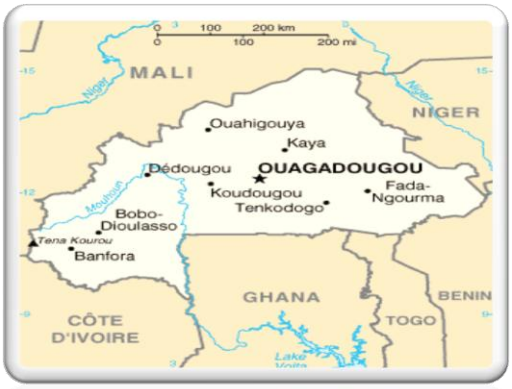
SURVEY ON HUMAN RESOURCE CAPACITY IN PUBLIC HEALTH SUPPLY CHAIN MANAGEMENT IN BURKINA FASO

March 2011



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ABBREVIATIONS / ACRONYMS

ACAME: Association of Essential Drugs Purchasing Centers (Association des Centrales d'Achat de Médicaments Essentiels)
ACF: Action Against Hunger (Action contre la Faim)
ACT: Artemisinin-based Combined Therapy
ARV: Antiretroviral drug
CAMEG: Essential Generic Drugs and Medical Supplies Purchasing Center (Centrale d'Achat des Médicaments Essentiels Génériques et des Consommables)
CHAI: Clinton HIV/AIDS Initiative
CHMP: Medical-Pharmaceutical Humanitarian Center (Centrale Humanitaire Médico-Pharmaceutique)
CHU: University Hospital (Centre Hospitalier Universitaire)
CHU SS: Souro Sanou University Hospital
CHR: Regional Hospital (Centre Hospitalier Régional)
CHW: Community Health Worker
CMA: Medical Center with Surgical Services (Centre Médical avec Antenne chirurgicale)
CMLS: Ministerial Committee for the Fight against AIDS (Comité Ministériel de Lutte contre le SIDA)
CNTS: National Blood Transfusion Center (Centre National de Transfusion Sanguine)
COGES: EGD Depots Management Committee (Comité de Gestion des dépôts de MEG)
CSPS: Health and Social Promotion Center (Centre de Santé et de Promotion Sociale)
DMP: Directorate for Public Procurement (Direction des Marchés Publics)
DGS: Directorate-General for Health (Direction Générale de la Santé)
DGIEM: Directorate-General for Infrastructure, Equipment and Maintenance (Direction Générale des Infrastructures de l'Equipement et de la Maintenance)
DGISS : Directorate-General for Information and Health Statistiques (Direction Générale de l'Information et des Statistiques Sanitaires)
DGPML: Directorate-General for Pharmacy, Drugs and Laboratories (Direction Générale de la Pharmacie du Médicament et des Laboratoires)
DLM: Directorate for Disease Control (Direction de la Lutte contre la Maladie)
DN: Directorate of Nutrition (Direction de la Nutrition)
DPV: Directorate for Prevention through Immunization (Direction de la Prévention par la Vaccination)
DRD: District Distribution Depot (Dépôt Répartiteur de District)
DRH: Directorate for Human Resources (Direction des Ressources Humaines)
DRS: Regional Directorate of Health (Direction Régionale de la Santé)
DSF: Directorate for Family Health (Direction de la Santé de la Famille)
ECD: District Managing Team (Équipe Cadre de District)
EDI: Electronic Data Interchange
EPI: Expanded Program on Immunization
EGD: Essential Generic Drug
EMONC: Emergency Obstetric and Neonatal Care
ENAM: National School of Administration and Magistracy (École Nationale d'Administration et de Magistrature)
ENSP: National School of Public Health (École Nationale de Santé Publique)
ESTHER: Network for Therapeutic Solidarity in Hospitals (Ensemble pour une Solidarité Thérapeutique Hospitalière en Réseau)
FIFO: First In First Out
GF: The Global Fund to Fight AIDS, Tuberculosis and Malaria
GAVI: Global Alliance for Vaccines and Immunization

HKI: Helen Keller International
IMCI: Integrated Management of Childhood Illness
IO: International Organization
JHPIEGO: Johns Hopkins Program for International Education in Gynecology and Obstetrics
LLITMN: Long-Lasting Insecticide-Treated Mosquito Nets
LMIS: Logistic Management Information System
LNSP: National Public Health Laboratory (Laboratoire National de Santé Publique)
LRM: Low-Risk Maternity
MoH: Ministry of Health
MA: Marketing Authorization
MSF: Doctors without Borders (Médecins Sans Frontières)
NGO: Non-Governmental Organization
PADS: Health Development Support Program (Programme d'Appui au Développement Sanitaire)
PCR : Polymerase Chain Reaction
PPA: Public Pharmacy Assistant
PF: Family Planning Program (Programme de Planification Familiale)
PNLP: National Program for the Fight against Malaria (Programme National de Lutte conte le Paludisme)
PNT: National Program for the Fight against Tuberculosis (Programme National de lutte contre la Tuberculose)
PROMACO: Project for Social Marketing of Condoms (Projet de Marketing Social des Condoms)
TFP: Technical and Financial Partner
PTME: Prevention of Mother-to-Child Transmission of HIV Program (Programme de Prévention de la Transmission Mère-Enfant du VIH)
RHSC: Reproductive Health Supplies Coalition
SCM: Supply Chain Management
SG: Secretariat-General
STD: Sexually Transmitted Disease
UFR SDS: Health Sciences Training and Research Unit (Unité de Formation et de Recherche en Sciences de la Santé)
UNFPA: United Nations Population Fund
UNICEF: United Nations Children's Fund
UNITAID: Mechanism for financing ARVs with flight ticket levy
USAID: United States Agency for International Development
USD: United States Dollar
WAHO: West African Health Organization
WHO: World Health Organization

INTRODUCTION

1. BACKGROUND

This survey is part of a series of eight country surveys conducted in the context of the *People that Deliver* Initiative (peoplethatdeliver.org). This global initiative, which brings together the world's largest organizations, aims to improve health services performance through the professionalization of logistics managers.

As recognized by the WHO in 2006, health workforce performance is one of the six constituent components essential to strengthen health systems, and thereby to reinforce the supply chains which health workers need for their mission. Reinforcing supply chains implies hiring the *right number* of the *right people* with the *right skills,* at the *right place* and at the *right time,* to implement procedures regulating supply chain operations. In order to operate with the greatest efficiency, public health supply chains need trained and skilled staff, experienced in the standard operational procedures required for each logistics function, but also able to make decisions or take part in the decision-making process or in the elaboration of policies having an impact on health supplies and supply chains. The lack of a trained workforce, with appropriate skills, is often the cause of dysfunction or poor performance of the supply chain management (SCM) system, as in the case of misinformed information systems and stock-outs. Besides, many health institutions do not recognize the cause-effect relationship between health system performance and public health supply chain performance, which in turn depends on the level of technical and managerial skills of the supply chain workforce.

2. CREDITS

The survey, financed by the Reproductive Health Supplies Coalition (RHSC), was conducted by the Bioforce Development Institute on the basis of the assessment guide designed for the *People that Deliver* Initiative: USAID|DELIVER PROJECT and RHSC, 2011, *Human Resources Capacity for Public Health Supply Chain Management Assessment Guide,* Arlington, Va.; on behalf of the United States Agency for International Development, Washington DC. The questionnaire was adapted to the organization of the national health system.

Bioforce Team: Jean-Philippe Lézeau – Technical and Logistics Division Coordinator; Anne-Catherine Réa – Operations Division Coordinator; Alain Grall - Supply Chain Consultant; Dr Yakouba Domo – Pharmacist, National Consultant; Dr. André Savadogo – Pharmacist, Bioforce Head of Mission, Burkina Faso ; Véronique Brossette – Logistics Adviser; Benoît Silve – Director-General.

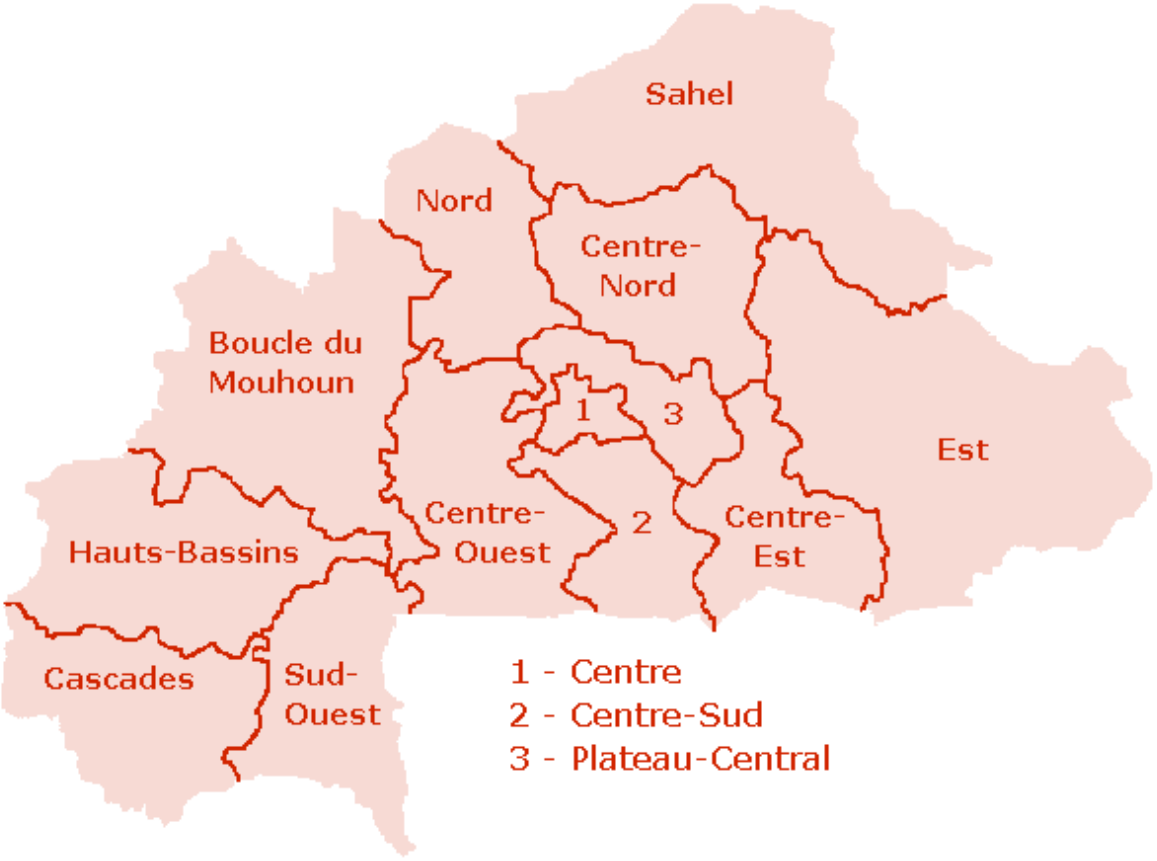
RESULTS

1. PART I. COUNTRY AND PROGRAMS' OVERALL PROFILE

Burkina Faso is a landlocked country in West Africa, with an area of 274,200 km^2. In 2010, its estimated population was 15,730,977 inhabitants[1]. In recent years, the country has been one of the best in the world in improving its human sustainable development index (HDI). However, it remains one of the poorest on the planet (in 2009, 42.6% of the population lived below the poverty line)[2].

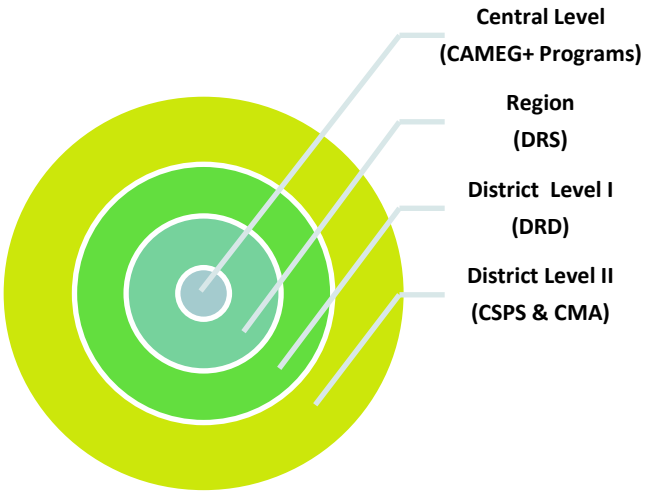
a. Regions

Burkina Faso is divided into 13 regions. These regions cover different areas and do not have the same means, which has an impact on their functioning and on the means at their disposal.



Burkina Faso has 13 health regions which cover the 13 administrative regions. They are led by Regional Directorates of Health (DRSs) and divided into health districts. The 63 health districts are the operational level of the Ministry of Health (MoH) and are administered by District Managing Teams (ECDs) headed by district chief medical officers.

[1] Ministry of Health / DGISS (2010), *Health Statistical Yearbook*.
[2] Ministry of Health (2010), *Revue du secteur de la santé pour l'année 2009* [Health Sector Review for 2009], Reference: Development and Cooperation – EuropeAid – European Commission Burkina Faso, p. 36.


Central Level
(CAMEG+ Programs)
Region
(DRS)
District Level I
(DRD)
District Level II
(CSPS & CMA)

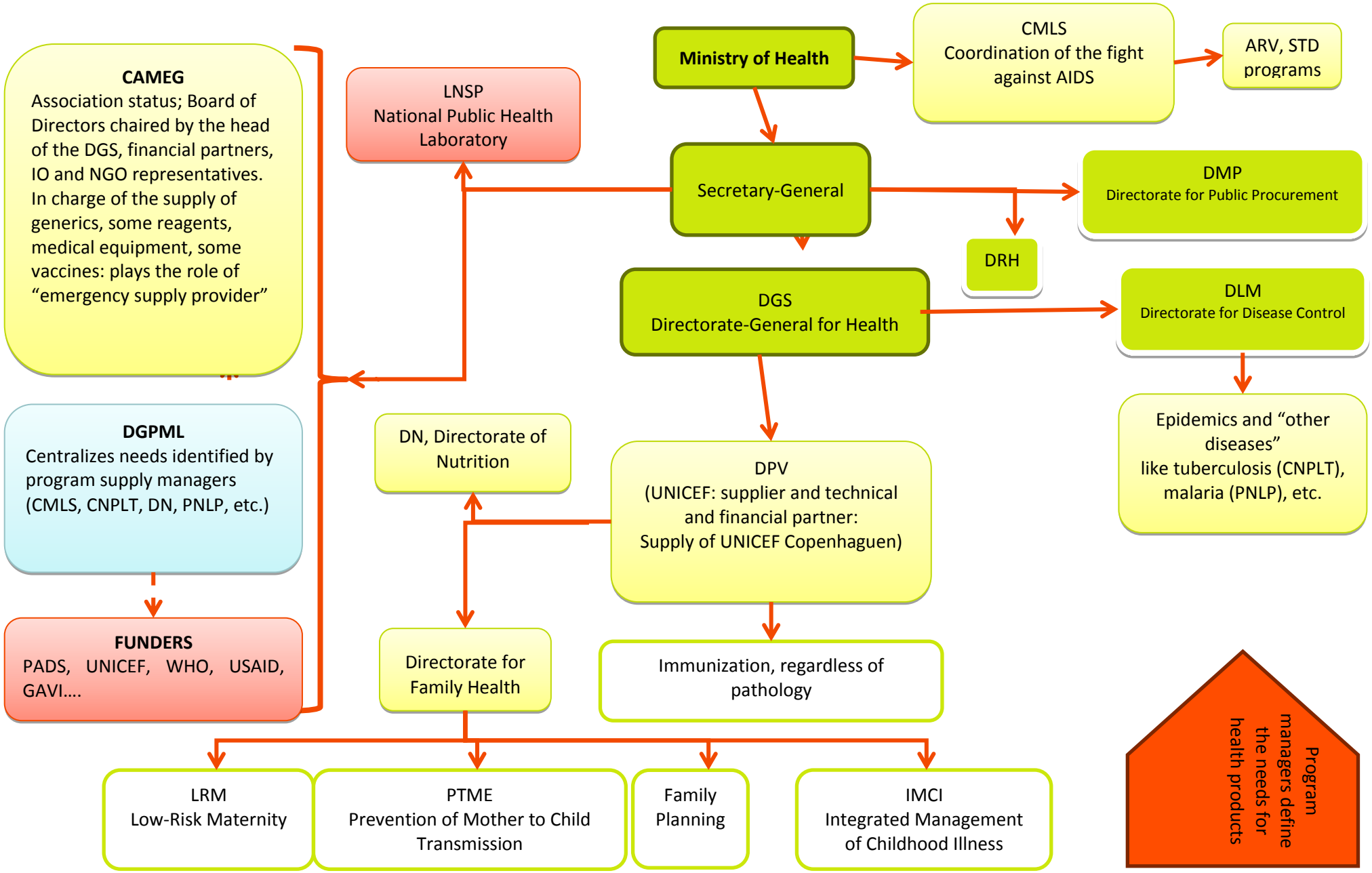


Figure 1: Organization Chart of the Ministry of Health, Burkina Faso

b. Financial Challenges

Funds devoted to public health supply chain products and activities in Burkina Faso in 2010[3]

Type	Source of Funding	Amount (USD)	%
Products	CAMEG (population's contributions)	31,292,404	37.45
	The Global Fund, including: *Global Fund (SP/CNLS-IST Management)* *Global Fund (PADS Management)*	13,324,172 *8,559,673* *4,764,499*	15.95
	Government budget	9,565,185	11.45
	UNICEF	6,839,979	8.19
	GAVI	6,566,691	7.86
	PADS (joint funds)	6,139,442	7.35
	World Bank (PADS Management)	3,867,774	4.63
	USAID	2,375,000	2.84
	UNFPA	1,544,510	1.85
	PROMACO	636,840	0.76
	UNITAID	359,872	0.43
	Bill and Melinda Gates Foundation (PADS Management)	340,733	0.41
	WHO	290,000	0.35
	MSF	253,169	0.30
	Plan/Burkina	157,000	0.19
	Total	83,395,771	100%
Supply chain activities	Government budget	10,048,672	98.3%
	Financial partners	173,600	1.7%

[3] Ministry of Health / DGPML, WHO (2010), *Cartographie des systèmes d'approvisionnement et de distribution des médicaments et autres produits de santé au Burkina Faso* [Mapping of drugs and other health products supply and distribution systems in Burkina Faso], p. 81.

Total	10,222,272	100%

The exchange rate used is: $1 = 500 CFA francs.

NB: These figures do not include the budget for the campaign of universal distribution of mosquito nets, which was a one-off event in 2010.

c. Data on the supply of health programs and central directorates in 2010

Direction for Prevention through Immunization (DPV)

Title	Amount (USD)	Key Partners	Comments
Amount of country supplies (via a common basket or national income)	3,000,000	National budget/ UNICEF	Supply via UNICEF from national budget
Amount of supplies provided by implementation partners	8,366,691	UNICEF, GAVI	
Amount of supply activities financed by the country	20,000	National budget	Salaries, supervision; In addition to this, $460,000 of government budget are allocated to districts for the purchase of butane gas for the cold chain.
Amount of technical assistance related to health product supply, financed by partners	N/A	N/A	There is permanent or *ad hoc* technical assistance, but its value has not been communicated to the DPV.

The DPV was not interviewed during this assessment (refusal due to procedures). However, we managed to collect data on the supplies of this directorate which manages the EPI.

Ministerial Committee fo the Fight against AIDS and STDs, Ministry of Health (CMLS/Health)

Title	Amount (USD)	Key partners	Comments
Amount of country supplies (via a common basket or national income)	0		
Amount of supplies provided by implementation partners	8,634,500	Global Fund, PADS, CAMEG	
Amount of supply activities financed by the country	5,020	National budget	Part-time salaries; supervision missions
Amount of technical assistance related to health product supply, financed by partners	16,000	GF	Supervision missions

Directorate for Nutrition (DN)

Title	Amount (USD)	Key partners	Comments
Amount of country supplies (via a common basket or national income)	0		Government budget participation planned in 2011
Amount of supplies provided by implementation partners	5,653,467	UNICEF	Covers purchase, transportation and distribution to districts
Amount of supply activities financed by the country	3,600	National budget	Estimated part-time salaries (50%) of actors from the DN
Amount of technical assistance related to health product supply, financed by partners	10,000	UNICEF	Product transportation

Potential funding is available to support supply chain activities, but has not been used so far.

Directorate for Family Health (DSF)

Title	Amount (USD)	Key partners	Comments
Amount of country supplies (via a common basket or national income)	1,000,000	CAMEG	
Amount of supplies provided by implementation partners	2,135,815	UNICEF, UNFPA, USAID, CHAI, GF, JHPIEGO	
Amount of supply activities financed by the country	2,400	National budget	Part-time salaries
Amount of technical assistance related to health product supply, financed by partners	97,600	UNFPA, UNICEF	Training, computer equipment, technical assistance

National Program for the Fight against Malaria (PNLP)

Title	Amount (USD)	Key partners	Comments
Amount of country supplies (via a common basket or national income)	0		The government has no budget for the purchase of products for this program. But is has a budget delegated to the peripheral level for the purchase of drugs.
Amount of supplies provided by implementation partners	5,927,672	Global Fund, PADS, UNICEF, USAID	This amount does not include purchases for the LLITMN distribution campaign which cost 22,642,669,530 CFA francs or $45,285,339.
Amount of supply activities financed by the country	2,400		Part-time staff salaries
Amount of technical assistance related to health product supply, financed by partners	600,000	WHO, UNICEF, UNDP, World Bank, USAID	In 2010, the program received technical assistance twice, lasting approximately 2 weeks. USAID also funds a project to support the program.

National Program for the Fight against Tuberculosis (PNLT)

Title	Amounts (USD)	Key partners
Amount of country supplies (via a common basket or national income)	136,986	National budget
Amount of supplies provided by implementation partners	191,781	Global Fund, WHO
Amount of supply activities financed by the country	0	
Amount of technical assistance related to health product supply, financed by partners	83,714	Global Fund

Example of a referral hospital: the Souro Sanou University Hospital (CHU SS)

Title	Amount (USD)	Key partners	Comments
Amount of country supplies (via a common basket or national income)	1,300,000	Government budget, patients' families	Sales revenue and government subsidies
Amount of supplies provided by implementation partners		Partners of the different national programs	
Amount of supply activities financed by the country			This budget exists, but is not itemized
Amount of technical assistance related to health product supply, financed by partners	0	0	At the time of the survey, the team did not have knowledge of any technical assistance dedicated to supply.

d. Human Resources

The following tables review public health infrastructures and affiliated human resources (2010):

Table I: Public Health Infrastructures in Burkina Faso in 2010[4]

CHU Staff	***3***
CHR	*9*
CMA	*42*
Medical centers	*27*
CSPS	*1, 496*
Isolated dispensaries	*60*
Isolated maternity services	*14*

Table II: Human Resources in Health Facilities[5]

Mobile Health Workers	***1,976***
Licensed nurses	*2, 558*
Nurses with a state diploma	*3, 054*
Doctors	*662*
Dental Surgeons	*32*
Midwives / public birth attendants	*1, 057*
Pharmacists	*184*

In principle, each health facility has a drug depot for sale to the general public.

[4] Ministry of Health / DGISS (2010), Health Statistical Yearbook.
[5] Ministry of Health / DGISS (2010), Health Statistical Yearbook.

2. PART II. THE SURVEY

a. Schedule of Interviews

Date	Hour	Structure	Person/People Interviewed	Function
17/03/2011	3:30 PM	CMLS	Dr. Inoussa ZABSONRE	HIV/AIDS services manager
18/03/2011	9:00 AM	PNLT	Dr. Djibril TAMBOURA	Supply manager
18/03/2011	11:00 AM	WHO	Dr. Christophe ROCHIGNEUX	Inter-country WHO technical advisor
18/03/2011	3:30 PM	PNLP	Dr. Moussa OUEDRAOGO	Supply manager
19/03/2011	9:00 AM	Ziniaré District	Dr. Arzouma OUEDRAOGO (+ DRD manager, CMA depot manager, CSPS urban depot manager)	District chief medical officer
21/03/2011	10:00 AM	DGPML	Pr. Jean-Baptiste NIKIEMA	Director of pharmaceutical supplies
21/03/2011	3:00 PM	ACAME	Mr. Gérard MILLOT	Technical advisor
22/03/2011	11:30 AM	UNICEF	Dr. Maurice HOURS	Chief health nutrition section
22/03/2011	5:30 PM	CAMEG	Mr. Lazare BANSSE	Director-General
23/03/2011	8:00 AM	DSF	Dr. Yakouba DOMO	Technical assistant in charge of supplies
24/03/2011	4:00 PM	DN	Dr. Amadou KOUMARE	Supply manager
25/03/2011	8:00 AM	DRH	Mr. Batia BAZIE Mr. Claude CONGO	Chief career management service Chief recruitment and training service
28/03/2011	11:00 AM	Sindou District	Dr. Gervais SANOU	District chief medical officer
28/03/2011	3:00 PM	DRS Cascades/ Banfora	Dr. Olivier NACRO	Chief pharmacy service
29/03/2011	8:00 AM	DRS Hauts-Bassins/ Bobo-Dioulasso	Dr. Hyacinthe OUEDRAOGO Mr. Sylvain TOE	Chief pharmacy service Planning manager
29/03/2011	10:00 AM	CHU SS (Bobo-Dioulasso)	Dr. Karim SANGARE	Chief pharmacy service
30/03/2011	9:00 AM	ENSP/ Bobo-Dioulasso	Dr. Germain TRAORE ; Mr. Faustin KAMBIRE	Regional director Education manager

b. Objectives

Overall Objective of the Survey

Document Burkina Faso's human resource capacity in supply chain management (SCM) and the country's efforts towards the professionalization of public health supply chains.

Specific Objectives

- Describe the context for the public health supply system;
- Describe the organization of the public health supply system;
- Identify the supply chain's strong systems in terms of human resource capacity building;
- Describe policies, plans and tools used for supply chain human resources capacity building;
- Describe supply chain workforce development initiatives;
- Describe the strategies implemented to increase the efficiency of supply chain human resources;
- Describe efforts made to professionalize supply chain managers.

c. Methodology

Locations and Workplan

The field survey was carried out from Tuesday, March 9th, to Friday, April 1st.

The national expert dedicated the first week, from Tuesday, March 9th, to March 13th and 14th, to the gathering of general information and the identification and organization of meetings in Ouagadougou and Bobo-Dioulasso.

During the second and third weeks of the survey, activities were carried out in pairs (national expert + international expert) and consisted in:

- Arrival of the international expert on March 16th, update and planning on March 17th, interviews from March 18th to 25th, in Ouagadougou (center and periphery);
- Departure for Bobo-Dioulasso on March 26th ;
- Interviews in Bobo-Dioulasso and Banfora from March 28th to 31st.

A third, post-field phase, from April 1st to August 31st, was dedicated to the collection of complementary information and report writing.

Methodology

The survey is cross-sectional and based on an assessment tool developed in 2011 for the *People That Deliver* Initiative, translated and adapted to the organization of the national health system by the Bioforce Development Institute.

Data were collected during interviews (in person only, no remote interviews) with 20 people operating in the 17 key structures selected by the investigators. An exhaustive questionnaire served as a guide for interviews. In view of the complexity of this questionnaire and in order to limit the duration of interviews (between 2 and 4 and a half hours), priority sections were selected depending on the people interviewed *(see Table III –Structures/Programs Targeted by the Survey)*.

The Survey's Targets

The survey took place at all levels of the supply system, as illustrated by the following table.

Table III: Structures/Programs Targeted by the Survey

Level	Structure	Role in the Supply Chain
Central	DGPML	Regulation and quality assurance authority
	CAMEG	Purchasing center
	PNLT	Planning, quantification, storage, distribution of inputs for tuberculosis
	PNLP	Planning, quantification, storage, distribution of inputs for malaria
	DLM*	Planning, quantification, storage, distribution of inputs for epidemics and other diseases
	DSF	Planning, quantification, storage, distribution of inputs for PF, PTME, IMCI
	DPV*	Planning, quantification, storage, distribution of vaccines
	DN	Planning, quantification, storage, distribution of nutrition products
	CMLS/Health	Planning, quantification, storage, distribution of inputs for HIV and STDs
	UNICEF	Purchase, storage / technical support
	UNFPA*	Purchase / technical support
	GF*	Purchase
	PADS*	Purchase
	CHU SS (Bobo)	Planning, quantification, storage, distribution and use of all pharmaceutical products
Intermediary (regional)	DRS Hauts-Bassins	Storage, supervision
	DRS Cascades	Storage, supervision
Peripheral (district)	Sindou District	Storage, supervision, use
	Ziniaré District	Storage, supervision, use
Delivery points	Ziniaré CMA	Acquisition, storage, use
	Ziniaré's urban CSPS	Acquisition, storage, use
	Sindou CMA	Acquisition, storage, use
Other	ENSP	Training of paramedics
	DRH	In-service training, staff recruitment
	UFR SDS	Training of pharmacists and doctors

** Structures whose staff could not be directly interviewed during the survey,* due to procedural reasons.

NB: The private healthcare products distribution channel has not been taken into account in this study; indeed, it is not involved in the distribution of products coming from public health programs.

3. PART III. THE SUPPLY CHAIN'S ORGANIZATION AND PERSONNEL DISTRIBUTION

a. Supply System Organization

Complexity of the healthcare products supply chain

A study conducted in 2010 by the Directorate-General for Pharmacy, Drugs and Laboratories (DGPML), in collaboration with WHO, on pharmaceutical products supply, illustrates the complexity of Burkina Faso's supply system organization – see diagram on the next page, Ministry of Health / DGPML, WHO (2010), *Cartographie des systèmes d'approvisionnement et de distribution des médicaments et autres produits de santé au Burkina Faso* [Mapping of drugs and other health products supply and distribution systems in Burkina Faso], p. 81.

This system includes several sub-systems which are compartmentalized and different for each Technical and Financial Partner (TFP) and type of product. There are at least thirteen different supply sectors in the public health supply chain and there is no overall view of health products supply.

As a corollary, each sector has its own Logistic Management and Information System (LMIS). Several TFPs, depending on their programs, ask the personnel involved in the supply chain to provide reports on the different sectors and products concerned. They may be required to write 10 different data reports per district. There is no harmonization of information systems between the different TFPs.

This complexity, which goes against the Paris Declaration[6], affects consistency, coordination and monitoring. Negative consequences include:

- Bad quantification of needs by sector: there is no harmonization of information systems between the different donors. As each donor has its own information system, the personnel involved provides information to as many "computer systems" as there are sectors and products;
- Mistakes on the information provided to donors by users and providers at the end of the supply chain, be it at the level of dispensaries or district hospitals;
- Difficulties in managing priorities, which leads to stock-outs or overstock at the end of the supply chain: supply conditions, deadlines, and the frequency of reports vary from one donor to the other;
- Excessive complexity at peripheral level: difficulties in finding consistency in health products consumption patterns between the different partners, as bases for calculation and geographical areas are not the same.

As a result, local authorities in particular sometimes feel as if they were excluded from health products supply issues.

According to a UNICEF official, *"ideally, donors should entrust the government with funds for supply, and sources of funding should be diversified and go through the DGPML. This would reduce the problem of the use of different tools, in a vertical way, for vertical programs*."

[6] http://www.oecd.org/dataoecd/11/41/34428351.pdf

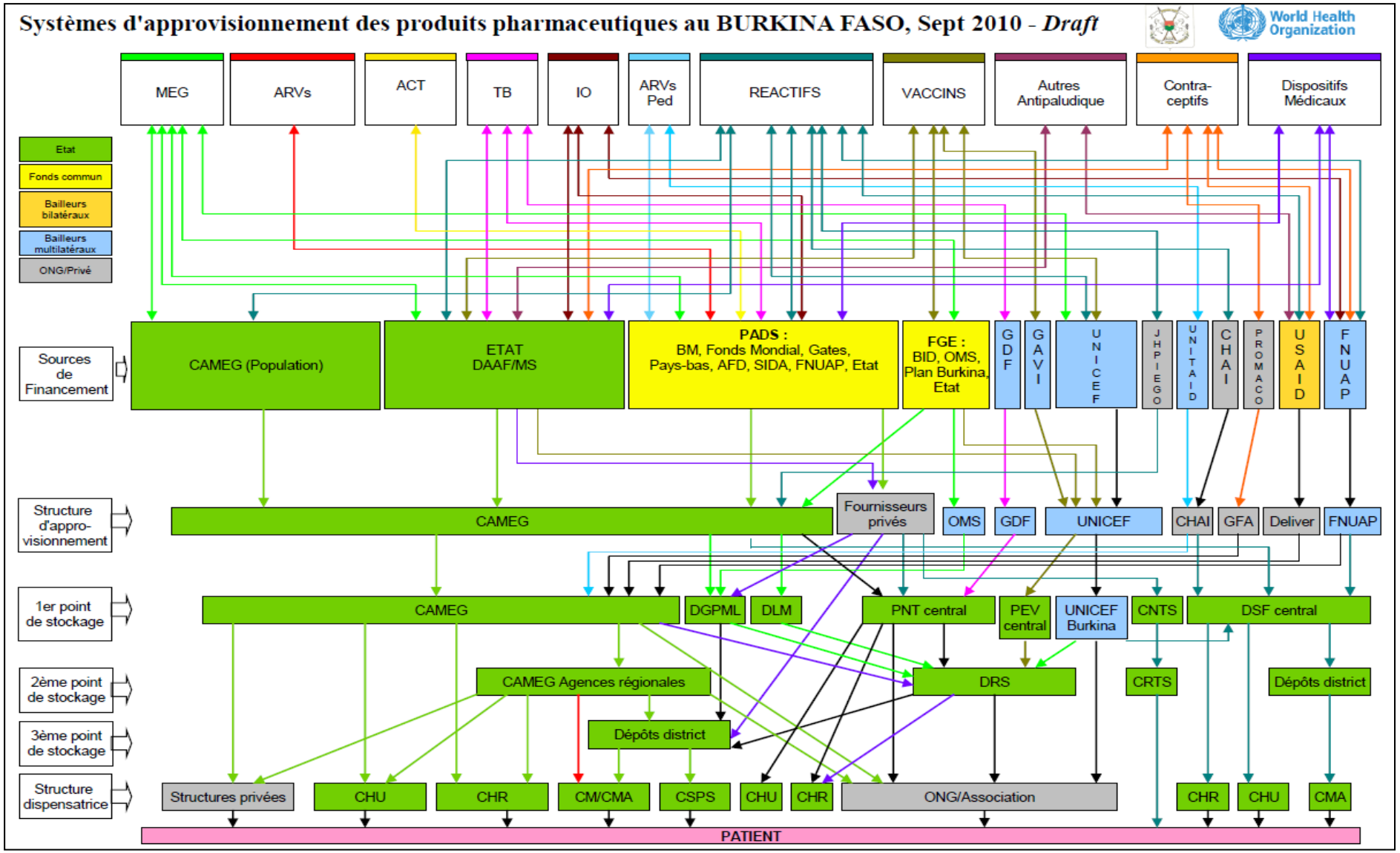


Diagram 1: Pharmaceutical Supply System in Burkina Faso (September 2010 – WHO)

Two Drug Channels

There are two drug channels: free drugs and drugs for sale.

This implies that two parallel monitoring systems are maintained, at the intermediate and peripheral levels (Region – District).

The traceability and more generally the monitoring of products for sale constitute priorities and are better ensured in the "for sale" channel than in the "free" channel. Products from the "free" channel are generally allocated (the push system) and not ordered (the pull system) as it is the case in the "for sale" channel.

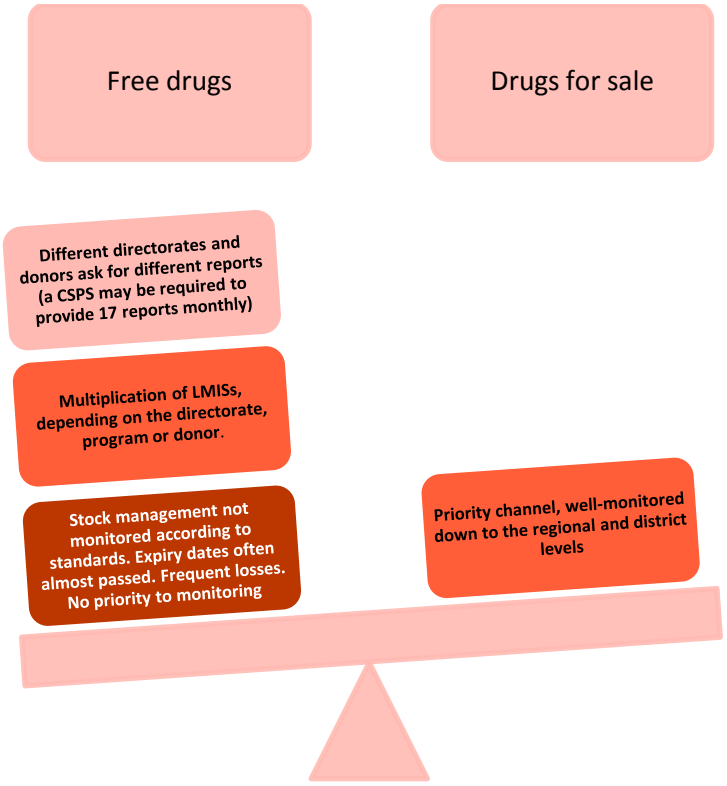


Figure 2: Characteristics of the Two Health Products Channels ("free" vs. "for sale")

Selection of Public Health Supply Chain Products

The Health Ministry's central directorates select products. To do so, they follow WHO guidelines and the national nomenclature for pharmaceutical products.

Products covered by the public health supply chain mainly include: EGDs; contraceptives; anti-malaria products (medicines, reagents); Long-Lasting Insecticide-Treated Mosquito Nets (LLITMN); anti-STDs drugs; vaccines; nutrition products; anti-HIV products (ARVs, medicines and reagents for opportunistic infections, reagents for HIV screening tests and biological monitoring); anti-tuberculosis products (medicines, reagents); IMCI products; other Low-Risk Maternity (LRM) products.

Need Assessment

Supply managers identify and express needs for healthcare products. They usually are pharmacists working within programs and central directorates. They meet in Technical Committees to decide on the types of products to be provided. A certain number of program directorates draw on

consumption patterns in previous years. The CAMEG is consulted on quantities distributed per product.

According to the WHO, the absence of an overall health products supply plan results unreliable assessment of needs.

The unreliability of estimations has negative consequences:

- Overstocks and therefore risk of destruction and cold chain interruptions;
- Stock-outs, since some orders are not included in donors' financing plans which do not cover "contingencies";
- Supply emergencies.

The quantification of inputs remains a real challenge in Burkina Faso.

Products Purchases

Funding

Households are the main contributors to the budget for the purchase of health products. Then come the Global Fund, the government budget and other TFPs, including the main ones: UNICEF, GAVI, the PADS, the World Bank, USAID and UNFPA. The estimate of financial volumes dedicated to this public health supply chain is given in Part I.

It is the donor who decides on the source of supply. Besides, manufacturers also are often the ones who decide on the distributor they use.

Deliveries

Products purchased through programs are delivered either to the CAMEG or to central directorates.

The CAMEG has warehouses which are adapted to storage and its distribution logistics is appropriate.

Central directorates have neither suitable warehouses nor transport logistics for distribution. They have little or no space for the storage of products which are sometimes left in corridors before they are distributed to health facilities. The MoH sometimes receives donations which do not comply with WHO standards (alignment with needs expressed by beneficiaries, coverage of all approach and management costs by the donor, etc.). These products are generally stored at the central directorate level.

Receipts

Government structures do not have the quality "reflex" when deliveries arrive[7]. On the other hand, the CAMEG systematically controls the deliveries it receives:

According to the CMLS, "in 70% of cases, we are informed beforehand of the arrival of ARVs in the country". After receipt in CAMEG warehouses, the Global Fund controls the number of packages, their condition, expiry dates, batch numbers and manufacturers' names.

Transit time is too long: between 6 months and a year between the shipping of orders and the time they are presented to customs in Ouagadougou.

When products do not transit through the CAMEG, supply directorates lack transportation means, as those are unevenly distributed by distribution facilities.

The CAMEG supplies DRDs once a month; it is a CSPS manager who comes and picks up[8] the products needed. CSPSs also use purchasing orders which are then archived. However, they are not always signed when products are picked up at the DRD. Moreover, they are not always signed by a CSPS

[7] No temperature check during deliveries
[8] Usually with a motorcycle or bicycle

manager; Town Council staff also does them sometimes. CSPSs may also face vaccines overstocks because districts send vaccines them without receiving orders.

At the opening of a CSPS, the government provides a starter kit. The closer CSPSs are from each other, the more difficult it is for them to maintain balanced budgets because they share the same target population and therefore little revenue.

CSPS stock inventories are made at the end of each month. They are reported to the Town Council and to the DRD.

b. Healthcare Product Supply Chain Control

The DGPML's Role

The DGPML plays a regulatory role and maintains a "funding / products" vision via several types of control:

- Pharmaceutical control: Product certification (WHO prequalification) via a commission which decides whether or not to grant MAs;
- Customs control: issue of import authorizations;
- Post-marketing quality control: Random sampling at distribution points;
- Pharmacovigilance: modification of notification structures and management;
- Narcotics supply management (the other psychotropic substances are managed by the CAMEG);
- Health products supply statistic management.

Compliance with Tuberculosis Treatment Protocols

The WHO Green Light Committee conducts two annual assessments to ensure compliance with good practices in terms of multi-drug resistant tuberculosis management. The results of these assessments determine whether or not the funding of treatments for such patients will continue.

Expiry Dates

In principle, there must remain at least 2/3 of the product's lifespan for the delivery to be accepted. In reality however, only few drugs are actually destroyed. DRDs often receive products close to their expiry dates (3 months from the delivery date). This may be a real issue depending on the region.

During one of our visits, we discovered a 3 m^3 stock of different expired products, worth 8,000,000 CFA francs. These products' expiry dates started in 2000.

Managers do not systematically establish track inventories with warnings on expiry dates.

Inspection upon Delivery

Quality control is the responsibility of the National Public Health Laboratory (LNSP)[9]. It is usually done at the request of the DGPML and included in health products distribution costs.

An important number of people mentioned the length of the process. When health products enter the territory (they are almost all imported), they are quarantined until the Laboratory gives its results. However, the Laboratory is so slow to provide results (some results never come) that most "quarantined" products are distributed long before they arrive.

Some samples are sent to accredited laboratories abroad (for instance the CHMP in Clermont-Ferrand, France); their results usually arrive faster than the LNSP ones.

[9] This laboratory is not certified by the WHO.

Besides, some products that do not transit through the CAMEG do not undergo quality checks, and food is not systematically subject to organoleptic testing.

c. Technical Management of Supplies: Widespread Under-equipment at District and CSPS levels

This is the first problem raised by the central pharmacy (DGPML): wholesale distributors are well-equipped while CSPSs are not. Consequently, the quality of drugs is not always assured.

Problems Related to Building Standards

The DGPML itself only has 800 m^2 of storage area throughout the country, with a pallet truck but no forklift truck. However, it is responsible for receiving and distributing donations, managing emergency stocks, and managing part of regional stocks. Some warehouses are not ventilated; others are established in former laboratories.

Very Cramped Stocks in Central Structures and District Depots

Just like Ziniare (40 km North East of Ouagadougou), these depots are far too cramped and poorly ventilated. The Ziniare District stock was stored in 3 rooms of 20 m^2 each, one of which seemed unmanageable due to congestion caused by freight on pallets (FIFO method impossible to apply under such conditions). Moreover, the CMA's pharmacy was very crowded.

However, their good management is essential; at the minimum, the Ziniare DRD supplies one CMA pharmacy and nearly fifty CSPS pharmacies. This under-capacity for storage makes it very difficult to establish safety stocks. Therefore, stock-outs are common. It is almost impossible to implement an addressing system with such a lack of space, or even to put up shelves and a fortiori racks. There is no handling equipment (no hand truck, nor pallet truck, let alone forklift trucks).

Storage in CSPS / CMA Warehouses
(Photos: Sindou District)

Quality Assurance and Cold Chain

Cold chain integrity is not always ensured. However, investigators noticed that the Ziniare DRD stock had a refrigerator; in case of power cuts[10] , ice packs were available in the freezer (although they were not completely frozen), ready to be placed in 4 coolers. A thermometer placed in the refrigerator indicated an 8°C temperature, which is quite acceptable.

Government structures do not have the quality "reflex" upon delivery (for example, temperature control); by contrast, deliveries are systematically checked by the CAMEG.

Distribution

Distribution is difficult when products do not transit through the CAMEG. In this case, beneficiary organizations have to come and pick-up goods themselves in the capital.

Stock Management

CMAs and CSPSs' budgets are insufficient to cover all travels throughout the year. They usually have to buy petrol for the vehicle that supplies them with drugs. If in July the budget has been spent, or if the vehicle is not in working condition, the cold chain will automatically be interrupted. This has an impact on DRDs and regions, which end up with excess stock they cannot get rid of.

Some central structures such as the CMLS and the PNT mentioned the lack of suitable forms for stock management: stock files, inventory records, etc.

Analysis

In conclusion, the quality of drugs is not always assured. A lot of equipment is not functional, especially in districts (structures are too cramped and inadequate), and health facilities themselves are poorly maintained, "for lack of money".

Most of these weaknesses may be related to the fact that TFPs (Global Fund, World Bank, UNITAID, etc.) rely on the government for the essentials of health systems, especially infrastructure, while they take responsibility for products supply.

But in the context of poverty in Burkina Faso, many patients cannot pay for health services. Therefore, health facilities count on government subsidies to operate and only cover priority expenditures (such as salaries) at the expense of infrastructure.

This results in a lack of coherence. There is no use to provide quality products if that same quality is impaired by a serious lack of distribution infrastructure at the end of the supply chain. All efforts made on quality at the top of the supply chain will be void if distribution does not follow.

There is an important contrast between the CAMEG's means and government structures' means, and a number of organizations would like the CAMEG to also manage government stocks. These stocks are scattered among different directorates, or congested.

Technical management failures, which affect many countries other than Burkina Faso, led the WHO/AFRO to advocate for the deployment of multi-skilled logisticians able to handle not only specific supply factors but also technical aspects of the supply chain, to address these issues, especially at the peripheral level.

[10] More frequent since the events in Côte d'Ivoire which is Burkina Faso's supplier.

d. Monitoring and Management

Reporting to Central Administrations

Reporting is not satisfactory for two reasons:

- A database management system seems to have been implemented at the central level for HIV, but apparently the software package is not working anymore. Information is collected via an Excel table;
- Field personnel lack motivation to report to central structures. These personnel need additional technical support, and data collection must be organized in health care structures (CSPSs and CMAs).

The frequency of needs reporting is more or less clearly defined and is not performed everywhere at the same time. According to the DN for example, the frequency of inventories in pharmacies and DRDs is different from one district to another. These inventories are quarterly or semi-annually. Each district has its own frequency of inventory, with a minimum of 2 times a year[11].

4. PART IV. STRONG SYSTEMS

a. DGPML

Strengths:

- Ensures supply coordination for some health programs (HIV and malaria);
- Good staff availability, especially pharmacists;
- Designs and drafts pharmaceutical guidelines, and ensures their implementation;
- Provides a national guide of pharmaceutical supplies.

Areas needing attention:

- Inadequate logistic information system;
- Management of pharmacists under its technical supervision;
- Coordination of (or even involvement in) supply for several programs (vaccines, anti-TB drugs, nutrition, fight against epidemics, etc.).

b. Other central directorates and health programs: DSF, PNT, PNLP, DPV, DN, CMLS

These directorates report to the Directorate-General for Health (DGS), except for one, the CMLS, which is under the direct supervision of the Minister's office, which illustrates the priority given to the fight against AIDS and STDs.

Within the main supply directorate we visited, the number of staff involved in the supply chain is generally very limited (4-5 people maximum), and it is even more so when supply is covered by partner organizations (1 person)[12].

There is very little or no means at all, especially in terms of storage capacity: when existing, premises are very cramped, inadequate, and poorly ventilated. When not existing, office corridors may serve as storage areas.

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[11] In fact, in the Ziniare district we visited, needs are determined based on a calculation of average consumption over 6 months. A physical inventory is performed every month but central structures only require an inventory once per quarter.

[12] For example: UNICEF for the DN

The Ministerial Committee for the Fight against AIDS (CMLS)

It was created in 2001, and is composed of a medical care section, a prevention section, and an epidemiology section.

Until recently, supply activities were part of the overall structure organization. The creation of a specific unit aims to strengthen the structure by providing it with a workforce dedicated to the supply chain.

At the national level, 31,543 patients are on ARVs and 60,225 HIV-positive patients are treated in health facilities. Figures are increasing as more people are treated. According to UNAIDS, there are 110,000 cases. The difference can be explained by the fact that some people who know that they are HIV-positive do not want to be treated, others are treated in private facilities, and yet others do not know they are HIV-positive.

The CMLS's main financial partners are:

- The GF: purchase of ARVs and other anti-HIV products; support to supply chain activities;
- The PADS: purchase of ARVs and other anti-HIV products;
- The Clinton Initiative (CHAI): purchase of pediatric ARVs.

The National Program for the Fight against Tuberculosis (PNT)

Its main financial partners are:

- Government budget : 90 million CFA francs (€140, 000) for the purchase of anti-TB drugs;
- Global Fund budget: 126 million CFA francs (€192, 000) for the purchase of anti-TB drugs;
- GDF/WHO: for the purchase of anti-TB drugs for patients with multidrug-resistant TB.

The PNT can be considered a champion program in terms of capacity building of personnel in charge of anti-TB drugs through a formal training plan.

The Directorate for Nutrition (DN)

The products concerned are: milk F100, F115, fortified peanut paste, antibiotics, antifungal drugs (oral infections), and ReSoMal. In 2010, some products such as A vitamins and baby milk were provided. Enriched precooked flour (Unimix) and vitamin biscuits (BP5) are mainly used for nutritional emergencies.

UNICEF is the DN's largest financial partner with a US$ 5,600,000 budget for products purchase in 2011[13].

The DN also works with other partners such as NGOs: ACF for inputs management, and HKI[14]. Finally, the DN also works with the World Bank, whose supply program represents 45% of its annual action plan (supply activities and nutritional products), and is managed by the PADS.

The National Program for the Fight against Malaria (PNLP)

Today, PNLP manages the supply of ACTs, LLITMNs, rapid tests, and severe malaria treatment kits. Its main financial partners are USAID |Deliver and the GF.

[13] UNICEF's 2011 Supply Plan

[14] An American NGO funded by USAID

Strengths:

- Availability of pharmacists dedicated to health products supply;
- Relatively motivated and stable workforce;
- Workforce receiving in-service supply chain training.

Areas needing attention:

- Storage scattered among several, often inappropriate warehouses;
- Unsatisfactory logistic information system;
- Lack of staff to manage stocks on a daily basis in warehouses.

The Directorate for Family Health (DSF)

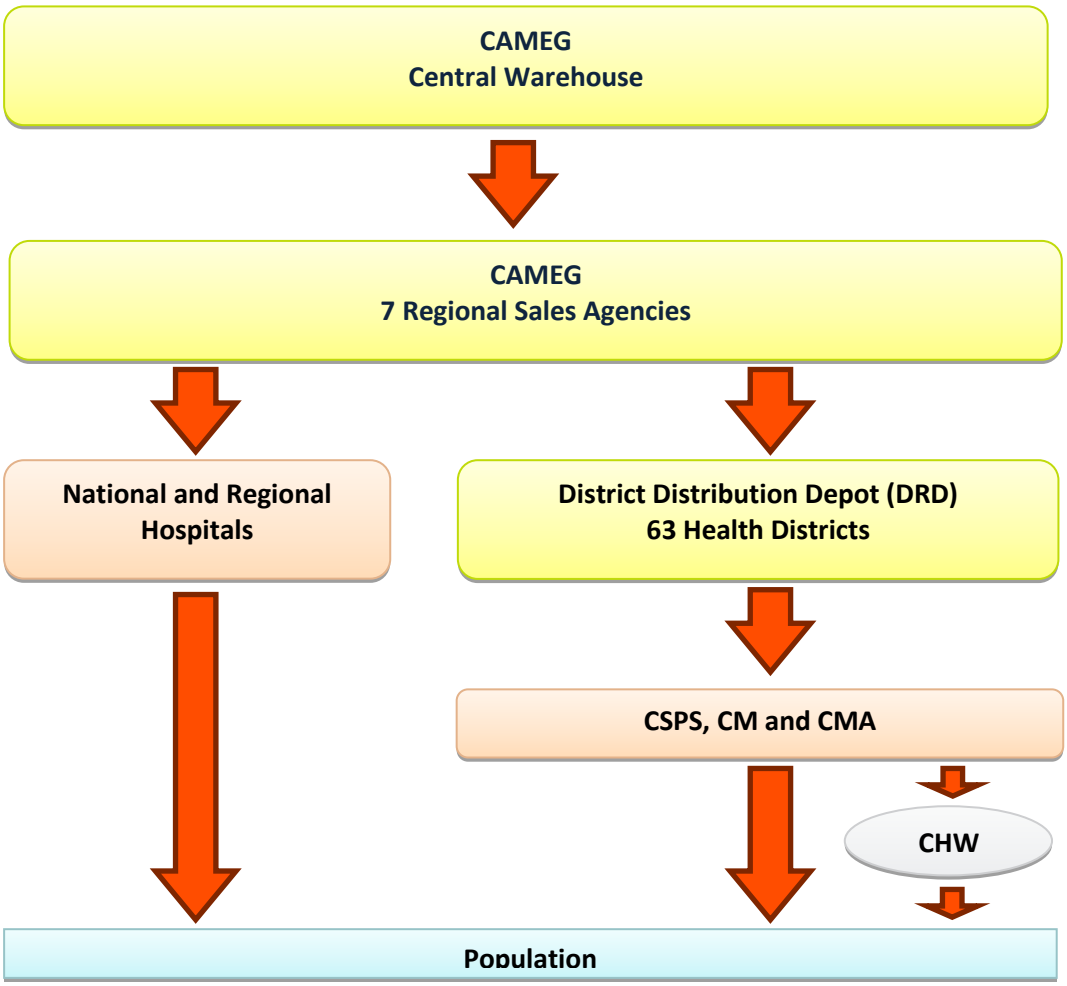
It coordinates reproductive health programs. Its main financial partners are:

- Government budget: purchase of contraceptive drugs (US$ 600,000) and PTME products (US$ 400, 000);
- USAID: purchase of contraceptive drugs;
- UNFPA: purchase of contraceptive drugs; support to supply chain activities;
- GF: purchase of PTME products (around US$ 500,000); support to supply chain activities;
- CHAI : purchase of pediatric ARVs, HIV tests, PCR reagents and consumables for the early diagnosis of HIV among children;
- UNICEF: purchase of PTME products for around US$ 200,000 in 2010;
- The Bill & Melinda Gates Foundation: purchase of IMCI products.

The PF program can be considered a “champion” because each year it plans in-service training on contraceptive logistics for the supply chain workforce. These training courses are generally funded by the UNFPA.

c. Essential Generic Drugs and Medical Supplies Purchasing Center (CAMEG)

The CAMEG's position in the supply chain



Budget and Margin

The CAMEG has a 27 billion CFA francs budget (€41 million) and generates a 1.5 billion CFA francs annual turnover (€2, 3 million), which represents a 5.57% margin.

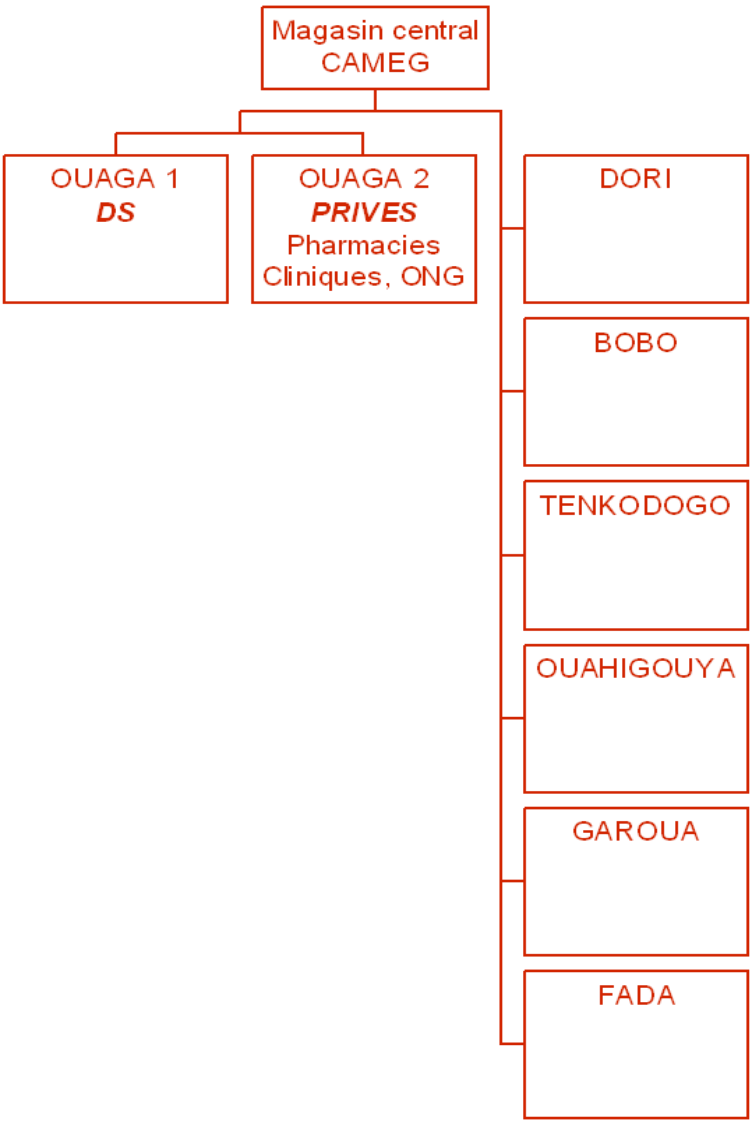
This profit margin is made on storage costs in the central warehouse and in distribution centers. This consolidated margin is used by the CAMEG to improve its health products distribution performance in the country. There is a significant contrast with what happens at the district level: DRDs also generate a profit margin but this margin constitutes a common fund which is made available to health facilities[15].

CAMEG Organization

The CAMEG has existed since 1994. It is the first importer of health products in Burkina Faso and represents 50% of market shares for health products, and 99% for generic drugs.

[15] This margin does not seem to be entirely reinvested into CMA and CSPS infrastructure.

The CAMEG has eight agencies throughout the country. Its central warehouse has a total area of 6,000 m^2.



The 8 sites are interconnected for good performance in EDIs on the state of stocks. This required an investment of 200 million CFA francs. The center supplies districts within 24 hours[16].

The CAMEG manages 700 containers per year, mainly from Europe, and uses air transport for emergencies. It uses 2 freight forwarders. In case of emergency, it may be required to support government structures, especially hospitals. The CAMEG supplies MSF. It has around fifteen different agreements with international organizations and NGOs[17].

The CAMEG has a fleet of fifty 40T/20T/8T/Pick-up vehicles; maintenance is carried out in approved garages. Some are refrigerated vehicles. Here again the contrast with DRDs and CSPSs' means is

[16] By comparison, in Benin, the central purchasing center has only half the area of the CAMEG's central warehouse.
[17] Including MSF and ACF

significant. Moreover, the CAMEG is frequently called upon by donors, especially by the Global Fund, for which it plays a subcontractor role, to organize tenders, storage and distributions on their behalf.

Strengths:

- Good capacity for purchases, storage, transportation, and distribution;
- Centralized supply for many actors in the health sector. Limitation of parallel distribution channels;
- Good internal information system;
- Good quality service;
- Stable and competent workforce;
- Non-profit organization status[18] ; this status allows the existence of a board of directors and a steering committee which includes: the Ministries of Health, of Finance, and of Trade, hospitals, and NGO and international organization representatives. This status allows greater efficiency in recruitments and faster decision making;
- The center has its own market control commission whereas, elsewhere, national public procurement commissions are established;
- Trusted by suppliers: its financial autonomy facilitates the payment, which earns it suppliers' trust. Cross-site missions regularly visit each CAMEG region.

Areas needing attention:

- Supply stops with the distribution to districts;
- The information system remains incomplete because it does not include real consumption figures which are only available in districts (distribution points);
- Quality control procedures are not ensured for products which are only stored or distributed, not purchased (for example: products purchased by the Clinton Foundation / UNICEF products, etc., do not undergo quality control before distribution and consumption).

d. The DRS level

Strengths:

- No problem of storage space;
- Pharmacist position dedicated to supply chain management;
- It has an overall view of (coordinates) supplies in health products for the whole region;
- Availability of cold chain equipment, which is valuable.

Areas needing attention:

- No monitoring dashboard for the different stock products;
- Warehouses not always compliant with standards;
- Poor logistics management (maintenance).

The DRS team is composed of:

- A pharmacist;
- Doctors;
- A maintenance manager;
- The Head of Finance and Administration.

[18] This is also the case in Benin, Madagascar and Togo. Elsewhere, purchasing centers are public institutions.

e. The CHU SS (Souro Sanou University Hospital)

Strengths:

- Budget autonomy;
- Importance given to pharmaceutical supply in the organizational chart;
- Existence of a training plan taking into account the supply chain workforce's needs;
- Good staffing with pharmaceutical expertise;
- Good infrastructure and storage and conservation equipment;
- Good availability of products.

Areas needing attention:

- Insufficient budget for supply support (supply missions and in-service training);
- Donations of products of little use;
- Staff turnover (low motivation, no career path);
- Real need in products which are not well mastered (diversity of practices);
- Insufficient logistics information system (poor computerization, consumption figures generally not available);
- Personnel's poor management skills.

f. Supply chain district and peripheral levels:

The investigators visited 2 health districts and their distribution structures (DRD - HSPC – MCSA).

DRD

Strengths:

- Pharmacist or PEP staff for stock management;
- Available computer equipment;
- Sufficient staff in general.

Weaknesses:

- Insufficient storage space;
- Budget problem, with a disruption during the year, having an impact on results (visits, equipment maintenance, staff training);
- Managers absent or insufficiently trained, staff with a middle school level of education. On-the-job training, and usually informally.

HSPC and MCSA depots(points of distribution to patients)

HSPC team:

- Nurses (including one supervisor) for the clinic;
- Birth attendants or midwives for the manternity hospital
- EGM depot manager.

MCSA team:

- Doctors;
- Midwives;
- Other paramedics;
- 1 or 2 EGM depot manager(s).

Strengths:

- Sufficient staff in general;
- No problem of storage space in HSPCs and MCSAs;

- Good infrastructure at district level (office);
- Specific cold chain equipment available (for vaccines);
- Generally there is electricity (mains power or solar panels).

Weaknesses:

- No training for the staff in managing stocks in MCSAs (middle school level of education). On-the-job training, and usually informal.
- Difficulty writing many reports for only one or two persons (up to 17 technical activity reports in the Hauts-Bassins)
- A multitude of technical reports but no management reporting
- Poor condition of Infrastructures badly maintained at MCSA and HSPC levels
- Specific cold chain equipment not available for products other than vaccines.
- Budget problem, with a disruption during the year
- Needs are poorly defined due to the weakness of the information system.

5. PART IV. POLICIES AND PLANS

Health product supply is essential in the management of population health in Burkina Faso. Thus, at the political level, in addition to the national health policy, there is a drug policy controlled by DGPML.

Reflection is ongoing on the introduction of a logistics improvement plan into the National Health Development Plan 2011-2015.

6. PART V. STAFF DEVELOPMENT

a. General

The DRH manages the Ministry of Health human resources. This department deals with the recruitment, training and career management of health workers. There is no specific management of any professional category.

To date, there is no human resources strategic development plan, no matter the occupational category. However, for the first time, the DRH is developing a global human resources development plan 2011-2015 for the Ministry of Health.

The DRH is using the following tools for human resources management:

- Worker scorecards: this includes guidelines for workers performance assessment, and a description of the grading system. Each worker is graded by his direct superior once a year. This grade determines the worker's salary progression every 2 years;
- Job descriptions generally exist for each professional category, but only a few institutions, such as the CHU Sanou Douro in Bobo-Dioulasso developed job profiles for their specific department;
- The human resources development plan: it is not clearly defined. There are only staff standards for health training sessions. Each year, the DRH compiles the needs of all the structures of the Ministry. New staff are recruited according to these needs;
- Organizing of professional skill competitions for qualifying training courses for health workers;
- Rewarding of deserving workers, which also affects their salary.

Workers supervision is organized by different health programs, using the cascade model. Central departments supervise middle level workers, who in turn supervise district workers. In those districts, DHMT supervises health training workers (MCSA and HSPC).

Management and procedure manuals are rare, and only developed in a few health institutions such as NBTCs.

To date, there is neither a skills validation system, nor a direct bonus system for workers. However the latter has been proposed through the ongoing introduction of “performance-based financing”.

b. Pharmacists

Pharmacists manage the health product supply chain. They are assisted in this by State pharmacy technicians. The official records they sign need to be endorsed by the Heads of the institutions where they work. Finally, the issuing of documents with financial consequences requires the approval of the institution chief financial officer.

There is no qualification or certification system required either for this staff, or for other staff potentially in charge of supply chain management. The following table describes the different positions in charge of supplies.

Table V: Job descriptions in health products supply chain

CENTRAL STRUCTURES	
Supply chain positions	**Description**
DGPML supply department	2 pharmacists, 3 order-fillers, 2 storekeepers, 1 warehouseman and 1 driver.
CAMEG	All staff.
CMLS supply manager	1 pharmacist, 1 stock manager, national agents responsible for the purchase of ARVs and other products to fight HIV/AIDS. *"I would ideally need 2 or 3 doctors + as many pharmacists to handle some 90 structures in the country".*
NTP supply manager	*1 pharmacist, 1 order filler, 1 warehouseman, 1 storekeeper,* national agents responsible for the purchase of anti-tuberculosis drugs and related products (other medicines, reagents and consumables).
DN supply manager	1 pharmacist, alone in charge of the supply in nutrition products. He is assisted by UNICEF staff with its tasks. UNICEF also plays the role of donor and supplier. What would happen if UNICEF decided to disengage?
PNLP supply manager	1 sole pharmacist, in charge of the supply in anti-malarial drugs and other products to fight against malaria. No own storage capacity at PNLP level. Technical support from WHO, UNICEF, DGPML, Delivery, etc.
DPV supply manager	1 pharmacist, 1 storekeeper, 1 warehouseman, agents responsible for supplying the country's public network in vaccines. Vaccines are stored in the DPV warehouse and distributed to the DRSs. Good storage capacity at that level.
FHA supply manager	2 pharmacists, in charge of the supply in reproductive health products: contraceptives; ARVs, tests and consumables for PMTCT; 1st stock for the community IMCI. It should be noted that other health and reproductive products (products of prenatal consultation, deliveries and EmONCs) are directly acquired by operational institutions and benefit from subsidies from the State and its partners. Products are stored at CAMEG and small quantities at FHA, which has a very limited storage capacity.
DLM supply manager	1 pharmacist, 1 State order filler. They are in charge of the acquisition and prepositioning of the stocks of medicines and consumables for the fight against epidemics. Products are stored at DLM which has an inadequate and limited storage capacity.
CHU head of the pharmacy department	3 CHUs; 2 to 3 pharmacists/CHU + several State order fillers + storekeepers + warehousemen. They interfere at all levels of the supply chain, from quantification/budgeting to the dispensing to patients. Good storage and conservation capacity.
Director for coordination of NBTC technical activities	1 pharmacist, 1 maintenance technician, 2 storekeepers. In charge of maintenance of medico-technical equipment and supply of reagents, consumables and technical equipment for blood transfusion.
INTERMEDIARY AND PERIPHERAL STRUCTURES	
Supply chain positions	**Description**
Head of the pharmacy department of	1 pharmacist + 1 or 2 PEPs. They supply themselves at central institution level, manage DRS health product warehouses and distribute to the region's districts. Lack of skills due to a lack of training. Some pharmacists manage up

DRSs	to 3 or 4 pharmacies; management problems. General professionalization level: 5 to 6 out of 10.
Head of the pharmacy department of CHRs	9 CHRs; 1 pharmacist/CHR + order fillers + storekeepers + warehousemen. They intervene at all levels of the supply chain, from quantification/budgeting to the dispensing to patients. Good storage and conservation capacity.
DRD manager	1 pharmacist or 1 PEP: he is in charge of the supply and management of the district stock. He supervises MCSA and HSPC depot agents in the district. Sometimes a depot manager.
MCSA depot manager	Depot managers: a function dedicated to logistics and sale, no medical training required. 2 managers and one checkout assistant for stock management. Other functions: doctors, State order fillers, some of which have received supply training, healthcare assistants, nurses, and biomedical technicians.
HSPC depot manager	1 or 2 managers: staff are not specialized: agents are often not trained; recruitments are carried out by the village town hall.

In addition to this staff, CAMEG and TFP human resources complete supply teams. The following table provides an estimate of supply chain workforce per occupational category.

Table VI: Estimated supply chain human resources

Profession	Staff
Pharmacists	180
State order fillers	155
Doctors-Heads of District	63
Financial managers	63
EGM depot managers	2000
Storekeepers/warehousemen	100
Paramedics (nurses and midwives managing specific products during health training sessions)	5000
EGM depot Management Committees	1500
TOTAL	9061

c. Central level

At the level of the Ministry of Health, the positions in charge of supply chain management are described in the following organization chart.

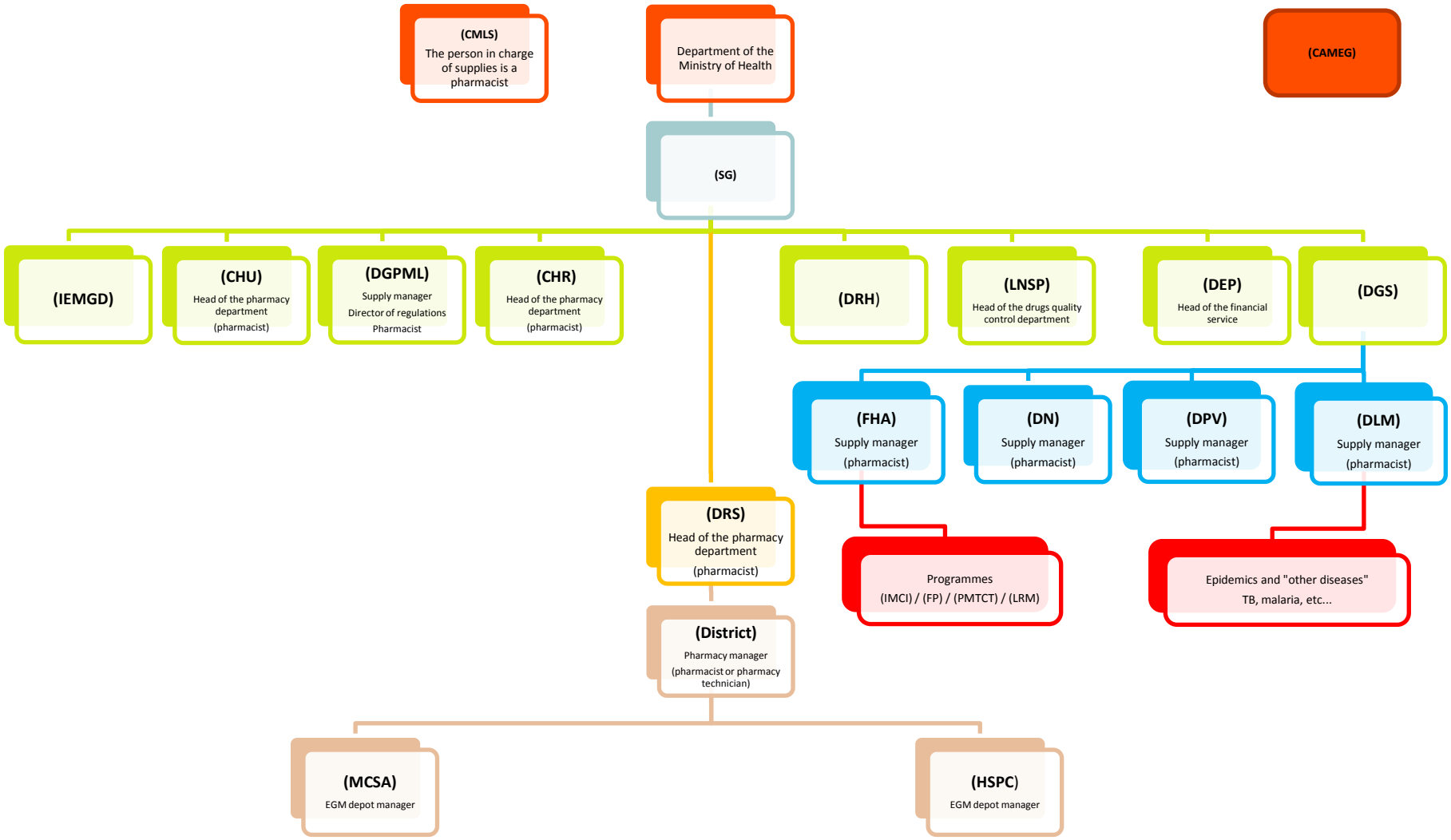


Figure 3: organization chart of staff in charge of public health supply chain management

d. Level of expertise in staff supply chain

According to the special supervisor to ACAME, health product supply skills at central level are high. Problems in human resources are mostly difficulties related to the governance of this activity and to the lack of dedicated training.

Moreover, in general, all supply departments prefer that it is the medical staff which is trained rather than pure logisticians. Pharmacies can only be run by pharmacists. The contribution of a logistician to pharmacists' activities is not recognized.

e. Basic training

It is provided by UFR SDS for pharmacists and by ENSP for PEPs.

Table VII: basic training for staff specialized in supply chain

Supply chain positions	Initial training	Further training
Supply manager at central level	Stock management; pharmacy	E.g.: Pharmacy refresher training every two years. E.g.: 10 days with Deliver: quality assurance, monitoring evaluation, development of a set of indicators for monitoring consumption.
District supply manager	Pharmacy technician	Supply courses are included in the basic training and correspond to 10% of that training time.
DRD manager	General education	No further training
EGM, MCSA or HSPC depot manager	General education	Insufficient level of education: BEPC level (Junior Secondary Education Certificate) for managers. But it is difficult to find someone of that level in villages.

Pharmacists and State pharmacy technicians are the professionals of the health products supply chain. This responsibility is entrusted to them via legislations and regulations. Administrative and financial professionals, who manage the logistics and products other than health products, are also involved. They are assisted in some tasks by non-professional staff for the positions of storekeeper and manager.

Pharmacists are currently being trained in the Unit of Training and Research in Health Science (UFR SDS) in the university in Ouagadougou. They receive 20 hours of theoretical training on management (finances and stock) and above all, they complete a 3 months internship with a company (pharmacies and pharmaceutical wholesaler).

State pharmacy technicians are trained at the National School of Public Health (ENSP) just like pharmacists, but at a lower level. It should be noted however that ENSP provides basic knowledge of human and material resources management to all the paramedics it trains, through a health services management course.

Administrative and financial professionals are trained at the National School of Administration and Magistracy (ENAM).

Non-professional workers are recruited at BEPC level (Junior Secondary Education Certificate) and receive a short theoretical training on health product supply as well as field training.

All these staff in charge of health products management thus receive insufficient initial training on health logistic management.

7. PART VI. STAFF EFFICIENCY

a. Benefits, bonuses, salaries

People hired by the Ministry stay in their position on average 3 to 5 years. They usually leave it to move up to a higher level in the organization, or they leave the public service for the private sector (especially pharmacists).

A system of medals and recognition of merit in addition to the evaluation score is possible. There is no direct monetary bonus. However, the evaluation score given to each worker every year has a direct impact on his salary (see above). Tools for staff monitoring exist, but they are not always used properly.

Except for CAMEG, there are no benefits or bonuses for government staff, except for rare trips to attend conferences or symposiums.

However, according to NTP, although there are no "RH" monitoring sheets, there would be occasional supervision with field visits, follow-up and upgrades. Still according to NTP, 80 to 90% of HR problems are solved locally. According to PNLP, supervisions are not focused on staff performances. It is more a matter of relationships between people than performances, as there is no career evolution. (Even if WHO advocates the establishment of performance contracts).

CAMEG introduced a bonus system to 'retain people' among other things. Consequently, staff turnover is not very high. "*We do not have to face staff flight to the private sector, because our staff is properly paid.*"

b. The turnover of staff working in health product supply

It is generally noticed: Staff turnover is very high: workers prefer to stay in major health centers, because they are located in urban areas. At local and regional level (rural areas), workers ask to leave after 2 or 3 years. However it is difficult to move to another region in Burkina Faso. This only occurs if a position becomes available in the requested region.

Nurses who stay in contact with patients tend to stay longer. Within HSPCs, the higher the degree, the less the youth stays in their village. No benefits, no motivation, and salaries below 100, 000 CFA francs per month.

The more skilled workers are, the more they turn to NGOs and international organizations. Salaries are twice as high for NGO staff than for state workers.

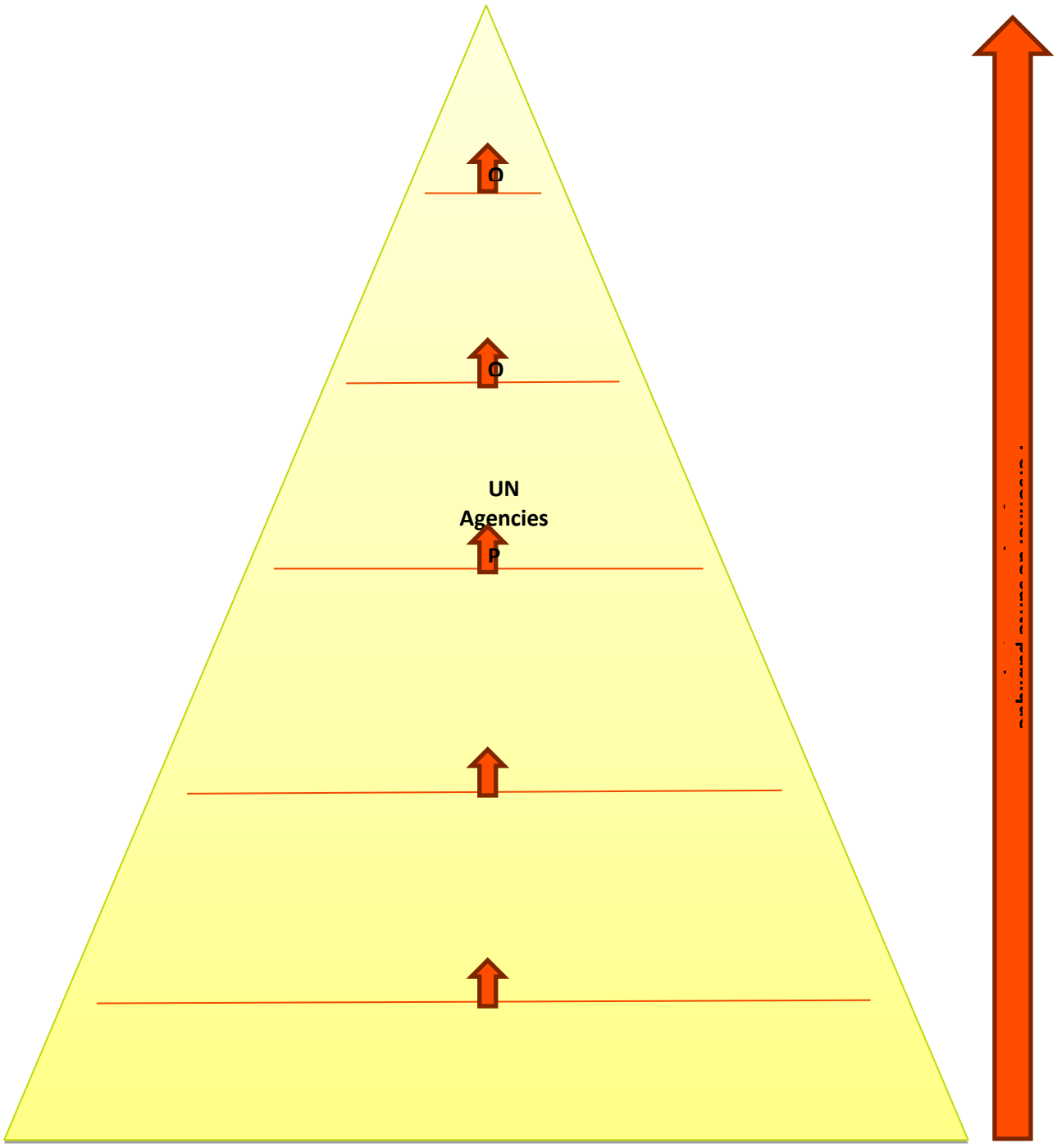


Figure 4: pyramid of staff movement in the public health supply chain

This diagram illustrates health staff turnover in rural areas: most of them wish to move to urban areas, as daily life is easier there, although authorities have implemented a system of allowances to encourage people to stay and work in rural areas. Once settled in the city, more opportunities are available for these people to work in central structures. Then, attracted by the wages paid by NGOs, they often go to work for them, and when an opportunity arises, they join international organizations. The higher one climbs to the top of the pyramid, the less turnover there is.

Consequently, government organizations train staff who often lack experience and expertise, and who migrate to the private sector, generating a constant need for training, as turnover is high at the lower end of the wage scale.

8. PART VII. EFFORTS TO PROFESSIONILZE THE PUBLIC HEALTH SUPPLY CHAIN

a. In the private sector

There are some initial training courses in logistics. They are not specific to the health sector. We have identified four diplomas granted by private training institutions:

- A BTS in transport and logistics (technical degree awarded after 2 years of study) granted by HETEC and "ESOMA training";
- A Licence pro in transport (degree awarded after 3 years of study) granted by the Colbert Institute;
- A Licence pro transit-transport-logistics granted by AUF;
- A transit and customs agent certificate granted by the training school of the Chamber of Commerce and by EFTTDD.

b. In-service training

The UFR SDS, in collaboration with DGPML, wanted to partially compensate for the insufficient training of pharmacists in logistics by creating, from the 2010-2011 academic year, an in-service training course called "DIU pharmaceutical supply management in the fight against HIV, tuberculosis and malaria in sub-Saharan Africa". This annual course lasting 1 month is only open to pharmacists. The DUI covers all the health product supply system: integration of pharmaceutical regulation in the strategy against AIDS, tuberculosis and malaria, which are the priority diseases for donors, fight against counterfeiting, pharmacovigilance, inspection, good distribution and administering practices.

The supply management cycle covers the following topics: prequalification couple product/supplier, quantification, acquisition, quality, quality assurance, vigilance, logistic management information system and stock management.

This training is provided by former students of the University of Ouagadougou, teachers of the University of Clermont- Ferrand, CHMP trainers, Geneva experts (Global Fund, World Bank, etc.). It was a great success: 40 participants from 12 countries representing Western and Central Africa.

Training cost: 1, 400,000 CFA francs for a Burkinabe (thus without air transportation), including lodging, restaurant, per diem (10, 000 CFA francs/day) and university fees. The DIU received support from WHO, UNICEF, ESTHER, and UNAIDS.

The project USAID|DELIVER organizes regular in-service training. Thus, in 2010, a short training course (5 days) was provided to supply chain workforce on the quantification of products used to fight malaria. It did not issue a certificate.

Finally, the Institute Development Bioforce, specialized in health logistics also introduced a short training course (6 days) in 2010 on essential health products supply chain, in partnership with the project USAID|DELIVER. It issued a certificate at the end of the training.

Apart from these training courses at national level, in service training is also conducted directly in the field by administrations at different levels of the organization. Generally it is not entrusted to training schools. Therefore, it is characterized by:

Training of quality is not always a priority

Too often, "in-service training aims at remedying basic shortcomings". Neither certification nor certificate of participation: so there is neither benefit nor bonus. *"We need to agree on problems and on who does what. Responsibilities are diluted due to an excessive number of players involved; we face a proliferation of non-certified training courses with questionable content, and participants often come in order to get their* per diem*"*, declared the ACAME technical advisor. These training courses are provided by teachers who are not always competent for that.

Significant gaps at district and HSPC levels

As generally there are no training plans, there is no further training.

Gaps also at central level

PNLP: lack of specific training; there is a strategic document 2006 / 2010, but there is no HR development plan and no skills validation. Supervision grids are developed at a specific moment, but they are not valid over time.

CMLS: training problems for ARVs management, especially on quantification calculating techniques. There is no training on ARV management tools. Existing training consists in the training of new employees by their predecessors. *"If the staff is serious and motivated, their motivation decreases over time. Operational structures are not sufficiently supported".*

NTP: It has cold chain support activities: the Global Fund brings together regional pharmacists every 2 years, for training on specific management of products to fight tuberculosis (including reagents), over 3 days. Trainers are professionals coming from central structures and hospitals of Bobo or Ouagadougou.

Training budget for doctors: 28.6 million CFA francs, for technicians: 21.4 million CFA francs, and for pharmacists and nurses: 5 million CFA francs.

There is also a training course in Cotonou on the management of anti-tuberculosis drugs, over one month, and a training course in Kigali on the management of multi-risk patients over 1 week.

CAMEG: allocates a modest training budget for managers and other staff, through seminars at national level but also abroad, as it has been the case for computer scientists trained on specific softwares or for communication officers trained on websites.

Staff are recruited at a certain level and trained on the job, because there is no real training on procurement. This is how the pharmacists recruited at CAMEG are trained on tools management, good storage and distribution practices, how to conduct a tender, prequalification techniques, etc.

Training courses within the framework of ACAME: intervention in international seminars. Hosting people working in countries of the sub-region, who are in placement in the organization for 1 week: Guinea, Madagascar, Ivory Coast, Mali, Senegal, and Chad. These people often are supply, logistics or accounting managers. Funding within the framework of ACAME via the French Cooperation and the EU.

The importance of logistics is increasingly recognized, both for its direct impact on the health system and its negative impact on health specialists, doctors, midwives and nurses, and their ability to provide care.

This survey brings up structural causes, most of which are not specific to the country concerned, resulting in reduced performance of the health system, including:

- The complexity of supply chains;
- The confusion of competences regarding pharmacy and logistics;
- Management shortcomings leading to insufficient investments;
- Insufficient representation of logisticians among health professionals.

Recommendations cover four areas:

Strategy

- Designation of DGPML as body in charge of the coordination, in connection with CAMEG, of all policies related to health products supply in Burkina Faso.
- Review and develop the national supply plan for the development and implementation of a global long-term strategy strengthening the supply chain:
  - Pluri-ministries (Finance, Public Service)
  - Organizational optimization
  - Human resources (HR)
- Disseminate the operating plan and tools to staff responsible for their implementation and enforcement.

Advocacy

At government level, in connection with regional authorities (WHO/AFRO, and WAHO) and bilaterally with neighboring countries (Senegal, Mali, Benin, etc.):

- Develop specific advocacy for policy makers and donors for the implementation of an HR policy integrating the function or profession of logistician
- Mobilize resources (national and international);
- Clearly identify a “leader” in supply management.

Organization

At central level:

- Coordination / supervision of all health products supplies.

At regional and peripheral levels:

- Establish measures to coordinate and harmonize health products supply management and information systems: identifying monitoring and evaluation indicators for supply chain structures involved, including at district level;
- Establish measures to coordinate and harmonize the supply of material and equipment required for health activities (medical technical equipment, technical equipment such as energy, cold chain, vehicles, computers, etc.);
- Disperse / decentralize activities with a transfer of power and means;
- Introduce staff involved in supply chain at all levels of coordination bodies;
- Strengthen the quality assurance of health products at all levels;
- Based on the results of consensus seminars organized under the auspices of WHO/AFRO, establish a baseline matrix of competences highlighting the skills required according to functional responsibilities within the supply chain, valuing the importance of the logistics function;

- Establish immediately a limited program strengthening logistics at the level of one or more districts, including the concerned DRS, notably with the objective to validate tools and collect data for advocacy (quantify the gains and losses related to supply management, according to whether efficient or not; including increasing the availability of doctors, nurses, pharmacists, midwives for health care); including improving the availability of medico-technical and technical equipment (vehicles, energy, infrastructures). Importance of the HR component;
- Consider outsourcing if necessary and ensure its monitoring.

Human resources

Development of a HR strategy in a systemic approach: through public health programs (national and international) and on a long time scale (that of the career of a supply manager). A key word: versatility, especially for peripheral functions.

An HR strategy focusing on two areas:

- Health staff in charge of logistics;
- The creation of a professional body of health logisticians to support pharmacists-managers. Evolution from State pharmacy technicians to logistics executives.

An HR strategy that plans the integration of logistics functions into the profession (including basic training), involving 2 action areas:

- Career measures: recognition, motivation, perspectives, HR management;
- Training (in-service, pre-service):
    - Plan existing specific training in annual budgets;
    - Develop specific training with technical and financial partners, especially at middle manager level, on the competences identified in the repository above;
    - Budget for the participation of health executives and include participation in training activities in proposals submitted to international donors.

An HR strategy which includes the establishment of networks for people involved in supply management

ANNEX

1. INFORMATION SHEET ON THE NATIONAL SCHOOL OF PUBLIC HEALTH (ENSP)

ENSP main tasks are:

- Basic training of non-physician health staff;
- Training of specialized nurses;
- Short-term training of health staff.

General organization:

ENSP is under the technical supervision of the Ministry of Health, and under the financial supervision of the Ministry of Finance.

The ENSP flow chart is composed as follows:

- ***Board of Directors (BOD):*** This is the supreme body responsible for the management of the institution.
- ***Directorate General:*** This is the body that directs and coordinates all institution activities.
- ***Central Directorates which consist of:***
  - ***Directorate of Studies and Internships*** which coordinates all educational activities in the institution.
  - ***Directorate of Administration and Finance*** which deals with matters relating to administration and finance.
  - ***Accounting Agency*** which provides accounting for the institution.
- ***Regional Directorates:***
  - ***A Socio-medical Development Training Center (CFDS)*** which is in charge of the training of pupils and students and of short-term health staff training.
  - ***Six Regional Directorates*** which are in charge of the training of pupils and students:
    - ***Ouagadougou***
    - ***Bobo-Dioulasso***
    - ***Koudougou***
    - ***Ouahigouya***
    - ***Fada N'gourma***
    - ***Tenkodogo***

ENSP human resources:

ENSP staff consists of:

- Permanent teachers,
- Administrative and financial staff,
- Support staff,
- In addition to permanent teachers, there are part-time teachers from the University, the Ministry of Health or other departments.

Teaching methods:

The preferred teaching methods are active methods.

Educational activities are:

- Theoretical courses,

- Internships in urban and rural health training,
- Laboratory work,
- Seminars and workshops.

The diplomas granted by ENSP are State diplomas. All the specialized training courses and those for Hospital and Health Services Managers are ratified by the writing of a thesis (see table below).

Table VI: Vocational training in ENSP

PROFILES / TRAINING		CRITERIA				
		Required Certificates	**Training duration**	**Cost / Year Nationals**	**Cost / Year Foreigners**	**Training location**
BASIC TRAINING	**Cleaners**	CEPE or equivalent	9 months	251 714 Francs	377 571 Francs	Tenkodogo
	Mobile health workers	Elementary certificate (CEPE) or equivalent	2 years			Bobo-Dioulasso – Koudougou - Ouahigouya
	Midwives Auxiliary staff					Koudougou – Fada N'gourma - Tenkodogo
	Certified nurses	Junior Secondary Education Certificate (BEPC) or equivalent	2 years			
	Certified midwives					Ouagadougou – Bobo Dioulasso – Ouahigouya
	State nurses	Junior Secondary Education Certificate (BEPC) or equivalent + 12th grade certificate	3 years			
	Midwives					Ouagadougou – Bobo Dioulasso
	State birth attendants					
	State pharmacy technicians	BAC (bachelor degree)		700 649 Francs	1 050 973 Francs	Ouagadougou
	State medical electro-cardiology technician					
	Biomedical technologists					
	Public Health Engineering State Technicians					
	Hospital managers		2 years	399 795 Francs	599 692 Francs	
	Hospital deputy executives	BEPC or equivalent		251 714 Francs	377 571 Francs	
	Directors of Hospitals and Health Services	Masters or degree or equivalent	3 years	799 795 Francs	1 199 693 Francs	
	Anesthesia – Intensive care	Official state qualification for nurses or official state qualification for midwives and birth attendants	2 years	677 439 Francs	1 016 158 Francs	Ouagadougou – Bobo Dioulasso
	Surgery			602 458 Francs	903 687 Frs	Ouagadougou
	Odontostomatology			974 779 Francs	1 463 168 Francs	
	Ophthalmology			682 832 Francs	1 024 248 Francs	
	ENT			827 063 Francs	1 240 595 Francs	
	Mental Health			854 708 Francs	1 282 062 Francs	
	Advanced Studies in Nursing and Midwifery (SESSIO) **Health and safety at Work (SST)** **Pediatrician** **Epidemiology**			799 795 Francs	1 199 693 Francs	