizations involved in HIV/AIDS interventions ..... 8

    2.2 Literature Review ..... 10

    2.3 Phase 1 closing meeting ..... 12

3 PHASE 2: FIELD SURVEY ..... 12

    3.1 Reminder of PHASE II terms of reference..... 12

    3.2 General methodology ..... 12

    3.3 General findings ..... 14

    3.4 Survey results ..... 16

    3.5 Recurrent difficulties..... 25

4 CONCLUSION ..... 28

ANNEX 1 PHASE 3: THE REGIONAL RESTITUTION WORKSHOP ( 22-24 APRIL 2008-DAKAR-SENEGAL) ..... 29

ANNEX 2 LIST OF PARTICIPANTS TO THE WORKSHOP ..... 32

ANNEX 3 AGENDA RESTITUTION MEETING ..... 35

ANNEX 4 BIBLIOGRAPHY ..... 37

ANNEX 5 SOME ADDITIONAL FIGURES..... 41

ANNEX 6: CONSULTANTS SUMMARY..... 48

ANNEX 7 FIELD SURVEY METHODOLOGY..... 54

ANNEX 8: THE SURVEY QUESTIONNAIRE ..... 64

### **List of acronyms**

ACAME	Association des Centrales d'Achat Africaines de Médicaments Essentiels
AMDS	AIDS Medicines and Diagnostics Service
ART	Antiretroviral Therapy
ARV	Antiretroviral Drug
CAMEG	Centrale d'Achat des Médicaments Essentiels (Essential Medicines Central Medical store)
DPL	Direction de la Pharmacie et des Laboratoires (Pharmacy and Laboratory Department)
DPM	Direction de la Pharmacie et du Médicament (Pharmacy and Medicine Department)
EMEA	European Medicine Agency
FDA	Food and Drug Administration
GDF	Global Drug Facility
GIP ESTHER	Groupement d'Intérêt Public : Ensemble pour une Solidarité Thérapeutique Hospitalière En Réseau
JSI	John Snow International
MSF	Médecins Sans Frontières
MSH	Management Sciences for Health
OI	Opportunistic Infection
PCR	Polymerase Chain Reaction
PEPFAR	President's Emergency Plan for AIDS Relief
PLWA	People living with AIDS
PMTCT	Prevention of Mother To Child Transmission
PNLS	Programme National de Lutte contre le Sida (National AIDS Control Programme)
PSM	Procurement and Supply Management
SCMS	Supply Chain Management System
TCM	Department of Technical Cooperation for Essential Drugs and Traditional Medicine
USAID	United States Agency for International Development

## SUMMARY

The UNICEF Regional Office for West and Central Africa<sup>1</sup>, in partnership with WHO (TCM<sup>2</sup>, AMDS and the AFRO Office) and GIP ESTHER<sup>3</sup> undertook an assessment of Procurement and Supply Management Systems (PSM) for Antiretroviral (ARV) drugs, medicines for opportunistic infections (OI) and diagnostic means (reagents and other consumables)

The evaluation was sequenced in three phases: (i) review of documentation available on the issue in the 24 West and Central African countries covered by UNICEF (ii) field surveys, in sample countries and (iii) submission, discussion of results and development of proposals during a regional feedback workshop held in Dakar in April 2008.

The literature review has helped to identify a number of interrelated constraints in the PSM issue commonly faced by almost all countries: (i) Recurrent stockouts in health facilities mainly due to inadequate forecasting and inadequate information flow between stakeholders, (ii) the high number of stakeholders involved working with complex and rigid scenarios (iii) inadequate consultation between donors and medical stores, (iv) fractioning of the supply cycle (v) the multiplicity and lack of flexibility in supply procedures. The analysis also revealed that the volume of information on PSM in documents reviewed was generally of very poor quality and was hardly useful to establish a typology of problems encountered. This is accounted for the fact that beyond topics addressed, the level of relevance of documents is highly variable, ranging from mission reports for a period under a week, conducted by one single person without using a confirmed working methodology, to cumbersome studies and evaluations conducted by pluridisciplinary teams over one month based on a validated methodology.

After this first evaluation phase, a meeting was held at WHO Headquarters in Geneva in October 2007 with the following objectives: presentation of the preliminary report of phase 1 and review of its content, identification of countries to be surveyed during phase two of the evaluation process, finalization of the methodology to be used during surveys and adoption of an implementation timeline.

The second Phase aims at conducting field surveys on a sample of 8 countries identified in Phase one (Benin, Burkina Faso, Cameroun, Central Africa Republic, Congo, Ivory Coast, Democratic Republic of Congo and Ghana) which account for 43% of the population, 48% of PLWAs and 58% of children affected by AIDS in the region. These field surveys are intended to collect and analyse in countries part of the sample information needed to review PSM systems for ARV drugs, medicines for OI and diagnostic means in the region.

Based on the literature review conducted during Phase 1, a survey questionnaire was developed to collect objective information on PSM issues. This questionnaire was tested in November 2007 in Gabon and modified as needed. It is structured in four chapters and 17 main sections: (i) 3 sections on general information on the context, (ii) 10 sections covering all aspects on procurement and management, (iii) 3 analytical sections (visits to three health facilities, description of the procurement and supply management cycle of ARVs and major weaknesses and disruptions in the procurement and supply management system and (iv) 1 section on resource persons contact details.

The survey methodology focused on three aspects: (i) Review of literature available based on documents submitted to consultants., (ii) completion of the survey questionnaire through working sessions and structured interviews with key individuals working in AIDS Committees or Programs, either in national organizations and institutions or from multilateral, bilateral organizations and institutions technically or financially involved in AIDS control activities and (iii) a visit in each country of 3 health facilities, where care, support & treatment are provided to PLWAs, to assess their level of functionality.

---

<sup>1</sup> Benin, Burkina Faso, Cameroon, Cape Verde, CAR, Congo, Côte d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Guinea Bissau, Equatorial Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, DRC, Sao Tomé, Senegal, Sierra Leone, Chad and Togo.

<sup>2</sup> Department of Technical Cooperation for Essential Drugs and Traditional Medicine.

<sup>3</sup> Public Interest Group : « Ensemble pour une Solidarité Thérapeutique Hospitalière En Réseau ».

Data thus collected is analyzed in two respects: (i) Quantitatively concerning figures on various global domains (organization mode of the pharmaceutical sector, organization of disease management, price analysis, contribution by patients to the cost of treatment, etc. (ii) Qualitatively, concerning data related mainly to the review of the procurement and supply management cycle and information collected during visits to health facilities.

Major results highlighted by surveys are as follows:

-Resources mobilised vary considerably in terms of both the proportion of eligible patients among people living with HIV/AIDS who receive ARV treatment but also for the number of health facilities, the geographical distribution of such facilities and functionality of equipment for testing and immunological follow up of patients, especially in view of the low number of PCR machines available for early diagnosis in children.

-On regulatory aspects, all countries covered by the sample have passed legislations regulating the pharmaceutical policy, registration procedures and the list of essential medicines including antiretroviral. However, the situation is much more contrasted with essential and generic medicines (EGM): only half of the countries have a fairly complete regulatory and legislative framework, including a set of texts promoting the use of generic medicines (promotion policies, specific registration policies for EGM, right of substitution and establishment of operational quality control laboratories adequately equipped to control the quality of ARVs).

- Purchase prices: Significant deviations are noted from one country to another: 1.20 for Didanosine 200 mg. 30 tab. (lowest price: 19.5 USD, highest price 23, 5 USD) to 2.96 for Abacavir 300 mg. 60 tab. (lowest price: 30, 5 USD, highest price 90, 5 USD). Such deviations seem to be related to supply modalities (land, air, sea) and purchase techniques used rather than to the geographical situation of purchasing countries because the highest prices are not restricted to landlocked countries as would have been expected.

- Free treatment, testing, CD4 count and biological follow up are only enforced in one country. In all other countries, highly variable amounts are requested from patients for one of these expenditure lines and can reach for all cumulated expenses, an annual total exceeding 150\$, which represents three months salary for the least skilled civil servant in Sub-Saharan countries

- The analysis of the 9 activities which make up the PSM cycle (forecasting, procurement, monitoring of orders, reception of products, conformity checks, storage, quality control, settlement of suppliers' bills and distribution) shows that the number of players per funding source is high, ranging from 11 to 16 . The number of players per type of activity ranges on average from 3.3 (1 – 8) for estimation of needs to 0.5 (0 – 2) for quality control. This multiplicity of funding sources and actors generates additional costs without any technical or logistical counterpart and makes the issue more complex.

- The outcome of visits conducted in 24 health facilities in the 8 countries globally shows quite poor situations in some aspects: storage conditions are not satisfactory, stock managers are not sufficiently trained, management tools, even basic ones (stock cards) are not systematically used, along with non systematic supervision. However, availability rates are satisfactory, even though all centres report stockouts during the period before surveys are conducted.

The analysis points to 4 recurrent difficulties faced by all countries:

- *Lack of reliability in quantifying needs*: This is the major problem of the procurement chain and the first cause of stockouts or overstocks. It has several cumulative origins: the difficulties encountered by the staff of the health facilities in correctly counting the number of patients per protocol or molecule, omissions in those health facilities to report on patients loss to follow-up or on newly enrolled ones, reports of new patients on the basis of the percentage of the objectives of the programs and not on the reality, and the forecasting technique based on the epidemiological profile and not on the real consumption.

-*The multiplicity of stakeholders in the procurement chain and fragmentation of its essential functions* (forecasting, procurement and monitoring, management of orders placed with suppliers and drugs warehousing) among all these stakeholders are factors affecting the efficiency of the procurement function. In such scenarios, information flows bottom up; thus, central medical stores regularly report on their activities but they are not informed in return about suppliers programming or delivery dates or corresponding quantities, which may seriously affect their operations and their engagement.

-Many difficulties identified result from incompatibility between, on the one hand, *inadequately expressed demand* owing to its dynamic nature due to constant variation in the number of patients, non compliance with therapeutic protocols and lack of forecast reliability, and on the other hand, enforcement of procurement techniques poorly adapted to demand specificities: sometimes insufficiently informed operators with poor knowledge of the issues related to HIV/AIDS and procurement, too lengthy and inflexible procurement procedures with suppliers being slow in responding.

- *Frequent stockouts* sometimes generated by lack of flexibility of procurement procedures adopted at central level and in health facilities though disruptions in the supply channels, delayed or underestimated orders and various management constraints; no satisfactory and sustainable response has yet been found. Emergency stocks positioned in some countries in the region are under used resulting in stockouts of some drugs, which prevent health care providers to abide national protocols; the consequences of this are drug resistance or lower effectiveness of the treatments.

- In many countries, forecasting, ordering and receiving of ARVs drugs, OI medicines and diagnostic tests are conducted by national AIDS programmes without the involvement of central medical stores or authorized operators. They latter know of the existence of drugs and materials only when they are already warehoused.

The general lesson to be drawn from this evaluation exercise is that, in view of the complexity of the PSM issue in developing countries, where difficulties of all kinds accumulate, calling for appropriate and flexible responses, existing systems in place to ensure efficient drugs and diagnostic tests procurement are too vertical, hierarchical, too rigid, not efficient, which negatively impacts on the efficient use of funds committed.

Therefore, it is important and urgent to improve the efficiency of the PSM system to meet the challenge of scaling up HIV/AIDS care support and treatment programmes.

## **WARNING**

The term « evaluation » should not be understood in this context in its usual acceptance, as an approach using a specific methodology and intended to give a value judgement on a given situation using indicators. The purpose is therefore not to judge the specific situation of the Procurement and Supply Management (PSM) issue in countries where surveys were conducted or to perform an in-depth analysis of the process. We rather intend to perform an assessment to identify jointly with countries involved major recurrent or systemic difficulties, to determine causes and suggest and implement at regional level, coordinated and adapted responses in the next years

### **1. BACKGROUND TO THE EVALUATION CONTEXT**

Initially commissioned by the UNICEF West and Central Africa Regional Office, the evaluation of Procurement and Supply Systems for Antiretroviral drugs (ARV), drugs for opportunistic infections (OI) and diagnosis equipments was finally conducted through a formalized partnership between WHO (initially the TCM Department joined later on by AMDS and the AFRO) and the GIP ESTHER.

The idea of conducting this tripartite evaluation was justified for two major reasons : the WHO TCM Department had committed since 2007 in several countries of the AFRO region to “launch an in-depth evaluation of the procurement and supply management chain in essential medicines in the public sector”; in this context, collaboration between UNICEF and WHO seemed therefore relevant because these two UN Agencies have always entered into technical cooperation and it was necessary to coordinate their interventions to avoid duplication and generate synergy. On the other hand, GIP ESTHER was since a recent time involved (in 6 of the 8 countries surveyed) in the analysis of the PSM issue, the objective being to improve access to quality treatment

The evaluation is sequenced in three phases : (i) review of documentation available in WCAR on the issue (ii) field surveys, in a sample of 8 countries selected based on specific criteria and on the analysis of survey questionnaires and (iii) submission and discussion of results and development of recommendations during a feedback workshop held in Dakar in April 2008 with the attendance from partners (donors and operators) representatives of programmes, national departments and projects involved in HIV/AIDS control in this geographical area.

### **2. ACTIVITIES CONDUCTED DURING PHASE 1 OF THE EVALUATION PROCESS**

Three main activities were conducted (ref. Report of Phase 1<sup>4</sup>, which this report completes)

#### ***2.1 Interviews with officers from institutions and organizations involved in HIV/AIDS interventions***

These interviews were intended to introduce to these institutions and organizations the evaluation process (objectives, methodology and expected outcomes), to collect additional information and to suggest them to collaborate in the process in order to broaden the initial partnership and create a sustainable trend. Interviews were conducted with officers in charge in the following bodies: The French Foreign Ministry, DGCID-DPDEV<sup>5</sup> · the Ministry of Foreign Affairs (Paris), The Global Fund Secretariat (Geneva), Supply Chain Management System (Geneva), WHO AMDS (Geneva) and the UNITAID Secretariat (Geneva).

Generally, people met were quite enthusiastic about the evaluation process because they believe that better knowledge of PSM systems for medicines and diagnosis tests as well as disruptions faced by operators on the field will contribute to improve the efficiency of current and future initiatives. On the other hand, the evaluation process would facilitate consultation between donors and operators and thus improve the visibility of initiatives and operations in the HIV/AIDS sector in Africa (which is quite weak now ) at the end of the process.

---

<sup>4</sup>Phase 1 report includes: A summary of documents reviewed (annex 1), questionnaire analysis (annex 2), Terms of reference of consultants recruited to conduct Phase II surveys (annex 3) and the questionnaire used for data collection in countries covered (annex 4).

<sup>5</sup> Direction des Politiques de Développement.

**a. The French Foreign Ministry, DGCID-DPDEV, Health and Social Policy Bureau: persons met: Guilherme de Lemos Joan Valadou, monitoring officer, UNITAID.**

Since its restructuration, French Cooperation is no longer directly involved in HIV/AIDS management; however, in view of its significant contribution to the Global Fund and UNITAID, for which it is a co-founder, this Agency closely follows the situation. Guilherme de Lemos, in charge of pharmaceutical issues, expressed interest to collaborate in the PSM evaluation process but did not specify the nature of the French Cooperation contribution : this could be in the form of documentaion but could also translate into active participation later on during the process.

**b. Global Fund - Secretariat. Person met: Sophie Logez (global health supply policy analyst). 27 september 2007.**

Being the major source of multilateral funding in Africa, the Global Fund showed interest in the evaluation process, which will provide them with a broader picture of the care situation in countries supported.

Direct collaboration is not possible as the Global Fund can only provide the evaluation team with public information and data available on its website. For this reason, it was not possible to obtain copies of neither PSM plans developped in each beneficiary country by the major recipient or the outcome of the evaluation of national capacities to absorb funds allocated, prepared by national fund administrators for elligibility to financing . These documents being the property of the country in the first case and of local fund administrators in the second case, documentation should therefore be sought from them during phase 2.

The Global Fund intervention strategy as developped in 2002 was based on close collaboration with UNDP, especially in beneficiary countries, where weaknesses were identified in terms of procurement and supply management capacity. This strategy is gradually moving towards direct collaboration with other operators (central medical stores, civil society organizations and representaitves) in several countries : Benin, Burkina Faso, Cameroon, Congo, Côte d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Chad.

**c. Supply Chain Management System - Global Partnerships Unit. Person met : Stéphanie Xueref. 9 October 2007.**

In several African countries, SCMS provides to HIV/AIDS programs, upon request, medecines, diagnosis tests and laboratory equipment. Procurement is achieved through three « Regional centers » based in Ghana, Kenya and South Africa. Two countries in the West and Central Africa region (Côte d'Ivoire and Nigeria) are currently receiving support from the Regional center based in Ghana.

Stéphanie Xueref expressed interest to collaborate in the PSM evaluation process. However, authorization is needed from USAID (the funding agency) before they can share documentaion available and mobilize resources for active collaboration.

**d. AMDS - HIV/AIDS Department. Person met: Vincent Habiyambere (medical officer). 12 October 2007.**

AMDS is the Secretariat of a network of several institutions involved in PSM to fight HIV/AIDS (technical partners, funding agencies, manufacturers, etc. )<sup>6</sup>. It is hosted by the WHO HIV/AIDS Department. Since its creation at the end of 2003, its role has changed. Currently is centralizing, managing and providing information in two major areas : (i) drugs and related consumables, training, quality insurance, prequalification and patents, etc and, (ii) supply management (forecasts, logistics, price, etc.).

---

<sup>6</sup> Centrale Humanitaire Médico-Pharmaceutique, Clinton Foundation, Commonwealth Pharmaceutical Association, Crown Agents, Ecumenical Pharmaceutical Network, GIP ESTHER, International Pharmaceutical Federation, GFATM, International Dispensary Association HIV/AIDS group, IDA solutions, JSI, Management Sciences for Health/RPM-Plus, Missionpharma, Partnership for Supply Chain Management System, Réseau Médicaments et Développement, UNAIDS, UNDP, UNICEF, UNFPA, USAID, World Bank, WHO Contracting and Procurement Services, WHO Essential Health Technology, WHO HIV/AIDS department, WHO Medicines Policy and Standards, WHO Technical Cooperation for essential drugs and traditional Medicine

In view of the crosscutting nature of this activity, AMDS contribution to the evaluation process should be broadened to provide skills and value-added during the critical analysis and development of proposals for the continuation of the process.

**e. UNITAID – Executive Secretariat. Person met: Philippe Duneton (Advisor to the Executive Secretary). 1st- 8th November 2007.**

Established in 2006, UNITAID<sup>7</sup> is not a separate legal entity but rather an initiative based on collaboration to improve access to ARV second line, paediatric treatment and diagnosis tests by lowering prices. This initiative is similar to other donor interventions in their funding mode (tax levied through air tickets purchased in member countries and long term budget pledges by 3 countries)<sup>8</sup>.

UNITAID operates through its “technical partners” (WHO, UNICEF, Global Fund, Clinton foundation, GDF /Green Light Committee, Stop TB and Roll Back Malaria). Currently, 13 out of the 24 West and Central African countries covered by UNICEF are receiving support from UNITAID. They include: Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Guinea, Liberia, Mali, Nigeria, DR Congo, Senegal, Chad and Togo.

UNITAID is considering a strategy of action for the next years and intends to commission an evaluation of the HIV/AIDS situation in African countries. It is therefore looking forward to the conclusions and recommendations emanating from this evaluation.

## **2.2 Literature Review**

### **a. Major Findings**

This has helped to identify a number of often inter-related constraints in the PSM issue common to almost all countries. The following can be highlighted:

-Frequent stockouts are noted in health facilities, their causes being multiple. Among these, two are recurrent: (i) difficulties encountered by national programmes in assessing their needs, with adequate estimation of margins. This is due to lack of an actual information management system on consumption and on the objectives of the programs [26, 27, 36, 47]<sup>9</sup> and (ii) the very low level of feedback from health facilities to entities responsible for procurement [11, 32, 39]. However, situations encountered are not all similar. In Burkina Faso, CAMEG has identified original solutions to address stockouts [6, 7] : anticipation of donor authorization to place orders from suppliers<sup>10</sup>, stock exchanges between health facilities when drugs are three months away from expiry, permanent consultation with prescribers, regular stock monitoring. This mechanism has significantly contributed to reduce the number of stockouts. Other medical stores have also witnessed a reduction in the frequency of stockouts (such as the Côte d'Ivoire Public Health Pharmacy in 2006 [16]).

- The number of players in the PSM cycle (donors, national programmes and operators) is very high in some countries; organizational mechanisms are numerous, complex and not always rational, while communication, information sharing and consultation amongst them is poor; if not non-existent [8, 40].

- Donors are not aware, or they underestimate the financial costs and workload generated by their support, which heavily impacts on medical stores' operations.

Much of these constraints negatively affect the efficiency of funds committed. In its annual report<sup>11</sup>, UNAIDS resumed the situation by underlining that: “weaknesses identified in capacity-building systems, in improving governance and programme management seem to undermine efforts made to work with the money available.”

---

<sup>7</sup> 5 countries (Brazil, Chili, France, Norway and United-Kingdom) initiated UNITAID. In 2007, they were joined by Spain, Korea, Cyprus and 18 African countries: South Africa, Benin, Burkina Faso, Cameroon, Congo, Ivory Coast, Gabon, Guinea, Liberia, Madagascar, Mali, Morocco, Mauritius, Namibia, Niger, CAR, Senegal, Sao Tome and Principe and Togo.

<sup>8</sup> United-Kingdom, Spain and South-Africa

<sup>9</sup> Numbers in brackets refer to bibliographical references at the end of the report.

<sup>10</sup> The World Bank and other donors: A « non objection » notice is required before orders are placed from suppliers, whose delivery time can sometimes take months.

<sup>11</sup> UNAIDS annual Report. Geneva 2006; p53.

ACAME<sup>12</sup>, in its draft « operational plan of action to support programmes fighting against priority diseases and funded by UNITAID<sup>13</sup> » came to the following conclusion: “Weaknesses identified in the capacity-building and programme management systems, along with poor governance seem to undermine efforts deployed to optimize on money available».

- Inadequate consultation between donors and central medical stores and their limited involvement in the development of strategies, formulation of operational choices and practical implementation of drugs procurement programmes for sustainability.
- Unclear definition of tasks and inadequate estimation of fees related to warehousing and distribution.
- Fragmentation of the logistical procurement cycle and unclear allocation of responsibilities. They went on to state: « *procurement for AIDS programmes depends not only on a sound needs assessment based on accurate forecasts but also on monitoring of activities and stockpiles so that readjustment can permanently be made. Any gap in field requirements will lead to stock outs, which is highly detrimental to the health of People Living with HIV/AIDS, namely expiry of products due to the short life cycle of ARVs* ».
- Underestimation by donors of tasks to be accomplished in the countries within the PSM process.
- Multiplicity of programmes and procedures, hence the need for various partners involved to harmonize their administrative procedures to facilitate programme implementation

### ***b. Limitations of the literature review***

This literature review revealed that the volume of information on PSM contained in the documents reviewed was generally low and hardly useful to allow rigorous assessment of PSM systems: in some cases, they are just brief and incomplete descriptions and the six crucial components of the procurement and supply management chain (forecasting, funding, supply, stock management, distribution and quality assurance system) are not systematically addressed. Therefore, it is difficult, if not impossible, to develop a typology of constraints. At most, it may be possible to state that in 4 countries (Burkina Faso, Côte d'Ivoire, Ghana and Senegal<sup>14</sup>) difficulties encountered are less important and that achievements in terms of numbers of patients on ARVs and realisation of objectives are better than in other countries. This is accounted for the fact that beyond topics addressed, the level of relevance of documents is highly variable, ranging from mission reports for a period under a week, conducted by one single person without using a confirmed working methodology, to cumbersome studies and evaluations conducted by pluridisciplinary teams over one month based on a validated methodology (all of them conducted by large US agencies: MSH, JSI/DELIVER and Tulane University).

The volume of documentation available is only significant for 5 countries<sup>15</sup> (half of documents compiled). This absolute lack of documents for such a critical issue as the PSM supply chain<sup>16</sup>, which determines to a large extent access to affordable and quality treatment, seems to point to some lack of communication between partners, operators and national institutions involved in HIV/AIDS control interventions. This is a barrier to information sharing and to smooth implementation of the coordination mechanism designed by partners in the West and Central Africa region (Global Joint Problem Solving & Implementation Support Team and, Inter Agency Task Team<sup>17</sup>) who are not in a position to collect and disseminate information in such a sensitive domain.

---

<sup>12</sup> Association of African Essential Medicines medical stores (supplying essential medicines) based in Ouagadougou (Burkina Faso).

<sup>13</sup> Operational Proposal Plan to be funded by UNITAID. November 2007

<sup>14</sup> As well, the best documented countries.

<sup>15</sup> Ivory Coast, Senegal, Ghana, Burkina Faso and CAR.

<sup>16</sup> No document collected for 9 countries among 24: Cape Verde, Congo, Gabon, Equatorial Guinea, The Gambia, Liberia, Nigeria, Sao Tome and Togo.

<sup>17</sup> The Inter Agency Task Team includes the Global Fund, UNICEF, the WHO AMDS Department, UNDP, the World Bank, USAID, JSI, MSH, GIP ESTHER, IDA...

### **2.3 Phase 1 closing meeting**

After this first evaluation phase, a meeting was held at WHO Headquarters in Geneva in October 2007 with the following objectives: (i) presentation of the preliminary report of phase 1 and review of its content, (ii) identification of countries to be surveyed during phase 2 of the evaluation, (iii) finalization of the methodology to be used during phase 2 and, (iv) adoption of an implementation timeline.

The following were in attendance: Eric Mercier (Medical Officer, HIV/AIDS Regional Advisor, UNICEF Office for West and Central Africa), Tifenn Humbert (Pharmacist, HIV/AIDS Programme Officer, UNICEF Office for West and Central Africa), Helen Tata (Pharmacist, Technical Administrator, TCM Department, WHO), Magali Babaley (Pharmacist, Technical Administrator, TCM Department WHO), Caroline Damour (Pharmacist, Medical Department, GIP ESTHER), Vincent Habiyambere (Medical Administrator, HIV/SSH/AMDS Department, WHO) and Stephanie Xueref (SCMS)

## **3 PHASE 2: FIELD SURVEY**

### **3.1 Reminder of PHASE II terms of reference**

The second Phase aims at conducting field surveys on a sample of 8 countries identified during Phase 1. These field surveys are intended to collect in countries the information needed to review PSM systems for ARVs, OI and diagnostic tests, to analyse data collected and to produce an assessment.

### **3.2 General methodology**

Surveys were conducted in 8 countries: Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Congo, Ghana and Democratic Republic of Congo<sup>18</sup>.

#### **a. Justification for the selection of countries**

The sample was selected based on three major criteria: (i) avoid duplication of similar activities already implemented in the field within the evaluation currently being conducted by WHO AFRO and WHO/TCM Department; (ii) take into account the level of advancement of country programmes and (iii) give priority to countries with the highest prevalence rates.

These 8 countries account for 43% of total population, 48% of PLWAs and 58% of AIDS orphans<sup>19</sup>.

#### **b. Conduct of surveys**

Surveys were conducted by a team of 4 consultants during short term missions<sup>20</sup> in January and February 2008. Consultants were jointly recruited by UNICEF WCARO and TSF<sup>21</sup>. In each country, a « national associate consultant » was recruited with mandate to facilitate logistics on site (appointments, transport, etc.) and support senior consultants to assess, analyze and review the situation.

Consultants also benefited from technical and logistical support by UNICEF offices in the 8 countries and by ESTHER project coordinators in 6 countries (Benin, Burkina Faso, Côte d'Ivoire, Cameroon, Central African Republic and Ghana).

#### **c. Survey methodology**

The survey methodology focused on three aspects:

- Review of literature available based on documents submitted to consultants completed by those collected on site.

---

<sup>18</sup> Despite the importance of its population (131 millions inhabitants, of which 3 millions living with HIV/AIDS), Nigeria was not included for three reasons: JSI/ Deliver is currently conducting a study on PSM, PMTCT program is being reviewed and some elements are already available

<sup>19</sup> Report on the Aids global epidemy, Special issues, 10th UNAIDS Anniversary. Geneva 2006.

<sup>20</sup> 10 days per country, or two calendar weeks.

<sup>21</sup> Technical support mechanism for West and Central Africa (A project funded by UNAIDS)

-Working sessions and structured interviews with key individuals working in AIDS Committees or Programs, either in national organizations and institutions or from multilateral, bilateral organizations and institutions technically or financially involved in AIDS control activities and (with key individuals in AIDS control entities and working, depending on countries, either for national organizations and institutions (Ministry of Health, ministry in charge of AIDS control, central medical stores, national AIDS Council, Pharmacy department , Ministry of Trade, Quality control National Laboratory, a few health facilities providing ART ) or for multilateral or bilateral organizations and institutions technically or financially involved in AIDS control activities (World Bank, Global Fund, WHO, UNICEF, UNAIDS, UNFPA, UNDP, JSI/DELIVER, GIP ESTHER, Clinton Foundation, European Union, MSF, West African Health Organization, bilateral cooperation services and health projects, etc.).

- Visit in each country to three health facilities providing ART to determine whether or not there are discrepancies between information collected at central level during working sessions and the field reality, which is often more prosaic.

#### **d. Survey questionnaires**

Based on the literature review conducted during Phase 1, a survey questionnaire was developed to collect objective information on PSM issues. This questionnaire was field tested in November 2007 in Gabon<sup>22</sup> at the ACAME<sup>23</sup> annual meeting and is structured as follows:

- 3 sections on general information: (i) population, economic and epidemiological data, (ii) ARV purchase price and, (iii) financial contribution of patients to the cost of treatment.

- 10 sections covering all aspects on PSM : (i) mode of organization of the pharmaceutical sector, (ii) organisation of AIDS control interventions, (iii) patient management programme (iv) customs and taxes, (v) supply cycle, (vi) purchase modalities, (vii) bulk purchase, (viii) forecasted financial flows, (ix) distribution of funding and (x) activities funded per source of funding.

- 3 analytical sections: (i) visit to three health facilities, (ii) description of the procurement and supply of ARVs, OI, diagnostic tests and (iii) major weaknesses and disruptions identified in the PSM chain.

- 1 information section: contact details of people appointed as focal point or resource person.

The review of all these domains should contribute to provide adequate feedback to countries concerned.

#### **e. Material, method and limitations of the study**

Information discussed in this chapter is first of all derived from the processing of questionnaires used during field surveys. However, in some cases, they were completed by data gathered during interviews with professionals involved in AIDS control interventions in countries surveyed and also from the content of presentations made during interventions by the Global Fund and UNITAID, during the « Seminar on National Pharmaceutical Policies » held by WHO in Geneva from 10 to 14 March 2008.

Such data were processed under two prospects:

- Quantitatively concerning figures on various domains: mode of organization of the pharmaceutical sector, organization of disease management, price analysis, contribution by patients to the cost of treatment, etc.

- Qualitatively, concerning data related mainly to the review of the procurement and supply cycle and information collected during visits to care centres.

Finally, as field surveys conducted in one round were of a declarative nature (ref. supra chapter § 3.2b and c), information thus collected may not always truthfully reflect the reality of situations in the field. Each country was thus asked, after the feedback workshop, to validate their data and to correct apparently erroneous ones. If that is the case, corrective measures recommended were mainstreamed and the related tables bear: « Corrected data ».

---

<sup>22</sup> The test was jointly conducted by Tifenn Humbert (HIV/AIDS Programme Officer, UNICEF Office for West and Central Africa) and Caroline Damour (Pharmacist, GIP ESTHER Medical Department).

<sup>23</sup> Association of African medical stores for the procurement of essential medicines.

### 3.3 General findings

#### **a. The existence of efficient procurement and supply systems is a prerequisite to cover increased number of patients.**

Between 2001 and 2005, HIV/AIDS programs in Sub-Saharan Africa has markedly amplified and the number of patients under ARV in low or middle-income countries have been multiplied by over 5, increasing from 240,000 to 1.3 million. Over the same period, in Sub-Saharan Africa, the reported number of PLWAs under ARV treatment was multiplied by 16, going from 50,000 to about 800, 000<sup>24</sup>.

In the 8 countries surveyed, significant achievements were made to broaden access to treatment. It should be noted that the situation has changed quite quickly though in a disparate manner: between 2004 and 2007, the reported number of PLWAs under ARV treatment was multiplied by 5 or 6 and even more in countries least advanced in this area such as Congo and Central African Republic (Table 1).

National AIDS programmes forecasts indicate that the number of women who will benefit from prophylactic treatment within PMTCT programmes by 2010 will have at least doubled and has been most often multiplied by four or five<sup>25</sup>. The same applies to the expected increase in the number of children to be provided with treatment<sup>26</sup>.

As concerns mobilization of leadership and advocacy for universal access,<sup>27</sup> these trends will continue and intensify within the scaling up process and will result in a proportional increase in quantities and volumes of ARV and OI medicine and diagnosis tests.

---

<sup>24</sup> Report on the Aids global epidemics, Special issues, 10th UNAIDS Anniversary. Geneva 2006. Page 170.

<sup>25</sup> Except Benin and Ghana, values noted in the 2007 survey are all below (variations range from -4 % to -46 %) those in the joint UNICEF, UNAIDS and WHO report published in 2006: « Children and AIDS: second stocktaking report, action and progress » pages 39 and other pages. Ref. Comparative table appended.

<sup>26</sup> As for the number of children under ARV treatment, values noted in the 2007 survey are coherent (ranging from 8 % for Burkina Faso to 530 % for Ghana) with those in the joint UNICEF, UNAIDS and WHO report published in 2006: « Children and AIDS: second stocktaking report, action and progress » pages 39 and other pages. Ref. Comparative table appended.

<sup>27</sup> Declaration of Commitment on HIV/AIDS signed in June 2001 by Heads of State and Representatives of Governments at the United Nations General Assembly Special Session dedicated to HIV/AIDS, reaffirmed in New York in 2006 in the Final Declaration of the General Assembly High Level Meeting on AIDS. *Making the Money Work*. UNAIDS, Geneva 2007. Page 57

Table 1. : Evolution of adults and children HIV positive receiving ART (% represent the proportion of PLWAs under ARV compared to the total number of PLWAs)

	PLWAs under ARV				Pregnant women receiving ARV to reduce the risk of Mother-to-child transmission			Children under ARV		
	2004		2007		2007	2010	Δ	2007	2010	Δ
	Nb.	%	Nb.	%						
Benin	1,500	1.3%	9,768	11.2%	3,447	7,057	2.0	667	2,500	3.7
Burkina Faso	3,200	6.9%	15,417	10.3%	1,380	n.a.		629	n.a.	
Cameroon	9,000	5.1%	45,605	8.9%	6,263	28,800	4.6	1,700	n.a.	
Centrafrique	200	0.4%	8,300	3.3%	1,857	3,750	2.0	731	1,300	1.8
Congo Cote d'Ivoire	350	1.8%	7,426	6.2%	175	n.a.		n.a.	n.a.	
Ghana	n.a.	n.a.	11,065	3.5%	109,334	297,000	2.7	769	2,700	3.5
DRC	n.a.	n.a.	17,161	1.7%	3,435	n.a.		n.a.	n.a.	

Sources : ReMeD-ESTHER Survey(2004) ; PSM Survey (2007 et 2010)

Efficient and sustainable procurement and supply systems will then be needed to improve both the quality of care and efficiency of funds pledged in view of the increase of the number of patients under ARV. In its annual report, UNAIDS<sup>28</sup> underlines that though the unprecedented increase of the level of Aids funding is a new opportunity, all players should in turn commit to launch a coherent response aligned on efforts deployed and led by countries.

**b. The current mode of organization of the supply chain cannot accommodate scaling up of treatment for patients**

The increase in the number of patients on ART is mainly due by the availability of new funding which strongly contributed to increase the volume of resources mobilized. However, such increase often came parallel to existing financial systems, through overlapping of new funding and procurement mechanisms, practically working in isolation, without any coordination with national budgets and operators, which leads to an increasingly complex and less and less transparent situation.

Additional funding was not always supported by prior evaluations to highlight the complexity of the supply cycle, specifically some of its components: forecasting, capacity and warehousing conditions especially in health facilities, distribution, monitoring of supplier orders, quality control and feedback from the periphery to the central decision-making level.

This situation led sometimes at central level but particularly at peripheral level within health facilities stock levels poorly correlated with the needs, which leads either to stockouts or overstocks. This in turn translates into the interruption of treatments with the related risk of pharmaco-resistance.

<sup>28</sup> Ibidem, page 58.

### 3.4 Survey results

#### a. The general context of HIV/AIDS control

##### **Resources mobilized**

Resources mobilized vary considerably among countries in terms of both the proportion of eligible patients receiving treatment, the number of health facilities (testing, care and PMTCT centres), distribution of such facilities (central and periphery level) and functional equipment for immunobiological monitoring of patients (table 2).

As for the proportion of PLWAs receiving ARV treatment out of the total number of PLWAs, three categories of countries exist: (i), countries with an average 10% : Benin 11 %, Burkina Faso 10 % and Cameroon 9 %, (ii) another group where this proportion is half of the first group: CAR 6 % and Congo 6 % and, (iii) a third group where the proportion is equal or below 3 % : Côte d'Ivoire 3 %, Ghana 3 % and DRC 2 %.

The proportion of health facilities providing testing, treatment and PMTCT in the periphery (outside the capital city and in important towns) gives an order of magnitude of the level of decentralization of such activities at national level. Once again, large gaps are noted from one country to another with fairly comparable gradients: 16 % to 97 % for testing centres, 39 % to 100 % for care centres and 16 % to 97 % for PMTCT. Mean values (53 %, 58 % and 58 % respectively) if data are accurate<sup>29</sup> reflect that decentralization is actually a reality except perhaps in the case of Côte d'Ivoire where the mean value of the three indicators is 28%. However, these high percentages are due to the little number of health facilities surveyed (Ref. Table 10 appended)

The ratio of patients receiving ARV treatment per health facility is more homogeneous, to the exception of extreme values: Cameroon: 461, Ghana: 122 and DRC: 103 (for these two countries, these low figures are due to the low proportion of PLWA receiving treatment); in the other two countries, the high figures are close to the median value (210).

Equipments (CD4 counting equipment and PCR machines<sup>30</sup>) are generally inadequate. The ratios  $\frac{\text{Nb. equipments}}{\text{Nb. patients}}$  for CD4 counting machines vary significantly from one country to another: from 1 (Ghana: 138) to 12 (CAR: 1 660). The number of PCR is obviously inadequate (from 0 in Benin to 5 in Burkina Faso and Cameroon) considering its role in early screening of young children<sup>31</sup>.

---

<sup>29</sup> Value noted in Ghana are indeed surprising (87 % to 97 %) and should be validated by the National Aids Committee.

<sup>30</sup> PCR technique can detect faster HIV infection (allowing then a better efficiency of treatments) than rapid tests. PCR technique is the most appropriate technique for the diagnosis of infants and young children (in: AIDS.ORG: <http://www.aids.org/atn/a-060-07.html>).

<sup>31</sup> The availability of PCR machine does not mean that routine early diagnostic for infants and young child is conducted. Indeed, an article published in the Bulletin of the World Health Organization 2008 ; 86 : 155–160 ("Optimizing pediatric HIV care in Kenya: challenges in early infant diagnosis"), report that even if 4 research centers had the capacity to do early infant diagnostic of HIV through PCR, these PCR machines were just used for research and not as a global practice.

Table 2. : Resources mobilized for HIV/AIDS programs

	Benin	Burkina Faso	Cameroon	CAR	Congo	Côte d'Ivoire	Ghana	DRC	Mean (%) or medians
PLWAs (x 1 000)	87	150	510	146	133	750	320	1,000	
Nbr.of patients under ART (x 1000)	9.8	17.3	45.6	8.3	7.4	21.9	11.1	17.2	
Nbr. Of patients under ART IN % OF Nbr, of PLWASs	11%	12%	9%	6%	6%	3%	3%	2%	4%
% of health facilities providing HIV testing in the periphery	35%	33%	16%	86%	80%	22%	97%	n.a.	53%
Nbr.of PLWAs under treatment per testing centre	935	1,240	461	6,636	2,463	5,102	760	5,988	1,851
% of health facilities providing ART in the periphery	72%	70%	100%	50%	79%	39%	87%	n.a.	58%
Nbr.of PLWAs per health facility	208	228	411	208	265	213	122	103	210
Number of health facilities providing ARVs for PMTCT in the periphery	183	55	700	62	28	147	407	296	
% of health facilities providing ARVs for PMTCT in the periphery	19%	91%	16%	65%	79%	22%	97%	79%	58%
Nbr of patients under ARV per CD4 machine	376	444	894	1,660	530	487	138	n.a.	487
Nbr. Of PCR machines	0	5	5	1	2	4	2	3	3

PLWA = people living with AIDS. ART =Antiretroviral Treatment  
Sources : PSM Survey (corrected data) except PLWAs (UNAIDS 2006)

### The pharmaceutical sector regulatory and legislative framework

Since the 90s, strengthening the regulatory and legislative frameworks of the pharmaceutical sector in West and Central Sub-Saharan Africa has been one of the priorities of development partners specifically through a tripartite partnership involving WHO (Essential Medicines Department), the European Union ( DG VIII) and French Cooperation, with technical and financial support provided to central medical stores. Such support was necessary to boost activities in health systems especially primary health care centres in districts and to allow regularly supply of health facilities at all levels with quality generic medicines at affordable price within the Bamako Initiative or through cost recovery mechanisms.

The survey reveals highly contrasting situations (Table 3). Even though most countries have passed texts regulating the pharmaceutical policy<sup>32</sup>, registration procedures and the list of essential medicines including ARVs, the situation is much more contrasted for generic medicines.

Table 3. : The pharmaceutical regulatory framework

	Benin	Burkina Faso	Cameroon	CAR	Congo	Côte d'Ivoire	Ghana	DRC
Texts regulating the pharmaceutical sector	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Pharmaceutical policy document	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Medicines registration procedures	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
National essential medicines list	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Date last updated	Nd.	2007	2007	2007	Nd.	2007	2004	2007
Does it include ARVs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essential medicines Promotion policy	Yes	Yes	Yes	No	No	Yes	Yes	No
Procedures for specific registration of EMs	Yes	Yes	Yes	No	Nd.	No	Yes	No
Right of Substitution	Yes	Yes	Yes	Nd.	No	Yes	Nd.	No
Operational quality control laboratory	Yes	Yes	Yes	No	No	Yes	Yes	No
Can ARVs be controlled there	Yes	Yes	Yes	No	No	No	Yes	
The country has signed agreements on TRIPS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
When	1996	Nd.	2000	Nd.	Nd.	Nd.	2005	Nd.
The country has signed agreements on FTAs	No	No	No	No	Yes	Yes	Yes	Nd.
When			On-going		Nd.	Nd.	Nd.	
Percentage of "Yes" I	92%	92%	92%	50%	50%	75%	92%	50%

ARV = Antiretroviral drugs. GEM =Generic essential medicines. TRIPS =Trade-related Intellectual property rights issues. FTA = Free Trade Agreement.  
Source : PSM Survey (2007)

<sup>32</sup> Except Ivory Coast, where the document is under elaboration.

There is a clear distinction between two groups of countries:

- Benin, Burkina Faso, Cameroon, Ghana and to lesser extent Côte d'Ivoire, which have a fairly comprehensive regulatory and legislative framework including a set of texts favourable to the use of generic medicines: policy for the promotion of generic medicines, specific registration procedures for generic medicines, existence of a substitution right and existence of operational quality control laboratories with advanced equipment to perform quality control of ARV<sup>33</sup>. However, for reasons not elucidated during the survey, it seems that such laboratories are not used in Benin<sup>34</sup>, Burkina Faso<sup>35</sup>, Côte d'Ivoire and Ghana<sup>36</sup>.

- In CAR, Congo and DRC where the regulatory supervision is minimal and where there is no policy for the promotion of generic medicines, surveys indicate that the absence of specific registration procedures, neither substitution right nor operational national quality control laboratories.

These frameworks regulating the pharmaceutical sector are not enough per se as they must be supported with documents relevant in relation to the issue. Several reports reviewed during phase 1 of the evaluation reveal that some existing texts do not provide satisfactory solutions to bottlenecks identified. Thus, as an example, in DRC one report (37) recommends on the one hand the revision of texts (decree creating PNMLS<sup>37</sup>, ministerial decision creating PNLS/IST<sup>28</sup>) to clarify the roles and responsibilities of such organs and, on the other hand the revision of a existing decree on regulation of importations, supply and use of ARVs. Another report (7) recommends the modification of the text on the mode of organization of Regional Health Divisions in order to specify their role in the management of ARVs.

Lastly, even when these frameworks regulating the pharmaceutical sector exist and are coherent, they are not always followed. Indeed, it came out of the survey questionnaire that more often and for emergency reasons, partners do not always follow national regulation for the importation of medicines and diagnostic tests.

### **ARV purchase price**

The price analysis<sup>38</sup> from a sample of most commonly used drugs highlight significant heterogeneity (Table 4 and tables 11 and 12 Annex).

Mean deviations<sup>39</sup> range from 1.20 for Didanosine 200 mg. 30 tab. (lowest price: 19.5 USD, highest price 23, 5 USD) to 2.96 for Abacavir 300 mg. 60 tab. (lowest price: 30.5 USD, highest price 90,5 USD).

Four other medicines show price deviations above 2.00 : Stavudine 30 mg. 60 tab. (deviation : 2.92 ; lowest price : 1.69 USD, highest price 4.92 USD), Lamivudine 150 mg. 60 tab. (deviation : 2.88 ; lowest price : 3.72 USD, highest price 9.44 USD), Nevirapine 200 mg. 60 tab. (deviation : 2.74 ; lowest price : 3.77 USD, highest price 10.33 USD) and Zidovudine 300 mg. 60 tab. (deviation : 2.51 ; lowest price : 8.82 USD, highest price 22.14 USD).

---

<sup>33</sup> This does not mean that they are realizing these controls.

<sup>34</sup> The consultant reported that the National Laboratory for Quality Control does not routinely undertake quality control of ARVs, however quality control of ARVs is done during the ARV registration process.

<sup>35</sup> The LNSP (Laboratoire National de Santé Publique) is functional and is equipped with all analytical equipment required (HPLC, Spectrophotometer UV-visible and IR, Dissolutests, etc.). There is an inter-ministry Decree regulating the quality control and the surveillance of imported medicines (Systematic control). However, ARV quality control is not done as LNSP can not procure all referenced products.

<sup>36</sup> Reportedly, the main problem is one of laboratory capacity: lack of space, staff, irregular water and electricity supply (It is to be transferred in new buildings in 2008). In practice, ARVs are procured from viable sources (prequalified by OMS), to mitigate quality risks.

<sup>37</sup> National Multisectoral AIDS Control Programme.

<sup>38</sup> Different INCOTERMS prices were collected with the questionnaire (mainly CIF or CIP). These prices have been recalculated in INCOTERM DDP, adding clearance and taxes and local transaction, depending on each case. All these DDP prices have been changed to USD (1 USD= 435 FCFA)

<sup>39</sup>  $\left( \frac{..Max Price}{Min.Price} \right)$

These deviations reveal delivery modalities (land, air, sea) and purchase techniques used, rather than the purchasing country's geographical location, specifically their landlockedness which generates additional costs, as confirmed by survey reports. Thus, in the landlocked CAR<sup>40</sup>, three drugs can be found with the lowest price in the sample analyzed: Zidovudine 300 mg. 60 tab, Didanosine 200 mg. 30 tab. and Didanosine 400 mg. 30 tab. 2 other drugs present some deviation compared to the lowest price, equal or below 5%: Nevirapine 200 mg. 60 tab. (deviation: 1.04) and the combination of D4T/3TC/NPV, 30 mg. /150 mg. /200 mg., 60 tab. (deviation 1.05). Inversely, Congo and, to a lesser extent DRC, both coastal countries present the highest mean price deviation, 1.92 and 1.90 respectively. This brief analysis reveals that deviations occur where they should not happen.

*Table 4. : DDP ARV purchase price- Adult dosage (index 1.00 for the least highest price)*

Nom	Dosage	Packagi	Benin	BF	Cameroo	CAR	Congo	RCI	Ghana	DRC	□	
EFZ	600 mg	30 cp	1.92	1.08	1.31	1.01	1.37	1.91	2.27	1.00	2.27	
EFZ	200 mg	90 cp				1.24	1.54			1.00	1.54	
NVP	200 mg	60 cp	1.84		1.38	1.06	1.04	2.74	1.00	1.02	1.51	2.74
ABC	300 mg	60 cp	2.55	1.02	1.29		2.54	1.65	1.00	1.35	2.96	2.96
DdI	250 mg	30 cp			1.20		1.00			1.04		1.20
DdI	200 mg	60 cp		1.00		1.48		1.32	1.24	1.48		1.48
DdI	400 mg	30 gel				1.00	1.32			1.04		1.32
3TC	150 mg	60 cp			1.14	1.20		2.88	1.32	1.00	1.57	2.88
d4T	30 mg	60 cp					1.48	1.91	1.00	1.20	2.92	2.92
AZT	300 mg	60 cp		1.09	1.13	1.10	1.00	2.51	2.19		1.27	2.51
AZT/3TC	300+150	60cp	1.00		1.23	1.06	1.25	1.42	1.05	1.07	1.50	1.50
d4T/3TC	30+150	60cp	1.00		1.35	1.20	1.09	1.42			2.11	2.11
d4T/3TC/NPV	30+150+20	60cp										
	0		1.00		1.26	1.04	1.05				1.74	1.74
Cotrimoxazole	480 mg					1.00		1.48	1.81			1.81
		1000 cf	1.03	1.05				1.48	1.81			1.81
Mean value			1.03	1.05	1.26	1.08	1.09	1.78	1.32	1.04	1.57	1.96

Source : PSM Survey

Thus, in the highly landlocked CAR<sup>41</sup>, three drugs can be found with the lowest price in the sample analyzed: Zidovudine (300 mg. 60 tab.), Didanosine (200 mg. 30 tab.) and Didanosine (400 mg. 30 tab.), 2 other drugs present some deviation compared to the lowest price, equal or below 5%: Nevirapine 200 mg. 60 tab. (deviation : 1.04) and the combination of D4T/3TC/NPV, 30 mg./150 mg./200 mg., 60 tab. (deviation 1.05). Inversely, Congo and, to a lesser extent DRC, both coastal countries present the highest mean price deviation, 1.92 and 1.90 respectively.

Comparison of these prices with those on the Clinton Foundation website<sup>42</sup>, shows that 4 products were brought at prices lower than those proposed by the Clinton Foundation : Stavudine 30 mg 60 tab. (- 44 % ; 1.69 USD vs 3.00 USD) ; the combination D4T/3TC/NPV 30 mg./150 mg./200 mg., 60 (- 33 % ; 7,25 USD vs 10,80 USD) ; the combination AZT/3TC 300 mg./150 mg. 60 tab. (- 7 % ; 9,97 USD vs 10,75 USD) ; Didanosine 250 mg. 30 tab. (- 6 % ; 19,48 USD vs 20,65 USD). Finally, the lowest price for Nevirapine 200 mg. 60 tab. is almost similar to that of the Clinton Foundation (+ 1 % ; 3,77 USD vs. 3,75 USD).

The same analysis conducted on paediatric dosages gives similar results (Ref. Price Table appended)

### **Contribution of patients to cost of treatment**

<sup>40</sup> For CAR, low prices noted are linked to the fact that medicines arrived mainly by sea and were then forwarded by road (lead time: 18 months and reception of products at almost expiry date), unlike in other countries where air cargo was used.

<sup>41</sup> For CAR, low prices noted are linked to the fact that drugs arrived mainly by sea and were then forwarded by road (delivery time: 18 months and reception of products at almost expiry date), unlike in other countries where air cargo was used.

<sup>42</sup> <http://www.clintonfoundation.org/pdf/chai-arv-price-list-050807.pdf> (document not updated consulted in July and December 2007). As the INCOTERM is not mentioned in this list, comparisons should be taken with cautious.

Free treatment, testing, CD4 count and biological follow up are only enforced in Benin. In all other countries, variable amounts are requested from patients for one of these expenditure lines (Table 5)

Amounts requested from patients for treatment or laboratory testing are on the one hand extremely variable from one country to another: the highest ratio for the same category is above 4.5 (23USD for CD4 count in Cameroon vs. 5 USD in DRC), and on the other hand, higher in view of the capacity of many patients to pay: 4.5 USD for 1st or 2nd line treatment to 23 USD for CD4 count in Cameroon.

Amounts requested from patients do not seem to be correlated with the level of income of populations:

- In Burkina Faso, patients pay monthly contributions for treatment and bi-annual contribution for CD4 count and biological follow up. Thus, the annual contribution from a patient is 160 USD<sup>43</sup> which is roughly three months salary for the least skilled civil servant and more than twice annual total expenditures of the poorest individuals which account for 50% of the population.<sup>44</sup>

- In Cameroon where average income is a bit higher and where only laboratory tests are charged, the amount paid (60 USD) is about three times lower than that of Burkina Faso and represents three month income for the quintile of the poorest populations living in Yaoundé<sup>45</sup>.

*Table 5. : Financial participation by patients to cost of treatment (monthly amounts in USD – The letter « G » means free treatment and laboratory testing)*

	1st Line Treatment		2nd Line Treatment		Testing		CD4 count		Biological	
	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
Benin	G	G	G	G	G	G	G	G	G	G
Burkina Faso (a)	11	G	11	G	1	G	7	G	7	G
Cameroon	G	G	G	G	1	1	23	23	7	7
CAR (b)	G to 4,5	G to 4,5	G	G						
Congo	G	G	G	G	2.3	2.3	11	11	G	G
Côte d'Ivoire	7	7	G	G	G	G	G	G	G	G
Ghana	5	5	5	5						
DRC	G	G	G	G			5	5		

Notes : (a) Burkina Faso is considering to reduce fees to 3,5 USD but that decision is yet to be enforced, (b) There are in CAR two categories of patients : the "poor", who do not pay, and others who pay CFA 2,000 MONTHLY, plus CFA 1,000 for visits and OIs medicines.

Sources : PSM Survey (corrected data)

Such significant disparities between the level of contributions requested and the capacity of patients to pay is certainly one explanation for loss to follow-up patients.

### **Financial ratios**

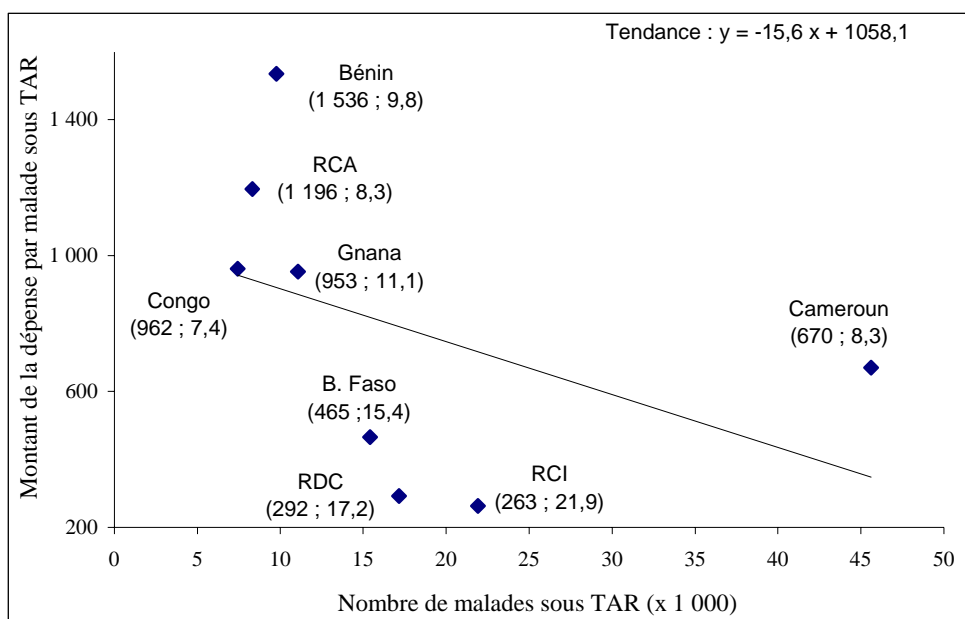
Data collected were often incomplete and should therefore used with much care. This is due to partitioned management of funds to control HIV/AIDS as they are separately and autonomously managed by each donor, lack of centralization within a national entity (AIDS Control Committee, ministry of Finance, ministry of Health or AIDS ministry if applicable) which is why it is not possible over a given period to compile global amounts allocated to combat the scourge and therefore to efficiently analyse expenditures incurred. In view of this above, it is therefore not likely for these amounts to appear in the State Table of Financial Operations as recommended by public finance rules.

<sup>43</sup> Equivalent to CFA F 70, 000 at the following exchange rate/ 1\$ = CFA F 435.

<sup>44</sup> Poverty profile and evolution in Burkina Faso. INSD. Ouagadougou. March 2000.

<sup>45</sup> Household expenditure survey in Douala and Yaoundé (edm2000). National Statistics and Accounts Department. December 2001.

Figure 1. **AIDS control funding and financial ratios (amounts in USD)**



Source: enquête PSM (données corrigées)

Source : PSM Survey (corrected data)

It was however possible to reconcile for each country amounts disbursed to purchase drugs and diagnosis equipment based on the various sources for a given year (mostly for 2007 or to compute an annual average with the number of patients under ART for the same year. (Figure 1).

Ratios computed are very heterogeneous and range from 1 for Benin (1536 USD) to 6 (263 USD) for Côte d'Ivoire and CAR (292 USD) and do not seem to be correlated with the number of patients on ART.

If for the three countries for which financial data seem coherent (Burkina Faso, Congo and Côte d'Ivoire), we calculate the annual mean cost of treatment based on first and second line therapy<sup>46</sup> and the number of patients under first and second line treatment<sup>47</sup> and that the result obtained is reconciled with the annual expenditures reported by each of these countries for HIV and other diagnosis equipment purchase, some incoherence appears: it is noted a 16.9 million USD surplus for Côte d'Ivoire, 1.4 million USD for Burkina Faso and 5.5 million USD for Congo without knowing exactly what these surpluses correspond to (Table 6).

<sup>46</sup> According to the Benin GAS plan (2006-2008), the estimated average cost of a first line treatment is 180 USD while second line treatment costs 1 300 USD.

<sup>47</sup> Based on survey reports, the proportion of second line treatments represents 1 % in Burkina Faso and Côte d'Ivoire, 18 % 43 % in Congo; no data is available for other countries.

Table 6. . Comparison of annual expenditures reported with theoretical treatment costs and the number of patients under treatment (amounts in USD)

	Burkina Faso	Congo	Côte d'Ivoire
1 Annual reported expenditure	4 683 000	7,077,000	21,070,000
2 Number of patients	17,263	7,426	21,907
3 Ratio 1/2	271	953	962
4 Proportion of patients under first line ART	99%	90%	99%
5 Proportion of patients under second line ART	1%	10%	1%
6 Mean treatment cost- first line (a)	180	180	180
7 Mean treatment cost-second line (a)	1,300	1,300	1,300
8 Average weighted cost of treatment : (4x6+5x7)/100	191	207	191
9 Total cost of treatment : 8x2	3,300,686	1,540,152	4,188,618
10 Difference 1-9	1,382,314	5,536,848	16,881,382

Sources : PSM survey (Corrected data)

Such surpluses correspond to a stock coverage of over 4 years theoretical consumption for Côte d'Ivoire, about 3 years and a half for Congo and 5 months for Burkina Faso. These disparities which are difficult to account for testify to the complexity of measuring financial flows.

### **b. Analysis of the supply cycle**

The PSM cycle has been divided into 9 main activities: forecasting, procurement, suppliers' order follow up, reception of the products, conformity check, storage, quality control, suppliers' invoice settlement and supply.

For each country, each of these 9 activities<sup>48</sup> and each of the main sources of financing<sup>49</sup>, the number of stakeholders<sup>49</sup> were accounted for. The result of this exercise shows a complex and contrasted situation (table 7)<sup>50</sup>.

The first observation suggests that this exercise relates to the number of stakeholders involved by funding source. The average number of stakeholders is 13, with significant variations according to the funding<sup>51</sup> sources: 16 for the PEPFAR initiative in Côte d'Ivoire, for the Global Fund and the World Bank, 13 for national funding, 11 for UNICEF in Benin and for the Global Fund in Congo, CAR and for the State of Côte d'Ivoire

The second observation relates to the number of stakeholders in each of the PSM cycle, all the funding sources taken together. The average for the 8 countries ranges from 3.3 (1 – 8) for the estimation of needs, to 0.5 (0 – 2) for drugs quality control:

<sup>48</sup> Owing to time constraints imposed during the field survey, it was required from investigators to limit the analysis of the PSM cycle to 3 main funding sources operating in the investigated countries even if their number is sometimes much higher if we take into account funding sources or operators of secondary importance.

<sup>49</sup> Donors, operators, programme, service etc.

<sup>50</sup> Ghana, where all cluster are merged in one is not taken into account in the calculations.

<sup>51</sup> Ghana, with 23 stakeholders, is not taken into account as this number corresponds to the grouping of two clusters.

Table 7. Stakeholders in the PSM cycle by component, funding sources and country

	Benin			Burkina Faso			Cameroon			CAR		Congo		Côte d'Ivoire				Ghana	DRC			Mean	
	FM	UNI CEF	FC	FM	Stat e	UN ICE	FM	State	FC	BM	FM	Stat e	FM	PE PF	Etat	UN ITA	FM	TSFC	BM	FC	FM		
Needs forecasting	1	1	3	3	3	3	8	7	7	1	4	3	2	8	3	1	1	6	2	2	3	72	3.30
Procurement	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	1	2	2	1	1	1	25	1.15
Monitoring of orders	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	2	3	1	1	2	27	1.20
Reception of products	5	3	3	2	1	1	1	1	0	3	1	1	1	1	1	1	3	3	3	2	2	39	1.80
Conformity control	4	2	3	2	2	2	1	1	0	0	1	1	1	2	1	1	2	2	1	1	2	32	1.50
Warehousing	1	1	1	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	24	1.15
Quality control	0	0	0	1	1	0	1	1	1	0	0	1	1	0	1	0	0	2	0	0	0	10	0.40
Settlement of suppliers' bills	1	1	1	2	2	1	1	1	1	3	1	1	1	1	0	1	2	2	2	1	1	27	1.25
Supply	1	1	1	3	2	2	1	1	1	2	1	2	2	1	1	1	1	2	1	1	1	29	1.35
Total	15	11	14	16	15	13	16	15	13	16	11	12	11	16	11	8	14	23	12	10	13		1.46

Note : GF = Global Fund, CF = Clinton Foundation, WB = World Bank, TSFC = Aggregate sources of funding

Sources : PSM survey

#### Analysis per activity:

- Forecasting: the largest numbers of stakeholders are found in this essential activity<sup>52</sup>. Errors and omission excepted, there are 8 stakeholders in Cameroon for the Global Fund cluster (the DPL of the Ministry of Health, the National Programme of AIDS Control, the medical store, UNICEF, WHO, DPM of the Ministry of Health, UNAIDS) and in Côte d'Ivoire, for the PEPFAR cluster (the PNPEC of the Ministry of Health, the National Programme of AIDS Control, the central purchasing Unit, one NGO, UNICEF, WHO, the DPM of the Ministry of Health, the National Quality Control Laboratory). Since these fragmented forecasts are neither done in a coordinated or concerted way before being materialised into orders validated by a centralised instance, it is not surprising that on the field they are translated into stockouts or overstocks.

- Procurement, monitoring orders placed with suppliers and payment. These activities being centralized by nature, the limited number of stakeholders in each one of them, (1, 20 : 1 - 2), (1,30 : 1 - 3) and (1,30 : 1 - 3) respectively seems reasonable and does not call for specific comments. There is need to outline however the fact that, to the exception of Congo, central government procurement agencies are only partially involved in these activities which are generally conducted ex cathedra by the operators: in 2 clusters out of 3 in Burkina Faso and Cameroon, and 1 out of 4 in Côte d'Ivoire and are not at all involved in Benin, CAR and the DRC.

- Reception of Goods and conformity checks. The slightly higher average number of stakeholders in these other administrative activities, respectively (1.90: 0 - 5) and (1.55: 0 - 4), does not pose problem either. These activities, as regards central government purchase, are very often conducted in inter-ministerial committees. There is need to note however the absence of stakeholders for the conformity check activity for the Clinton Foundation/UNITAID cluster in Cameroon, on the one hand, and on the other hand, in the Central African Republic for the World bank cluster

- Warehousing and delivery. The limited number of stakeholders in these two rarely dissociated activities, respectively: (1.15 : 1 - 2) and (1,40 : 1 - 3), illustrates the fact that these logistical activities are systematically conducted by government central medical stores, to the exception of DRC for the UNITAID supply chain for which they are entrusted to a private firm . It should be underlined that, when these activities are conducted by governmental central medical stores, it is most often without any legitimate financial reward and that corresponding internal expenses must then, in fine, either reduce their margins, or be transferred on other products they deliver.

- Quality control. The number of stakeholders engaged in this activity is the lowest (0,50 : 0 - 2). Indeed, this activity which is yet mandatory for medicines is only systematically conducted in Cameroon. In three countries (Benin, the Republic of Central Africa and the DRC) quality control does not seem to be conducted and in the other countries, they are only carried out as regards some clusters: the Global Fund and the Government in Burkina Faso, and the Government in Côte d'Ivoire. That situation calls for two remarks: (i) absence of quality control in the UNICEF cluster seems to be

<sup>52</sup> The word cluster is used to designate the procurement cycle of each funding source.

justified by the fact that it is assumed that these operations are conducted upstream by the organization's Supply Division in Copenhagen, but then, it would be necessary to have a copy of the quality control slip forwarded with the drugs as required by national regulations, that remark is also valid for the PEPFAR cluster, for which quality control is entrusted to SCMS, (ii) in the other clusters, absence of quality control could be understood in cases whereby purchases are made from WHO or FDA pre-qualified firms, or still EMEA, but this does not however prevent the manufacturer from issuing, for each batch delivered, a certified copy of the corresponding quality control slip.

This global analysis of PSM cycle, calls for two general comments:

-For the same purpose (ensure procurement and distribution of medicines and diagnostic tests), several PSM systems have been put in place. For instance up to 20<sup>53</sup> different systems have been numbered in the 8 countries visited even though 5 of them (Benin, Burkina Faso, Cameroun, Cote d'Ivoire and Ghana) do have a well functioning national system. If one admits that having several PSM systems in a country will result in dilution of responsibilities and ineffectiveness, one could imagine the level of efforts required to integrate those systems in order to improve the efficiency of the procurement and distribution chain.

-The reasons why partners favour the multiplication of PSM systems include: the lack of reliability of national PSM systems and weak management of funds disbursed<sup>54</sup>. However, partners do refer to national structures for storage and distribution of almost 80% of their imported medicines and diagnostic tests.

It does not make sense to have several PSM systems in a country for many reasons : (i) it is in contradiction with technical and financial assistance provided for decades by development partners to national PSM systems in West and Central Africa<sup>55</sup>, (ii) it creates an over cost not offset by additional logistic or technical assistance<sup>56</sup>, (iii) increasing the number of actors makes the system more complicated and thereby preclude for assessing the national situation, (iv) those PSM systems actors do not always abide by the rules in at least in 3 areas: importation, registration of products and quality control and, (v) this more complex situations will impede the scaling up of programmes..

### **c. Field visits**

Investigations conducted solely at central level are not enough to offer a global vision of the PSM problematic. Thus, to have an assessment of the situation at the far end of the healthcare chain, consultants were asked to visit each country and to visit three health facilities, and report on the situation on site<sup>57</sup>.

The outcome of those visits globally shows quite poor situations : storage conditions are not satisfactory, stock managers are not sufficiently trained, management stock tools, even basic ones (stock cards) are not systematically used, availability rates are not satisfactory, all centres report stockouts and are not systematically supervised (ref. Table 14 in annex)

---

<sup>53</sup> Only major supply cycles were considered. This number will be higher if we include secondary supply cycles.

<sup>54</sup> Indeed, all partners are responsible of the funds engaged. It seems then easier to engage external or internal organizations to control the use of the funds, than to take the risk to give this responsibility to national counterparts. In these situations, risk is avoided, but it will create frustration and not involvement of national counterparts.

<sup>55</sup> Since the end of the 90, and even more after the franc CFA devaluation in January 1994, several partners working in the development (European Union, WHO, France and The Netherlands) bring to west and Central Africa, important Technical Assistance, first to the Central Medical stores, then to the Pharmacy department. The objective of this support was to reach access to essential medicines in health facilities, and to adapt the regulation framework and legislature, to control medicines in the private and public sector.

<sup>56</sup> The realization of the same function (Procurement of medicines) by several structures, each with its own functional cost, is much more expensive than to realize this activity by only one structure.

<sup>57</sup> It was requested to consultant, to identify with national stakeholders, three health facilities: one well functional, one not well functional and one mid-functional.

### **Sampling**

The 24 health facilities visited are essentially located in urban areas (67%). Stock control administrators are mainly nurses (38%) and pharmacists (33%) but also health technicians (17%) and medical doctors or pharmaceutical assistants (12%).

### **Storage conditions**

Hardly half of the centres (54%) have enough storage space. Conditions are not satisfactory in half of them (42%) and are poor in 1 centre out of 4. However, the cold chain is operational in 90% of the centres.

The presence of management tools is not systematic: 20% of the centres do not have the national list of essential medicines and only a third of them use either stock management software, or stock cards

### **Stock management**

83 % of health facilities are autonomous as regards stock management and 79% in matters of procurement decision-making.

Only 13 % of stock managers benefited from training in the last six months before the survey, and for three quarters among them, training was received more than six months before. 13% of these managers did not receive any training.

All care centres regularly perform stock inventories, most often on a monthly (58%), weekly (25%), or quarterly (13%) basis

Procurement operations are mostly on a monthly (46%) or quarterly (38%) basis.

All health facilities experienced stockouts. The causes of which are numerous: delivered quantities were less than expressed needs (58%), needs were underestimated when order was placed (33%), delivery delays (25%), non compliance with therapeutic protocols (25%) and drug expiry (38%).

They were requested to compute average availability rates for 4 tracer drugs<sup>58</sup> : first line adult (AZT/3TC 300/150) and (D4T/3TC 150/30), second line adult (IDV+r 400/100) and first line paediatric (NVP 200). Considering that not all health facilities systematically provide second line or paediatric treatment, only results obtained for first line treatment are presented.

In most countries, the availability rate for such medicines is excellent (100%). The absence of one of them was however noted in Cameroon: 83 % (100 % - 50 % - 100 %) and in the Democratic Republic of Congo : 67 % (100 % - 50 % - 50 %).

### **Supervision**

All health facilities produce activity reports mostly on a monthly basis (50%) and nearly 1 health facility out of 5 reports it has no supervision (3 centres in the CAR and 1 in Cameroon).

### **3.5 Recurrent difficulties**

In addition to the quantitative analyses which show often contrasted situations from one country to the other, consolidation of the qualitative analyses conducted during field surveys shows recurrent disturbing elements, often interacting with each other which are at the origin of major dysfunctions in the procurement chain. These elements result from the combination of many factors: lack of reliability in the forecasting, fragmentation of the PSM cycle which stems from insufficient taking into account by donors of the existing national health systems when setting up organisational schema and operating

---

<sup>58</sup> Availability rate are calculate using WHO formula :  $\frac{(jrA) + (jrB) + \dots + (jrD)}{(nb.P \times nbjr)} \times 100$  where : *jrA* is the number of days of

stockout for product A, *jrB* is the number of days of stockout for product B etc., *nbP* is the total number of products and *nbjr* is the total number of days of stockout for the 6 products.

procedures, lack of flexibility of these operating procedures which make them incompatible with the demand for drugs sometimes erratically expressed and lack of adequate response to stockouts.

#### **a. Lack of flexibility in forecasting**

This is the major problem of the procurement chain and the first cause of stockouts or overstocks. It has several cumulative origins: the difficulties encountered by the staff of the health facilities in correctly counting the number of patients per protocol or molecule, omissions in those health facilities to report of patients loss to follow-up or newly enrolled ones, reports of new patients on the basis of the percentage of the objectives of the programs and not on the reality, and the forecasting technique based on the epidemiological profile and not on the real consumption.

Depending on approaches adopted, the estimate forecasts differ radically: the calculation based on the epidemiologic<sup>59</sup> profile provides a theoretical estimate, whereas the one based on observation of the volumes supplied by central medical stores reflects the demand, and thus, the actual need consequently, the actual need, which it is however necessary to adjust depending on the residual stocks, stockouts and orders being processed at suppliers' premises. The results of the forecasts provided by the two methods are necessary if we want to establish a realistic procurement plan. For example, ESTHER had been requested for help in a country for a period of three months for 3000 patients and face a situation all too frequent: the needs expressed by the NACP, based on the epidemiologic profile, were three times as high as the ones expressed by the medical store, which took into account, on the one hand, the consumption pattern, and on the other hand, the level of the stocks available and the orders under processing at suppliers premises, giving a result much closer to reality. In that same country, the main beneficiary estimated the second line drugs purchase quantities on the basis of the NACP which, depending on the adopted method of computation, was much higher than the ones estimated by the purchase agency, based on procurement<sup>60</sup> flows. As regards cost, this translated into a purchase value much higher than what was necessary which generated significant foreseeable losses.

The solution to that situation would be, on the one hand, making forecasts from effective monitoring of consumption at central level, i.e, at the level of procurement agencies where the drugs are delivered before being despatched to treatment centres, and on the other hand, from monitoring of consumption trends using simple and proven trends like linear regression and finally, smoothing procurement peaks by setting in place a stock management system based on annual, or multi-annual supplier markets, executed according to fragmented delivery schedule and sufficiently flexible to take into account the supply chance factors and the erratic characteristic of the demand expressed by care centres

#### **b. Fractioning of the supply chain**

The multiplicity of stakeholders in the procurement chain (ref. supra chapter 4) and the fragmentation of its essential functions (forecasting, market contracting and monitoring, management of orders placed with suppliers and drugs warehousing) among all these stakeholders, sometimes grouped in commissions<sup>61</sup> are factors of loss of efficiency as regards the global function. In another respect, this organisational pattern dilutes responsibilities in the occurrence of mistakes which tend to be blamed in a cascade movement on the final operator, at the down stream end of the chain, i.e., the central Medical store.

Under such schemes, depending on the donors' requirements, information flows are most often unidirectional, going bottom up: thus procurement agencies give regular reports of the activity<sup>62</sup> (which, in another respect, if judgement is made on the basis of the preceding paragraph on forecast reliability, do not seem to be taken into account), but are not, in turn, sufficiently informed about the programming of the orders placed with suppliers, or the dates at which those orders will be delivered,

---

<sup>59</sup>The epidemiologic profile only enables to obtain rough estimates due to the lack of reliability of the available data and the incoherence of prescriptions.

<sup>60</sup> The NPAC estimated at 39 % the number of PLWAs under second line treatment, whereas the government procurement agency estimated it at 10%.

<sup>61</sup> Quantification commission

<sup>62</sup> State of stocks and deliveries provided to health facilities.

or the corresponding quantities, which greatly disturbs the functioning and constitutes a de-motivation factor.

### **c. Lack of flexibility in operating modes**

Many difficulties identified during the assessment result from incompatibility between, on the one hand, inadequately expressed demand owing to its dynamic nature (for several reasons, the number of patients vary upward, or downward<sup>63</sup>), non compliance with therapeutic protocols and lack of forecast reliability, and on the other hand, enforcement of procurement techniques poorly adapted to demand specificities : sometimes insufficiently informed operators with poor knowledge of the issues related to HIV/AIDS and procurement, too lengthy procurement procedures (time lapses between bid tenders and deliveries take sometimes more than 12 months to cover a consumption period of 12 months) and not flexible (contracts with suppliers do not include adaptation clauses of delivered quantities to face a quantitative or qualitative variation of demand) with suppliers who, sometimes are not very reactive (reaction time for some supplier recommended by the Global Fund are sometimes much too long).

Two examples illustrate well the lack of flexibility of procedures implemented:

- While in the Central African Republic no reliable information was available on the needs for ARV treatment or on the levels of available stocks, and while the country was facing recurrent stockouts and important loss of drugs caused by expiry, the representative of the Global Fund persisted in imposing a three year PSM plan, with annual markets, refusing adjustable quarterly orders necessary to progressive rebuilding of a satisfactory<sup>64</sup> stock level. Such a situation illustrates lack of understanding of the procurement issue and lack of flexibility of existing administrative procedures.

- In Togo, while drugs ordered in more than excess quantity was doomed to expiry within a short time, and that a neighbouring country (Côte d'Ivoire) was experiencing a stockout in the same drugs, a financially equitable swap of other drugs needed by Togo was considered. Such swaps are done among countries on equitable bases, without difficulties<sup>65</sup>. The representative of the main donor and the CCM<sup>66</sup>, whose approval was needed, opposed that exchange, opting for letting drugs run into expiry in warehouses rather than violating existing accounting procedures.

Thus, while the specificity of this situation necessitates strong operator reactivity to hammer out difficulties, no adapted mechanism has been enforced to ensure regular drugs procurement and diagnostic tests.

Based on such findings, ACAME has developed its proposal of "*operational procurement plan of action for UNITAID financed programmes of priority diseases control*" by proposing that for a sample of 4 or 5 countries, UNITAID financed procurements be entrusted to government central medical stores, and no longer to other agencies which has several times<sup>67</sup> demonstrated lack of competencies. It is indeed abnormal that government central medical stores, some of them which have been working well for about fifteen years with turnovers of several billion of CFA Francs, find their role restricted to warehousing and distribution of drugs purchased by others.

### **d. Lack of satisfactory response to stockouts**

To frequent stockouts sometimes generated at central level by lack of flexibility of implemented procurement procedures (ref. supra) and in health facilities due to disruptions in supply channels, delayed and under-estimated orders as well as various management constraints, no satisfactory response has yet been brought forward in a sustainable way. The emergency stock set in place by ESTHER and stored in the CHMP<sup>68</sup> warehouse in Kenya has little been used, and when such was the

---

<sup>63</sup> Deceased, loss to follow-up patients, or new patients on ARV treatment, adaptation of treatments to the patients' immunological status, patients progressively placed on treatment, incompatibility of some medicines for TB patients, etc.

<sup>64</sup> Source: GIP ESTHER.

<sup>65</sup> In ARIVAS project (project d'Appui au Renforcement de l'indépendance Vaccinale en Afrique Sahélienne); financed jointly by European Commission and UNICEF, exchanges of vaccines between countries were highly encouraged.

<sup>66</sup> Country Coordinating Mechanism.

<sup>67</sup> In Burkina Faso for example.

<sup>68</sup> Centrale Humanitaire Medico-Pharmaceutique. HQ is in Clermont-Ferrand (France).

case, it was not possible for beneficiary countries to use available donor funds to reimburse ESTHER, amount corresponding to that emergency assistance.

Such stockouts may have serious implications as they force health facilities staff to not respect protocols; this was noted during field visits. This process is as follows: when a first line molecule is not available, treatment is adapted based on the availability of other molecules of similar effect. Most often, such adaptation consists in choosing a second line molecule. New protocols thus appear, carrying two negative impacts: the high number of protocols makes the estimation of needs more complex and such modifications may lead to drug-resistance if initial treatments are not strictly respected.

It appears necessary, to find a solution to these unavoidable stockouts. These stockouts are the result of the lack of simultaneity between supply and demand at a given moment, or more simply delivery delays from suppliers, or too cumbersome and tedious procurement procedures, interruption of funding flows between two phases of a donor' process, waiting time for an administrative decision, or customs or bureaucratic procedures, etc. in setting in place a mechanism enabling with deadlines compatible with the emergency required by situations, procurement continuity in a way that ensures uninterrupted and adequate treatment of patients. This mechanism or facility, regional by nature, should respond to the two types of difficulties commonly encountered: immediate emergency assistance, in cases of proven stockouts and anticipated drug exchanges before expiry date and analysis of causes of stockouts so that they would not happen again.

#### ***e. Absence of a formal consultation framework between national AIDS Programmes and central medical stores***

In many countries, the forecasting, ordering and receiving of ARVs, OI drugs and diagnosis tests are conducted by national AIDS programmes without the involvement of Central medical stores or authorized operators. They latter know of the existence of drugs and materials only when they are already warehoused, without any prior consultation.

Even though ARVs, OI drugs and diagnostic tests are free of charge or heavily subsidized, it is recommended that Central medical stores (used to managed other essential medicines and medical material) must be involved during the various phases of the procurement cycle of these products: Forecasting, Procurement, Monitoring of orders, conformity control, warehousing, quality control and distribution.

This will only be possible through a formal collaboration framework between HIV/AIDS programme managers, Central medical stores and other entities involved (National drugs control laboratories, the Pharmacy and Drugs Department). Involving staff from these structures in the development of proposal to be submitted to the next rounds of the Global Fund should contribute to improve the global efficiency of supplies and, therefore, *“to make better use of money available”*, as recommended by UNAIDS.

## **4 CONCLUSION**

The general lesson to be drawn from this evaluation exercise is that, in view of the complexity of the PSM issue within developing countries facing difficulties of all kinds, which therefore requires appropriate and flexible responses, systems designed to ensure procurement of ARVs and diagnostic tests lack of transparency, are hierarchical, too rigid and not efficient, which negatively impacts on the efficiency of funds committed. In addition, they are not backed by transfer of competences, yet necessary for participating countries to develop ownership vis-à-vis such systems. Finally, the Global Fund offers the possibility to finance the purchase of other commodities: medical equipment, services (quality control, forwarding agents...) and non-medical equipment (vehicles, rehabilitation work, new constructions...) but countries do not seem to resort as much as needed to this facility.

Whereas patients should be at the centre of donors and operators concerns, administrative and accounting aspects seem in many respects to prevail.

## **ANNEX 1 PHASE 3: THE REGIONAL RESTITUTION WORKSHOP ( 22-24 APRIL 2008-DAKAR-SENEGAL)**

This three-day workshop was attended by over 70 participants from nine countries (ref. annex 1) : Benin, Burkina Faso, Cameroon, CAR, Congo, Côte d'Ivoire, Ghana, DRC, Senegal and representatives of international organizations : ACAME, World Bank, CHMP, Clinton foundation, Global Fund against Aids, tuberculosis and malaria, FGIP ESTHER, IDA foundation, French Ministry of Foreign Affairs, Mission Pharma, OCEAC, OMS (AFRO, TCM, AMDS), UNAIDS, UNICEF (WCARO), and UNITAID.

### **1 Objectives**

Three objectives were targeted:

- To present and share the results of the literature review and field survey and hold discussions on findings.
- To present and share mappings of procurement and supply systems conducted by countries with support from the TCM department.
- To discuss major constraints and disruptions encountered in the PSM issue and related causes.
- To develop, suggest and validate recommendations to remove barriers identified on site in the supply chain.

### **2 Expected outcomes**

At the end of the workshop, a summary document shall present:

- Findings about the general situation and the specific PSM issues in countries covered.
- A summary of group discussions.
- Recommendations validated during the workshop.

### **3 Methodology**

The workshop was held in the following format:

- Presentations based on elements from the literature review and field survey, the general situations and specificities related to PSM.

This general presentation was then completed by : (i) presentation of two specific cases : implications of the multiplicity of operators and PSM systems ( Benin and Cameroon) and, the involvement of central purchasing unit on the quality of ARV's (ii) a presentation on mapping of in-depth evaluation of procurement and supply systems in drugs and other health products conducted by the WHO TCM department, (iii) a presentation on strategic information by the AMDS department and, (iv) a presentation on the level of implementation of recommendations made by the Brazzaville meeting in June 2006 on how to improve management of procurement and supply interventions in the Africa region by the Afro Bureau.

- Organization of a debate in order to provide additional information and analyze the current situation but also to identify major bottlenecks and disruptions which negatively impact on the use of human, technical and financial resources deployed in the field by partners and operators.

- Setting up of pluridisciplinary working groups including about ten people in charge of addressing each of the topics identified during focused discussions, to analyze the causes and make recommendations. To make sure quality results and analysis are performed, each working group was provided with specific terms of reference and followed a pre-established methodological framework. Topics discussed by the working groups were as follow:

Topic 1: Which solutions to adopt, to address stock outs and drug expiry problems?

Topic 2: Which solutions to adopt in view of the restricted role played by central medical stores in the supply chain in some countries?

Topic 3: Which measures should be adopted to improve pharmaceutical management practices in health facilities?

Topic 4: Which formal consultation framework to improve PSM efficiency?

Topic 5: Which monitoring and evaluation system to improve the quality and distribution aspects in order to boost the efficiency of the supply chain and stock management ?

Two sub-topics were added, one on emergency stocks and another on activities which could be funded at a later stage through submission of requests to the Global fund.

- Presentation in plenary of draft recommendations suggested by working groups.
- Merging of all participants into the five working groups in two new groups to discuss two central topics which emerged during plenary discussions:

Topic 6: How to improve access to emergency stocks pre-positioned in the sub-region?

Topic 7: Which activities could contribute to the smooth running of national programs and should be funded in the next Global Fund rounds?

- Approval in plenary of validated recommendations.

#### **4 Draft recommendations made by working groups**

Recommendations from the workshop should assist countries to improve the formulation of their requests for the next round. They include:

##### **a. Recommendations to countries:**

- Harmonize and disseminate management tools.
- Put in place an information management and reporting system for logistical data.
- To train staff in such information management systems to improve the quality and frequency of reports.
- To strengthen the capacity of service providers in needs assessment through supervisory training.
- To simplify the PSM system.
- To develop advocacy for effective involvement of central medical stores and use the competencies of Central medical stores for procurement.
- To strengthen logistical capacities of central medical stores.
- To assess emergency procurement system and analyze constraints at country level.
- To develop ownership about partners funding mechanisms.
- To adapt standard call for bid to partners procedures while complying with the national regulations.
- To mainstream indirect costs in funding requests (stock management, warehouse management and insurance and quality control).
- To put in place a harmonized framework including programs, central medical stores, partners, and regulatory and control authorities.
- To specify roles and responsibilities of each player in the consultation framework steered by the State.
- To improve coordination between central medical stores, partners and programs in the planning of procurement in HIV/AIDS products.
- To document all country positive experiences.

##### **b. Recommendations to partners**

- To provide financial and technical support intended to strengthen central stores.
- To support countries in terms of training (retraining providers in information management systems).
- To support countries to harmonize management tools used.
- To technically support the process of harmonization of indicators.
- To adhere and participate in the establishment of a harmonized consultation framework including programs, central stores, partners and regulatory and control authorities.

- To support countries in the design of calls for bids files.
- To develop and disseminate guidelines for emergency procurement in case of ARV stockouts.
- To integrate indirect costs in partners funding (stock management, warehouse management and insurance and quality control).
- To use the ACAME website to disseminate information on emergency stocks available in the sub-region.
- To participate in the funding of emergency stocks.
- To enlighten procedures regulating access to emergency stocks.
- To support the ACAME strategic development plan, this includes the establishment of a database.
- To provide countries with the WHO AMDS department tools.
- To pursue facilitation of procurements.

## ANNEX 2 LIST OF PARTICIPANTS TO THE WORKSHOP

### National participants (by alphabetical order)

#### Benin

- Kabirou Gbadamassi, Assistant Supply, UNICEF, kgbadamassi@unicef.org, +229 213 00 266
- Pascal Hessou, Director CAME, phcoffi@yahoo.fr, +229 959 52 060
- Agnès Bah Kpevi, PNLs/Ministère de la Santé, bagneflor@yahoo.fr, +229 975 74 155
- Dr Clément Ahoussinou, PNLs, Supply, cahoussinou@yahoo.fr

#### Burkina Faso

- Ida Sawadogo, CAMEG, Pharmacist, cameg@cameg.bf/schoida@yahoo.fr, +226 50 37 37 54
- Moussa Ouedraogo, Pharmacist in charge of Quality Assurance of Medicines (DGPML- Ministère de la Santé), ouedwmoussa@yahoo.fr, +226 70 25 77 19
- Hamado Ilboudo, Laboratoire National de Sante Publique, chef de service de contrôle pharmacotoxicologique des médicaments, ihamado@yahoo.fr ; +226 70 40 38 41
- Salam Derme, Secrétariat permanent du CNLS-IST, Pharmacist, salamderme@yahoo.fr, +226 70 24 69 83

#### Cameroon

- Dr Frédéric Samba Mistral, CENAME, Commercial Director, fredsamba@yahoo.fr, +237 99 97 92 51

#### Congo

- Marie Paule Fargier, COMEG, Comeg\_congo@yahoo.fr, mariepaule.fargier@laposte.net, + (242) 572 72 57
- Dr Jean de Dieu Obouaka, COMEG, Pharmacist and Director, Comeg\_congo@yahoo.fr, jdd.obouaka@yahoo.fr, +(242) 666 54 95
- Hyacinthe MOUNGUENGUI, UNICEF Assistant Supply Officer, hmounguengui@unicef.org

#### Côte d'Ivoire

- Dr Souare Dossou, Pharmacie de la Santé Publique, Director, Souared2003@yahoo.fr, +225 21 21 73 44
- Dr Ouattara Koré Pierre Olivier, Pharmacist, DPM, ouattara\_olivier@yahoo.fr, + 225 21 35 73 13
- Dr Francois Bony, LNSP, Pharmacist, Chief of service, bonynicaise@yahoo.fr, +225 21 32 00 21
- Dr Likane Lilianne, Pharmacist, MSP/PNPEC, huguette78@yahoo.fr, +221 225 20 32 28 69

#### Ghana

- Dr Stephen Ayisi Addo, National AIDS Control Programme, saddo@nacp.org.gh, +233 02 44 57 27 76
- Peter Gyimah, Central Medical Store, Director, petergyimah@gmail.com, +233 24 48 46 919
- Felix Yellu, Director of Pharmaceutical Services, pharmacyunit@yahoo.com, +233 21 66 63 66
- Joycelyn Azeez, Head of Procurement Unit, joykazeez@yahoo.com, +233 20 817 67 28

#### CAR

- Dr Bossokpi PASSI Igor, Pharmacist, Chef de Service Technique UCM, passigor@yahoo.fr, +236 75 50 37 64
- Dr Akondja- Yandja Jenny Jasmine, Pharmacist Coordinator of UCM/ GFATM program, jakondja@yahoo.fr, +236 75 20 61 30
- Jean Bernard Elie Bureau, Médecin Chef SG du Comité Militaire de Lutte contre le SIDA et point Focal du Ministère de la Défense au ST/CNLS, Jamesbur2000@yahoo.fr, +236 75 50 27 75

#### Democratic Republic of Congo

- Odon Mulungu Binzambal, FEDECAME (Fédération des Centrales d'Approvisionnement en Médicaments Essentiels), Director, fedecame@jobantech.cd, odonmulango@yahoo.com, +243 81 40 89 637

- Dr. Augustin Okengue Yuma, PNL VIH/SIDA, Director, dokengue@yahoo.fr , +243 999 932 407
- Feza Nsumbu Celine, Pharmacy Department, Pharmacist, csumbu@yahoo.fr , +243 81 50 20 943

### **Senegal**

- Dr Pape Biram Ndiaye, PNA, Pharmacist, Director, pnas@sentoo.sn, +221 33 859 50 66
- Dr Ndeye Dome Fall Diop, Pharmacist, DPM, Division Législation, ndeyedomefall@yahoo.fr, +221 77 513 14 96
- Pr Mounirou Ciss, Pharmacist, Director of the National Quality Control Laboratory, labocontrole@orange.sn, +221 33 821 93 91
- Colonel Issa Diop, Conseiller, Cabinet du Ministre de la Santé, coloneldiop@yahoo.fr, +221 77 611 75 14
- Dr Abdoulhath Mangane, Pharmacist Supply Specialist, DLSI, lahath@gmail.com, +221 33 849 14 07
- Dr Ngom Mamadou, WHO Sénégal, ngomm@sn.afro.who.int, +221 33 869 53 37
- Dr Daouda Diop, PNA, Technical Director, daoudadr@yahoo.fr, dadiop@pna.sn, +221 33 859 74 7172

### **Partners representatives (by alphabetical order)**

#### **ACAME**

- Gérard Millot, Technical officer, gerard.millot@laposte.net, +226 50 37 91 75
- Paulette MOUNGUENGUI, Président, polmoung@yahoo.fr, +241 76 55 07

#### **World Bank**

- Bourama Diaite, Procurement Specialist, bdiaite@worldbank.org, +221 33 849 50 26
- Sidy Diop, Spécialiste de la passation des marchés, sdiop1@worldbank.org, +221 33 849 85 12

#### **CHMP**

- Alassane Ba, Pharmacist, Director of Quality Control Department, a.ba@chmp.org, +33 4 73 98 24 70
- Hélène Degui, Pharmacist, Director, h.degui@chmp.org, +33 4 73 98 24 81

**Clinton Foundation** - Abigail Smith, Clinton Foundation Ouagadougou, asmith@clintonfoundation.org

#### **Global Fund**

- Sophie Logez, Pharmacien, Global Health Supply Policy Analyst Procurement Team, sophie.logez@theglobalfund.org, +41 22 791 82 07

#### **GIP ESTHER**

- Caroline Damour, Pharmacist, Paris, caroline.damour@esther.fr, +33 1 53 17 52 14
- Dr Karim Diop, Pharmacist, Senegal Coordinator, coordination.senegal@esther.fr, +221 77 518 64 97

#### **IDA Foundation**

- Joost van Engen, Manager for Francophone Africa, jvengen@idafoundation.org, +31 20 403 30 51

#### **French Foreign Ministry**

- Dr Bruno Flourey, Medical Doctor, Conseiller du Ministre de la santé du Sénégal, bruno.flourey@orange.sn
- Guilherme de Lemos, Pharmacist, Chargé de mission, GGCID DPDEV, Ministère français des affaires étrangères, Guilherme.DELEMOS@diplomatie.gouv.fr , +33 1 53 69 31 71

#### **Mission Pharma**

- Laurent Lombart, Director, Business Development & Strategic Marketing, ll@missionpharma.com, +45 25 11 98 64

#### **OCEAC**

- Emilienne Yissibi Pola, Secrétariat Général, contact@oceac.org, +237 22 23 22 32

**UNAIDS**

- Aliou Assani, M&E, [assania@unaids.org](mailto:assania@unaids.org), +221 33 869 06 70

**UNDP**

- Clément San Sebastian, Regional Service Center, Senior Programme Advisor, Dakar, [clemente.sansebastian@undp.org](mailto:clemente.sansebastian@undp.org), +221 33 869 06 41

**UNICEF**

- Bianca Kamps, Teamleader HIV/AIDS & Malaria, SD Copenhagen, [bkamps@unicef.org](mailto:bkamps@unicef.org), +45 35 27 32 70

**UNICEF WCARO**

- Dr Eric Mercier, Médecin, Regional Adviser, HIV/AIDS, [emercier@unicef.org](mailto:emercier@unicef.org), +221 33 869 58 38

- Dr Saliyou Sanni, Médecin, Project Officer, PMTCT/Pediatrics, [ssanni@unicef.org](mailto:ssanni@unicef.org), +221 33 869 76 40

- Véronique Laïte Kuadjovi, Administrative Assistant, [vlaite@unicef.org](mailto:vlaite@unicef.org), +221 33 869 76 32

- Hyacinthe Adouko, Senior Programme Assistant, [hadouko@unicef.org](mailto:hadouko@unicef.org), +221 33 869 76 34

- Yves Koudjou Tatang, Programme Officer HIV/AIDS, [ykoudjou@unicef.org](mailto:ykoudjou@unicef.org), +221 33 869 76 35

- Christine Nare Kabore, HIV Specialist, [cnarekabore@unicef.org](mailto:cnarekabore@unicef.org), +221 33 869 76 39

- Jeff Groby, Regional Advisor Supply, [jgroby@unicef.org](mailto:jgroby@unicef.org), +221 33 869 76 14

- Sebastien Laplanche, Logistic Specialist, [slaplanche@unicef.org](mailto:slaplanche@unicef.org), +221 33 869 76 23

- Tifenn Humbert, Programme Officer HIV/AIDS, [thumbert@unicef.org](mailto:thumbert@unicef.org), +221 33 869 76 33

- Jean Marc Guimier, Consultant, [jmguimier@hotmail.com](mailto:jmguimier@hotmail.com), +33 4 50 72 18 44

- Dr Marie Louise Ngoko, Consultant, [ngokoml@yahoo.fr](mailto:ngokoml@yahoo.fr), +237 22 02 60 30

- Pr Anglade Malan Kla, Consultant, [anglade@aviso.ci](mailto:anglade@aviso.ci), +225 7 08 19 18

- Touty Diack, Consultant, [diacktouty@yahoo.fr](mailto:diacktouty@yahoo.fr), +221 77 639 39 47

**UNITAID**

- Phillippe Harant, [harantp@who.int](mailto:harantp@who.int), +41 22 79 15 572

**WHO AFRO**

- Dr Thomas Lapnet, Pharmacist- regional Programme on AIDS, [lapnett2@afro.who.int](mailto:lapnett2@afro.who.int) +47 241 39 229

- Dr Yves Barjaud, Pharmacist, Inter-countries Team, Libreville, [barjaudy@ga.afro.who.int](mailto:barjaudy@ga.afro.who.int), +241 74 01 40 41

**WHO AMDS**

- Dr Vincent Habiyambere, AMDS, Geneva, [habiyamberev@who.int](mailto:habiyamberev@who.int), +41 22 791 39 45

**WHO TCM**

- Dr Magali Babaley, Technical Officer-Department, Geneva, [babaleym@who.int](mailto:babaleym@who.int), +41 22 791 40 31

- Carolyn Whitten, Intern-Department, Geneva, [whittenc@who.int](mailto:whittenc@who.int), +41 22 79 14 031

- Adama Diawara, Consultant, [diawarabint@yahoo.fr](mailto:diawarabint@yahoo.fr), +223 67 65 417

## **Assessment and Mapping of Procurement and Supply Management Systems related to HIV/AIDS in West and Central Africa**

### **Regional workshop for results presentation**

**UNICEF - WHO - GIP ESTHER**

**Dakar- Sénégal**

**22 - 24 avril 2008**

### **AGENDA**

#### **DAY 1: Tuesday 22nd April 2008**

- 08.30–09.00 Registration.  
Opening Ceremony
- 09.00-09.30 Statements by Development partners: GIP ESTHER, WHO, UNICEF.  
Keynote Address and Official Opening of the workshop by the Ministry of Health
- 09.30–10.00 Orientation  
Administrative announcements (10 min)  
Overview of the workshop Goals, Expected Outcomes, Agenda and Methodology :  
T.Humbert, UNICEF WCARO and JM Guimier (10 min)
- 10.00-10.30 Tea/Coffee Break

#### **Session 1 : Presentation related to PSM evaluation**

President :Dr.Thomas Lapnet, WHO AFRO

- 10.30–11.30 Context and issues of PSM systems : E. Mercier, UNICEF WCARO (10 min)  
Presentation of the findings of the regional assessments on PSM : J.M. Guimier,  
consultant UNICEF WCARO
- 11.30-12.30 Presentation of two cases identified on the field :  
Consequences of the multiplication of operators and PSM Systems : Dr. M.L. Ngoko,  
consultant UNICEF WCARO (15 min for presentation and 15 min for clarification)  
Implication of central medical stores in the quality control of ARVs :Pr. A. Malan Kla,  
consultant WCARO de l'UNICEF (15 min for presentation and 15 min for clarification)
- 12.30-14.00 Buffet Lunch

#### **Session 2 : Presentations of the results of the mapping of PSM systems**

Président : Dr Caroline Damour, GIP ESTHER

- 14:00-16.00 Presentation of the mapping of PSM Systems conducted in countries with WHO  
support and Perspectives : Magali Babaley, TCM, WHO Geneva  
Discussion (90min)
- 16.00-16.30 Tea/Coffee Break

- 16.30-17.15 Strategic information on AMDS : Global Price Reporting Mechanism, tool box, trainings, indicators : Dr V.Habiyambere, WHO, AMDS
- 17.15-18.00 Update on the implementation of the recommendations from Brazzaville meeting/ WHO (June 2006): Dr T Lapnet, WHO AFRO
- 16.45-18.00 Preparation of Report Day 1 ( Touty Diack and JM Gumier)
- 19.00 Cocktail

## **DAY 2 : Wednesday 23th April 2008**

### **Session 3 : group work**

President : Dr Vincent Habiyambere, AMADS/ WHO

- 08.30–09.30 Summary of Day 1 activities and Presentation of the Agenda & methodology for Day 2 (J.M. Guimier, consultant UNICEF WCARO).  
Constitution of groups
- 09.30–10.30 Starting of group work
- 10.30-11.00 Tea/Coffee Break
- 11.00–13.00 Group work (cont and end)
- 13:00-14:00 Buffet Lunch
- 14:00-16:00 Presentation of the outcomes of each group (10 min per group)
- 16.00-16.30 Tea/Coffee Break
- 16.30-18.00 Discussions on proposed outcomes
- 18.00-19h00 Writing of Day 2 Report

## **DAY 3: Thursday 24th April 2008**

### **Session 4 : Group work and validations of recommendations**

President : Dr Eric Mercier, UNICEF WCARO

- 08.30-09.00 Summary of Day 2 activities and Presentation of the Agenda & methodology for Day 3 (J.M. Guimier, consultant UNICEF WCARO).  
Constitution of groups
- 09.00-11.00 Group work (cont)
- 11.00-11.30 Coffee Break
- 11.00-11.30 Preparation of the summary by Raporteurs
- 11.00-12.00 Presentation of the recommendations (10 minutes per group)
- 12.00-13.00 Discussion  
Validation of the recommandations

### **Closing Ceremony**

- 12.30–13.00 Statement by the participants  
Statements by development partners  
Official closing Address by the Ministry of Health
- 13.30 Buffet Lunch

## ANNEX 4 BIBLIOGRAPHY

### General documents

1. UNAIDS Annual Report, *Making the Money work*, UNAIDS, Geneva 2007.
2. UNAIDS/WHO, *Report on the Global AIDS epidemic*, Geneva, December, 2006.
3. ONUSIDA, *AIDS Epidemic update*, Geneva, May 2006.
4. UNAIDS/ UNICEF/WHO, *Children and AIDS: second stocktaking report, action and progress*, April 2008.
5. "Regional framework to improve procurement and supply management of medicines in the WHO African region 2006-2010. Reports of the working groups", Brazzaville, June 2006.
6. ReMeD /Esther "Enquête sur l'approvisionnement et le prix des ARV" :(Algérie, Bénin, Burkina Faso, Burundi, Cameroun, Centrafrique, Congo Brazzaville, Côte D'Ivoire, Gabon, Guinée Conakry, Madagascar, Mali, Mauritanie, Niger, Rwanda, Sénégal, Tchad, Togo); Paris, juin– octobre 2004.

### Country documents (by alphabetical order)

#### Benin

1. Marcel Sagbohan, *Rapport de la revue des capacités d'approvisionnement des structures nationales, en particulier la CAME*, octobre 2005.
2. Edith Gasasa (PNUD Bénin), Marcel Djimon (PNLS), Pascal Héssou (CAME), *Plan de gestion des achats et des stocks VIH/Sida pour la période 2005 à 2006*; janvier 2006.

#### Burkina Faso

3. JSI/DELIVER, *Evaluation du Système Logistique des Médicaments Antirétroviraux*, (Collectif), février 2004.
4. Comité Ministériel de Lutte contre le VIH/Sida et les IST, "Guide de gestion des médicaments et produits connexes utilisés dans la lutte contre le VIH/Sida"; novembre 2005.
5. Fonds Mondial PNUD, "Plan de gestion des achats et des stocks VIH/Sida pour la période 2005 à 2006"; janvier 2006.
6. Dr. Irène Madet. "Rapport Burkina Faso – enquête sur l'approvisionnement en ARV"; janvier 2007
7. Tulane University, *Gestion des ARV en Afrique de l'Ouest ; étude du cas du Burkina Faso*; mai 2007.

#### Cameroon

8. OMS, "Appui au système d'approvisionnement et de gestion des antiretroviraux au Cameroun"; octobre 2003.
9. OMS, "Renforcement du système d'approvisionnement et de gestion des ARV et produits connexes au Cameroun", mars 2006.
10. Joseph René Boum (Chef de service PTME), "Les donations PTME / Rapport de situation commun"; décembre 2006.
11. ReMeD/ESTHER, Adeline Zahnd, *Enquête sur l'approvisionnement en Antirétroviraux réalisée par ReMeD/ESTHER. Rapport de mission*; janvier 2007.

## **Côte d'Ivoire**

12. Dominique Marie Kerouedan, Rigobert Aka Kakou, *Etude sur le renforcement du système d'approvisionnement et de distribution des tests de dépistage de l'infection à VIH. Rapport final*; mai 2002
13. Agbare Dames Brou, Juarez Hygino, Michel Kouamé. *Audit de la Pharmacie de la Santé Publique. Rapport final*; août 2003
14. MSH, Michael Derosena, Jean-Marc Guimier, Yves Barjaud, "Analyse du système national de gestion des médicaments et consommables médicaux dans le contexte du développement de la PTME du VIH. Rapport final"; avril 2004.
15. ReMed/ GIP ESTHER, "Pharmacie et Aide Humanitaire. Rapport Côte d'Ivoire : enquête sur la gestion des antirétroviraux"; janvier 2007
16. ORC Macro -Mohamed Ayad et Monique Barrère (dir.), "Enquête sur les indicateurs du Sida", (Rapport non validé), décembre 2006.
17. Ministère de la Santé et de l'Hygiène Publique, "Consensus sur l'harmonisation des interventions de la prise en charge médicale des personnes vivant avec le VIH dans le secteur de la santé. Rapport d'atelier"; janvier 2007.
18. Pharmacie de la Santé Publique de Côte d'Ivoire, "Draft du manuel de procédures du Système de Management de la Qualité de la Pharmacie de la Santé Publique"; (Rapport de séminaire), février 2007.

## **Ghana**

19. Thomas Bossert (Ph.D) and alii, *Ghana: Decentralization and the Health Logistics Systems*, 2004.
20. MSH, *Acces to Essential Medicines: Ghana. Final draft*, July 2003.
21. Ministère de la Santé – Service de la Santé, *Antiretroviral drugs Logistics Management Information System (LMIS) Guidelines*; July 2004.
22. *Ghana Public Sector Health Commodities –Logistics Indicators Assessment Tool (LIAT) 2006*; (Anonymous), 2006.
23. Ministère de la Santé and DELIVER, *Assessment of the Ghana Laboratory Logistics System and Services*; March 2006.
24. Tulane University, *ARV Management in West Africa – Case of Ghana*; March 2007.

## **Guinea**

25. "Analyse situationnelle de l'approvisionnement et la distribution des ARV en Guinée", (Anonyme); sans date.
26. WHO AFRO, Thomas Lapnet-Moustapha, "Rapport de mission d'appui au système d'approvisionnement et de gestion des médicaments antirétroviraux"; mai 2004.
27. "Rapport de l'évaluation de la mise sous ARV"; (Anonyme), février 2006.

## **Guinea Bissau**

28. Barbara Milani (WHO), Peter Vanquaille (UNICEF), *Rapid assessment of Guinea Bissau Distribution System for HIV/AIDS program –joint mission WHO/UNICEF*; February 2006.

## **Mali**

29. Christophe Lemière, Séverine Peters-Desteract (SOFRECO), « Actualisation du diagnostic de la Pharmacie Populaire du Mali ». (Rapport provisoire), novembre 2003.

30. "Projet Multisectoriel VIH/Sida (MAP)"; (Anonyme), 2006

## **Mauritania**

31. "Mission de consultation sur le volet approvisionnement en produits pharmaceutiques et biomédicaux exécuté par le SENL dans le cadre du fonds mondial"; (Anonyme - note de synthèse), janvier 2007.

## **Niger**

32. Cabinet 2AC – Associés Audit et Conseil, "Audit organisationnel, institutionnel et financier de l'ONPPC"; (Rapport provisoire), novembre 2002.

33. Moustapha Diallo, "Mission de consultation effectuée par le docteur Diallo Moustapha, pharmacien diplômé d'état, consultant indépendant"; décembre 2004.

34. Maman Elhadj Maty, Issa Sani, Moumouni Absi, Moustapha Diallo, Abdoulaye Abou, "Rapport d'évaluation de la politique pharmaceutique nationale", août 2005.

## **CAR**

35. CHMP - Dr. Hélène Degui (Directeur CHMP), "Analyse du circuit d'approvisionnement en ARV, médicaments IO et intrants dans le cadre des projets ESTHER - rapport de Mission"; avril 2006.

36. OMS/AFRO - Thomas Lapnet-Moustapha (STP/Pharm/OMS/AFRO), "Evaluation du système de contrôle de qualité des médicaments du VIH/Sida"; juillet 2006.

## **DRC**

Clarisse Morris (PNUD/FM), Leen Jille (PNUD/FM), Léonard Matamba (PNAM), Franck Biayi (PNAM), « Rapport d'évaluation des Centrales de distribution régionales des médicaments essentiels et consommables médicaux », janvier 2007.

37. Pr. Moussa Koné, "Rapport de mission sur le plan d'approvisionnement en ARV et intrants du VIH/Sida"; décembre 2005.

38. MSH, Willy Kabuya, Gabriel Bukasa, Flore Dienkenda, "Renforcement de la gestion des médicaments dans les zones de santé pour la prise en charge communautaire en RDC"; juin 2006.

39. Pr. Christian Courpotin, Dr. Saka Yessoufou, Charles Saïdi Misangu (PNUD/FM), "Evaluation de la prise en charge globale des personnes vivant avec le VIH sous ARV en RDC"; novembre 2006.

40. Johnson Bassirou, Jack Kololomami (dir.); "Mission sur la cartographie des interventions de lutte contre le VIH/Sida financées par le MAP et le Fonds Mondial en RDC. Phase I : ville et province de Kinshasa"; mars 2007.

## **Senegal**

41. Advance Africa, "Mapping de l'intégration des services PF/SMI et IST/VIH/Sida dans la région de Koalak au Sénégal"; mars 2002.

42. GIP ESTHER, Dr. Muriel Dubreuil, "Rapport de mission Sénégal. Rapport provisoire"; mars 2006.

43. "Projet multisectoriel de lutte contre le VIH/Sida – Mission d'appui à la mise en oeuvre"; Anonyme, juin 2006.
44. Sébastien Woynar, "Initiative sénégalaise d'accès aux anti-rétroviraux ISAARV) -accès au dépistage, traitement et politique pharmaceutique"; juillet 2006.
45. Anne Marie Bodo, "Analyse des stratégies d'accès aux soins et traitement et des procédures d'acquisition des médicaments ARV et anti IO et autres", mars 2007.
46. Tulane University, *Gestion des ARV en Afrique de l'Ouest – Etude de cas du Sénégal*, mars 2007.

#### **Chad**

47. Direction de la Pharmacie, du Médicament et des Laboratoires, "Enquête sur le prix des médicaments au Tchad"; mai 2004.
48. Centrale Pharmaceutique d'Achats, "Centrale Pharmaceutique d'Achats N'Djamena – Tchad. Perspectives 2007", 2007.

#### **Sierra Leone**

2. WHO AFRO, Thomas Lapnet-Moustapha "Technical support to Sierra Leone for assessment of Procurement and Supply Management System for HIV/AIDS Medicines", March 2007.

#### **ACAME member countries**

50. MSH, Jean-Marc Guimier), Anglade Malan Kla, "Business Strategy for Regional Pooled Procurement of HIV/AIDS-Related Pharmaceuticals and Commodities in the ACAME Region"; February 2004.

#### **West Africa**

3. JSI/DELIVER, *The West Africa Reproductive Health Commodity Security Study. Summary of Findings from Phase One*, Collective work, 2004.

#### **Sub-Saharan Africa**

4. WHO, Marlon Banda, Dr. Eva Ombaka, Sophie Logez, Marthe Everard, "Multi-country Study of Medicine Supply and Distribution Activities of Faith-Based Organizations in Sub-Saharan African Countries", 2006.

#### **Africa**

53. WHO, "Multi-country Study of Public Medicine Supply Strategies on the African Continent. Discussion paper on results and findings"; January 2007.

#### **Burkina Faso, Ghana & Senegal**

54. Tulane University, *ARV Management in West Africa – A comparative case study of Burkina Faso, Ghana and Senegal*; May 2007.

ANNEX 5 SOME ADDITIONAL FIGURES

Table 8. Number of women receiving ARV for PMTCT and children receiving ARV (comparison between PSM assessment and UNICEF second stocktaking report)

	Women			Children		
	2006	2007	Δ	2006	2007	Δ
	2006	2007		2006	2007	
Benin	2378	3,447	45%	330	667	102%
Burkina Faso	1615	1,380	-15%	534	629	18%
Cameroon	7588	6,263	-17%	1014	1700	68%
CAR	1943	1,857	-4%	268	731	173%
Congo	325	175	-46%	264	n.a.	n.a.
Côte d'Ivoire	2773	1,890	-32%	1348	2531	88%
Ghana	1239	109,334	n.a.	122	769	530%
DRC	3422	3,435	0%	124	n.a.	n.a.

Sources : Children and AIDS : second stocktaking report, action and progress (2006) et Enquête PSM (2007)

Table 9. Pharmaceutical policies

	Is there a policy on 'information, education, communication and prevention for the most exposed populations	Is there a policy on extending access to essential prevention products to the most exposed populations
Benin	yes	yes
Burkina faso	yes	yes
Cameroon	yes	yes
Cap Verde	n.a.	n.a.
CAR	n.a.	n.a.
Chad	n.a.	n.a.
Congo Brazzaville	yes	yes
Côte d'Ivoire	yes	yes
Equatorial Guinea	n.a.	n.a.
Gabon	yes	yes
Gambia	n.a.	n.a.
Ghana	n.a.	n.a.
Guinea Bissau	yes	yes
Guinea	yes	yes
Liberia	n.a.	n.a.
Mali	n.a.	n.a.
Mauritania	n.a.	n.a.
Niger	n.a.	n.a.
Nigeria	yes	yes
Congo DR	no	yes
Sao Tome	n.a.	n.a.
Senegal	yes	yes
Sierra Leone	n.a.	n.a.
Togo	yes	yes

Table 10. Resources allocated to fight HIV/AIDS

	Benin	Burkina Faso	Cameroon	CAR	Congo	Côte d'Ivoire	Ghana	DRC
PLWA(x 1 000)	87	150	510	146	133	750	320	1,000
Number of patients under ART TAR (x 1000)	9.8	17.3	45.6	8.3	7.4	21.9	11.1	17.2
Number of patients under ART and % of number of PLWA	11%	12%	9%	6%	6%	3%	3%	2%
Total number of testing centres	93	121	1,107	22	54	147	421	167
Donation in periphery (%)	37%	33%	16%	86%	80%	22%	97%	n.a.
Total number of care centres	47	76	111	40	28	103	91	167
Donation in periphery (%)	72%	70%	10%	50%	79%	39%	87%	n.a.
Total number of PMTCT centres	183	55	700	62	28	147	407	296
Donation in periphery (%)	19%	91%	16%	65%	79%	22%	97%	79%
Number of CD4 counting equipment	26	39	51	5	14	45	80	n.a.
Number of PCR equipment	0	5	6	1	2	4	2	3
Number of patients under AVT par CD4 counting equipment	376	444	894	1,660	530	487	138	n.a.
ARV prescribed in the lucrative private sector	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
If yes, what are supply sources	PU	PU	PU	PU	PU		PU	PL
ARV prescribed in the non lucrative sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If yes, what are supply sources	PNL	PU-PNL	PU	P	PU	PU	P	P-PNL

Sources : PSM (corrected data) survey except PLWA (UNAIDS 2006)

Table 11. DDP purchase price of ARV, adult dosage (values express in USD)

			Benin		BF	Cameroon	CAR	Congo	RCI	Ghana	DRC	CHAI	Ξ
			UNICEF	FM	CIF	CIP air	CIF	DDP	FOB	CIF	CIP	7-May	Max Min
					FM/Gt/BM		FM/Gt/BM			BM (*)			
EFZ	600 mg	30 cp	30.38	17.14	20.67	15.91	21.59	30.26	35.93	15.81	13.67	13.67	2.3 16%
EFZ	200 mg	90 cp				28.22	34.82			22.67	19.80	19.80	1.5 15%
NVP	200 mg	60 cp	6.93		5.20	4.01	3.92	10.33	3.77	3.85	5.69	3.75	2.7 1%
ABC	300 mg	60 cp	77.71	31.15	39.41		77.45	50.26	30.53	41.08	90.50	27.58	3.0 11%
DdI	250 mg	30 cp			23.46		19.48			20.22	20.65	20.65	1.2 -6%
DdI	200 mg	60 cp		21.35		31.51			28.28	26.52	31.66	31.66	1.5
DdI	400 mg	30 gel					25.15	33.21		26.09	20.65	20.65	1.3 22%
3TC	150 mg	60 cp			3.72	3.95		9.44	4.34	3.28	5.16	3.00	2.9 9%
d4T	30 mg	60 cp					2.50	3.22	1.69	2.03	4.92	3.00	2.9 -44%
AZT	300 mg	60 cp		9.62	10.00	9.68	8.82	22.14	19.30		11.22	8.00	2.5 10%
AZT/3TC	300+150	60cp	9.97		12.25	10.60	12.44	14.15	10.48	10.71	14.97	10.75	1.4 -7%
d4T/3TC	30+150	60cp	4.34		5.87	5.19	4.74	6.17			9.14		1.9
d4T/3TC/NPV	30+150+200	60cp	7.25		9.15	7.53	7.61				12.59	10.80	1.7 -33%
Cotrimoxazole	480 mg	1000 cf	9.49	9.66		9.19		13.63	16.64				1.8

Source : PSM survey

Table 12. DDP purchase price of ARV, paediatric dosage (values express in USD)

			Bénin		BF	Cameroon	RCA	Congo	RCI	Ghana	RDC	CHAI	Δ
			UNICEF	FM	FM/Gt/BM	CHAI	FM/Gt/BM				BM		
EFZ	50 mg	30 cp	3,47	3,36		9,52				2,60		2,49	3,66 -29%
NVP	10mg/ml	240 ml	3,81			4,31	5,02		2,13	7,80		1,95	3,66 -42%
ABC	20mg/ml	240 ml	31,32		19,94	19,98		26,90	18,30			17,50	1,71 969%
DdI	10mg/ml	200 ml					4,06			13,09		4,00	3,23 26%
3TC	50mg/5m	240 ml			2,15	4,56			2,18	1,34		1,80	3,40 -61%
3TC	10mg/ml	100 ml	0,7		1,71			3,87			2,33		5,53 -87%
d4T	1mg/ml	200 ml			1,92	4,69		2,23	1,55			1,35	3,02 -49%
d4T	30 mg	60 cp			7,22		2,53						2,85 -11%
AZT	1mg/ml	100 ml	1,5		1,71	1,06	1,34		2,38		1,71		2,24 -53%
AZT	100 mg	100 gel						9,65		7,20		5,43	1,34 437%

Source : Enquêtes PSM

Table 13. Price list –Clinton Foundation

Name and strength	Packaging	Per year	Per pack	Per pill/ml	Supplier					
					Cipla	Ranbaxy	Via CHAI	Aspen	Matrix	Strides
<b>Pediatric product</b>										
ABC (20mg/ml)	bottle 240ml	210	17.50	0.073	4			1,2		
ddI (2g or 10mg/ml)	bottle 200ml	72	4.00	0.020				1,2		
ddI (25mg)	bottle 60 tablets	12	0.50	0.008	4					
ddI (50mg)	bottle 60 tablets	12	1.00	0.017	4					
ddI (100mg)	bottle 60 tablets	187	7.80	0.130	4			1,2		
ddI (150mg)	bottle 60 tablets	211	11.70	0.195	4			1,2		
ddI (200mg)	bottle 60 tablets	187	15.60	0.260	4			1,2		
EFV (50mg)	bottle 30 tablets	30	2.49	0.083				1,2		
3TC+d4T+NVP (20/5/35mg)	bottle 60 tablets	63	2.70	0.045			3			
3TC+d4T+NVP (40/10/70mg)	bottle 60 tablets	63	5.25	0.088			3			
3TC+d4T+NVP (30/6/50mg)	bottle 60 tablets	54	2.24	0.037	3					
3TC+d4T+NVP (60/12/100mg)	bottle 60 tablets	54	4.49	0.075	3					
3TC (50mg/5ml)	bottle 240ml	22	1.80	0.008	1,2			1,2		
NVP (50mg/5ml)	bottle 240ml	44	1.95	0.008	3			1,2		
d4T (1mg/ml)	bottle 200ml	49	1.35	0.007	4			1,2		
d4T (15mg)	bottle 60 capsules	9	1.50	0.025	4			1,2		
d4T (20mg)	bottle 60 capsules	11	1.80	0.030	4			1,2		
AZT (50mg/5ml)	bottle 240ml	64	2.15	0.009	1			1,2		
AZT (100mg)	bottle 100 capsules	39	5.43	0.054	1			1,2		
Cotrimoxazole (240mg/5ml)	bottle 60ml	8	0.21	0.004						
Cotrimoxazole (480mg)	bottle 100 tablets	5	0.70	0.007						
<b>Adult product</b>										
ABC (300mg)	bottle 60 tablets	331	27.58	0.46						1,2
ddI (250mg) [enteric-coated]	bottle 30 capsules	156	12.97	0.43			3			
ddI (400mg) [enteric-coated]	bottle 30 capsules	248	20.65	0.69			3			
EFV (200mg)	bottle 90 capsules	240	19.80	0.22	4		1			3
EFV (600mg)	bottle 30 tablets	164	13.67	0.46	1,2					3
3TC+d4T+NVP (150/30/200mg)	bottle 60 tablets	132	10.80	0.18	1,2		1			3
3TC+d4T+NVP (150/40/200mg)	bottle 60 tablets	140	11.40	0.19	1,2		1			3
3TC+AZT+NVP (150/300/200mg)	bottle 60 tablets	174	14.50	0.24	1,2					4
3TC+AZT (150/300mg)	bottle 60 tablets	129	10.75	0.18	1,2					3
3TC (150mg)	bottle 60 tablets	36	3.00	0.05	1					1,2
3TC (300mg)	bottle 30 tablets	36	3.00	0.10	1					
LPV/r (200/50mg) [heat-stable]	bottle 120 tablets	695	57.92	0.48						3
NVP (200mg)	bottle 60 tablets	45	3.75	0.06	1,2					3
d4T (30mg)	bottle 60 capsules	36	3.00	0.05	3		1		1	1,2
d4T (40mg)	bottle 60 capsules	45	3.60	0.06	3		1		1	1,2
TDF (300mg)	bottle 30 tablets	149	12.42	0.41	3					3
TDF+3TC (300/300mg)	bottle 30 tablets	179	14.92	0.50	4					3
TDF+FTC (300/200mg)	bottle 30 tablets	225	18.75	0.63	4					4
TDF+3TC+EFV (300/300/600mg)	bottle 30 tablets	339	28.25	0.94						4
TDF+FTC+EFV (300/200/600mg)	bottle 30 tablets	385	32.08	1.07						4
AZT (300mg)	bottle 60 tablets	96	8.00	0.13	4					3

Source : <http://www.clintonfoundation.org/pdf/chai-arv-price-list-050807.pdf>

Notes : (1) Listed by the WHO Prequalification Programme; (2) Approved by the U.S FDA; (3) Submitted to the WHO and/or FDA for review; (4) Pending submission to the WHO and/or FDA and manufactured at a facility compliant with Good Manufacturing Practice (GMP).

Figure 2. PSM System related to HIV/AIDS in Ivory Coast :

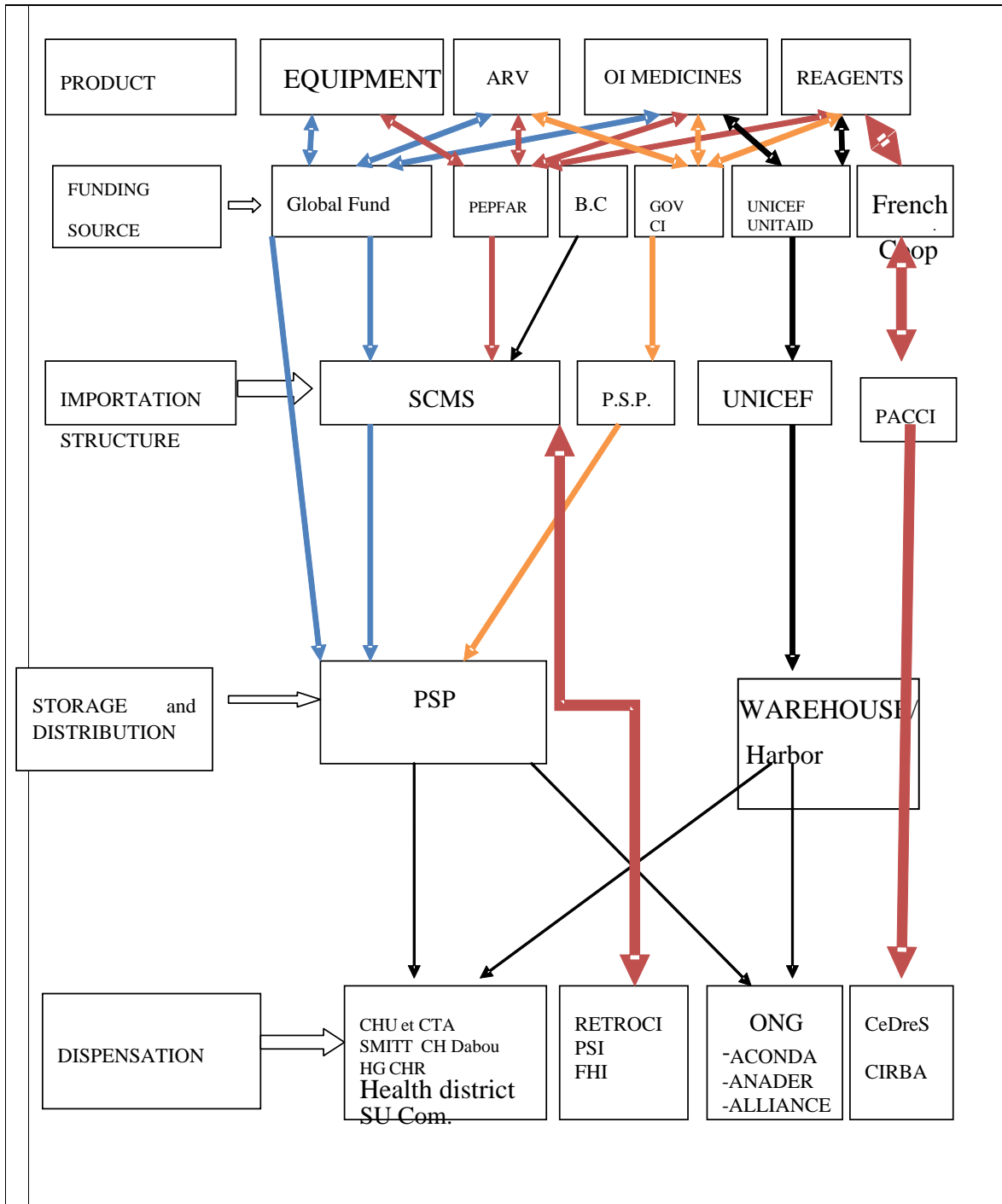


Table 14. Results from Health facilities visits

	Bénin		BF		Cameroun		RCA		Congo		RCI		Ghana		RDC									
Hôpital H Centre C Autre A	n.a.	C	C	H	C	A	n.a.	n.a.	n.a.	B	B	B	n.a.	n.a.	n.a.	H	H	C	C	H	H	C	H	H
Urbain U, Rural R	U	U	U	U	U	U	R	UR	R	U	U	U	R	R	R	U	U	U	U	R	R	U	U	U
Responsable de la gestion des stocks	I	P	MP	P	P	TS	I	I	M	TS	I	I	I	I	I	P	P	Aux Ph	TS	P	TS	I	P	P
Le CTA gère les besoins	Non	Oui	Non	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Non
Le CTA passe les commandes	Non	Oui	Non	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Non
Formation du responsable	Non	>6	>6	>6	>6	>6	>6	>6	>6	>6	<6	<6	>6	>6	>6	>6	>6	>6	>6	>6	<6	>6	>6	>6
Conditions de stockage A B C	C	B	B	A	A	B	A	A	A	C	B	B	A	B	B	A	C	B	C	A	A	A	C	C
Respect chaîne du froid	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Non	Oui
Surface suffisante	Non	Oui	Non	Non	Oui	Non	Oui	Oui	Oui	Non	Oui	Non	Oui	Non	Non	Oui	Non	Oui	Non	Oui	Oui	Oui	Non	Oui
Présence de la LNME	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Oui	Non	Non	Non
Fiche de stock ou logiciel	Oui	Oui	Non	Oui	Oui	Oui	Non	Non	Non	Oui	Oui	Non	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Non	Non
Inventaire H B M T	M	M	H	M	M	T	M	M	M	H	M	M	n.a.	T	M	H	T	H	M	H	H	M	M	M
Approvisionnement H B M T IR		M	M	T	T	T	T	T	T	M	6 mois	M	T	T	T	M	M	M	M	M	M	M	IR	Stock
Délai de livraison J	1	5	4	7	7	15	1	1	1	7	120	7	2	n.a.	7	15	7	7	7	7	n.a.	7	7	n.a.
Causes de ruptures de stock																								
Livraison < Commande	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	n.a.	Oui	Non	Oui	Non	Oui	Oui	Oui	Non	Non	n.a.	Non	Non	n.a.	Oui	Oui
Commande < Besoins	Non	Non	Non	Non	Non	Non	Non	Oui	n.a.	Non	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	n.a.	Oui	Oui	n.a.	Non	Oui
Retards de livraison	Non	Oui	Non	Non	Non	Non	Non	Non	n.a.	Oui	Oui	Non	Non	Oui	Oui	Oui	Non	Oui	n.a.	Oui	Oui	n.a.	Oui	Non
Insuffisance de ressources financières	Non	Non	Non	n.a.	Non	Non	Non	Non	n.a.	Non	Non	Non	Non	n.a.	Oui	Oui	Non	Oui	n.a.	Non	Non	n.a.	Non	Oui
Produits périmés	Oui	Oui	Oui	Oui	Non	Non	Non	Non	n.a.	Oui	Oui	Non	Non	Oui	Oui	Oui	Oui	Oui	n.a.	Non	Non	n.a.	Oui	Non
Non respect des protocoles	Non	Oui	Non	Non	Non	Non	Non	Non	Oui	Non	Non	Non	Non	Oui	Oui	Oui	Non	Non	n.a.	Non	Non	n.a.	Oui	Non
Taux de disponibilité (traitements 1ère ligne)	100%	100%	100%	100%	100%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	50%
Fréquence des rapports d'activité H B M T IR	M	M	M	T	T	T	M	B	n.a.	IR	IR	IR	T	T	T	n.a.	M	M	M	M	M	M	M	M
Structure régulièrement supervisée	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Non	Non	Non	Non	Oui	Oui	Oui	Oui	Oui	Oui	IR	Oui	Oui	Oui	Oui	Oui

Sources : Enquête PSM

Notes : (i) Management staff : I = Nurse, D = Doctor, P = pharmacist, HT = Health technician, (TS) Training of officers in charge : >6 = over 6 months, <below 6 months, (iii) Deadlines for inventories, procurement and frequency of activity report submission : H = Weekly, B = bi-monthly, M = monthly, T = quarterly, IR = irregular.

Table 15. : Population, socio-economic and epidemiological data for the UNICEF West and Central Africa Region

Country	Estimated population	Pop. growth rate	Life expectancy at birth		HDI Rank	GNP per capita (ppp)	adult aged 15-49 HIV prevalence	People living with HIV	Adults aged >15 living with HIV	Women aged >15 living with HIV	Deaths due to AIDS	Children aged <15 on ARV	Orphan aged 0-17 due to AIDS	Pregnant women receiving PMTCT	Men & women receiving ARV	
			F	H												
Benin	8 439 000	3,2%	53	54	162	1 120	1,8%	87 000	77 000	45 000	9 600	9 800	62 000	38,0%	33,0%	25 410
Burkina faso	13 228 000	3,2%	48	47	175	1 220	2,0%	150 000	140 000	80 000	12 000	17 000	120 000	1,1%	24,0%	33 600
Cameroon	16 322 000	1,9%	51	50	148	2 090	5,4%	510 000	470 000	290 000	46 000	43 000	240 000	4,2%	22,0%	103 400
Cap Verde	507 000	2,4%	71	67	105	5 650	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CAR	4 038 000	1,3%	41	40	171	1 110	10,7%	250 000	230 000	130 000	24 000	24 000	140 000	16,4%	3,0%	6 900
Chad	9 749 000	3,4%	48	45	173	1 420	3,5%	180 000	160 000	90 000	11 000	16 000	57 000	0,2%	17,0%	27 200
Congo Brazzaville	3 999 000	3,0%	55	53	142	750	5,3%	120 000	100 000	61 000	11 000	15 000	110 000	1,0%	17,0%	17 000
Côte d'Ivoire	18 154 000	1,6%	47	41	163	1 390	7,1%	750 000	680 000	400 000	65 000	74 000	450 000	4,3%	17,0%	115 600
Equatorial Guinea	504 000	2,3%	44	42	121	7 400	3,2%	8 900	8 000	4 700	<1000	1 000	4 600	n.a.	0,0%	0
Gabon	1 384 000	1,7%	59	55	123	5 600	7,9%	60 000	56 000	33 000	4 700	3 900	20 000	0,7%	23,0%	12 880
Gambia	1 517 000	2,8%	59	55	155	1 900	2,4%	20 000	19 000	11 000	1 300	1 200	3 800	16,6%	10,0%	1 900
Ghana	22 113 000	2,1%	58	56	138	2 280	2,3%	320 000	300 000	180 000	29 000	25 000	170 000	1,3%	7,0%	21 000
Guinea Bissau	1 586 000	3,0%	48	45	172	690	3,8%	32 000	29 000	17 000	2 700	3 200	11 000	19,5%	1,0%	290
Guinea Conakry	9 402 000	2,2%	55	52	156	2 130	1,5%	85 000	78 000	53 000	7 100	7 000	28 000	0,4%	9,0%	7 020
Liberia	3 283 000	1,4%	44	39	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7 200	n.a.	n.a.	n.a.	n.a.	n.a.
Mali	13 518 000	3,0%	47	44	174	980	1,7%	130 000	110 000	66 000	11 000	16 000	9 400	0,8%	32,0%	35 200
Mauritania	3 069 000	3,0%	60	55	152	2 050	0,7%	12 000	11 000	6 300	<1000	1 100	6 900	n.a.	4,6%	550
Niger	13 957 000	3,4%	41	42	177	830	1,1%	79 000	71 000	42 000	7 600	8 900	46 000	n.a.	5,0%	3 550
Nigeria	131 530 000	2,2%	46	45	158	930	3,9%	2 900 000	2 600 000	1 600 000	220 000	240 000	930 000	0,2%	7,0%	182 000
RDC	57 549 000	2,8%	47	42	167	680	3,2%	1 000 000	890 000	520 000	90 000	120 000	680 000	n.a.	4,0%	35 600
Sao Tome	157 000	2,3%	60	57	126	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Senegal	11 658 000	2,4%	57	54	157	1 720	0,9%	61 000	56 000	33 000	5 200	5 000	25 000	1,4%	47,0%	26 320
Sierra Leone	5 525 000	4,1%	40	37	176	790	1,6%	48 000	43 000	26 000	4 600	5 200	31 000	n.a.	3,0%	1 290
Togo	6 145 000	2,7%	56	52	143	1 690	3,2%	110 000	100 000	61 000	9 100	9 700	88 000	1,8%	27,0%	27 000
Total	357 333 000							6 912 900	6 228 000	3 749 000	578 100	646 000	3 232 700			683 710
Weighted mean		2,5%	48	46		1 182	3,4%							3,1%	11,7%	

Source : 2006 Report on the global AIDS epidemic - a UNAIDS 10th anniversary special edition

Table 16. Global Fund Disbursement

	Local Fund agent	Approved Grant amount	Total lifetime budgets	Principal recipient	Principal recipient type	Program start date	Grant amount			Amount disbursed			Balance
							Phase I	Phase II	Total	Phase I	Phase II	Total	
Benin	PwC	17.3	17.3	UNDP	UNDP	Jul. 2003	11.4	6.0	17.4	11.3	5.4	16.7	0.7
Benin	PwC	23.1	60.6	Gov.	Gov.	Janv. 2007	22.8	0.0	22.8	8.8	0.0	8.8	14.0
Burkina faso	STI	16.4	16.4	UNDP	UNDP	Dec. 2003	7.1	3.5	10.6	7.1	1.9	9.0	1.6
Burkina faso	STI	29.6	65.6	Gov.	Gov.	Oct. 2006	29.6	5.8	35.4	1.9	6,5-	1.9	33.5
Cameroon	PwC	59.8	68.1	Gov.	Gov.	Jan. 2005	19.0	41.3	60.3	17.4	7.1	24.5	35.8
Cameroon	PwC	16.2	16.2	CARE	CS/PS	Jan. 2005	6.3	9.4	15.7	6.3	2.7	9.0	6.7
Cap Verde									0.0			0.0	0.0
CAR	PwC	40.1	40.1	UNDP	UNDP	Oct. 2003	12.9	16.7	29.6	11.5	6.0	17.5	12.1
Chad	STI	17.8	17.8	FOSAP	Gouv.	Aug. 2004	7.4		7.4	7.1		7.1	0.3
Congo Brazzaville	PwC	12.0	45.5	Gov.	Gov.	Dec. 2006	12.0		12.0	5.2		5.2	6.8
Côte d'Ivoire	PwC	46.1	46.1	UNDP	UNDP	Dec. 2003	18.1	4.8	22.9	18.1	4.8	22.9	0.0
Côte d'Ivoire	PwC	5.0	5.0	CARE	CS/PS	Apr. 2004	5.0	23.2	28.2	3.7	4.7	8.4	19.8
Equatorial Guinea									0.0			0.0	0.0
Gabon	PwC	5.2	5.2	UNDP	UNDP	Oct. 2004	3.1	2.0	5.1	3.1	1.9	5.0	0.1
Gambia	PwC	14.6	14.6	Gov.	Gov.	Oct. 2004	6.2	8.3	14.5	6.2	2.4	8.6	5.9
Ghana	PwC	45.8	111.3	Gov.	Gov.	Jan. 2003	36.6	9.2	45.8	32.7	9.2	41.9	3.9
Guinea Bissau	PwC	3.4	3.4	UNDP	UNDP	Nov. 2004	1.2	2.2	3.4	1.2	0.3	1.5	1.9
Guinea	PwC	14.2	30.0	Gov.	Gov.	Apr. 2004	4.8	4.8	9.6	3.9		3.9	5.7
Liberia	PwC	19.7	41.3	UNDP	UNDP	Dec. 2004	19.7		19.7	10.4		10.4	9.3
Mali	KPMG	52.3	52.3	Gov.	Gov.	Jul. 2005	23.5		23.5	22.2		22.2	1.3
Mauritania	PwC	6.6	15.7	Gov.	Gov.	Sept. 2006	6.6		6.6	1.6		1.6	5.0
Niger	STI	10.7	10.7	Gov.	Gov.	Sept. 2004	8.5	2.2	10.7	8.5	0.6	9.1	1.6
Nigeria	KPMG	74.4	208.6	Gouv. & CS/PS	CS/PS	Jan. 2004	74.4		74.4	44.4		44.4	30.0
Congo DR	PwC	113.6	113.6	UNDP	UNDP	Jan. 2005	43.7	5.0	48.7	43.3		43.3	5.4
Sao Tome	STI	0.5	1.7	UNDP	UNDP	Oct. 2006	0.5		0.5	0.3		0.3	0.2
Senegal	STI	23.2	43.8	Nat. AIDS Cou	CS/PS	Apr. 2003	17.4	5.7	23.1	8.1	4.6	12.7	10.4
Sierra Leone	PwC	17.8	17.8	SL.red Cross	CS/PS	Jun. 2005	8.6		8.6	8.1		8.1	0.5
Sierra Leone	PwC	9.6	26.5	SL.red Cross	Gouv.	Jun. 2005	9.6		9.6			0.0	9.6
Togo	PwC	15.4	15.4	UNDP	UNDP	Oct. 2003	14.2		14.2	13.5		13.5	0.7
Togo	PwC	30.6	30.6	UNDP	CS/PS	Apr. 2005	11.5	19.0	30.5	11.5	6.8	18.3	12.2

Notes : (1) Starting date & amount in million USD ; (2) amount in million USD; PwC : PricewaterhouseCooper; STI : Swiss Tropical Institute ; SC/PS : Civil Society - Private sector ; Gouv. : Government.

Source : [http://www.theglobalfund.org/en/funds\\_raised/reports/](http://www.theglobalfund.org/en/funds_raised/reports/)

## ANNEX 6: CONSULTANTS SUMMARY

### ***Benin (Marie-Louise Ngoko; February 2008)***

Management of HIV/AIDS products requires having a perfect knowledge of the various components of the PSM cycle.

Any weakness in the system will be immediately visible. It is impossible to “keep on managing”, as it is done with other health products.

Scaling up for treatment is adding complexity to the very often complicate PSM systems which were thought to be under full control in the context of small scale interventions or pilot sites.

ART helps patients to improve their immunity system, to enjoy better health and to have again a social life.

ARTs are therefore generating hope. However, the challenge will be now to ensure permanent access to ARVs for eligible patients.

But resources available at government level are limited and populations are poor. That is the reason for countries to opt for donor assistance. Funding when available is highly competitive and there is need to demonstrate sound management to ensure renewal of such funds.

Each link of the procurement chain should therefore be carefully taken into account. Obviously, the logistical management cycle should be heavily supported by good human resource management, good control over funds/budgets and a viable information system.

Major constraints are noted most often in the selection and procurement components. Forecasting is the crucial step which is unfortunately biased due to the non control of methods to be used. This will create overstocks (huge financial losses as ARVs are very expensive) or stockouts.

Countries have made valuable efforts to develop regulation framework and legislature (clear directives on protocols to be used are generally developed by multidisciplinary committees, designation of health facilities,. Prescription and dispensation modalities are also addressed).

Staff training on procurement is crucial. In most cases, training is provided but monitoring and evaluation are not enforced. Authorities are often very surprised to note that at the end of the chain, capacity to do the forecasting is low while statistics on the number of staff trained are often glorious.

Scaling up interventions is a critical phase which does generate enthusiasm at the beginning because there is hope to treat a larger number of patients and that strategies implemented will induce larger attendance for populations to benefit from services offered. Unfortunately, after a lapse of time, the incapacity of services to contain this large number of patients becomes apparent at all levels.

There is need to:

- Create more storage space in view of an increased demand.
- Recruit more competitive staff to work at all levels (warehouse, laboratory, prescription, dispensation, adherence to prescription).
- Develop the required capacity to ensure access to ARTs to all. Stockout of a single product is the major problem, as it will not be possible to receive full treatment.

On the other hand, competitive funding often leads authorities to focus on indicators only to reassure donors about country capacity to receive some funding. However, monitoring and evaluation of the system are not indeed well performed.

In all these constraints, intellectual property rights are equally important. The 13 OAPI countries seem not to be concerned by intellectual property issues perhaps because they have until 2016 to comply.

Contradictions will thus disrupt the system.

Moreover, if universal access by 2010 is to be achieved, sustainable supply and access by patients to quality products should be guaranteed. This presupposes that all other aspects in the care process are addressed.

### **Central African Republic (Maryse Dugue; February 2008)**

Political instability and weak national systems in CAR (especially the Ministry of Public Health) have justified the establishment of parallel supply and management structures at the onset of Global Fund interventions in the country in 2003. At that time, it was the only funding available to promote access to treatment in the country.

The weakness of national systems was exacerbated by systematic recruitment by international organizations and NGOs of the best staff at national level, which depleted the system of its valuable skills.

The parallel management system implemented by Principal Recipient (UNDP) lacked some professionalism and this led to:

- On the one hand, a catastrophic procurement situation : poor forecasting, problems in the selection of molecules in relation to protocols, delivery delays, documentation not prepared on time, expired medicines, generalized and prolonged stockouts, no planning delivery, delivery of excess quantities not fractioned ;
- On the other hand, a system perceived as being « external » by national stakeholders who are not involved in the management and implementation program and who do not communicate with the Principal Recipient on field data collected.

Huge amounts of funds were thus wasted to purchase medicines which enter the country with too short shelf life and which actually expired (a situation of obvious « overstocks »: indeed, drugs must be consumed if not they expire), medicines not compliant with protocols. CAR is also affected by prolonged and frequent stockouts, especially in essential first line medicines (AZT, d4T, 3TC).

Significant progress was made in 2007. Skilled staff was recruited by UNDP/GFATM. UCM (Unité de cession des médicaments) was contracted in September 2007 as a sub-beneficiary in charge of forecasting, stock management and distribution. UCM is currently recruiting and training stocks managers at site level. Two warehouses are being renovated and warehouse keepers are being recruited. Some vehicles were also purchased to ensure supply of prefectures. Funding of stock management tools is covered by GFATM, ESTHER and WB.

The National Aids Committee (CNLS) has been appointed as Principal Recipient for Round 7 with UCM as the beneficiary.

Other agencies have developed their own procurement system. They include: The World Bank, whose orders are managed by ST (The technical Secretariat)/CNLS via UNICEF-SD (about which the country is complaining due to delays noted in the delivery of reagents), the French Red Cross, which supplies the community hospital, UNICEF which is in charge of the PMTCT program, CARITAS and Catholic Relief Services which supply faith-based health facilities.

All these supplies are managed separately in an uncoordinated manner with scattered storage facilities.

The private sector is but a very minor player in the procurement process.

Procurement services are not coordinated at national level for ARVs, diagnostic tests and OI. Generally speaking, information flow is not organized. The national Aids council does not have a holistic approach in terms of ARV supply and management.

People we met had difficulties in understanding how a medicine policy should operate, particularly the need to make a clear distinction between functions and responsibilities: (1) registration and quality control, (2) development of the medicine policy, of the list of essential medicines and, (3) procurement and management cycle.

Management of drugs on site is inadequate: training on dispensation and stock management should be improved (the most commonly used stock management tool seem to be the delivery order, stock cards are under used). Expired or non compliant medicines are still stored at the health facility.

There is a proliferation of protocols, exacerbated by the lack of supervision and stockouts of some essential first line medicines.

The national laboratory network is being restructured and levels of services should be clearly defined. The same applies to equipment and consumable requirements.

### **Ghana (Maryse Dugue, January 2008)**

Ghana started in 2003 the distribution of ARVs. At the beginning, multiple stakeholders were playing a role in the PSM cycle leading to several stock shortages during several months (2-3 months).

In 2005, Ghana faced a crisis due to:

- heavy procurement procedures in place (several authorisations were required to conduct procurement)
- institutional difficulties due to the implementation of the new procurement policy (Procurement Law)
- delays in the delivery of compulsory licences.
- lack of communication between stakeholders at different levels.

It seems that at this period, the government decided to empty the stocks of different products which had accumulated at different levels (public and private) in order to facilitate the implementation of an united procurement policy. The intervention of national manufacturers also played a certain role.

In order to solve these difficulties, a national strategy on procurement (Ghana National HIV/AIDS Commodity Security Strategy) was elaborated in 2005 and adopted in 2006. The government (Ministry of Health) is the only entity allowed to procure ARVs. It will supply ARVs to public and private facilities, all of them need an accreditation to deliver ARVs. ARVs are procured directly to manufacturers through an international bid process. Ghana is benefiting of competitive prices, mainly due to good transport fees, as Central medical store in Tema is located in the main international harbour.

The majority of patients are from public health facilities or from confessionnal health facilities, which belong to the public sector as well. Main barrier to access in the private sector is the high cost of treatment and consultation. There are approximately 500 patients in the private sector.

ARVs stock shortages were rare and short since the implementation of the new system. PLWHA did not complain about stock shortages.

Coordination seems to be effective with a functional CCM and a good NACP (national AIDS Control Program). The Central Medical Store is participating to all meetings and has not complained about any "surprises".

Advantages of a centralised Procurement Supply Management System are:

- Total respect of protocols, uniformity of treatments in all health facilities and limited risk of developing resistance.
- Strengthening of the national procurement capacities (no parallel systems have been created by the donors)
- Slow but well managed scaling up
- Low wastage
- Better visibility of needs, facilitated by a unique forecasting system.

Constraints are;

- Lack of flexibility
- Slow scaling-up of ARVs, which is why the country has not reached its 2007 objectives.

-Lack of access to private sector: nevertheless, public sector has long waiting times, lack of confidentiality, staff attitude.

Main challenges for the country are:

-Sustainability of funding. Not proven that the actual system will survive to a substantial funding reduction.

-Improvement of ARV access: the geographical access has been ensured by an increase of the number of health facilities; financial barriers remain a constraint, and the extension of the coverage to the North of Ghana will require an increased amount of funding to ensure an effective supervision.

Regarding the procurement and supply management Cycle:

-Improving the distribution, including between the regions and the Central Medical Store

-Strengthening the Logistic Management Information System (LMIS) in the periphery in order to ensure a proper quantification: this will require more training, but also more regular supervisions.

### ***Note on the national context:***

Regarding the financial management, the SWAP developed at the end of the 90s facilitated the development of a common management arrangement system, where partners pool together their resources to finance the national health policy. As such a system puts strong demands on the government; it is only possible with strong governance practises and a strong political commitment. The conditions which have allowed for the establishment of a SWAP, and the resulting support to the national systems have allowed Ghana to be prepared for the establishment of a complex supply system in ARV.

Conclusion:

PSM system for ARVs in Ghana is currently working relatively well. It is based on a unification of the forecasting, procurement and distribution systems.

Main challenges for the country are:

-Treatment: increase coverage.

-Prevention: change of behaviours and social stigma reduction.

-Procurement: It has been recommended to reinforce forecasting and M&E at the periphery level, more specifically in the Northern region.

### ***The Democratic Republic of Congo (Jean-Louis Roche; January 2008)***

256,000 out of 1,000,000 PLWA are eligible for treatment. Currently, 17,161 registered patients are receiving treatment. Donors started mobilising from 2004/2005 onwards.

43 major partners are in charge of ARV procurement, plus the WHO additional stock, which was mobilised at the request of the Ministry of Health.

These four operators have purchased and distributed ARV drugs worth \$US 46,930,960:

- The Global Fund through UNDP: 93.04% of total expenditures
- WHO : 2.77 %
- The World Bank (MAP) : 2.49 %
- The Clinton Foundation : 1.70 %

The GF operates through UNDP Kinshasa: the first two years (2005-2006), procurement and supply were sub-contracted to an international supplier (Mission Pharma). Products were bought on the international market and distributed by a national forwarding agent (Wegania).

Bottlenecks: Inaccurate forecasting; need to redistribute the products inside the country; poor patients' care; finally only about 13, 000 patients received free first line treatment (none received 2nd line treatment)

In Phase 2 (the 3 coming years - \$ 34,293,850) UNDP Kinshasa will directly manage procurement from international central stores, which have an LTA agreement with UNDP. During the transition year (2007/2008), UNDP will only ensure follow up of the patients already within the circuit; no new patients shall be enrolled.

Distribution will also be under the responsibility of UNDP Kinshasa, through local forwarding agents/transporters. Integration of the provincial central distribution units for redistribution to final beneficiaries is also planned.

The Work Bank MAP project operates through the Multi-sectoral National AIDS Control Programme. The Ms NACP has its own office in Kinshasa, with a procurement management team and a medical doctor in charge of coordination.

The volume of distributed medicines remains low, three years after the launch of the plan (11% of the total projected amount), due essentially to slow disbursements. The World Bank financial procedures are incompatible with the pharmaceutical needs, patients' emergencies and the products shelf-life.

Difficulties to estimate needs in ARV+ and coordination with the other donors delayed further these procedures.

The Clinton Foundation operates without a national procurement bureau. ARV+ drugs are purchased by CHAI<sup>69</sup>. Negotiations are conducted on a mutual consent basis with global laboratories. Supplied medicines can be patented products. No information is available on procurement prices.

The Foundation is currently supplying medicines to about 1,900 children and will increase it to 2,600 children cared for in 40 health facilities selected in agreement with NACP. It is also planned for the Foundation to supply 2nd line drugs for adults but quantities are not accurately determined.

The Kinshasa office is responsible for determining the quantities to be ordered based on the number of patients reported by the NACP; such data will be submitted to the central office in charge of processing and delivering drugs to Kinshasa. Upon arrival, the products are distributed by a carrier/forwarding agent contracted by the Kinshasa Office. That carrier was recently contracted; when the NACP proved to be unable to manage the stocks it had received (part of that stock is still stored in the NACP meeting room).

WHO has in Kinshasa an ARV+ stock purchased directly from UNICEF Copenhagen. That stock is a "buffer stock" meant to be used in case of stock shortages between the various deliveries by donors. They are distributed upon request of the NACP using its own logistics.

Major dysfunctions at national level:

- Lack of reliability of data supplied by NACP
- Poor assessment of the capacities to care for PLWAs in peripheral health facilities (sub-beneficiaries).
- Lack of second line medicines in public centres (sales are organised in the private sector).
- Lack of regulation of the pharmaceutical sector (a commercial jungle)
- No technical support from donors to national public and private structures involved in public sector procurement activities (NACP, public distributors, the Pharmacy and Medicines Department – DPM...).

### ***Côte d'Ivoire, Congo and Burkina Faso (Anglade Malan Kla; January-February 2008)***

The private sector plays a minimal role in procurement and distribution for several reasons:

- In Côte d'Ivoire, the HIV/AIDS management policy is not favourable to recourse to the private sector for medicines monitoring and dispensing activities.

---

<sup>69</sup> CHAI was selected as the main execution partner of UNITAID's paediatric HIV/AIDS control programme.

- In Congo, the free ARV drugs policy and exclusive procurement by COMEG did not promote participation from the private sector, which found itself with stocks of expired drugs with the advent of COMEG.
- In Burkina Faso, CAMEG is solely responsible for ARV procurement for both public and private sectors. Nonetheless, low costs in the public sector make the private sector hardly attractive.

The role and place of political decision-makers are varied:

- In Cote d'Ivoire, treatment cost for adults is F.CFA 3,000 per quarter and free for children aged 0 – 15 years. By contrast, biological tests are still charged (biological follow up, PCR and viral load). Feasibility studies for free delivery are in progress.
- In Burkina Faso, monthly cost of treatment is F.CFA 1, 500 and biological tests are free.
- In Congo Brazzaville, free treatment was declared but biological tests are charged. A feasibility study has been commissioned to provide free biological testing.

Owing to lack of reliable data collection tools, forecasting is not documented in any of the countries. Moreover, no consensus has been reached on actual needs and integration of estimates on newly registered patients, deaths or patients loss of follow.

Centralization of partners' budgets in the 3 countries follows different patterns:

- In Côte d'Ivoire, SCMS (which has a cost) was contracted to centralize ARV and reagents procurement, based on partners' requirements; its makes bulk purchases for central stores in various countries and buys through its regional warehouses based in Ghana, Kenya and in the Republic of South Africa. PSP (Pharmacie de la Santé Publique) is considering using its services to purchase ARVs. Perpetuation of such a scheme is not guaranteed.

- In Burkina Faso, the Permanent Secretariat has a common basket funded by some partners, to the exception of the Global Fund, which nonetheless shares the same premises as that NACP SP. In addition, CAMEG successfully provides exclusive ARV procurement services. That system can easily be sustained.

- In Congo, the common basket exists because the entire financing is entrusted with the National AIDS Council Permanent Secretariat; and procurement is effected by COMEG. To secure financing, partners use fiduciary agencies, which however charge operating costs. The State also represents an important source of funding. Sustainability is more likely, despite administrative red tape in fund disbursement procedures.

The fact that the donor buys at its convenience leads them to purchase from and select their own suppliers, which promotes homogeneity in treatment.

In countries where free drugs policy has not yet been adopted, pressure was noted from partners for the enforcement of such a decision, along with threats to call off their contribution should enforcement is delayed.

Lack of operational quality control in a context of persistent reluctance as regards generic drugs, worsened by inexistent quality assurance schemes for central medical stores at the periphery is a major weakness noted in procurement management systems in the countries.

## ANNEX 7 FIELD SURVEY METHODOLOGY

### Evaluation of ARV Procurement and Supply Management Systems in the UNICEF West and Central Africa Region

(Phase 2 field surveys)

#### Methodology

##### 1. Preamble

The UNICEF Regional Office for the 24 West and Central Africa countries<sup>70</sup>, in partnership with WHO TCM<sup>71</sup> and AMDS Departments and GIP ESTHER<sup>72</sup> are currently assessing Procurement and Supply Management Systems (PSM) for Antiretroviral (ARV) drugs, medicines for opportunistic infections (OI) and laboratory tests and reagents in : Burkina Faso, Cameroon, Cape Verde, CAR, Chad, RCI, Congo Brazzaville, DRC, Gabon, the Gambia, Ghana, Guinea, Guinea Bissau, Equatorial Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome, Senegal, Sierra Leone and Togo. The WHO TCM Department also in the AFRO region started a global assessment of the procurement and supply management chain in essential medicines in Sub-Saharan countries.

The evaluation was conducted by UNICEF and is sequenced in three phases: (i) literature review (ii) field surveys, in sample countries and analysis of results (iii) submission, discussion of results and development of proposals during a regional feedback workshop in Dakar.

##### 2. Objectives of the Phase 2 evaluation

These field surveys are intended to collect in countries part of the sample information needed to review ARV, OI and diagnosis equipment PSMs, to analyse data collected, to produce a state-of-the-art of the situation and to develop within a regional feedback workshop recommendations likely to improve the efficiency of interventions.

The first phase was to compile and analyze documentation available on the issue and to develop a tool to collect additional information needed to achieve objectives targeted.

The second Phase aims at completing information collected during Phase I in 8 countries: Benin, Burkina Faso, Cameroon, CAR, Côte d'Ivoire, Congo, Ghana and DRC.

The sample was selected after consultations between UNICEF, GIP ESTHER and WHO TCM and AMDS Departments, based on two major criteria: avoid duplication of similar activities already implemented in the field within the evaluation currently being conducted by the WHO Afro Department; and give priority to countries with the highest prevalence rates.

##### 3. Organization of missions

###### 3.1 Documents used as terms of reference for Phase II field surveys 2 :

- The current terms of reference.
- The data collection document per country (provided separately).
- Reading files (given separately).
- Table in Annex 1: Demographic & economic indicators & HIV & AIDS estimates.
- Table in Annex 2: Partners involved in HIV control.

---

<sup>70</sup> Burkina Faso, Cameroon, Cape Verde, CAR, Congo, Côte d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Guinea Bissau, Equatorial Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, DRC, Sao Tomé, Senegal, Sierra Leone, Chad and Togo.

<sup>71</sup> Department of Technical Cooperation for Essential Drugs and Traditional Medicine.

<sup>72</sup> Public Interest Group : Ensemble pour une Solidarité Thérapeutique Hospitalière En Réseau.

- Table in Annex 3: Global fund grants progress details.
- Table in Annex 4: World Bank Projects and Programs Active MAPs.
- Table in Annex 5: Clinton Foundation HIV/AIDS Initiative - Antiretroviral Price List.
- Table in Annex 6: Policy Development and implementation.

### **3.2 Logistics**

Missions per country last 10 days, or about two calendar weeks.

DAT –AOC (Ouagadougou) will be in charge of booking international flights, purchasing airtickets and hotel bookings.

UNICEF country offices will be in charge of getting appointments for interviews and field visits.

In each country, a « national associate consultant » will be recruited if possible to facilitate logistics on site (appointments, transportation, etc.). These national consultants are health professionals and can therefore assist consultants to assess, analyze and review the situation.

ESTHER project coordinators in 6 countries (Benin, Burkina Faso, Côte d'Ivoire, Cameroon, Central African Republic and Ghana) who were briefed about the evaluation process may, if needed, provide support to consultants.

### **3.3 Information collection**

This will be conducted in each country using three different approaches:

- *Literature review*: Literature will be reviewed based on documents submitted to consultants completed by those collected on site.
- *Working sessions and interviews*: Working sessions and structured interviews with key individuals in national AIDS control structures working, depending on countries, either for national organizations and institutions (Ministry of Health, ministry in charge of AIDS control, central stores for the procurement of essential drugs, national AIDS Council, Directorate of Pharmacy and Drugs, Ministry of Trade, Quality control National Laboratory, a few centres caring for people living with AIDS ) or for multilateral or bilateral organizations and institutions technically or financially involved in AIDS control activities (World Bank, Global Fund, WHO, UNICEF, UNAIDS, UNFPA, UNDP, JSI/DELIVER, GIP ESTHER, Clinton Foundation, European Union, MSF, West African Health Organization, bilateral cooperation services and health projects, etc.).
- *Visits to ARV health facilities*: Visit in each country to three PLWAs health facilities to determine whether or not there are discrepancies between information collected at central level during working sessions and the field reality, which is often more prosaic

## **4. Information on data collection**

Data collected per country shall be compiled in a questionnaire.

### **4.1 Generalities**

Read carefully the following terms of reference.

Indicate on the letterhead of the document: the name of the country surveyed and the period covered.

When information requested could not be obtained, indicate "N.A". in the corresponding box and specify the reasons.

Terminology. In the questionnaire : (i) the term « procurement » includes several notions: needs quantification, planning of deliveries, supplier selection, placing orders, monitoring orders placed , (ii) the term « stock management » includes : reception of products in warehouses, conformity and quality checks, storage, customer and stock order management, preparation and deliveries.

When a multi choice list is suggested, if one of the proposals does not correspond to the country's reality, delete it. Blank lines are included to reflect other situations, if needed.

A space is generally provided at the end of each section for any comments on the section.

#### **4.2 Demographic, social, economic and epidemiological indicators (section 1)**

This section will be documented from the Table: « Demographic, social and economic indicators & HIV and AIDS estimates » (annex 1).

#### **4.3 Organisation of the pharmaceutical sector (section 2)**

For sub-sections 2.1 (regulation and legislation) and 2.2 (quality control) information is available at the Pharmacy and Medicine Department (or the equivalent structure).

For sub-section 2.3 (Intellectual property), if the line Department (or the equivalent structure) does not possess the information, you may get them from the Ministry of Trade or from World Bank Offices (such information is often difficult to collect).

#### **4.4 Organization of HIV/AIDS interventions (section 3)**

Information requested under this section is available from the National Aids Council and/or Programme and, of course, from the Ministry in charge of Aids, if it exists.

Sub-section 3.1 is documented from the table on: « Policy Development and implementation » (annex 6). When information requested for the country could not be obtained, indicate "N.A." in table 6 and find them from Aids control institutions.

For sub-section 3.2, make a clear distinction between the total number of centres at national level and those in districts, which can be used to measure the level of decentralization of Aids interventions.

In sub-section 3.5, make a clear distinction between the « profit making private sector » and the « non profit making sector » made up of NGOs, churches, missions etc.

#### **4.5 Care development Programme**

Indicate in the table, for each year specified, for aggregate sources of funding, the following information (at national level): number of tests, number of patients under treatment, women benefiting from PMTCT services, by highlighting the difference between actual and forecast (years 2006 and 2007) and forecasts (2008 and following years).

	Years				
	Actual		Forecasts		
	2006	2007	2008	2009	2010
Voluntary testing	1 000	2 000	3 000	4 000	5 000
Adults under treatment	2 000	3 000	4 000	5 000	7 000

In the example above, the value 7,000 in 2010 for the line « Adults under treatment » shows the total number of patients who will receive ARV treatment in the country for that year and not the number of new patients cared for in 2010.

Restrict to the 3 major funding sources or major programs by indicating information sources used to compile the table.

Such information should be available at the National AIDS Council or the National AIDS Programs.

For under sections 4.3 and 4.4, if information is not available delete first and second lines and indicate the total number of PLWAs under treatment.

#### **4.6 Customs duties and tax (section 5)**

Information requested relate to customs duties and tax, VAT, intra-community tax (for ECOWAS and ECCAS member countries) and customs statistical tax applicable to ARVs, laboratory reagents, screening and laboratory equipment.

For ARVs, make a distinction, if necessary between medicines under a generic name and others under brand name.

Fill in the table per distribution chain. Depending on cases, circle or not and indicate the percentage. If information is not available, write "N.A." to replace the percentage.

Indicate various sources of information used to compile the table.

Such data are usually available at the Pharmacy and the Medicine Department. They are also accessible at Customs Departments, at the Ministry of Trade and on websites of Ministries of Finance in each country, in the customs nomenclature.

#### **4.7 The procurement cycle (sections 6, 7 and 8)**

Indicate, for the 3 major funding sources, organizations or structures which conduct management and supply activities : needs forecasting, procurement (who signs purchase orders), monitoring of orders (in relation with suppliers), reception of product, conformity control (purchase order/delivery order), quality control, storage (who stocks products delivered) and distribution/delivery (who distributes products ordered).

Indicate the funding source next to the title of each table.

Fill in the table by ticking the appropriate boxes. Additional lines are provided for cases unforeseen.

Provide the following details: (i) if it is a Ministry, indicate the department in short (and its full name in the "comments" box, (ii) if it is a hospital facility, specify its status (teaching hospital, regional hospital, CHG, etc) and the department involved (indicate its full name in the comments box) and (iii) if it is a private non profit-making wholesaler, indicate its name.

If the Central purchasing unit does not perform some operations, (procurement, reception and distribution) indicate the reasons in the « comments » box.

#### **4.8 Purchasing modalities (sections 9, 10 and 11)**

For the 3 major funding sources, indicate purchasing procedures used for regular supplies (emergency procurement or one-off acquisitions are not taken into account).

Four procedures exist: open bids (without limitation in the number of suppliers), restricted bids (limited to suppliers which meet some specific criteria), competitive bids (procurement from the cheapest company after a competitive bid between at least three suppliers) and forced account (prices are negotiated between the purchaser and the seller).

Indicate whether procurement is made from suppliers/pre-qualified products.

#### **4.9 Bulk purchase (section 12)**

In this section indicate whether bulk purchase (ARV, tests, reagents) already made either between different funding sources or with a neighbouring country. Under sub-section 1, indicate if necessary situations encountered such as two funding sources exchanging information on their respective prices or on their suppliers, etc.

If bulk purchase is planned in the short or medium term, indicate it under sub-section 3.

#### **4.10 Forecasted financial flows (section 13)**

Indicate in this section, per funding source (only the 3 most important ones) the following information: for 2007, amounts actually spent, for other years, forecasts.

For each funding source, indicate in the “currency » column, the currency used: USD, € or local currency. Never convert a currency; indicate amounts in millions.

#### **4.11 Funding breakdown (section 14)**

Indicate, for all aggregate funding sources (only the three most important ones) the following information: for 2007, amounts actually spent, for other years forecasts broken down into major expense categories: ARV, medical products, excluding pharmaceutical products, tests (rapid and ELISA), reagents and laboratory equipments (CD4 and PCR).

#### **4.12 Activities funded per source of funding (section 15, 16, and 17)**

Indicate for the 3 major sources of funding whether funds (or programs) available cover all activities within the procurement and supply system in addition to material goods generally funded (ARV, medical products, tests and reagents and laboratory equipments).

For each activity in the PSM, indicate whether funding is secured:

- under sub-section 3 (quality control) it is asked whether the cost of quality control of ARV drugs purchased on funding A are covered by that very funding and if that is not the case, who pays for it (national budget or other funding source ?);

- Under sub-section 8 (needs quantification), explain the mode of estimation of needs used;

- Under sub-section 10 (stock management) it is asked whether stock management (storage, accounting, movements, etc) of ARVs purchased on funding A are paid for by that same funding or whether they are covered by purchasing unit where they are stored.

This section is very important to analyze the coherence and possible complementarity of funding available. It should therefore be taken with great care.

#### **4.13 Purchase price list (sections 18, 19 and 20)**

Collect purchase prices for drugs and tracer products purchased through (i) Global Fund, (ii) the central purchasing unit (if it purchases such products) and (iii) another important funding source.

In case the purchasing unit does not buy ARVs, take another important funding source.

Indicate above for each table the funding source reviewed along with the title.

Circle the year of purchase: 2005, 2006 or 2007 and specify the currency: USD, €, local currency. (Never convert a local currency into USD or €).

If a medicine in the list is not purchased, do not select another one. Then move to the next line.

Complete each line by separating adult dosages from paediatric dosages and indicate:

- The packaging and dosage (always go for the most commonly consumed packages and dosages);
- The quantity per box, corresponding to the packaging and dosage;
- The price paid by the purchasing entity (Major beneficiary, National Program, etc);
- The purchasing INCOTERM [(refer to definitions below (chapter 7)].

In the column “Quantity per box”, circle the quantity proposed if it is exact, but if it is not exact or missing, indicate another quantity.

In the column “Price”, indicate the purchase price for the quantity indicated in the column “Quantity per box”.

In the INCOTERM column specify the purchase INCOTERM used.

As medicines are presented in a DCI form, use the equivalence table below if necessary:

**Table of equivalences**

	DCI		Nom de spécialité
	Longue	Abbrégée	
<b>INNTI</b>			
Efavirenz		EFZ	Sustiva
Nevirapine		NVP	Viramune
<b>INsTI</b>			
Abacavir		ABC	Ziagen
Didanosine		ddl	Videx
Lamivudine		3TC	Epivir
Stavudine		d4T	Zerit
Zidovudine		AZT	Retrovir
<b>IntTI</b>			
Ténofovir		TDF	Viréad
<b>IP</b>			
Lopinavir+ritonavir		LPV+r	Kaletra
Indinavir+ritonavir		IDV+r	Crixivan
Saquinavir+ritonavir		SQV+r	Invirase
Ritonavir		RTV	Norvir
Fosamprenavir+ritonavir		FPV+r	Telzir
<b>CDF</b>			
Zidovudine+Lamivudine		AZT/3TC	Combivir
Stavudine+Lamivudine		d4T/3TC	Lamivir
Abacavir+Zidovudine+Lamivudine		ABC/AZT/3TC	Trizivir
Zidovudine+Lamivudine+Nevirapine		AZT/3TC/NVP	Duovir N
Stavudine Lamivudine+Nevirapine		d4T/3TC/NPV	Triomune
Didanosine+Lamivudine+Efavirenz		ddl/3TC/EFV	Odivir

#### **4.14 Financial contribution by patients (section 21)**

Specify the reference currency: USD, €, local currency. Never convert a local currency into USD or €.

Financial contribution by patients to the cost of treatment is in principle a political decision which is uniformly applied throughout the national territory. However, it may happen that it is not adhered to (for this reason, it is recommended during visits to the 3 health facilities to ask respondents whether patients contribute or not).

In all cases, it is advisable to get information from the national AIDS program or the line Ministry whether a regulatory text has been passed to regulate patients financial contribution. If free care is provided, make sure it applies not only to ARV treatment but also to tests (screening, CD4 count, etc.) In this case, indicate in the corresponding boxes the amount paid by patients.

If there is an official text (law or decree) regulating patients financial contribution, indicated at the bottom of the table in the corresponding boxes and specify the date of entry into force.

#### **4.15 Report on visits to health facilities (sections 22, 23 and 24)**

The 3 sites should be located outside the capital city, within a radius of 30 km. They shall be selected based on functionality criteria: a site functioning well, a site functioning normally and a site not functioning well.

These visits are intended to check whether there is (or not) some discrepancy between information collected at central level during working sessions and the reality on site.

Under sub-section 1 (functional capacity of the structure) indicate the level of functionality of the structure: A=good, B=fair and C=poor (on the selection of these structures, refer to chapter 3 above).

Under sub-section 11 (availability) compute the availability level on the day of the visit for the following products:

- 2 ARV first line (adult dosage) : AZT/3TC et D4T/3TC
- 1 ARV second line (adult dosage): IDV+r
- 1 ARV first line (paediatric dosage): NVP
- 1 OI medicine: Cotrimoxazole 400/80
- 1 rapid diagnosis test

Algorithm to compute availability rates: 
$$\frac{(jrA) + (jrB) + \dots + (jrF)}{(nb.P \times nbjr)} \times 100$$

- In which:
- jrA is the number of stock out days noted for product A
  - jrB is the number of stock out days for product B etc.
  - nbP is the total number of products (6)
  - nbjr is the total number of stock out days noted for the 6 products

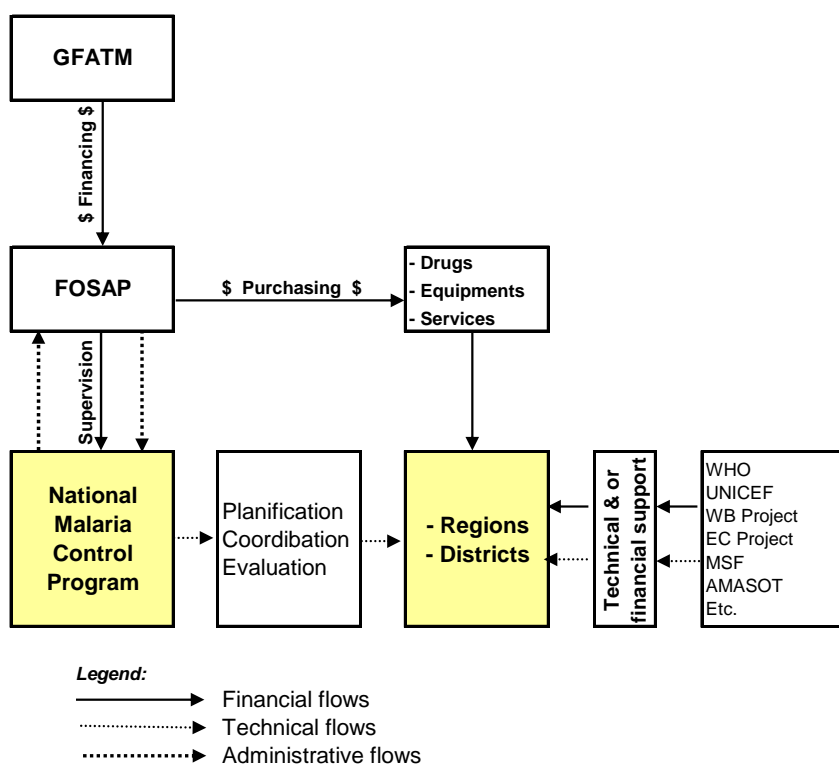
Under sub-section 14 (funding of the structure) indicate which funding source will be used for ARV, OI and reagents with restriction to the 3 major sources.

Under sub-section 16, indicate difficulties encountered by the respondent with focus on procurement and supply issues. Do not just list difficulties; assist the respondent to formulate the related causes and possible solutions identified.

#### **4.16 Description of the PSM system for ARV, OI drugs, reagents and tests for all funding sources (section 25)**

Materialize AIDS interventions through a diagram explaining links between the different organizations and institutions with the various suppliers and distribution chains (Ref. the chart for Global Fund interventions in Chad for Malaria control).

The diagram can be designed manually.



#### 4.17 Major weaknesses and disruptions noted in the procurement and supply chain (section 26)

This section is the most important in the questionnaire but also the most complex. It only includes open questions and calls for observation and analysis. In addition to information collected in the previous sections, this one will help not only to identify but also to understand the nature of technical, human, financial and organizational constraints which impact negatively on the PSM cycle. These elements will be used in the third phase of the evaluation to complete the global analysis of the situation, country by country and therefore make proposals to improve the situation in line with the context.

This section therefore includes: (i) 9 sub-sections corresponding each to one of the elements of the PSM cycle and (ii) a cross-cutting question on the way the various organizations, institutions and individuals in their respective supply chain are sharing information, are interacting, collaborating and conducting joint actions.

Information needed to draft this section are held by many organizations, institutions, structures or individuals. Its content will be gradually improved during the conduct of the survey and regularly updated. It will be finalized at the end of the mission.

#### General issues

It is important to always bare in mind the following elements:

- Do viable and updated information exist within health facilities on: consumption patterns, needs assessments, availability of stocks and supplies? Is adequate information available?
- Do the distribution and coordination of responsibilities in the various steps of the supply management chain reflect some logic and coherence?
- Are information on the frequency and duration of stock out, product expiry, excess stock available and accessible?

For each of the sub-sections, here are some targeted elements for analysis.

### **Product selection (sub-section 1)**

Are medicines used in health facilities (especially first line treatment) in compliance with those recommended in national protocols?

### **Forecast, needs quantification (sub-section 2)**

Who in the PSM cycle is in charge of needs assessment (prescriptors, managers, etc)? Are pharmacists involved? Is this activity fully controlled? Which methods are used to assess the needs (epidemiological data, monitoring consumption and stocks, etc)? On what frequency is this activity conducted (regularly or not)?

Is there some interaction between the various sources during the needs quantification exercise (partners meeting, information exchange)?

### **Funding (sub-section 3)**

Do conditions spelt out by donor(s) have negative implications on procurement (selection of products, selection of suppliers, administrative deadlines, time needed to put in place funds, etc) ?

Is partner funding managed separately from the national budget or is it included in it ?

### **Quality insurance (sub-section 4)**

Is a coherent quality insurance system (manual of procedures covering all operations in the PSM cycle) developed and implemented at each level (central and peripheral)?

Are medicine control procedures (sampling, analysis, results management, suppliers monitoring, etc) operational?

Are suppliers services (price, quality, deadlines) assessed and if so, are the results of such evaluations taken into account in the next purchase cycles?

Contracts with suppliers (sub-section 5)

What types of contracts are used? Is the sequencing of orders conducted in consultation with suppliers?

### **Procurement (sub-section 6)**

Is the procurement function centralized within the same institution or organization or is it split between several players?

Is the procurement function specific to ARVs or is it similar to the one regulating pharmaceutical products? Are delivery times the same?

Whatever the way it is organized, is procurement coordinated with stock management?

Is there a procurement schedule? Is it possible to order emergency stocks (to address stock outs or products expiry issues)?

Are there recurrent delays from suppliers?

Do donors impose specific conditionality which lead to the fact that several systems co-exist? Does this have negative implications?

Do donors have some control over the procurement function? If so in which way?

Reception, storage and distribution (sub-sections 7 and 8)

Are reception procedures satisfactory (conformity check, comparison of the purchase order with the supply slip? Are warehouses receiving products informed in advance about deliveries to be made?

Are storage capacities and conditions at central level and in health facilities satisfactory? Are ARVs, tests and reagents stored separately or bulked with other essential medicines?

Is stock management at central level computerized? Are products managed in batches or according to their date of expiry or through another method (FIFO, FEFO)?

Are human resources available for this activity (at central level and in health facilities) adequate both in number and quality?

Are stockouts analyzed and documented (at central level and in health facilities)?

Are health facilities affected by recurrent delivery delays?

Are inventories conducted and if so are product losses (theft, early expiry) accounted for and taken on board in the operating accounts?

### **Good use of drugs (sub-section 9)**

This sub-section relates to prescription issues (are drugs not on the national list prescribed, are national protocols adhered to) dispensation issues (possible poor dispensation conditions which may have implications on observance), observance of treatments (is there a system to monitor observance by patients ? Is none observance of treatment frequent; if yes why)?

### **Monitoring and evaluation (sub-section 10)**

Is this activity performed at central level and in health facilities? If yes who is in charge? Are evaluation reports produced and who are they intended for?

Are there indicators to measure the level of functioning of the supply cycle?

### **4.18 Contact details of people appointed as focal points or resource persons (section 27)**

People working in organizations or institutions or with partners involved in HIV/AIDS control. Indicate their name, function and contact details.

### **4.19 Summary forms (section 28)**

Indicate in this section, in a summary form, your personal analysis of PSM issues to address HIV/AIDS.

## **5. Profile of consultant experts**

Consultants (public health doctors, pharmacists or health administrators) should have in-depth knowledge of the health sector and the pharmaceutical sub-sector.

In addition, they should show sound knowledge of the mode of organization of HIV/AIDS prevention and control interventions, especially epidemiological and logistical aspects.

## **6. Reporting**

The mission report is made up of the « country summary data document » which is filled and submitted by the consultant on electronic copy, Word format.

## **7. INCOTERMS**

FOB (Free On Board). The goods are on board the vessel, ready for shipment. The purchaser pays for maritime cargo.

CIF(Cost Insurance and Freight). The supplier is responsible for export formalities. Goods are shipped without any guarantee for the purchaser.

DDU (Delivered Duty Unpaid). The supplier provides the goods to the purchaser duty unpaid and not acknowledge upon arrival. The purchaser shall be fully responsible for import customs formalities and settlement of import duties and taxes.

DDP (Delivered Duty Paid): The supplier is responsible for all formalities, including import customs formalities and settlement of duties and tax. Transfer of expenses and risks is performed at delivery in the warehouses of the purchaser.

## **8. Major economic and customs unions and zones**

There are several economic and customs unions which levy in principle, homogeneous duties and tax. They include:

UEMOA (West African Economic and Monetary Union) with the following member countries: Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo.

ECCAS (Economic Community of Central African States): Cameroon, Congo, Gabon, Equatorial Guinea, the Central African Republic and Chad.

ECOWAS (Economic Community of West African States) which comprises UEMOA member countries plus Cape Verde, the Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone.

UEAC (Economic Union of Central African Countries) with the following member countries: Cameroon, Congo, Gabon, Equatorial Guinea, the Central African Republic and Chad

## **ANNEX 8: THE SURVEY QUESTIONNAIRE**



Questionnaire Phase  
2 English