

HFS TECHNICAL NOTE No. 15

**CURRENT HEALTH CARE
COST RECOVERY SYSTEMS
IN THE
CENTRAL AFRICAN REPUBLIC**

**MINISTRY OF PUBLIC HEALTH AND SOCIAL AFFAIRS
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ABSTRACT

This study was performed to analyze cost recovery systems currently in use in the C.A.R. and to provide decision makers with recommendations for the system which is best suited to the population's health needs, in preparation for possible implementation of a nationwide system. The study focused on systems which recover a significant amount of facilities' recurrent costs; cost recovery systems were considered financially effective if they recovered at least 45 percent of operating expenses. The study looked at 35 health facilities (28 public, seven private), including hospitals, health centers, maternity centers, and dispensaries. These facilities use various types of cost recovery systems, with varying levels of success. The study authors assessed these facilities' operations and expenses and determined the facilities' self-financing and dependency ratios, to assess the financial health of the facilities and their levels of success with cost recovery. The authors point out that the analysis and comparison of cost recovery rates among the different facilities are made difficult by several problems, including the fact that some facilities receive donations of drugs and other types of subsidies, have low-cost labor, have different fee collection policies, and are in areas of different socio-economic status and population density.

Of the four types of cost recovery systems observed by the study authors, they recommend two for nationwide implementation: fee for service and payment per illness episode. These are the most popular and widely used systems. A household survey is planned to obtain public reaction to these options. Constraints to implementation of a national cost recovery system include: widespread indigence and identifying the poor who are unable to pay fees; relatives of civil servants and others who are required to pay for care currently do not pay at all or receive highly subsidized care; and ministries do not pay for their employees who use health services. The authors recommend that further analyses be performed to improve the management and organization of current systems, and that several steps be taken and problems addressed in preparation for a nationwide cost recovery system.

TABLE OF CONTENTS

LIST OF EXHIBITS	i
FOREWORD	ii
SPECIAL ACKNOWLEDGEMENT	iii
EXECUTIVE SUMMARY	iv
1.0 INTRODUCTION	1
2.0 STUDY METHODOLOGY	2
2.1 COSTING METHODOLOGY	2
2.2 SURVEY METHODOLOGY	2
2.2.1. General Selection Criteria	3
2.2.2. Selection of Regional and Central-Level Facilities	3
2.2.3. Selection of Health Facilities Run by Religious Groups	3
2.3 SAMPLE SIZE	4
2.4 METHOD USED TO CALCULATE HEALTH FACILITIES' CAPACITY FOR SELF- FINANCING AND DEPENDENCE ON EXTERNAL FUNDING	4
3.0 THE RESULTS	6
3.1 OPERATING COSTS OF HEALTH FACILITIES	6
3.1.1. Private Health Facilities	6
3.1.1.1. Resources of Private Health Facilities	7
3.1.2. Public Health Facilities	8
3.1.2.1. Pediatric Complex	8
3.1.2.2. National Laboratory	8
3.1.2.3. Urban Maternity Centers in Bangui (Castors - Ouango - Boy-Rabé)	10
3.1.2.4. Regional Hospitals	11
3.1.2.5. Prefectural Hospitals	13
3.1.2.6. Provincial Health Centers	15
3.2 COST RECOVERY SYSTEMS AND PAYMENT OPTIONS IN HEALTH FACILITIES	19
3.2.1. Cost Recovery Systems	19
3.2.2. Payment Options and Their Rate of Use	19
3.2.3. Administrative Costs	19
3.3 THE MANAGEMENT AND ACCOUNTING SYSTEM	20
3.4 REVENUES OF HEALTH FACILITIES	20
3.5 FINANCIAL INDICATORS	22
4.0 DISCUSSION	24
4.1 THE PRICE STRUCTURE AND FEE SCHEDULE IN PRIVATE HEALTH FACILITIES	24
4.2 THE CONCEPT OF INDIGENCE	25
4.3 FREE OR REDUCED-FEE SERVICES	26
4.4 PAYMENT OPTIONS	26
4.4.1. Payment of Fee-For-Service	26
4.4.2. Payment Per Illness Episode	27
4.4.3. Payment Per Visit	27
4.4.4. Pre-Payment for a Year of Service	28
4.5 GENERAL DISCUSSION AND LIMITATIONS OF THE STUDY	29
5.0 RECOMMENDATIONS	32
6.0 CONCLUSION	33
BIBLIOGRAPHY	34

LIST OF EXHIBITS

TABLE 1:	OPERATING COSTS OF PRIVATE HOSPITALS IN 1990	6
TABLE 2:	REVENUES AND COSTS OF PRIVATE HOSPITALS IN 1990, IN CFA FRANCS	7
TABLE 3:	OPERATING COSTS OF THE PEDIATRIC COMPLEX IN 1990	8
TABLE 4:	OPERATING COSTS OF THE NATIONAL LABORATORY OF CLINICAL BIOLOGY AND PUBLIC HEALTH IN 1990	9
TABLE 5:	REVENUES AND COSTS IN HEALTH FACILITIES IN 1990	10
TABLE 6:	OPERATING COSTS OF BANGUI URBAN MATERNITY CENTERS IN 1990 .	11
TABLE 7:	REVENUES AND COSTS IN URBAN MATERNITY CENTERS IN 1990 . . .	11
TABLE 8:	OPERATING COSTS OF THE REGIONAL HOSPITALS IN 1990	12
TABLE 9:	REVENUES AND COSTS IN REGIONAL HOSPITALS IN 1990	13
TABLE 10:	OPERATING COSTS OF PREFECTURAL HOSPITALS IN 1990	14
TABLE 11:	REVENUES AND COSTS OF PREFECTURAL HOSPITALS IN 1990	15
TABLE 12:	OPERATING COSTS OF PROVINCIAL HEALTH CENTERS IN 1990	16
TABLE 13:	REVENUES AND COSTS OF PROVINCIAL HEALTH CENTERS IN 1990 . .	17
TABLE 14:	USER FEE REVENUES BY SERVICE AND BY TYPE OF FACILITY (AS PERCENTAGE OF TOTAL REVENUES)	21
TABLE 15:	SELF-FINANCING RATIO, DEPENDENCY RATIO, AND PAYMENT SYSTEMS IN FACILITIES STUDIED	22
TABLE 16:	COMPARISON OF DRUG FEES AMONG THREE DIFFERENT PRIVATE HEALTH FACILITIES	24

FOREWORD

This study, published by the Ministry of Public Health and Social Affairs, was made possible thanks to the participation of the following people:

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 - Drafting the final report of the study

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*The Minister of Public Health and
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EXECUTIVE SUMMARY

Cost recovery has been in practice in the Central African Republic (C.A.R.) for several years in private (religious affiliated) health facilities and some government health facilities. Information about these systems, while limited, is found in studies by Pasnik (1986), Levin and Weaver (1987), and Langley (1989). The goal of this study is to provide C.A.R. decision makers with an analysis of current cost recovery systems and recommendations for the system best suited to the population's health needs. A focus of the analysis will be the identification of systems which recover a significant amount of recurrent costs. Further studies and analyses will be needed to establish accounting systems and to determine household willingness and ability to pay for services.

Study Methodology

A health care cost recovery system is considered financially effective if it covers at least 45 percent of operating expenses. Salary and drug costs in government facilities are excluded from the total of operating expenses since they are, and are likely to remain, the responsibility of the State.

Facilities were selected based on the annual number of outpatients. A total of 28 public and seven private facilities were selected. The public facilities included two central level institutions, three urban maternities, four regional hospitals, six prefectural hospitals, and 13 health centers. Four private hospitals and three private dispensaries were also chosen.

Two ratios were defined, the self financing ratio and the dependency ratio. The first is equal to user fee revenues as a percent of total operating costs (not including salaries and drugs for government facilities). The second is the difference obtained when the self financing ratio is subtracted from 100 percent.

Results

For private facilities, the major categories of expenditures are drugs and salaries. Aggregating the four private hospitals, the self-financing ratio is equal to 53 percent. Subsidies (the dependency ratio) account for 47 percent of operating funds.

The two central facilities in the sample, the pediatric complex and the national laboratory, have a self-financing ratio of approximately 30 percent. Urban government maternities are almost self-sufficient; all three recover over 80 percent of their operating costs through user fee revenues.

Regional hospitals have wide-ranging self-financing ratios, from 96 percent in Bambari to 18 percent in Bangassou. One reason for the difference is that Bambari charges fees for surgical procedures, whereas the others do not.

Prefectural hospitals have the poorest performance in terms of recovering operating costs. Of the four for which data were available, the highest self-financing ratio was 69 percent; the other three were all below 20 percent.

Provincial health centers also vary greatly in terms of their ability to recover costs. The two facilities which enjoy some management autonomy, and charge fees for drugs and all services, performed much better than the remaining facilities, which reportedly only charge fees for medical certificates. The former recover more than 100 percent of their costs, whereas the latter group recover between 5 and 75 percent, with most under 30 percent.

The study found that existing cost recovery systems could be separated into four groups. The groups are listed below with the percentage of facilities in each group.

- Payment for Each Service ("fee for service") 62%
- Payment per Episode of Illness 22%
- Payment per Visit 13%
- Pre-Payment for a Year of Service 3%

The services for which fees are most often collected, and which generate the greatest percentage of total revenues, include outpatient consultations, surgery, hospitalizations, and diagnostic exams. Medical certificates, drug sales, and deliveries provide less fee revenue.

Price Structure in Private Health Facilities

Private health facilities mark up the price of drugs to cover transportation, handling, insurance, taxes, and commissions. One facility also includes salaries, additional taxes, and labor, which results in drug fees two to three times higher than in the other private facilities. The fee structure for services is based on the patient's income or profession, depending on the facility. Some private facilities have annual pre-payments for selected groups, such as children, students, and theological faculty.

Remaining Problems

Problems which persist include identifying the indigent (for subsidized care) and collecting fees from those who are required to pay. A great deal of potential revenue is lost because ministries do not pay for their employees who use health services, and groups which are not eligible for subsidized care receive it anyway. Relatives of civil servants and the police are two groups which generally receive free or highly subsidized care despite the regulations which require them to pay for care.

General Discussion

The comparability of cost recovery rates among facilities is complicated because of different types of subsidies that facilities receive. Some facilities receive substantial donations of drugs which are not counted as expenditures. Others, especially among the private facilities, receive free or very low-cost labor due to their religious nature. Another factor which complicates matters is that different facilities, even among government facilities, enforce different fee collection policies.

One of the conclusions of the study is that the target of 45 percent cost recovery is an arbitrary cut-off, with little practical value given the variety of systems and subsidies which are in effect.

What are some of the determinants of cost recovery performance? Socio-economic status, population density, and concentration of facilities all affect the revenue generating ability of facilities. The study shows that urban maternities perform relatively well. This may be because their clientele is large, and lives a short distance from the maternities. This urban population is also more affluent than the population in rural, more economically disadvantaged areas of the country.

The problem of widespread indigence is a major obstacle to the development of a national health care cost recovery system.

Recommendations

Based on the findings of the study, it is recommended that two payment options be adopted for nationwide implementation: fee-for-service, and payment per illness episode. They are the most popular and most widely used systems. A household survey is planned to ascertain people's feelings about these options. In preparing to adopt a system nationwide the following steps are necessary:

- Information, education, and communication campaigns are needed to explain the new systems.
- The problem of widespread indigence should be addressed: improving living standards should be a major focus of policymakers.
- Guidelines must be developed for identifying the poor to be granted indigent status (and thus heavily subsidized or free health care).
- Greater material resources are needed in the health facilities.
- Management training is required.
- Other forms of finance should be pursued so that fees charged to the public are not too high.
- Accounting and management systems must be improved to increase transparency and combat abuse.

Conclusion

This study, while bringing to light a number of problems with current cost recovery systems, has not resolved all outstanding issues. Other analyses and studies may be needed to improve organization and management of the systems.

1.0 INTRODUCTION

Currently, there are several cost recovery systems in religious-based health facilities and in some public health facilities. There is very little information on these various systems. In preparing to establish a national cost recovery system in health, we must assess the effectiveness and efficiency of each one of these efforts. Several preliminary studies have been done in this area, including:

- In 1986, PASNIK described the system of hospital fees in the National Central University Hospital in Bangui.
- In 1987, LEVIN and WEAVER studied recovery of health care costs in the private hospital of the Yaloké Evangelical Mission, and in the maternity unit of the Castors urban health center in Bangui.
- In 1989, LANGLEY did an inventory of health care cost recovery systems in religious health facilities, and recommended that a more detailed study of these systems be done.

Similar studies were done in Zaire (Bitran et al. 1986 and Vian et al. 1987).

This current study is intended to be an exploratory, dynamic study. Its goal is to simplify decisions that will be made in the future regarding the conception, design, and finally the implementation of a national health care financing system based on community participation.

This paper is the result of a series of surveys carried out November 15-29, 1991 to gather information and data in 35 public and private health facilities.

A thorough analysis will be done in later studies, focusing on specific aspects of cost recovery systems, such as the accounting systems of health facilities, and the household budget survey to determine the average annual portion of household income spent on health care. This will help to better assess the long-term viability of this project.

Nevertheless, the objective of this study remains the identification of the most effective and efficient cost recovery systems that are currently used in C.A.R., in order to accurately make recommendations to decision makers about the best system for the population's health needs. During the investigation of the range of payment options, the focus will be on those that can permit optimal cost recovery, with revenues covering, to some extent, current operating costs.

This point will be discussed in greater detail, since the focus of this report is the financial aspects of cost recovery systems.

2.0 STUDY METHODOLOGY

2.1 COSTING METHODOLOGY

As mentioned above, the focus of this analysis is the financial side of health care cost recovery systems in health facilities.

The approach used is to conduct a detailed financial study to determine what percentage of operating expenses are met by revenues.

We believe that emphasis on a positive financial balance should not be the primary indicator of a facility's success for at least two reasons: a positive balance does not necessarily indicate that the health facility is strong and stable, since the objective is not to make a profit at all cost, but rather to find the financial balance which will allow the facility to function.

Secondly, given that most health facilities provide public goods, a positive financial balance does not necessarily indicate effectiveness. We do not wish to praise the performance of facilities which have strong financial performance, achieved by forgoing key expenditures, thus limiting their effectiveness at combatting disease and relieving suffering.

The previous discussion aside, we consider a health care cost recovery system to be effective if revenues cover at least 45 percent of operating expenses. Salaries and pharmaceuticals have been excluded since they are likely to remain the responsibility of the State, even when a cost recovery system is instituted at the national level. Overall, we are trying to identify possibilities for cost recovery by examining various revenue sources and the greatest expenditure categories. This study also assesses the capacity of health facilities for self-sufficiency and their level of dependence on external funding.

In this analysis, salaries at government facilities have been excluded, although they are a significant expense. In fact, it does not currently seem feasible that facilities will ever be completely responsible for covering salaries. Salaries will remain the responsibility of the State for as long as possible. As was mentioned above, government salaries are excluded from our analysis; only salaries at private facilities are taken into account. For all of the facilities, only current operating costs and revenues are considered. Operating costs, including office equipment; fuel and lubricants; vehicle, building and equipment maintenance; payment for services such as plumbing; and electricity are examined. These costs reveal trends in expenditures of resources earmarked for these hospitals' major expenses, while taking into account that pharmaceuticals are provided for free and salaries are covered by the State.

2.2 SURVEY METHODOLOGY

The main criterion for selection of the health facilities for this study was the annual number of outpatients they had.

2.2.1. General Selection Criteria

This study focused on the average annual number of outpatients by type of health facility, classified based on level of services available, and on the variance around this average. Thus one or two health facilities where the annual number of outpatients was equal to the average were selected; one or two below the average; one or two above the average; and finally, for each type of facility, one from each extreme was examined.

2.2.2. Selection of Regional and Central-Level Facilities

Included in the analysis were certain categories of health facilities which are limited in number, such as the four regional hospitals. From the five central-level facilities in Bangui two were selected which currently are in full operation: the Pediatric Complex, and the National Laboratory of Clinical Biology and Public Health.

2.2.3. Selection of Health Facilities Run by Religious Groups

There are four (4) religious groups involved in medical/health activities. The health system of these religious organizations is comprised of hospitals (one or two, according to the religious groups) and dispensaries (three to 24, according to the religious groups). For each religious group, the referral hospital and one dispensary were chosen. Throughout the rest of this report religious affiliated facilities are often referred to as "private", to distinguish them from the government-run facilities.

Below is a list of the private facilities selected and their religious affiliation:

- i) Union of Evangelical Churches of the Brothers in C.A.R.
 - Boguïïa Hospital
 - Bellevue Dispensary
- ii) Baptist Church of the West - RCA (EBO)
 - Gamboula Hospital
 - Tédoua Dispensary
- iii) Mid-Mission Medical Activities
 - Ippy Medical Center
 - Sibut Dispensary
- iv) Catholic Church
 - Beleboké-Monasoïa Health Center

2.3 SAMPLE SIZE

The sample is made up of 35 health facilities, of which 28 are public sector-run and seven are run by religious groups (private).

The 28 public sector health facilities are:

- Central establishments in Bangui: two (the Pediatric Complex and the National Laboratory of Clinical Biology and Public Health.)
- Urban Maternity Centers in Bangui: three (Castors, Ouango, Boy-Rabé)
- Regional Hospitals: four (Bossangoa, Berbérati, Bambari, and Bangassou)
- Prefectural Hospitals: six (Bouar, Nola, Ndélé, Bozoum, Mobaye, Sibut)
- Health Centers: 13 (Ngaoundaye, Carnot, Ouango, Baboua, Mbata, Herman, Gambo, Ippy, Kouango, Kembé, Dékoa, Batangafo, Bamingui).

The seven religious-based facilities are:

- Hospitals: four (Boguila, Gamboula, Ippy and Belemboké)
- Dispensaries: three (Bellevue, Tédoa, Sibut)

2.4 METHOD USED TO CALCULATE HEALTH FACILITIES' CAPACITY FOR SELF-FINANCING AND DEPENDENCE ON EXTERNAL FUNDING

The self-financing capacity of the facilities (the level of cash flow which could permit them to cover their operating costs with revenues) was calculated by looking at total revenues and operating costs. The ratio is calculated by dividing revenues by operating costs, multiplied by 100:

$$(\text{Revenues/Operating Costs}) \times 100 = \text{Self Financing Ratio}$$

The study team was also interested in the facilities' dependence on subsidies. However, assessing the facilities' level of dependence on external funding by looking only at the subsidies they receive would definitely provide faulty results. Subsidies are given to them without a real understanding of their funding needs, and often these subsidies exceed their required financing level. In these cases, if only total external funding is assessed to determine dependence levels, the result will be an inflated rate which does not accurately reflect the true level of dependence that the analysis is trying to assess. A more accurate indicator of dependency is the portion of current costs for which there is no funding available other than that from outside. This is a better basis for assessing the facilities' dependence on outside sources, rather than merely looking at total subsidies. User fee revenues are deducted from total costs, and the difference reveals the level of funding needed, which is compared

with total costs. By this process, the health facilities' financial self-sufficiency and dependence on outside sources are revealed:

$$((\text{Operating Costs} - \text{Revenues})/\text{Operating Costs}) \times 100 = \text{Dependency Ratio}^1$$

These two ratios will be provided for each of the sample facilities later in this report, in Table 15.

¹ Note that the Self-Financing Ratio plus the Dependency Ratio is equal to 100 percent.

3.0 THE RESULTS

3.1 OPERATING COSTS OF HEALTH FACILITIES

This section includes three types of data: revenues in FCFA, operating costs in FCFA, and expenditures by category (in percent). For private facilities, expenditures are all inclusive, from salaries to cleaning supplies. For government facilities certain categories of expenditures are omitted. Salaries are generally excluded (except for bonuses and extra salaries for non-civil servants such as night watchmen), because they are paid centrally by the government. Also, for some government facilities, drugs are not listed as expenditures when they are provided by the Ministry of Health.

Private facilities are discussed first, followed by government facilities.

3.1.1. Private Health Facilities

The major costs incurred by these facilities are in purchasing drugs (52.4 percent) and paying salaries (35.5 percent) (See Table 1). All other expenditures together account for only 12.1 percent of expenditures (Table 1).

TABLE 1

OPERATING COSTS OF PRIVATE HOSPITALS IN 1990

Type of Cost	Costs as % of total expenditures
Drug purchases	52.4%
Salaries	35.5%
Fuel and lubricants	2.4%
Payment for services	2.2%
Non-paid treatment and expired drugs	1%
Office equipment	0.6%
Travel costs	2%
Supplies	2.5%
Hygiene and cleaning	1.4%
Total	100%

It is not easy to calculate the salary expenditures of private hospitals. The problem with determining actual expenses incurred by paying salaries to staff comes from the fact that, in general, health personnel are not paid based on merit. The philosophy upon which these private efforts are based must not be forgotten. Their work is primarily a social and religious effort, and to carry it out, staff at all levels make personal sacrifices. Hospital attendants also work as evangelists and receive a modest salary in return. As mentioned above,

this makes the analysis more difficult and makes it impossible to calculate exactly the cost of operating these facilities. This may lead to an underestimate of the real operating costs and can influence the researchers' assessment of the elements needed for an effective cost recovery system.

3.1.1.1. Resources of Private Health Facilities

In this report, resources are defined as revenues resulting directly from the facilities' activities, and any subsidies and donations that they receive from international organizations and non-governmental organizations (NGOs). The combined user fee revenues of the four facilities shown in Table 2 represent 53 percent of available operating resources; the subsidies and donations represent the remaining 47 percent². These latter revenues make up in large part for the deficits of these health facilities and allow them to maintain equilibrium. The revenue comes from various sources, but in most cases this funding comes from churches based in Europe and the United States. For example, in 1990, the Boguila medical center received donations totaling 18,630.00 FCFA, and the Gamboula private hospital received 16,640.00 FCFA. Without this external funding the private facilities would have great difficulty continuing operations, just as most government facilities would have difficulty operating without government subsidies (as will be discussed later in this report).

These establishments are not, however, exempt from financial difficulties. They have a significant financing need because of their relatively low levels of funds, which are not sufficient to build up their operational capacity and assist in their efforts toward development.

**TABLE 2
REVENUES AND COSTS OF PRIVATE HOSPITALS IN 1990,
IN CFA FRANCS**

HEALTH FACILITIES	BOGUILA	GAMBOULA	IPPY	BELEMBOKE
Revenues and Costs				
1. User fee revenues	9,105,000	19,701,061	18,215,225	2,500,000
2. Operating expenditures	41,797,515	61,754,114	23,476,096	5,366,000
3. Subsidies	18,630,000	16,640,000	3,520,233	5,560,000
4. Revenues/ Expenditures (%)	22%	32%	78%	47%

² In Table 2, sum of row 1=49.5 million FCFA, and sum of row 3=44.3 million FCFA. Percentages are calculated as: $49.5/(49.5 + 44.3) = 53\%$ and $44.3/(49.5 + 44.3) = 47\%$.

3.1.2. Public Health Facilities

3.1.2.1. Pediatric Complex

As in the private facilities, the most significant costs in the Pediatric Complex are drug purchases (40.7 percent), buying medical gas (13.5 percent) and employee bonuses (10.0 percent) (See Table 3).

**TABLE 3
OPERATING COSTS OF THE PEDIATRIC COMPLEX IN 1990**

Type of cost	Cost as % of total expenditures
Drug purchases	40.7%
Purchases of medical gas	13.5%
Employee bonuses	10%
Management costs	7%
Payment for services	7%
Linens	6%
Hygiene and cleaning	6%
Office equipment	3%
Maintenance of vehicles, buildings, equipment	2.7%
Fuel and lubricants	2%
Salaries paid out of revenues	1%
Total	100%

3.1.2.2. National Laboratory

In this facility, supply purchases and bonuses are the major expenses, at 67 percent and 12.5 percent, respectively (See Table 4).

TABLE 4
OPERATING COSTS OF THE NATIONAL LABORATORY OF CLINICAL
BIOLOGY AND PUBLIC HEALTH IN 1990

Type of cost in 1990	Cost as % of total expenditures
Supplies	67%
Rebates/bonuses	12.5%
Various	5%
Fuel	2.9%
Transport costs	2.9%
Office equipment	2%
Food (for blood donors)	2.1%
Salaries	1.8%
Vehicle maintenance	1.6%
Construction	0.6%
Student grants	0.5%
Maintenance supplies	0.3%
Personnel costs	0.06%
Linens	0.02%
Total	100%

User fee revenues of the Pediatric Complex, as shown in Table 5, cover only 31 percent of operating expenses; revenues come largely from hospitalization fees (48 percent), consultations (30 percent), and minor surgical procedures (22 percent). User fee revenues are not sufficient to improve the functioning of this facility. Its financial stability is maintained only by substantial subsidies which it receives from the government and the French Cooperation ("FAC"): 38 million FCFA from the former and 58 million FCFA from the latter.

TABLE 5
REVENUES AND COSTS IN HEALTH FACILITIES IN 1990

Health Facilities Revenues and Costs	Pediatric Complex	National Laboratory
1. Total user fee revenues	27,616,000	17,266,150
2. Total expenditures	90,204,258	52,502,355
3. Subsidies		33,428,742
- State	38,000,000	
- External (FAC)	58,000,000	
4. Revenues as % of Expenditures	31%	33%

In the National Laboratory of Clinical Biology and Public Health, almost all revenues come from exams, which totaled 17.3 million FCFA in 1990. Like the Pediatric Complex, the National Laboratory recovers about a third of its costs through fees, making it highly dependent on subsidies for its operations: total subsidies received in 1990 were twice the total revenue from user fees.

3.1.2.3. Urban Maternity Centers in Bangui (Castors - Ouango - Boy-Rabé)

The major expenses of Bangui's urban maternity centers are decision makers' salaries (28 percent), various services (23.4 percent), and drug purchases (13 percent). (See Table 6).

The Bangui urban maternity centers have partial managerial independence, and have only their user fee revenues to work with as operating budgets, because they do not receive subsidies from the government (except for salaries and drugs). Their financial situation is fairly strong, because they are able to recover almost all their operating costs.

The Castors maternity center was in an exceptionally healthy financial position in 1990, with a positive financial balance and a strong self-financing rate of 103.8 percent, as shown in Table 7. By contrast, the Ouango and Boy-Rabé maternity centers fell slightly below the financial equilibrium level, and had self-financing rates of 96 percent and 81 percent, respectively.

TABLE 6
OPERATING COSTS OF BANGUI URBAN MATERNITY CENTERS IN 1990

Type of cost	Cost as % of total expenditures
Decision makers' salaries	28%
Various services	23.4%
Drug purchases	13%
Office equipment	7.1%
Fuel and lubricants	7%
Supplies	6.5%
Food for staff	5%
Vehicle maintenance	4.5%
Hygiene and cleaning	4%
Other	0.4%
Total	100%

TABLE 7
REVENUES AND COSTS IN URBAN MATERNITY CENTERS IN 1990

	CASTORS	OUANGO	BOY-RABE
1. User fee revenues	11,259,300	987,700	2,311,000
2. Total Expenditures	10,840,105	1,024,170	2,846,774
3. Subsidies	0	0	0
4. Revenues as % of expenditures	104%	96%	81%

3.1.2.4. Regional Hospitals

For all four regional hospitals, the major expenses in 1990 were: maintenance (vehicles, buildings, equipment and supplies), which accounted for an average of 45.4 percent of their operating costs, and fuel and lubricants, which accounted for 30.8 percent (See Table 8).

**TABLE 8
OPERATING COSTS OF THE REGIONAL HOSPITALS IN 1990**

Type of cost	Cost as % of total expenditures
Maintenance	45.4%
- Buildings	26.7%
- Vehicles	13.7%
- Equipment and supplies	5%
Fuel and lubricants	30.8%
Office equipment	12.5%
Hygiene and cleaning	4%
Payment for services	3.3%
Supplies	2.3%
Linens	1.6%
Total	100%

It would have been interesting to examine the portions of payments that go to the Public Treasury and as bonuses to practitioners, but this information was not available.

It was not easy to calculate revenues, because not all services must be paid for. For example, three out of four regional hospitals provide free surgical procedures. In addition, two require payment for laboratory examinations, whereas the other two perform them for free.

This lack of consistency in the types of services that are subjected to cost recovery in regional hospitals shows that there is insufficient integration of cost recovery mechanisms in public health facilities. There are enormous opportunities for increased earnings in these public facilities, most of which do not enforce presidential decree No. 91.065 of May 8, 1991, which authorizes the charging of fees for services in public health facilities. The inconsistency in the enforcement of this decree is obvious in Table 9 in the disproportionate revenues among the various hospitals. Bambari hospital, with revenues equal to 96 percent of non-salary and non-drug expenditures, earns three times as much (percentage-wise) as Berberati and Bossangoa hospitals, and five times as much as Bangassou hospital.

TABLE 9
REVENUES AND COSTS IN REGIONAL HOSPITALS IN 1990

HEALTH FACILITIES	BOSSANGOA	BERBERATI	BAMBARI	BANGASSOU
Revenues and Costs				
1. Total user fee revenues	1,529,350	1,386,500	2,919,300	913,000
2. Total expenditures	4,260,000	4,700,400	3,038,915	5,021,180
3. Subsidies				
- State	2,400,000	2,400,000	2,400,000	2,400,000
- External	2,000,000	1,000,000		2,000,000
- Municipal			100,000	
- Special			22,500	
4. Revenues as % of expenditures	36%	30%	96%	18%

Out of all four regional hospitals, the Bambari regional hospital is distinguished from the others by its relatively high level of resources; 75 percent of these resources come from fees for surgical procedures. The other hospitals could be in the same situation if they required payment for surgical procedures.

On the other hand, these regional hospitals receive significant amounts of money every year in the form of subsidies and other donations. The total amount of these subsidies sometimes equals the total amount of their own user fee revenues. Despite this enormous outside assistance, every year the hospitals need a great deal of additional funding to make up for their rising operating costs.

Judging from the low revenues as a percent of expenditures (three out of four hospitals are below 40 percent), it is obvious that the operating costs of these hospitals cannot currently be covered by their user fee revenues.

3.1.2.5. Prefectural Hospitals

Prefectural hospitals, like all other public health facilities, usually receive drugs for free from the State (in addition to having salaries paid by the government). However, in 1990, the Bouar prefectural hospital bought some drugs using its own funds, in order to build up its stock.

The major operating expenses in prefectural hospitals are fuel and lubricants (48 percent) and maintenance (20 percent). (See Table 10).

TABLE 10
OPERATING COSTS OF PREFECTURAL HOSPITALS IN 1990

Type of cost	Cost as % of total expenditures
Drug purchases	1%
Fuel and lubricants	48%
Maintenance	
- Buildings	15%
- Vehicles	3%
- Equipment, supplies	2%
Hygiene and cleaning	13%
Office equipment	7%
Paying for services	11%
Total	100%

In the prefectural hospitals, medical certificates³ are the only medical service which is subjected to cost recovery. However, it should be noted that the prefectural hospital of Bouar, unlike the others, systematically enforces the decree on hospital charges, which helps it bring in revenues to cover 69 percent of its operating costs, compared to less than 20 percent for the other hospitals, as shown in Table 11 below. The balance is financed by subsidies, which alone could cover all the costs.

³ Medical certificates generally refer to official physical examinations required by most formal-sector employers in C.A.R.

TABLE 11
REVENUES AND COSTS OF PREFECTURAL HOSPITALS
IN 1990 (in thousands of CFA francs)

HEALTH FACILITIES	SIBUT	NDELE	BOZOOM	BOUAR	NOLA	MOBAYE
Revenues and Costs						
1. User fee revenues	50	63	150	2,240	355	133
2. Operating expenditures	275			3,262	6,039	1,543
3. Subsidies						
- State	750	750	750	3,200	750	550
- Donor			1000	1,000		
- Commun.						70
4. Revenues as % of expenditures	18%	n.a.	n.a.	69%	6%	9%

Generally, the annual amount of credit granted by the State to the prefectural hospitals is approximately 750,000 FCFA. Although Bouar hospital is a prefectural hospital, it is accorded a special status which raises it to the level of a regional hospital in terms of State subsidies. It thus receives more than four times the subsidy of other prefectural hospitals, or 3.2 million FCFA.

The five other prefectural hospitals bring in annually, on average, 160,000 FCFA from medical certificates, which are their only source of user fee revenues. A payment in kind is generally required for surgical procedures. For example, a patient who needs an operation gives the hospital a few liters of fuel for the generator. In these cases, it is hard to assess the cost, since the amount of fuel required varies from hospital to hospital.

3.1.2.6. Provincial Health Centers

Table 12 shows average expenditures by category for the 13 health centers. The major expenses are for drug purchases, which account for 40.5 percent of recurrent costs. For Ngaoundaye and Baboua health centers, drug expenditures represent 47 percent and 72.5 percent of recurrent costs, respectively.

In addition to pharmaceutical costs, the major operating costs for provincial health centers are fuel and lubricants (26.5 percent) and hygiene and cleaning (14 percent).

TABLE 12
OPERATING COSTS OF PROVINCIAL HEALTH CENTERS IN 1990

Type of cost	Cost as % of total expenditures
Drug purchases	40.5%
Fuel and lubricants	26.5%
Hygiene and cleaning	14%
Office equipment	7.8%
Maintenance	
- Vehicles	5.3%
- Buildings	1.5%
- Equipment and supplies	0.25%
Payment for services	2%
Linens	1.5%
Insurance	0.2%
Total	100%

Before proceeding with the analysis of their costs and revenues, it should be explained that these health centers can be considered as belonging to two groups. The first group is composed of the Ngaoundaye and Baboua centers, which have the following distinctive characteristics: self-management, sales of drugs, and systematic cost recovery on all health services provided to the public. In the second group are the 11 other health centers, which ensure free health services and whose only resources (besides their allotted credit line) come from fees charged for medical certificates. Table 13 shows that the revenues of the 11 centers vary from 14,000 FCFA (in the Ouango Health Center) to 679,000 FCFA (in the Carnot Health Center). The most important reasons for the significant disparity in resource levels among this second group of health facilities seem to be the population density, the size of the sub-prefecture, and the economy of the region.

TABLE 13
REVENUES AND COSTS OF PROVINCIAL HEALTH CENTERS IN 1990
(in thousands of CFA francs)

HEALTH FACILITIES	NGAOUNDAYE	BABOUA	MBATA	CARNOT	HERMAN	OUANGO
Revenues and expenditures						
1. Total revenues	2,257	4,402		679		14
2. Operating expenditures	1,641	4,004	135	911	239	301
3. Subsidies	2,725	506	195	800	280	460
4. Revenues as % of expenditures	138%	110%	n.a.	75%	n.a.	5%

HEALTH FACILITIES	GAMBO	IPPY	KOUANGO	KEMBE	DEKOA	BATAN-GAFO	BAMINGUI
Revenues and expenditures							
1. Total revenues		39	54	46		32	28
2. Operating expenditures	177	225	754	505		113	41
3. Subsidies	150	255	320	360			278
4. Revenues as % of expenditures	n.a.	17%	7%	9%	n.a.	28%	68%

In the first group, the Ngaoundaye and Baboua health centers, acquisition of drugs is financed by the facilities' own resources. Orders are placed directly with pharmaceutical suppliers in Europe. The advantages for these two health centers are obvious, the first being the reduced risk of drug stock-outs, since orders are planned based on remaining supplies in stock. The second advantage lies in the fact that these two health centers are able to decide on the drugs to be ordered, to ensure that these orders match their needs, and also to determine quantities of drugs to order, taking into account the prevalence of particular illnesses. It is evident that the decision-making power of the centers, particularly with respect to drug acquisitions, rationalizes the management of drugs, and helps avoid the enormous waste that is generally evident in the second group of facilities, which frequently receive products that they do not really need. An example of this is the Carnot prefectural hospital, which

has much larger supplies of plaster than it needs, but which continues to receive more, in spite of numerous statements to the effect that it has enough.

In terms of user fee revenues, the Ngaoundaye and Baboua health centers are well ahead of the other health centers. Consultation fees and drug sales provide them with 60 percent of their user fee revenues. Surgical procedures are the third-largest money-earners, providing 12 percent of revenues at Ngaoundaye and 21 percent at Baboua.

However, it must be remembered that the origins of these two centers, which were created by religious orders, give them certain prerogatives. They benefit from significant donations of drugs from the NGOs and the religious affiliations, and these material advantages make their financial situation significantly more comfortable, and increase considerably their operating and security margins.

3.2 COST RECOVERY SYSTEMS AND PAYMENT OPTIONS IN HEALTH FACILITIES

3.2.1. Cost Recovery Systems

In the analysis of these health facilities' operations, various types of cost recovery systems were observed. These can be classified into three main types of systems which are described briefly below. The distinctive features of these systems will be discussed in detail later in this report.

- Fee-for-service: system used by the religious-based (private) health facilities.
- Partial cost recovery: system used by regional hospitals and certain prefectural hospitals; a portion of the operating costs is recovered through certain services for which there are charges (excluding drugs).
- Payment for health certificates and payment in kind: system used by certain public health facilities (certain prefectural hospitals and the majority of health centers); it is essentially based on payment for health certificates and payment in kind for major surgical procedures (e.g., a few liters of fuel to supply the generator).

3.2.2. Payment Options and Their Rate of Use

There are several payment options that the health facilities use as a major way of recovering some of their operating costs. The study team observed four (4):

- payment for each service ("fee-for-service")	62%
- payment per illness episode	22%
- payment per visit	13%
- pre-payment for a year of service	3%

3.2.3. Administrative Costs

In analyzing the expense of running a cost recovery system, the administrative costs have to be taken into account. Generally, the director of the health facility delegates a member of the staff to be responsible for registration of receipts, and this same person is responsible for deciding when money is taken out to make purchases.

The actual time spent by the management of health facilities on supervising the cost recovery tasks is insignificant. One weakness the study found was in the autocratic management style practiced in some health facilities. In the Bangassou regional hospital, by contrast, there is an administrative council that makes sure that the establishment is running smoothly. This is something that should

be replicated in the other facilities, because the existence of this kind of body protects the facility from impetuous decisions made by single individuals.

3.3 THE MANAGEMENT AND ACCOUNTING SYSTEM

The health facilities have several management tools, including a notebook for recording revenues and expenditures, a receipt booklet for payments made to the Treasury (this involves only public hospitals), and in some facilities stock and management note cards. In public hospitals in general, except for the regional hospitals and some hospitals which have their own administrators, accounting is handled by the directors of these facilities, who are either doctors, senior health technicians, or hospital attendants certified by the State.

The study team discovered that more than once, in certain public hospitals, managers who had been transferred were allowed to take accounting documents with them. This was one of the greatest problems found during the study. Even when health facilities have cards to record the flow of drugs, these cards are not kept up to date, and are rarely used by the staff. In fact, these cards are currently not very useful in the public hospitals, where drugs are distributed free of charge and where pharmacies are not well stocked.

On the other hand, there has been progress in the management of the private health facilities, which make great use of these management tools. They have documents such as the RUMER (Registry of Essential Drug Use and Receipts).

3.4 REVENUES OF HEALTH FACILITIES

Table 14 summarizes the percentage of total facility revenue contributed by user fees in different health services. The table is organized by the different categories of health facilities which have been discussed throughout this report. Since the National Laboratory and urban maternities each have only one source of revenue, they are not included in the table but are described in the accompanying text.

TABLE 14
USER FEE REVENUES BY SERVICE AND BY TYPE OF FACILITY
(AS PERCENTAGE OF TOTAL REVENUES)

Source of Revenue	Private	Pediatric Complex	Regional Hospitals	Prefectural Hospitals	Health Centers
Hospitalization	18%	48%	19%	2%	8%
Consultation	26	30	1	38	11
Diagnostic Exam	11		19	22	21
Surgery	14	22	34	5	13
Delivery	8				1
Drug Sales	24				38
Medical Certificate			24	33	8
Other			4		
Total*	101	100	101	100	100

Note: (a) Totals may not be equal to 100% due to rounding.

The National Laboratory and the urban maternities receive 100 percent of their user fee revenues from laboratory exams and deliveries, respectively. The sources of revenue for the private hospitals in 1990 reflect their policy of charging for nearly all services. Consultations generated 26 percent of their user fee revenues, sales of drugs provided 24 percent, hospitalization charges generated 18 percent, and surgical fees provided 14 percent.

The regional hospitals also charge fees for a relatively diverse set of services. Their revenues in 1990 came from surgical procedures (34.4 percent), medical certificates (23.9 percent), outpatient clinic exams (18.9 percent), and hospitalization charges (18.5 percent).

Revenues at prefectural hospitals came from three main sources in 1990: consultations (38 percent), medical certificates (33 percent), and diagnostic exams (22 percent).

The provincial health centers' revenue comes from drug sales (38 percent) (especially in Baboua and Ngaoundaye), from outpatient diagnostic exams (21 percent), and from surgical procedures (13 percent).

3.5 FINANCIAL INDICATORS

Table 15 summarizes, for the health facilities discussed in this report, their self-financing capability, dependency on external funding, and type of cost recovery system in use. One of the most striking features is the variation, within categories of facilities and between categories, in the ability to generate operating revenues from user fees. Urban maternities have the highest average self-financing capability, at 93 percent. Health centers are next with 51 percent. Last are prefectural hospitals, with 26 percent. However these averages conceal great variation. Among health centers, for example, the average is 51 percent, however this includes a high of 138 percent and a low of seven percent.

TABLE 15
SELF-FINANCING RATIO, DEPENDENCY RATIO, AND PAYMENT SYSTEMS
IN HEALTH FACILITIES STUDIED

TYPE OF FACILITY	SELF-FINANCING CAPABILITY	DEPENDENCY ON EXTERNAL FUNDING	PAYMENT OPTIONS
1. Private Hospitals			
- Boguila	21.7%	78.3%	- fee-for-service - prepayment through health card - payment per visit
- Gamboula	54.5%	45.5%	- fee-for-service - payment per illness episode
- Ippy	79%	21%	- fee-for-service
- Belemboke	29%	71%	- fee-for-service
2. Central Establishments			
- Pediatric Complex	30.6%	69.4%	- fee-for-service
- National Laboratory	23.6%	76.4%	- fee-for-service
3. Urban Maternity Centers in Bangui			
- Castors	103.8%	0	- fee-for-service
- Ouango	96%	4%	- fee-for-service
- Boy-Rabé	81%	19%	- fee-for-service
4. Regional Hospitals			
- Bossangoa	36%	64%	- fee-for-service
- Berberati	29.5%	70.5%	- fee-for-service
- Bambari	96%	4%	- fee-for-service
- Bangassou	18%	82%	- fee-for-service

TYPE OF FACILITY	SELF-FINANCING CAPABILITY	DEPENDENCY ON EXTERNAL FUNDING	PAYMENT OPTIONS
5. Prefectural Hospitals			
- Sibut	18%	82%	- fee-for-service - payment per visit
- Ndele	29.6%	70.4%	- fee-for-service
- Bouar	68%	32%	- fee-for-service
- Nola	6%	94%	- fee-for-service
- Mobaye	3.6%	91.4%	- fee-for-service
6. Health Centers			
- Ngaoundaya	137.5%	0	- fee-for-service - payment per illness episode
- Baboua	110%	0	- fee-for-service
- Carnot	74.5%	25.5%	- fee-for-service
- Ouango	4.6%	93.4%	- fee-for-service
- Ippy	17.5%	82.5%	- fee-for-service
- Kouango	7%	93%	- fee-for-service
- Kembe	9%	91%	- fee-for-service
- Batangafo	28%	72%	- fee-for-service
- Bamingui	68%	32%	- fee-for-service

4.0 DISCUSSION

4.1 THE PRICE STRUCTURE AND FEE SCHEDULE IN PRIVATE HEALTH FACILITIES

The cost of medicines and the economic means of patients are the two main parameters for determining the level of prices charged at private hospitals and dispensaries. Competition is generally not considered in determining price levels. The only exception is the Ngaoundaye Health Center (a public health facility), which receives patients from Cameroon and Chad. These patients are charged at special rates based on the official charges in hospitals in those two countries.

In the Ippy Mid-Mission medical center, prices of medicines are set based on the purchase price plus an average of 63 percent of this purchase price, broken down in the following way:

- transport costs (39%)
- handling (20%)
- insurance (2%)
- Bangui taxes (1.5%)
- commissions (0.7%)

The other religious affiliations (Catholic, UEEF, EBO) use the same method for setting fees. The prices of these drugs vary by more than twofold from one hospital to the next.

For example, the study looked at three antibiotic products to get an idea of the variance in price (See Table 16).

TABLE 16
COMPARISON OF DRUG FEES AMONG THREE
DIFFERENT PRIVATE HEALTH FACILITIES

DRUG	GAMBOULA	IPPY	BOGUILA
Erythromycin 250 mg lcp	40 FCFA	90 FCFA	350 FCFA
Ampicillin	150	120	250
Streptomycin	200	110	200

This price variance also is evident in charges for surgical procedures. There is a significant difference in prices for these procedures depending on patients' socio-professional status. There is also price variance for hospitalizations and outpatient exams.

In the Ippy Mid-Mission medical center, the study team found three price levels corresponding to three categories of patient incomes:

<u>Level</u>	<u>Income Categories</u>
● First level	0 to 8,000 FCFA per month
● Second level	8,000 FCFA to 20,000 FCFA per month
● Third level	income over 20,000 FCFA per month

The prices change by an average of 50 percent from the first level to the second level.

The Gamboula medical center (EBO) categorizes patients based on profession rather than income:

<u>Level</u>	<u>Profession</u>
● First level	farmers and non-salaried workers
● Second level	businessmen, civil servants

This method makes it necessary to have two price levels for consultations and surgical procedures. These prices vary by 50 percent to 100 percent between the two categories of patients. Surgical procedures, the costs of hospitalization, anesthesia, analgesics, and perfusions are included in the price up to the fifteenth day. Costs of antibiotics are not included, except for those administered intravenously.

The problem of classifying patients is solved in another way in the Boguila medical center. There the prices are the same for all patients, except for children less than 12 years of age, who pay one fourth the charge for surgical procedures, outpatient diagnostic exams, and hospitalization charges. When prices are indicated per unit (e.g., per vial, per tablet, per injection), children pay the same price per unit as adults do. The pastors of the EEF pay only half price for medical interventions. Similarly the students of the Yaloké Evangelical High School and the students of the Theological Faculty in Bata receive health services free of charge during the year as long as they pay their insurance premium, which is 2,400 FCFA or less. Infants who are less than one year old receive all necessary care except hospitalization and surgery free of charge, in return for a lump sum payment of up to 1,800 FCFA.

As discussed earlier, in establishing a price structure, transport costs, maintenance, and insurance are the basic elements that determine the level of prices. However, in the Boguila medical center, in addition to these factors, staff salaries, taxes, labor, and social obligations are also figured into the price of medicines, which helps explain the relatively high price of drugs in Boguila compared to the prices in other private hospitals.

4.2 THE CONCEPT OF INDIGENCE

The concept of indigence is still very ambiguous in health facilities. In fact, there are no homogeneous criteria for identifying the poor or for

determining which ones should benefit from subsidized care. Currently, it is up to the practitioner to observe the physical condition of the patient and to determine, based on this observation, whether the patient is in the category of economically disadvantaged or not.

4.3 FREE OR REDUCED-FEE SERVICES

Services which are offered for free or at reduced fees severely limit the ability of health facilities to recover costs. In addition to the poor, who receive free health care, civil servants are usually 80 percent covered by the government. The other 20 percent is the portion that is supposed to be paid by the patient, but this is, in most cases, not paid. It is also doubtful whether the government pays the portion it owes to the health facilities. Regulations state that civil servants and their family members are given this prerogative. Family members are meant to include only the nuclear family, but civil servants do not see it this way, and the result is frequent abuse of the system leading to enormous loss of resources for the health facilities.

According to the chief medical officer of a provincial hospital, rural villagers are more likely to pay health care charges than are public agents (policemen and detectives), who are used to and prefer treatment free of charge.

4.4 PAYMENT OPTIONS

There are a number of payment options that health facilities use as their tools in recovering the costs of health services. Of seven (7) possible options to be used, only four (4) are currently used in the health facilities studied for this report.

The following are the payment options, and their respective rates of use by the health facilities:

- | | |
|-----------------------------------|-----|
| ● payment of fee-for-service | 62% |
| ● payment per illness episode | 22% |
| ● payment per visit | 13% |
| ● pre-payment for year of service | 3% |

In the next section each option is described in more detail.

4.4.1. Payment of Fee-For-Service

This option is the one that requires patients to pay out-of-pocket at the time of service. The prices of the various services, like consultations, outpatient diagnostic exams, and hospitalization are totaled up, and the patient must pay this full sum in order to receive the services. This option has the advantage of promoting better resource allocation in health facilities, but it requires more effort in management and accounting. It is therefore best to have

staff who are specially trained in this area to take responsibility for the cost recovery activities.

However, a problem that limits the advantage of this option is the amount of money the patient has when he arrives at the hospital. There is a growing problem of poor people who do not have the means to pay for health services, and who are therefore often not served. This situation is apparent especially in certain private health facilities, which usually do not have a procedure for recovering fees from non-paying patients, but which instead exclude these patients from hospitalization and treatment after four days. The poor patient is then induced to pay his debt (the example of the Boguila Medical Center). This still seems to be the health facilities' favorite payment option, but the population should probably be surveyed to find out what they think about it.

4.4.2. Payment Per Illness Episode

Another possibility is to make the patient pay the total cost of consultations and care for an episode of illness during the first visit, and then all subsequent visits are free of charge. There are two main methods for setting prices under this option. The first is to set a one-time price (lump sum) for all illnesses based on the average cost of all illness episodes. The problem with this single-price method is that the patients whose treatment costs less than this fixed price will eventually not want to pay this price, and may use self-medication instead. In addition, the patients whose treatment costs are covered by this price will continue to use the health facilities, but will likely stop using them when rising costs result in price increases. Gradually, a process of adverse selection will ensue, and patients with mild illnesses will be discouraged from seeking treatment, and only those who have more severe illnesses and the means to pay will use the services.

The second method is one whereby the cost of the treatment determines the price charged to the patients. In this case, various prices are set, in proportion to the severity of the illnesses. This method seems to work reasonably well.

4.4.3. Payment Per Visit

This option is unique in requiring a lump-sum payment for each visit to the health facility. The sum may or may not include the price of drugs. The sum to be paid for consultation fees is determined by dividing the average cost of an illness episode by the likely number of visits, to find the amount that patients should pay for each visit. Imposing consultation fees for each visit would lead to more effective resource allocation for health facilities. Under this option, patients have to pay the marginal cost for use of the system, which will reduce the likelihood of abuse in utilization of the health services. This option requires a well run accounting system and sound management to work well. Unlike with the per-episode payment, there may be a tendency for patients not to return for follow-up treatment because of the additional fees they must pay.

4.4.4. Pre-Payment for a Year of Service

This payment option is not very common, but it is found in some private health facilities, like the Boguila medical center, and is essentially reserved for a certain category of patients. This option was already alluded to in the analysis of the fee and service schedule. Under this option, the students of the Yaloké Evangelical High School, the students in the Bata Theological Faculty, and infants pay a lump sum at the beginning of the year, which allows them to use all services free of charge for the year. This option, although well thought of, is merely a measure of privilege, and does not permit resources to be allocated efficiently. Even the leaders of the Boguila medical center admit that it is one of the main reasons for their tendency for chronic deficit problems.

In the three main private hospitals, there is another method of annual prepayment, which is only for consultations — having this payment certificate exempts you only from payment of consultation fees. So, the consultation is free, and the patient has to pay the charges for all the other medical services, such as surgical procedures, medicines, hospitalization and diagnostic exams. This analysis discovered many serious problems with this payment method. The first is that this certificate, which has the name of the patient and a number on it, is not personalized enough. It can be easily transferred and used by any member of the person's family. Also, in Boguila, this card is valid for life and can be used in all the hospitals and clinics of the Evangelical medical orders. This method of payment severely limits the cost recovery capabilities of these hospitals and clinics, and may also explain these facilities' growing financial problems. In the private hospitals of Gamboula, this kind of certificate is also used for consultations, the only difference being that it is only valid for one year. This latter method seems like a reasonable way to maintain the hospitals' resources at a certain level.

Finally, certain payment options described in the literature should be noted—namely prepayment in the form of a tax, in the form of a subscription, and in the form of a duty or controlled price. These are not used in any of the facilities surveyed for this study, but they have certain potential advantages from the point of view of management and resource use. With their annual form of payment, these three options can allow rural villagers to take care of all their medical expenses at the time of year when they sell all their agricultural products, and can allow health facilities to have sufficient resources to plan their expenditures accordingly. It should be noted that rural villagers' resources vary enormously over the course of the year, and these payment methods would help make up for the strong probability of having non-paying patients, as was mentioned in the description of the other payment options like the out-of-pocket payment by service and the payment per visit. In the final analysis, it must be remembered that these options have a bad reputation because they are associated with subscription health cards, of which the Central African people have bad memories. These payment options, which are a form of insurance, have another disadvantage, namely that they can easily result in abusive use of health services.

4.5 GENERAL DISCUSSION AND LIMITATIONS OF THE STUDY

It would be premature to make recommendations about cost recovery systems without first exhausting all of the questions related to the financial aspects of the subject. It is true that, throughout the preceding analysis, this report has focused on financial aspects of cost recovery systems, in accordance with the terms of reference for the study. But before one or the other system is declared the most reliable, certain issues should be addressed that are related to the subject, but which influence it in an indirect way. These issues will hopefully help people understand health care cost recovery systems in the Central African Republic.

Before beginning the examination of these issues, it should be recalled that there is indeed a system for cost recovery in C.A.R health facilities, although it is not complete or enforced in most of these facilities. In addition, there is great disparity in levels of revenue generation, which is doubtless a result of the size and structure of these health facilities.

The study revealed three cost recovery systems:

- Fees are charged for all health services. Examples include the private hospitals and certain central establishments in Bangui.
- Partial cost recovery system. Fees are charged only for a certain category of services. This is found in the prefectural hospitals.
- Fees are charged for medical certificates only. This is the case in the health centers, except in the Ngaoundaye and Baboua centers, which charge fees for nearly all health services.

Having identified these three systems, a logical question is, what are their relative strengths?

To answer this question, we think back to the payment options and use certain indicators to assess the reliability of these various systems. In fact, one of the main hypotheses used in assessing the performance of these systems, which was mentioned in the beginning of this report, is that a cost recovery system is judged to be effective if it brings in enough revenue to cover at least 45 percent of the operating costs.

This hypothesis of self-financing through user fee revenues at a rate 45 percent is not very pertinent as an indicator of effectiveness. When one examines the revenues for most of the private health facilities and the Ngaoundaye and Baboua health centers, where all services including drugs are charged for, it is evident that a large part of these revenues comes from sales of medicines which have been donated to the health facilities. Sound and transparent management would require an exact accounting of the revenues from the sale of these drugs, and a clear determination of their purchase price, which represents a savings for the health facilities. A reason for doing this accounting is that this information could allow the health facilities to accurately assess their resource-creating potential. By deducting from user fee

revenues the purchase price of the products that are not paid for out of the facilities' own resources, one can estimate the actual self-financing capability of the health facilities. In practice, this calculation is not done. The sales receipts for these medicines are mixed in with all the other receipts, and the managers of these health facilities rarely consider the monetary value of the drugs that they receive as donations.

Besides the problem of not accounting for costs of drugs received free of charge, which limits our analysis, there is another inconsistency in the fact that the medical interventions that are charged for in one health facility may not be in another, and vice versa. Considering all of the above, it is difficult to say definitively that one health facility has an effective cost recovery system and that the other does not.

Another case is that of certain types of public health facilities, like regional hospitals, where drugs are distributed for free. The revenues of these hospitals come largely from consultation fees, surgical procedures, diagnostic exams, and hospitalization charges. Despite this large portion left out of total revenues by not including the selling prices of drugs, two public health facilities, namely Bambari hospital and Bouar prefectural hospital, have far surpassed the effectiveness point set at 45 percent. Their capacity for self-financing through user fee revenues (excluding drugs) is expressed in percentage terms below:

Bambari regional hospital	96%
Bouar prefectural hospital	68%

Unlike other similar health facilities which have not done as well, these two facilities offer almost all health services to the public, except drugs, based on a single payment. The Bambari regional hospital and the Bouar prefectural hospital could have a better financial performance if they required payment for a few more medical services: for Bambari, laboratory exams and deliveries; and for Bouar, surgical procedures and deliveries. In any case, the conclusions about these facilities' self-financing capacity must be qualified. The fact that drug costs are not covered by these two facilities is a major reason for their excellent financial standing. If this number had been available and entered into the analysis, it would have changed the outcome, and the results would have reduced the percentages listed above, perhaps to a level below the effectiveness rate of 45 percent.

We would like to conclude this issue by saying that the level of self-financing capacity that was determined for each health facility is only a nominal self-financing capacity, for the reasons discussed above, and provides only a general idea of the actual capabilities of these health facilities.

The dynamics of a cost recovery system are determined not only by a wider choice of payment options, but also by socio-economic factors. The propensity of the population to pay for health services appears to vary greatly from region to region. The only likely explanation for this phenomenon is that the regions have very different economic levels.

Carnot health center and the Bozoum prefectural hospital are cases in point. The study team observed that the population of Carnot is capable of making a substantial contribution to health care costs, unlike the population in the Bozoum catchment area, where more than 80 percent of the patients are indigent. Clearly these two regions do not have the same economic capacity. This makes it easy to see how the Carnot health center could generate revenues that are greater than those of a prefectural or even regional hospital.

In conclusion, economic status, which determines the purchasing power of the population, is a major factor determining whether a cost recovery system can be viable in a particular location. Other factors determining the effectiveness of a cost recovery system are the population density and the concentration of health facilities in the area. Dividing up the clientele among several health facilities reduces each facility's total revenues.

To conclude, understanding these various issues is necessary in order to better comprehend the real dynamics of a health care cost recovery system, rather than merely focusing on choosing the most appropriate payment method. In fact, regardless of payment method, if certain other conditions are not present, all the efforts to improve the population's health status will be for naught, and the system will not have the desired results.

In almost all the health facilities which have cost recovery systems in operation, the financial situation is not as healthy as might have been predicted, even with subsidies added. These health facilities' prospects for development are severely hampered by the indigent population, whose numbers are growing exponentially. The problem of widespread indigence is a major challenge, and will be a large obstacle to the success of a national health care cost recovery system, if one is adopted.

The major limitation of this study, and one which the authors are well aware of, is the fact that the analysis and assertions are based on data and information from 1990. It would have been preferable to cover the last five years, which would have allowed us to see major trends over the time period.

The research for this study revealed that there is still much to be done in this area in terms of legislation, organization and raising awareness among government health workers and the public. Once this preliminary work has been done we will have the tools to accurately and consistently assess the effectiveness of cost recovery systems.

Currently, cost recovery systems are operating in a laissez-faire atmosphere in C.A.R.; the result is a collection of cost recovery systems which vary significantly in their approaches.

5.0 RECOMMENDATIONS

Based on the findings of this analysis, it appears that two payment options should be adopted for use in a cost recovery system where all services have fees: fee-for-service, and payment per illness episode.

The viability of these two options can be assessed only when the aforementioned recovery conditions have been met. But these two options are the most popular under the current conditions, and we stress them because of their high rate of use. In any case, a survey of the population is planned, to ascertain the population's feelings about each of these options. Theoretically, these two options are the only ones that can bring about better resource allocation, by attempting to come within a few francs of recovering the entire cost of various health services.

In preparing to implement the system and the payment options recommended above, the following needs to be done:

- i) A large information, education and communication campaign should be launched to explain to the population this new way of financing health care services through community participation.
- ii) The indigence problem should be the central focus for decision makers. These leaders should resolve to implement realistic development policies to limit the current impoverished state of the population by improving living standards.
- iii) There should be some planning for regulations to identify and select the poor who are to receive free or subsidized care, and to choose those authorities who will have the responsibility for approving indigent status.
- iv) To ensure equity and to make sure that social responsibility is met, the health facilities must be provided with enough materials for quality health care and increased coverage.
- v) The plan should include management training to create a sound management structure, which will then contribute to the improved operation of the health facilities.
- vi) Seeking greater financial assistance for the health facilities would help support community participation and would prevent the negative effects of prohibitively high prices. Higher prices would have high social costs by excluding a large part of the population; this is contrary both to our goals and to medical ethics.
- vii) Reorganizing the accounting and management systems is recommended to increase transparency and combat abuse.

6.0 CONCLUSION

This study is but one link in the chain, and does not claim to have exhausted every angle or analyzed every detail of cost recovery systems. We expect that related studies will be done, and we hope that this analysis will help the various interested parties by providing a clarification of certain real-life aspects of health care cost recovery in the Central African Republic. We also hope that it will help provide guidance in the major decisions that must be made in this area.

Many improvements are needed, particularly organizationally, to make the current cost recovery systems operate better and more effectively. Indeed, an eventual restructuring of these systems will help health facilities recover some part of their operating costs. But without all the data which will be collected by further studies (e.g. household demand surveys), it would be irresponsible for this report to attempt to quantify the level of potential cost recovery in C.A.R.

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