

*Full Length Research Paper*

# Essential medicines access survey in public hospitals of Burkina Faso

H. Saouadogo\* and M. Compaore

Direction Générale de la Pharmacie, du Médicament et des Laboratoires (General Direction of Pharmacy, Medicine and Laboratories) (DGPML), Burkina Faso.

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To solve the problem of essential medicines availability and affordability in the public hospital of Burkina Faso, the Ministry of health conducted a research to implement a hospital pharmacy in each public hospital. The survey expected outcomes include the establishment of an effective self-sustaining essential medicines supply system and promoting community involvement in providing health care by registered deliverance at the patient bed in each hospital. This paper aims to highlight the finding of recent essential medicine availability and the situation of the hospital pharmacy management quality from March 19th to May 29th, 2008. The survey has been performed in nine regional hospitals (CHR) and three university hospitals (CHU) and was realized with five outpatients, five inpatients, pharmacists, physicians and hospital managers. The results indicated that the public hospital system has 22 beds per 100 000 habitants and the average ratio of the essential generic medicines procurement and supply on the hospital budget is 0.9%. To facilitate the medicines access, each hospital is using the supply agreement and the request for proposal or the purchasing order. The pharmaceutical products supply and distribution problems in the hospitals are the main handicap of the health facilities in each hospital. The average cost of prescription for one prescription costs 5187 CFA (8 Euros) in the University Hospital Centres (CHU) and 3841 FCFA (6 Euros) in the Regional Hospital Centres (CHR). In the CHU, only 39% of the prescribed pharmaceutical products are available, but in CHR, only 61% of the pharmaceutical products are available. Conclusion: This survey provides evidence that the essential medicines are less available and affordable for the households in the CHUs. In 2007, the patients spend 78%, in the CHUs, and only 07%, in the CHRs, of their gross domestic product (GDP) for paying the essential medicines fee. For developing the hospital pharmacy, Burkina Faso must create a hospital pharmacy supplier and build a very good status, career and treatment for the pharmacists. Therefore, other question is how the municipality's councils must be involved in the hospital pharmacy by the municipal health fund?

**Key words:** Pharmacy, medicine and laboratories council, Ministry of health, Burkina Faso.

## INTRODUCTION

Essential medicines are those that satisfy the priority health needs of the population. They are selected on the criteria of interest to public health, efficiency, safety and especially, proved effectiveness. "These drugs should be available at any time, in sufficient quantity and under appropriate dosage forms and good quality that would be affordable for everyone and the communities"

(WHO, 2004). For a hospital, the choice of essential pharmaceutical products is a rational basis not only on the drug supply, but also for the pricing and the satisfaction of its needs (World Bank, 1997). In Burkina Faso, twelve public hospitals are the main providers of health care to a population estimated in 2007 to be 14 359 000 people (MEF, 2007). This population is mainly rural (79.7%) with 56.5% living on less than U.S. \$ 1.25 per day and 81.2% living on less than U.S. \$ 2 per day (World Bank, 2008). Unfortunately, households are still the main responsibility of the health financing by the

\*Corresponding author. E-mail: [christdonaldh@yahoo.co.uk](mailto:christdonaldh@yahoo.co.uk)

"out-of-pocket" (OOP) (World Bank, 2008). Therefore, the health costs caused catastrophic spends for the households because of the lowness of their purchasing power. Without sufficient safety net, this "out-of-pocket" makes the households vulnerable to future income shocks. Such costs include both direct expenses, such as out-of-pocket payments for medical treatment and indirect costs, such as the loss of income from an inability to work or travel to a hospital. These spends constitute a main responsibility for the household's poverty income and drive many of them again into measurability (WHO, 2007). In the public hospitals, the medicines procurement and supply are regulated by the framework "*Règlementation générale des marchés publics*" from Decree 173 (PM, 2008). So, the Ministry of health needs to act for the hospital pharmacies development in the country. In 2008, it initiated a situation analysis in order for it to be aware of any problems and difficulties about hospital pharmacies development. During this work, a survey on essential medicines availability was conducted. This article was first written on this subject for sharing the poor financial availability of the essential medicines in the hospital and secondly, a call for an action to be taken in improving hospital pharmacies development in each hospital in Burkina Faso.

#### Study objective

This survey also expected outcomes that include the establishment of an effective self-sustaining essential medicines supply system and promoting community involvement in providing health care by registered deliverance at the patient bed in each hospital.

#### METHODS

The essential medicines availability survey was realized in the public hospitals during the ministry of health hospital pharmacy situation analysis. To achieve this important activity, a review of all literature in terms of legislative and regulatory texts, reports of previous workshops, the passed survey reports on the hospital pharmacy are referenced. A questionnaire and grid were used for the data collection.

#### Description of study area

The essential medicines availability survey has been performed in nine regional hospitals (CHR) and three university hospitals (CHU) in Burkina Faso. The CHRs are the main regional hospital for all the health districts of each region and the CHUs are the national principal hospitals especially for all the CHRs (MS, 2008).

#### Description of study period

This paper aims to highlight the finding of recent essential medicine availability and the situation of the hospital pharmacy management quality in each hospital of Burkina Faso from March 19th to May 29th, 2008.

#### Description of study design

The purpose of this article is to let the public know how the essential medicines availability is going at the public hospitals in Burkina Faso. It should contribute in taking action and winning the new century challenges for health financing in the country.

#### Description of study sample and randomization

The survey was realized with five over night and five hospitalized patients. So, the twelve offices of hospital pharmacies are the data collection areas for the prescriptions and drug availability analysis. In each hospital, the five first over night patients are selected for data collection from their prescription, but for hospitalized patients, the five patients were selected at random. There are no clinical and ethical problem. It is a traditional pharmacist duty to know well about prescription and other treatment quality.

#### Justification of study sample

Firstly, the hospitals are built for the population. Secondly, the pharmacists and the leaders need to act for better quality health care in each hospital. However, essential medicines which must be available for anyone in each hospital is the main question which needs to answer this survey. The choice of a sample of five over night patients and five in-hospital patients is done by taking into account the size of the budget and the expected results. Given the importance of access to medicines in public health, conducting a survey to better understand the main problems of non-availability and non-affordability of essential drugs is necessary.

#### Description of data management

Data were collected with the aid of a questionnaire, a grid and an interview or focus group (with health care teams), often with some family members of patients, the managers, the physicians, the nurses and the pharmacists. The collected data were analyzed with the microsoft excel tool.

#### Description of quality assurance

A quality control datum was done in collaboration with the pharmacist, the nurse, each head of the clinical department and the head of hospital health care quality of each hospital.

#### Description of statistics

A total of five over night and five hospitalized patients were used to compose the graft. The hospitalized patients were interviewed to gather information about the essential medicines availability. The qualitative information was cross-checked with quantitative data collected from 120 patients in 12 public hospitals (Table 1). The patients were selected without regard to age, sex and other economic characteristics (Table 2). The main elements of the survey cover the following: For the hospital: identification of the hospital and the name of the clinical service; For the overnight patients: the conformity of the prescription, the number of drugs per prescription, the number of MEG per prescription, the number of products per prescription, the number of available products, the percentage of available products and the total cost of the prescription; For in hospital patient: the number of products purchased, the percentage of products purchased and the

**Table 1.** Characteristics of the population.

Professional	Number	Remarks
Hospital manager	27	(head of hospital, finance administrator, finance advisor, accounting officer and human resources manager)
Medicines delivers	18	(Pharmacist and technicians)
Physicians	23	(Physicians, nurses, midwives, dentists etc...)
Over night patients	60	Without any distinctions
In night patients	60	Without any distinctions

The following table indicates where the prescriptions are from:

**Table 2.** Number of patients by clinical service of the sample.

Clinical offices	Number of overnight patients		Number of hospitalized patients	
	CHU	CHR	CHU	CHR
Surgery	1	9	5	5
Gynecology obstetric	0	6	1	9
General practice	1	4	1	10
Medical emergencies	2	8	2	9
Pediatrics	5	4	4	10
Pediatric emergency	2	3	0	0
Psychiatry	1	1	1	0
Oto-rhino-laryngology (ORL)	1	3	0	0
Odontostomatology	1	2	0	0
Nephrology	1	0	1	0
Ophthalmology	0	1	0	0
Surgical emergencies	0	2	0	2
Overnight patient from other health facilities	0	2	0	0
Total	15	45	15	45

assessment of pharmaceuticals by patients or their families.

The duration of hospitalization: the number of prescription received from the first day to the last day and the availability of prescription products to the hospital; The average cost of a prescription: the total cost of medical prescriptions during hospitalization and the difficulties indicated by the patients for medicine availability.

#### Submission to ethics committee

This study was carried out as part of the hospital pharmacy situation in the public hospitals analysis of the Ministry of health. It was conducted in compliance with ethical rules of that department while respecting customary and religious characteristics of each patient. All the patients met with one of the health care team of each hospital. Compliance with hospital regulations, administrative and ethical development were respected during the data collection.

#### Information consent

In each hospital, the terms of reference (TOR) of the survey were explained to the head of the hospital and his teams. The way to

provide access to the clinical and drug delivering office is indicated by the hospital leaders. Each patient met with one member of this team. In some cases, a translator is responsible for establishing communication between the interviewee and interviewer. The translator is a health worker chosen by one member of the hospital team.

## RESULT

### Identification of the hospital

In Burkina Faso, the public hospital system has a total capacity of over 3059 beds, in which 47% are located in CHUs and 53% in CHRs. In 2007, this sector has a capacity of 22 beds per 100 000 people. The average occupation rate is 50% and the average rate of hospitalization is 63%. The budget was 16 485 505 050 FCFA (25 168 710 Euros). In the same year, the essential generic medicines procurement and supply budget was 1 840 096 261 (2 809 307 Euros), that is, 09% of the hospital budget.

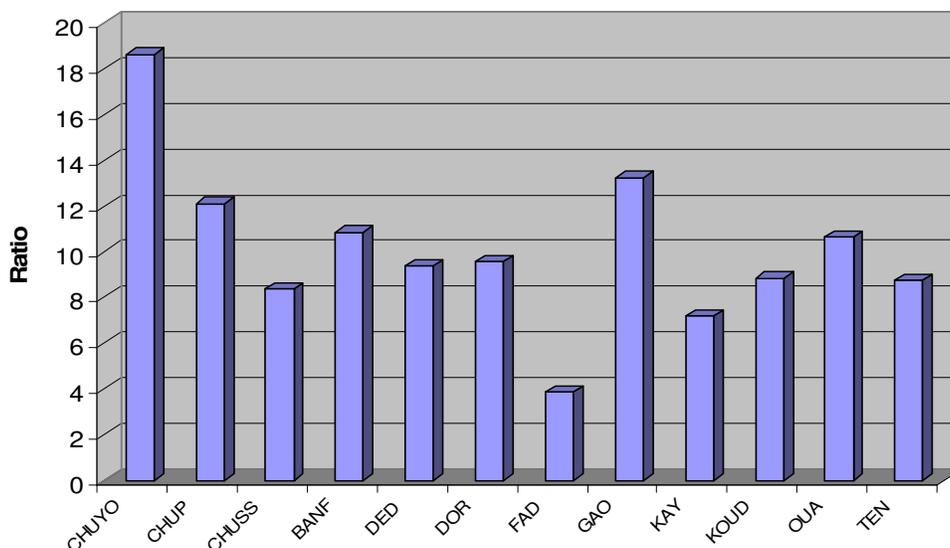


Figure 1. Ratio of the medicines budget on hospital in 2007.

## Characteristics of survey population

### Drug suppliers for the hospitals

The main provider of hospital pharmaceutical products is the "centrale d'achat des médicaments essentiels et génériques" (CAMEG) and wholesale private distributors. There is no framework for the medical devices and the biomedical products supply. According to act 38 of Decree 2008-173/PRES/PM/MEF *portant réglementation générale des marchés publics et des délégations de service* in Burkina Faso, any person or entity who can demonstrate legal capabilities, technical and financial resources for the enforcement of a public or a public service delegation may be a candidate in public procurement contracts for pharmaceutical products in the public hospitals. To facilitate the medicines access, each hospital is using the following:

- (1) A supply agreement was used for procurement of the essential generic medicines from the CAMEG and for the oxygen from air liquid.
- (2) A request for proposal was used for a procurement of the non-generic pharmaceutical products and medical materials.
- (3) A purchasing order was used for the emergency medicines supply.

### Budget for the pharmaceutical products purchasing

The ratio of pharmaceutical products and hospital budgets is low and different between the hospitals. Figure 1 indicates that none of the 12 hospitals has more than 20%.

### Revenue from essential medicines sales

The revenue of essential medicines sale of the 12 hospitals in 2007 is 1 387 800 600 (2 118 780 Euros), that is, 75.42 % of the hospitals supply spends.

### Average cost of one prescription

In the CHR, the average cost of one prescription for the over night patient is 3 841 FCFA (6 Euros) and 2 582 FCFA (4 Euros) for the hospitalized patient. In CHUs, the average cost of one prescription for the over night patient is 5 167 FCFA (8 euros) and CFAF 5 695 (9 Euro) for the hospitalized patient.

### Inputs from the hospital managers

The framework is not full for the hospital pharmacy development in the country. As indicate in the Decree 2004-191 of April 2004, the department of pharmacy in each hospital is a part of the "*direction de l'hospitalisation et de la qualité des soins*" (DHQS). It is not a well official organization for a technical specific sector. The essential medicines distribution is the main important activities in the hospital and needs to be more considerate. The hospital managers are aware of the institutional regulations' failure and propose an alternative solution for this problem. Even the pharmacist can become the head of DHQS, but it is impossible for him to answer questions on clinical problems.

### Inputs from the hospital physicians

The pharmaceutical products supply and distribution problems in the hospitals are the main handicap of the health facilities in each hospital, according to physicians. These problems are specially the biomedical devices and tools, the radiology products and the consumables. Also, the physicians say that the important needs of them office are not satisfy by the pharmacy. The lack of essential medicines kits and pharmaceutical well management are the main difficulties of the hospital and the clinical services. The nurses and physicians acclaimed that the generic medicines have low therapeutic effects than the originator brand.

### Inputs from the hospital pharmacists

The head of essential medicines management and the drug leaders are not associates. They do not take part in the hospital main decisions and meeting. The pharmacists and the technicians acclaimed that the hospital managers exclude them from the important meeting of the hospital where the decisions tackling medicines, drug supply and procurement are taken. For the pharmacist, they are playing the role of head of direction as the official directors, but they are not benefited and officially known for this duty. To participate in the "*conseil de direction*" of the hospital, the pharmacist is a guest in the main meeting for the hospital management. Sometimes, the pharmacist is not invited by the managers to participate in this important meeting. This situation is influencing the essential medicines management quality, availability and affordability in each hospital.

### No conformation of prescription

A prescription is conformed if it indicates the hospital name, the date of prescription, a patient's and the physician's identities and address, a name and dosage of the pharmaceutical products, a clinical service stamp and the physician sign. As indicated in the table, the outcomes of the survey are: In the University Hospital Centres (CHU), the non-conformed prescriptions are represented by 53% of the prescriptions (Table 3). In the regional hospital centres (CHR), the non-conformed prescriptions are represented by 73% of the prescriptions (Table 3).

### Number of essential generic medicines by prescription

In the University hospital centres, there is one essential

generic medicine by prescription. Each prescription contains 3 medicines (Table 3). In the regional hospital centres, there are two essential generic medicines by prescription. Each prescription contains 3 medicines (Table 3).

### Percentage of available medicines

For the population, the main difficulties in having access to the essential medicines in the public hospital of Burkina Faso are:

- The lack of essential originator brands which do not have generic (40%).
- The time that will be spent in waiting to buy the medicines from the pharmacy box (27%).
- The essential medicines are not affordable (23%).
- The shortage of essential generic medicines (15%).
- In the University hospital centres.

Only 39% of the prescribed pharmaceutical products are available (Table 3).

In the regional hospital centres, only 61% of the pharmaceutical products are available. In the CHR, the prescription of the essential generic medicines is more than the CHU. This is the reason why the medicine availability is better (Table 3).

### The average cost of the prescription

In the University hospital centres, one prescription costs 5187 CFA (8 Euros) (Table 3), while in the regional hospital centres, one prescription costs 3841 FCFA (6 Euros) (Table 3).

### The average cost of hospitalization

In the University hospital centres, the average length in the CHU for the treatment is 20 days, while the average cost of the health care is 154 753 CFA (236 euros) and the average cost of each prescription is 5 695 FCFA (9 Euro) (Table 4). In the regional hospital centres, the average length in the CHR for the treatment is 6 days, while the average cost of the health care is 12 900 CFA (20 Euros) and the average cost of each prescription is 2582 FCFA (Euro 4) (Table 4).

## DISCUSSION

### The hospital capacity

In Burkina Faso, the total capacity of twelve (12) public hospitals is 22 beds per 100, 000 persons in 2007. Three

**Table 3.** Overnight patients access to the essential medicines in the CHU and the CHR.

	<b>% EGM by prescription</b>	<b>% available medicines</b>	<b>% good prescriptions</b>	<b>Average cost of prescription</b>
CHU	33	39	47	5167
CHR	67	61	27	3841

**Table 4.** Hospitalized patients' access to the essential medicines in the CHU and the CHR.

	<b>Duration of hospitalization (day)</b>	<b>Average number of prescription</b>	<b>% of available medicine</b>	<b>Average cost of prescription in hospitalization</b>
CHU	20	20	67.5	5695
CHR	6	6	82.5	2582

hospitals that are been built will contribute to strengthening these capacities, but these situations are always low when compared to the target of 1 bed per 1, 000 persons.

During the endemic malaria period from July to September, all the hospitals have the paediatric office full of sick children. The hospital situation in Burkina Faso is not very good and is the same in the other West African French speaking country (World Bank, 2005). To solve and win this challenge, Burkina Faso must take an example from Europe where the number of hospital beds is 10 per 1 000 persons in Germany and France and 4 per 1000 in Spain, Portugal and the United Kingdom (WHO, 2002).

### Hospital management

The hospital managers and the executive directors of finance are appointed by the decree of the President of Burkina Faso. They are the main leaders of each hospital management, but this survey indicates that the hospital pharmacy management needs more autonomy, dynamism and hospital's independence. The financial situation with an account in the public treasury is not adapted for the essential medicines procurement and supply in the hospital. One way is to take off the last framework and built a new one adapted to the hospital needs.

Also, the hospital economic level and the population purchasing power are low for the hospital pharmacies development in the country. How to collect the essential medicines fee during the bed delivering? How to recruit a good manager without political influence for the hospital? Since 2008, when the Decree for hospital development was adopted, none of the hospital manager has taken a decision for hospital pharmacist to be well developed. Some decisions are slowly done and do not help the pharmacist to improve their skills in management and

distribution of pharmaceutical products.

### Medicines procurement and supply

In public hospitals of Burkina Faso, the pharmaceutical products procurement and supply are regulated by the public markets law (Decree 173). Tree procurement procedures are from this decree:

(1) A supply agreement was used for the procurement of essential generic medicines from the CAMEG and for the Oxygen from air liquid. The hospital needs the originator brand for their cancerology, anaesthesia, cardiology, psychiatry, ophthalmology, gynaecology, etc. Theses drug are not available in CAMEG and the following procedures are not adapted. How to pay quickly and early the private supplier before the drugs delivering is the main handicap of this system?

(2) A request for proposal was used for a procurement of the originator brands and the medical and laboratory materials. Moreover, following the indication of the public market law, it is difficult to have the drugs early. The drugs procurement can take 8 months for its delivery. Sometimes, the chosen providers can resign and the hospital must restart the procedure. So, at November 30th, there was no possible spend from the state budget. It is well known that Burkina Faso has the method of one state, one budget and the hospitals have some problem in funding good providers.

(3) A purchasing order was used for the emergency medicine supply. The managers, the physicians and the pharmacists say that the procedures from that law are too difficult for the essential supply of medicines in the hospital. The essential medicines procurement took too long and did not respect the principle of emergency that conditioned the hospital pharmacy medicines management. As a result, the quality is not effective. Sometimes, the medicines were delivered with expired dates. In Paris,

to resolve a kind of problem, the public hospital pharmacies have their own supplier called AGEPS (AGEPS, 2006). Why not have a similar situation in Burkina Faso?

### **Estimates of the pharmaceutical products for the year**

The public hospitals budget in 2007 was 16 485 505 050 FCFA (25 168 710 Euros), but the budget for the essential generic medicines supply was 1 840 096 261 (2 809 307 Euros). The ratio is only 09%, so far, to the 20 to 40% indicated by the World Health Organization (WHO, 1996). Knowing that is difficult for the economic activity solves all the problems such as pharmaceutical products availability in the hospital. Moreover, there are essential pharmaceutical products list of the hospital which can be updated each quarter of the year. Therefore, how the clinical offices use the pharmaceutical products must be very well known by the pharmacists and the accounts of each hospital with better satisfaction of their needs.

### **Availability of essential medicines**

This survey result showed that the essential medicines are more available and affordable in the CHRs than the CHUs. In each CHR, the essential generic medicines prescriptions are well done, but in the hospital, the prescriptions are with the originator brands and even some equivalent generics are available. For that reason in 2007, the patients spend 78%, in the CHUs, and only 07%, in the CHRs, of their gross domestic product (GDP) for paying the essential medicines fee. To solve this problem, the government has instigated the emergency health care without prepayment (meningitis, HIV, obstetrical and other emergencies) for helping the population.

However, in the hospital, as CHU called Yalgado OUEDRAOGO, this system puts too many difficulties for the fact that the population did not pay the fee after the treatment (CHU YO, 2006). Here again, the example must come from France which is the first performed health system in the WHO world report of 2000. If it is well managed, the hospital pharmacy strongly improves efficiency and fair access to essential medicines (AP HP, 2006). It will be expanded from a program designed to supply only 12 public hospitals an independent central pharmacy. This is responsible for the hospital's management and distribution of pharmaceutical products to almost all the Ministry of health facilities (AGEP, 2006). This analysis identified some areas of weakness that still need to be considered to ensure the hospital pharmacy's sustainability.

### **Conclusion**

This survey was done to know more about the hospital pharmacies situation in Burkina Faso. The results show that since 2000, the government of Burkina Faso adopted Decree 2000-008 for pharmacy hospital building in the country (AM, 2000). The Ministry of health law act for the implementation of Decree 2000-008 was adopted in April 2008 (MS, 2008), but the essential medicines availability and affordability are low. The households purchasing power are also low and are the main handicap in developing the hospital pharmacies. In 2007, the patients spend 78%, in the CHUs, and only 07%, in the CHRs, of their gross domestic product (GDP) for paying the essential medicines fee.

The emergency health care without prepayment that the government had instigated has a lot of difficulties because the population does not pay the fee of the medicines after treatment. In order to win all of these challenges, the essential medicines procurement should be based on a well thought-out national strategy for hospital pharmacies. The national program with strategies for the hospital pharmacy development in the hospitals needs to be built. This program must use the procurement strategy based on the annual purchase of a large quantity of essential pharmaceutical products. For this situation, each hospital pharmacy will receive the medicines regardless of its ability to make a payment at the time of ordering. The patient will have the medicine of any limitation while on the hospital bed. The over night patients will pay for the medicines in the box indicated. The hospital pharmacy will have a standardized medicines list for each level and for each clinical office with a uniform price system for all the hospitals in the country. The prescription in the hospital must respect this list. The patient can have a private prescription within the mandate of the law.

The private pharmacies have to be protected in this strategy, so that their economic development may not be affected by outside factors and conditions. Burkina Faso is using the experiences of hospital pharmacy from France in order to plan for the implementation of better hospital pharmacy in the next couple of years. There is need in understanding that it is essential to create a hospital pharmacy supplier as AGEPS in Paris. The hospital pharmacists need to have a very good status, career and treatment, which will allow him or her to have a good life. Therefore, must the municipalities be involved in the hospital pharmacy by the national insurance scheme, especially the municipality health fund prepayment system?

### **Recommendations**

To create the central hospital pharmacy in Ouagadougou;

1. To create the central hospital pharmacy in Ouagadougou;
2. To develop the training of the managers, the physicians and the pharmacists on hospital pharmacy development;
3. To create the technical leadership for the pharmacy in each hospital;
4. To create the medicine committee in each hospital;
5. To develop a hospital list of essential pharmaceutical products;
6. To develop the treatment protocols for each clinical service from that list;
7. To realize the monitoring of the pharmaceutical products quality;
8. To establish a mechanism in promoting good pharmaceutical management.

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