Access to health care in Burundi

Results of three epidemiological surveys

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Déo, 47 years old, originally from the province of Muramvya Province, told us her story.

" My life has not been easy for some years. I have experienced three robberies, the death of my wife who left me with six children, including a six-month-old baby. It's hard for me to get food and to pay the school fees. One day, I was in the province of Cibitoke. A friend gave me 15.000 Burundian Francs (Fbu) so that I could do some business selling rope made of sisal to try to earn a little money. People thought that I had a lot of money. I heard rumours that I was going to be attacked and spent several nights in the bush.

One day, I said to my children that I was going to bed and that I would wake up later on to leave for the bush, at about 8 o'clock. That same night, at 7 o'clock, armed bandits attacked my house. I was sound asleep. They entered and demanded money. I gave them what I had. Despite that, they fired at me. I have an open wound and fractured my femur (thigh bone).

In the morning, the people from the church came and took me to the hospital in Gitega where I spent several months.

The nurses finally asked me to pay a sum of money, although I had none. From that day, the nurses stopped treating me properly. My wound and fracture became infected. Nobody came to change the dressing. The nurses isolated me in a room so as to distance me from the other patients because my wound was purulent. The nurse only came to cover the wound. I was expecting to die.

When I was in Gitega, a social worker from the Ministry of Social Affairs came to the hospital to give a voucher for medical care to a patient who had the same problem as me. She passed by the door of my isolation room, greeted me and asked, "How are you?" I explained my problem to her and she took pity on me.

She took care of the preparations for my leaving and told me that she was going to go with me and the other patient to Bujumbura, to the MSF centre for the wounded where care is free.

Now, I believe I will get better because the dressing is changed daily and I am also taking medicines. "

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SUMMARY

With a civil war that has endured for a decade, the Burundian population is living in a state of chronic crisis, characterized by the destruction of the economic and social fabric. The security situation has improved over recent months, but the effects of the war are still very much present. In order to improve the response to the needs of the population and to allow the actors involved in health policy in Burundi to acquire reliable data on the mortality and the access to health care within the country, Médecins Sans Frontières (MSF) conducted nationwide a retrospective epidemiological survey from November 2003 to January 2004. This survey focused on mortality rates, and financial access to, as well as utilisation of, primary health care centres across the country.

Since February 2002, the Burundian government has been conducting a cost-recovery policy, which in this case means a system where the patient must pay all of the costs of treatment, including medicines, as well as tests and medical acts (100% of the base cost). A complement of 15% is added to the cost price of the medicines; in theory this is intended to cover local additional expenses and compensate for those patients who are unable to pay. The government is supposed to intervene only for personnel salary payments and for financing infrastructure.

Apart from this predominant system (almost five million people are concerned), two experiments have been attempted by Non Governmental Organisations (NGOs), with the support of the Ministry of Health. One is a partial cost-recovery system of 50%, meaning a system in which the patient pays half the price of medicines, plus the tests and medical acts. This system is only applied in the province of Makamba where around 220.000 people benefit. Another trial attempted in some provinces (Karuzi, Bujumbura Rural, Cankuzo and Ruyigi), with the support of some NGOs, including Médecins Sans Frontières, is the application of an all-inclusive flat fee. In these cases the patient pays a lump sum that covers the payment of medicines, medical acts and laboratory tests. Around 525.000 people benefit from this.

All three systems were examined within the framework of this epidemiological survey. Three quantitative surveys of around 900 households were conducted and in total, more than 2.700 households were questioned. The two-degree cluster sampling method was used (30 clusters of 30). Certain complementary data were gathered from patients at the exit of the health centres, via technical cards, and through open interviews with the different actors concerned. The survey was limited to studying the financial access to health centres in rural districts.

RESULTS OF THE SURVEY

The effects of conflict continue to have an impact on mortality

- Throughout the country the mortality rates are worrying. The crude morality rates for the three population groups surveyed (using the flat fee, cost sharing at 50% and cost recovery) are 1.2, 1.9 and 1.6 deaths per 10.000 persons per day. These rates are higher than the threshold of 1 death per 10.000 persons per day, and indicate an emergency situation.
- Children are particularly affected. The mortality rates for the under-fives are way beyond the emergency threshold of 2 deaths per 10000 persons per day because in the three groups surveyed (flat fee, 50% cost sharing and cost recovery), these rates are 3.1, 4.9 and 3.3/10.000/day. In humanitarian contexts, such high mortality rates indicate a severe emergency situation.
- As a consequence of the civil war that has affected the country for more than ten years, the main cause of the high mortality is infectious diseases.
- The first cause of mortality is malaria. With regard to this pathology, the mortality rates are significantly higher when patients have to pay more for consultations (cost sharing at 50% and cost recovery), as the specific mortality rates are 0.3/10.000/day for the 'flat fee' system and 0.8/10.000/day for 'cost sharing' and 'cost recovery'.

No access to care for almost one million people

- The cost-recovery system excludes almost one million people from health care in Burundi, which is one-fifth of the population. In fact, with this system, 17.4% of sick people do not have access to care, mainly due to lack of money (81.7%). Even among patients who believe they are seriously ill, 14.5% do not attend a consultation, mainly due to a lack of money.
- The sick have a tendency to wait too long before consulting, which worsens their illness and could in part explain the very high mortality rates. In fact, in the cost-recovery system, 36.2% of patients regard their state of health as 'not very serious' and do not consult, mainly due to the lack of money (58.7%).
- With the other two tariff systems, which alleviate the financial burden for patients, the exclusion rates remain considerable with the 'flat fee' and 'cost-sharing' systems excluding respectively 9.3 and 9.6% of sick people.
- To this absolute exclusion must be added around 5% for the patients in all three systems who were able to pay for a consultation, but who did not have access to the medicines required, or who received an incomplete treatment.

Resorting to extreme measures to pay for a consultation

- In the cost-recovery system, 81.5% of patients must take on a debt or sell a possession (harvest, land, livestock, etc.) in order to pay for health care.
- In the cost-sharing system, 74.6% of patients must still go into debt or sell a part of their production or assets in order to assume the cost of care.
- Only the flat fee system strongly reduces the proportion of patients obliged to go into debt or sell something (59%), but the figure remains nevertheless high.
- The only previously existing system that aided the mitigation of exclusion from care due to seasonal fluctuation in cash money (a system of pre-payment via the caisse d'Assurance Maladie[1] – CAM) is hardly functioning any more. For example, of the patients questioned at the exit of the health centres in the cost-recovery system, only 6% held this kind of card.

Almost all of the rural population lives in absolute poverty and the healthcare expenses further exacerbate this poverty

- More than 99% of the population is living below the international threshold of extreme poverty, which stands at 1 USD per inhabitant per day.
- Between 85 and 90% of the population is living below the relative poverty threshold defined for Burundi, which is set at less than 1 USD per person per week.
- With the cost-recovery system, a single consultation in a primary health care centre is equivalent to more than 70% of a households' weekly income.
- The two other systems reduce the primary health expenditure, but still represent a considerable sum and one that is difficult to pay, in case, for example, that two people fall ill in the same family. The flat fee payment represents 20% of a household's weekly income, while the cost-sharing system represents 31% of this.

[1] Health Insurance Office.

- Second-line expenses at the hospital are not included.

There is no effective system to protect the poor

- In the cost-recovery system, less than 1% of patients leaving a health centre were in possession of a 'indigence card'.
- In the two other systems, the percentage of people receiving free care thanks to the 'indigence card' increases (5.9 and 7.2% for the 'flat fee' and 'cost-sharing' groups), but remains too low given the number of vulnerable people in Burundi and people living below the poverty threshold.
- The price reductions mainly benefit the holders of the health insurance ('mutuelle') card for state employees, already privileged by the fact that they are earning a salary.

OUR RECOMMENDATIONS

- **A system of healthcare accessible to everyone**

Given the gravity of the situation, as much in terms of mortality and poverty as in exclusion from essential health care, MSF is committed to working towards free healthcare.

- **Special attention to vulnerable people**

Specific attention must be paid to the most vulnerable people, as much with regard to the principles as to its implementation.

- **A dialogue between all the actors concerned with financial access to care and the alternative ways of financing health services to avoid exclusion**

- **Information and follow-up on financial access**

Quantitative studies, with a few key questions, should be conducted regularly in order to obtain a better understanding of how the situation of exclusion is evolving and enable a reflection process regarding the most appropriate system to guarantee access to essential healthcare for Burundi. A survey should be held as rapidly as possible into the financial access problems at hospital level.

- **Effective healthcare for the population**

In order to ensure a genuine access to quality care adapted to the needs of the population, the link between the health service and population must be rethought and adapted.

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PART ONE
INTRODUCTION AND CONTEXT

A. GENERAL INTRODUCTION

National environment

The population of Burundi has been living for decades in a situation of chronic crisis. In 1993, the death of President Ndadaye triggered a major crisis that led to ten years of civil war. A peace process initiated in Arusha in 1998 concluded in a peace agreement signed in August 2000. The new government set up in November 2001 is in charge of the transition period, which is foreseen to last for 36 months.

This agreement was at first not accepted by the country's main rebel factions, which continued the war. A ceasefire agreement was finally reached with one of the rebel movements in October 2003, which brought greater stability to the country, except in the province of Bujumbura Rural and sporadically in other provinces where another rebel group continues to operate. Ceasefire negotiations have been underway with this group since December 2003.

The impact of this crisis on the socio-economic conditions of the population is enormous. Burundi is a symbol of 'the silent emergency'. The civil war ruined the local economy and dismantled the social services. Since the start of the civil war in 1993, the development indicators have actually regressed. In 2002, Burundi's ranking in the human development rating fell to the third lowest position in the world (171/173), which reflects the cumulative impact of most of the indicators. In terms of income, the GDP per inhabitant receded by an average of more than 20% between 1993 and 2002, dropping from 160 to 100 USD, a level far below the average of 490 USD in Sub-Saharan Africa (World Bank, 2002). The gross national income per inhabitant was 100 USD in 2002.

Other social and health indicators are just as unfavourable. The vaccination coverage has fallen from 83% in 1993 to 54% in 2002; the percentage of children attending primary school dropped from 70% in 1993 to 48% in 2002. The mortality rate for under-fives is 190 per 1.000 children. According to the estimates, since the war broke out, the hostilities have cost the lives of some 300.000 people, the majority of them civilians (UNDP, 2002).

Some indicators describing the economic, social and health levels in Burundi compared with the rest of Africa and with the OECD countries

	Burundi	Sub-Saharan Africa	Low-income countries	OECD countries
Population (million)	6,9	674	2.511	1.122
Urban population (%)	9	32	31	77,2
Life expectancy at birth	42	47	59	68,5
Infant mortality(per 1.000 live births)	102	91	76	13

Source: World Bank, *Burundi at a glance*, 20 September 2002.
UNDP, *Human Development Report 2003*.
World Bank, *World Development Report*, 2004.
UNICEF, The State of the World's Children, 2004.

International environment

The Arusha Agreement for Burundi facilitated the resumption of discussions with the institutional donors on the possibility of resuming co-operation with these countries. Many promises were made during conferences in Paris (December 2000) and Geneva (November 2002), but could not be realised because of the insecurity that still prevailed within the country. Finally, a third donors' conference was organised in Belgium in January 2004. Pledges were made to fund 810 million Euros, or 1.032 billion USD (final statement of the Forum of Partners for Development in Burundi, 15 January 2004). In addition, several countries have announced their intention to cancel some of Burundi's debts and debt repayment facilities have been agreed upon.

B. HEALTH SECTOR

Background history
Before the 1980s, Burundi's health services were free of charge. But the inability of the government to offer primary health services because of financial problems led the country to introduce direct payment for healthcare services. A user fee is to be paid directly at the moment when healthcare is sought.

A national pre-payment system was introduced in 1984 in the form of cards issued by the Caisse d'Assurance Maladie (CAM). The CAM card was bought by households and the owner of the card and his family received free care. This card is still circulating and gives the right to a reduction of 80% on healthcare prices. Since the introduction of the cost-recovery policy, however, it is no longer valid in most of the provinces of the country. In addition, in the places where it still operates, the administration's management of the system is experiencing problems (Mcpake, B., Hanson, K., Mills, A., 1992).

In 1988, the Burundian Ministry of Health carried out a reform and decentralisation policy. The main goals of this policy were:

- To increase the communities' contribution to raise revenues for health-services by the introduction of a payment system per consultation;
- To gradually implement a cost-recovery scheme in all the health structures;
- To establish management autonomy in the health structures at the provincial level;
- To create structures at local level in order to facilitate dialogue and greater collaboration between the provincial level and local communities.

This policy, which remains very general, took shape over the following years. In October 1999, a circular from the Ministry of Health and the Ministry of Finance announced the change in the pre-payment system and the introduction of direct payment for care at the health centres. The overall objective of this policy was to resolve the financial and management problems observed at the level of the health structures. Following the introduction of this user fee system, a new circular was published in January 2002 by the Ministry of Health announcing a donation of World Bank money within the framework of its programme of credits for emergencies and rehabilitation, and called on the provincial offices to start a 'cost-recovery' system (Save the Children, 2003).

The present health system and how it is financed
The current national policy always refers to the Alma Ata statement and the principle of equity:

"Burundi's health policy will rely especially on the principle of 'health for all' aiming at a greater health coverage and an equitable distribution of care (…). Equity in the access to quality health services: this principle means that the MSP (MoH) will give each member of the community the same chances of acceding to quality health services. It will see that there is a fair distribution of resources between the regions and the different communities." (Burundian Ministry of Health, February 2002).

By 2004, the Ministry of Public Health notably set itself two specific objectives (Ministry of Health, February 2002):

- To reduce the infant mortality rate by 50%;
- To reduce the maternal mortality rate by 50%.

This policy presumes adequate resources. However, in its sectoral policy document, but also on the occasion of the consensus conference on the health committees in February 2002, the Ministry of Health acknowledged that there remained a problem in regard to financing its policy, as only 2.2% of the national budget was allocated to health in 2003. Since the civil war broke out in 1993, an analysis of the national expenditure shows budget adjustments to the benefit of the defence sector and a relative lowering in social expenditure, even if the budget estimates granted to defence for 2003 are on the decline.

Expenditure in the health sector and in the defence sector, 1997-2003

	1997	*1998*	*1999*	*2000*	*2001 (est.)*	*2003 (est.)*
GDP at the market price (in billions of Burundian francs)	342.8	400.2	455.5	511.1	550.0	…
Total expenditure (in billions of Burundian francs)	74.9	92.8	115.4	124.1	147.7	183.5
Health expenditure (in billions of Burundian francs)	2.1	2.5	2.7	2.8	3.7	4.1
Health expenditure as a % of total expenditure	2.8	2.7	2.3	2.3	2.5	2.2
Health expenditure as a % of GDP	0.6	0.6	0.6	0.5	0.7	
Military expenditure (in billions of Burundian francs)	21.1	26.3	28.3	30.5	44.2	40.6
Defence expenditure as a % of total expenditure	28.8	28.3	24.5	24.6	29.9	22.1

Source: IMF Statistics, the Burundi authorities and Fund Staff estimates

Faced with this insufficient budget, the Ministry saw no other choice than to apply a cost-recovery policy to the health services. A World Bank table shows that out of 12 relative dollars (PPP[2]), spent on health per inhabitant for 1997-1998, the public sector covers 5 dollars (of which 1.55 comes from the Burundian government and 3.45 from external aid) and the private sector covers 7 dollars. Already at this time, the burden of health-related costs were mainly put on the patient. At the present time, this ratio is consolidating further.

The lack of medical personnel also influences the health coverage and the quality of care. The table below clearly shows the decline in health coverage and health personnel since 1993.

Coverage by medical personnel

	1990	1993	1996	1999	2002
N° of inhabitants per doctor (measured in 1.000s)	25.2	18.3	19.5	22.3	34.7
N° of inhabitants per nurse (measured in 1.000s)	3.8	3.2	3.4	2.6	3.3

As of February 2002, the cost-recovery system for primary care was in place everywhere in the country, but its implementation was rather loose and heterogeneous. In a general manner, we could say that in the health centres, 100% or more of the cost of medicines are payable by the patient, based on the official price set by the Centrale d'Achat Officielle du Burundi[3] (CAMEBU). On top of this, the consultation, medical acts, overnight stay and medical material also have to be paid for, with the prices set by the Bureau Provincial de la Santé[4] (BPS).

Since 2003, the government has favoured a community participation policy through the creation of health committees (consensus conference on this issue in February 2003).

The tariff-setting system is different in the so-called 'centres agrées', meaning the private centres supported by a religious network, mainly the Catholic Church, but approved by the state authorities. As the personnel in these centres are not paid by the state and the subsidies are too small to cover the costs, these centres practise a cost recovery policy of 150%. The patient therefore pays for the consultation, the medical acts, overnight stay and 150% of the price of medicines, which are purchased via the regional offices, not only from CAMEBU, but also from other private suppliers.

The government has granted significant operational autonomy to the provincial authorities by allowing them to conclude collaboration agreements directly with certain NGOs that advocate either a symbolic participation by the population, or cost-sharing, provided that a large part of the costs of the system are carried by the NGO concerned. It is within this framework that different provinces of the country, with the collaboration of international NGOs (MSF and GVC), are implementing a flat fee system in some or all of their health centres (Cankuzo, Bujumbura Rural, Makamba and Ruyigi), with an all-inclusive fee ranging from 50 to 300 Fbu. The patients pay this fixed amount for the consultation, medical acts and medicines.

[2] PPP or purchasing power parities: often called 'international dollars'. This refers to health expenditure expressed as a unit that incorporates a country's standard of living. For Burundi, 1 PPP corresponds to about 0.18 USD.
[3] The official office for purchasing medicines.
[4] The Provincial Health Office.

Another medical NGO, Cordaid, funded by ECHO, practises a cost-sharing system of 50% in the province of Makamba. This means that the patients pay for the consultation, medical acts and 50% of the official CAMEBU price for medicines; the difference in the cost of medicines is subsidised by ECHO via Cordaid.

The opinion on these various payment policies varies largely according to different interlocutors. Some declare that the consultation rates have dropped dramatically since the introduction of the cost-recovery policy and that most of the population no longer has access to health care. Others emphasize that a large majority of the population continues to have access to care and that population groups that drop out of this system will benefit from free care thanks to the 'indigence cards'.

However, apart from the survey carried out by Save The Children in the provinces of Gitega, Muramvya and Mwaro (Save the Children, 2003), no reliable quantitative data are available to explain how the population is dealing with their health problems. Nor has it ever been determined whether the government's current policy on cost recovery is realistic and feasible, in the short- and medium-term, taking into account its principal objective, namely access to health care for all.

Hence there is a clear need for accurate and objective data in order to confirm or invalidate the hypothesis that the system of cost recovery has a negative impact on the population's access to health care and to ascertain whether a change in the system for paying for health services should be adopted in Burundi. It is in order to answer this question that MSF decided to conduct a country-wide epidemiological survey.

PART TWO
OBJECTIVES AND METHODOLOGY

This section presents the objectives in detail, the underlying hypotheses and the methodology utilized by MSF in conducting this country-wide survey.

A. OBJECTIVES

The general objective of the survey was to measure the financial access to primary health care according to the payment systems generally applied in Burundi's health centres.

The more specific objectives pursued were:

1. To describe the health structures concerned and the different methods of financial participation in existence.
2. To establish the proportion of patients living in proximity to a health centre and using this centre, according to the payment system in place.
3. To collect data relative to the quality of the care provided in the health centres (HC).
4. To measure the mortality of the civilian population of Burundi.
5. To collect data providing indications about the income and expenditure of the population, as well as the coping mechanisms employed by households in order to deal with health-related expenditure.

These data should enable the political decision-makers, humanitarian actors and medical staff to acquire reliable information on access to care in order to improve the response to the needs of the population and to provide objective guidance in their initiatives.

This information will also make it possible to measure the limits of MSF's projects supporting primary health care and reorient its programmes, if necessary.

B. HYPOTHESES

Principal hypotheses

- A large proportion of the population of Burundi does not have access to health care because of the prohibitive costs in the cost-recovery system. For the country overall, the degree of exclusion from primary services (health centre/HC) for financial reasons is around 20%.
- The degree of non-utilisation differs significantly according to the type of tariff system.

Secondary hypotheses

- Where the tariff level corresponds to a cost recovery of more than 50%, this implies a global exclusion of more than 20%.
- The flat fee and cost-sharing systems increase financial access to health care.
- The degree of exclusion is higher in tariff systems that charge per unit than in those charging a flat fee.
- The proportion of very poor households, although this varies from one province to another, is still very high in Burundi. The degree of exclusion of the poorest patients would be proportionately even higher.
- Globally, and particularly during several months of the year, poor households do not have sufficient cash money to pay for health care and are obliged to incur a debt.
- The flat fee protects the poorest patients from exclusion from primary care.
- The flat fee protects patients from incomplete treatments.
- The total price the patient has to pay does not correspond to the formal tariff in place.
- The flat fee means the patient has better knowledge of the price to be paid.

C. METHODS

With regard to the objectives of the research, several quantitative and qualitative techniques were adopted. A pre-survey was organised in order to categorize the health centres according to the tariff system practised. On the basis of this categorization, a household survey was organised in each category. The data was completed by the addition of two types of investigation: semi-open interviews with key actors in the system and 'patient questionnaires' at the exit of the health centres. The table below explains which type of information was collected by each of the investigation methods.

Type of information	***Population survey***	***Exit survey (patients at the exit of the health centre)***	***Information at the level of the health centre***
Socio-economic information about users and non-users	Categorization by socio-economic class	Categorization by socio-economic class	
Degree of non-utilisation	XXX		
Financial reasons for the non-utilisation	XXX		
Constraints/financial obstacles for users	XXX	XXX	
Negative effects and coping mechanisms in order to pay for care (users)	XXX	XXX	
Financial constraints on the quality of care (complete treatment, choice and dosage of medicines, etc.)	XXX	XXX	XXX
The real total price to be paid by the user	XX	XXX	
The patient's knowledge of the price to be paid		XXX	
The mechanisms for exemption or the price reductions available, and who benefits	XX	XXX	XX
The functioning of the exemption system for the poor	XX	XXX	X
Quality and type of care offered (including the availability of medicines, quality of diagnosis and treatment, temperature-taking, physical examination, offer of vaccination, length of consultation)		XX	XXX
Satisfaction regarding the quality of care (waiting time, reception, etc.)		XXX	
Tariff mechanisms in place		XX	XXX

The survey was directed only towards the access to care in the health centres, and not in the hospitals. As the objective of the study was to analyse the access to primary health care, we preferred to limit ourselves to the health centres, with or without hospitalisation beds.

It was also decided not to include Bujumbura Mairie for reasons related to the homogeneity of the population to be studied. In a rural setting, the poverty rates are even higher than in an urban setting. This does not mean that there are no problems of financial access in Bujumbura. A survey in an urban setting would have required other methods of investigation.

It was decided that the survey would be directed only towards the public health centres and the private religious health centres. It was considered that it would be difficult to identify purely private (for profit) health centres when these were not legally recognised. In addition, these private centres do not have public health objectives, but instead pursue lucrative goals. And finally, there are not very many of them in Burundi, except in the capital Bujumbura, which is not included in the survey.

Pre-survey

The health map for Burundi is not complete. It was therefore impossible to proceed with a categorization of the public and private religious health centres according to the type of tariff-setting system employed without a prior survey. This survey took place from September to October 2003. The 16 provinces of Burundi (the whole of the country, except Bujumbura Mairie) were investigated and different information was gathered from the administrative and health authorities, as well as from different NGOs: security, population displacements, population figures, list of health structures, their locality, type of care, type of tariff-setting system and catchment areas. In this way, a health map could be prepared. 374 public or private religious health centres were counted with 47 public health centres applying a flat fee (Family A), 19 public health centres applying a cost-sharing system of 50% of the price of medicines (Family B) and 308 health centres (234 public and 74 approved) applying a cost-recovery system of 100 to 150% of the price of medicines (Family C). Also listed was the number of private, non-approved health centres, as well as health centres under construction or not functioning.

Household surveys

Division of the country according to the tariff-setting system
The 'cost-recovery' group represents the majority system in the country as 4.922.241 people, or around 80% of the inhabitants of Burundi, fall under it. The two other groups constitute an exception to this generalised system, an exception agreed by the Ministry of Health.
The flat fee system is utilised in parts of five provinces: Cankuzo, Karuzi, Ruyigi, Makamba and Bujumbura Rural (MSF supports health projects in these five provinces). There are 526.401 beneficiaries in this system.

Finally, the cost-sharing system (50% cost recovery for the drugs) functions only in the province of Makamba, in the health centres supported by Cordaid. There are 221.413 beneficiaries in this system.

Calculation of the sample size

Cluster sampling at two levels was chosen for each tariff-setting group. The size of the sample was calculated based on a percentage of access of 75% for the cost-recovery system (family C) and 85% for the flat fee system (family A). In order to be able to differentiate between the two, the margin of error was fixed at more or less 4% (with an alpha risk of 0.05 and beta of 0.2). the cluster effect expected was estimated at 2. In this way, for each group, 876 households with at least one ill member were required. Hence 30 clusters of 30 households.

For each list (A,B,C) established during the pre-survey, the allocation of clusters was made by systematic sampling proportional to the size of the population covered by each health centre (cf. intra).

The retrospective period studied for the mortality survey was three months.

Identification of the sample and the field

Three types of health centre (Families A, B, C) are compared in the survey according to their tariff-setting system:

- Family A: flat fee (final list in annex 2);
- Family B: proportional cost-sharing system at 50% (final list in annex 3);
- Family C: cost-recovery system at 100 to 150% (final list in annex 4).

In each group, covering the whole of the country, with the exception of the capital, the health-centre catchment areas were chosen at random. For security reasons the survey teams could not visit certain geographic zones in the groups A and C; these were withdrawn from the study. They comprised a large part of the province of Bujumbura Rural and Bubanza, as well as a small part of the province of Cibitoke. It should be noted that during this period, the security situation in these provinces was volatile and as such it was decided that for safety reasons they should be excluded. It was therefore impossible to plan in advance, unless the whole of a province was to be excluded. The following communes of the province of Bujumbura Rural were entirely excluded: Muhuta, Kabezi, Bugarama, Isale, Mubimbi, Kanyosha, Mutambu and Nyabiraba. The communes of Mutimbuzi and Mukike were partially excluded. In the province of Bubanza, three communes were totally excluded (Mpanda, Gihanga and Rugazi) and two partially excluded (Bubanza and Musigati). In the province of Cibitoke, four communes were totally excluded (Mugira, Murwi, Mabayi and Bukiranyana). Finally, in the province of Bururi, two communes were totally excluded for security reasons. These were Burambi and Buyengero.

Distribution of the clusters in Group A

Province	Population covered by the HC of Group A	%	Number of clusters
Cankuzo	58.105	11.0%	3
Karuzi	224.834	42.7%	13
Ruyigi	109.440	20. 8%	6
Makamba	48.217	9. 2%	3
Bujumbura Rural	85.805	16.3%	5
Total	930.424		30

Distribution of the clusters in Group B

Province	Sector	Population covered by the HC of Group A	%	Number of clusters
Makamba	Makamba	125.861	80.67%	19
	Nyanza-Lac	30.166	19.33%	11
Total		156.027		30

Distribution of the clusters in Group C

Province	Population covered by the HC of Group C	%	Number of clusters
Cankuzo	139.248	2.8%	1
Karuzi	745.26	1.5%	0
Ruyigi	193.435	3.9%	1
Kayanza	482.763	9.8%	3
Mwaro	283.804	5. 8%	2
Cibitoke	107.320	2. 2%	1
Kirundo	575.571	11. 7%	4
Rutana	214.400	4. 4%	1
Muyinga	402.677	8. 2%	3
Ngozi	677.901	13.8%	4
Muramvya	349.516	7.1%	2
Makamba	66.076	1.3%	0
Bujumbura Rural	37.251	0. 8%	0
Bubanza	75.782	1.5%	0
Burui	444.463	9.0%	3
Gitega	797.508	16.2%	5
Total	5.364.011		30

For each province, the population covered by the health centres of the category concerned was calculated and the number of clusters required in the province was calculated in proportion to this population. Finally, within the province, the locality of each cluster was randomly selected in proportion to the populations of the health-centre catchment areas.

In order to concentrate on financial access, the households surveyed were selected from among the population living at a distance of less than 5 km from the reference health centre. This made it possible to minimise the problems related to geographic access and focus on the other reasons for exclusion, particularly those linked with problems of financial access.

There are no villages in Burundi. The population lives dispersed on the hills. The hills were selected at random, a hill corresponding to a direction in the so-called 'bottle' methodology: once on a hill, the different directions (groups of houses) were selected at random. Using the table of random numbers, the interviewers randomly selected a house and began the survey with that house. They continued the survey with the second house closest to it, and so on.

On average, eight two-person teams were selected on the basis of their capacities, their knowledge of the field and their fluency in French and Kirundi. These teams received specific training on the methodology and the procedures employed and went through a pre-test period. They were monitored by at least four supervisors, headed by a general coordinator.

The questionnaire comprised of 24 closed questions on the composition of the household, the mortality, the morbidity, the financial access to care and the socio-economic situation of the households (questionnaire included in the annexes). The questionnaire was translated into Kirundi and tested beforehand. Contrary to the survey on mortality and the survey on the socio-economic situation of the household, the questions relating to the access to care concerned only the households where at least one person had been taken ill in the course of the preceding three months. If there had been more than one ill person in the household during this period, the questionnaire applied to the most recent episode.

The household was selected for the sample and not the family, as the latter can be understood in the wide sense of the term (extended family) and comprises members who do not necessarily all live under the same roof. Talking about family members who do not share the everyday life of the person interviewed could have biased the data (precision in answering and memory problems). The following definition was used for a household: people who sleep under the same roof at least three days per week. Depending on the type of habitation and the social codes, a household could be comprised of: brothers, sisters and their nuclear families, second and more wives if polygamous, an adopted cousin, etc.

Analysis of the data
The data were encoded on a daily and/or weekly basis in the Epi Info 6.04 fr programme and checked on return by the field supervisors. The analysis was made in Brussels.

User survey of patients at the exit of a health centre

In each tariff-setting group (A, B and C) and for each cluster chosen in the sample, 15 patients were questioned as they left the health centre. A total of three times 450 interviews were therefore carried out. A semi-open questionnaire comprised of 28 questions related to the financial access to care, the quality of care and the socio-economic situation of the patient (questionnaire used for patients at the exit of the health centres can be found in the annexes).

This survey was conducted by teams of four to twelve medically-trained people, headed by four supervisors. Training and pre-testing of the questionnaire were undertaken.

Information gathered at the level of the focal HC for the cluster

Information was gathered from each health centre selected at random. In total, 72 health centres were visited. The information card (semi-open questionnaire) was comprised of 11 questions relative to the population using it, the tariff system, the number of curative consultations, the availability of medicines, and the quality of care.

Only the four survey supervisors participated in the collection of this information.

Interviews for each province

Open interviews were held with different types of interlocutor: e.g. the governor, provincial health authorities, head of health sector, head nurse of the health centre, health centre manager, hospital administrator, medical coordinator of the diocesan office and NGOs. Experienced personnel gathered the information provided by these different health actors.

PART THREE
RESULTS OF THE HOUSEHOLD SURVEY

I. DESCRIPTION OF THE SAMPLE

In total, 2.866 households were interviewed (955 for Group A, 944 for Group B and 967 for Group C). For families with no sick member in the three months preceding the survey, only the questionnaire relative to the composition of the family and the mortality was completed.

	Group C	Group B	Group A
Composition of households	Number of people	Number of people	Number of people
< 5 years	831 (15.7%)	872 (16.6%)	905 (16.7%)
5-14 years	1.682 (31.8%)	1.641 (31.2%)	1.797 (33.2%)
15-50 years	2.463 (46.6%)	2.439 (46.4%)	2.380 (43.9%)
> 50 years	308 (5.8%)	304 (5.8%)	333 (6.1%)
Total	5284	5256	5418
NB: Average n° people/family	5.5	5.6	5.7

The composition of the families of the three groups is similar. The three groups have a high percentage of households without children under 5 years: 378 households (= 39.6%) for Group A, 381 households (= 39.6%) for Group B and 404 households (= 41.8%) for Group C. 227 households (= 23.8%) comprising at least one person over 50 years, in Group A, 223 households (= 23.6%) in Group B and 219 households (= 22.6%) in Group C.

II. RETROSPECTIVE MORTALITY

The retrospective mortality survey was conducted over a period of three months.

1. Global mortality

Mortality in absolute values

Age bracket	Group C	Group B	Group A
00-59 months	25	39	26
05-14 years	13	19	7
15-50 years	34	28	21
51 years and over	5	3	6
Total	77	89	60

Mortality rate by category

Age bracket	Group C (deaths/10.000/day and 95% CI*)	Group B (deaths/10.000/day and 95% CI)	Group A (deaths/10.000/day and 95% CI)
Crude mortality rate	1.6 [1.2-2.0]	1.9 [1.4-2.3]	1.2 [0.8-1.6]
Mortality rate < 5 years	3.3 [2.0-4.6]	4.9 [3.4-6.3]	3.1 [2.3-4.0]
Mortality rate > 5 years	1.3 [0.9-1.6]	1.3 [1.0-1.6]	0.8 [0.6-1.0]
05-14 years	0.9 [0.4-1.3]	1.3 [0.7-1.8]	0.4 [0.2-0.7]
15-50 years	1.5 [1.0-2.1]	1.3 [0. 9-1.7]	1.0 [0.7-1.3]
51 years and over	1.8 [0.0-3.5]	1.1 [0.0-2.2]	2.0 [1.0-3.0]

** CI = confidence interval*

There is no significant statistical difference between the three groups.

2. Specific mortality (per 10.000/day)

	C (n = 77)	B (n = 89)	A (n = 60)
Malaria or fever	**37 = 0.8 [0.5 – 1.0]**	**36 = 0.8 [0.5 – 1.0]**	**15 = 0.3 [0.2 – 0.5]**
Respiratory condition	5 = 0.1 [0.0 – 0.2]	11 = 0.2 [0.1 – 0.4]	5 = 0.1 [0.0 – 0.2]
Diarrhoea	8 = 0.2 [0.0 – 0.3]	12 = 0.3 [0.1– 0.4]	10 = 0.2 [0.1 – 0.3]
Other	27 = 0.6 [0.3 – 0.8]	36 = 0.8 [0.5 – 1.0]	24 = 0.5 [0.3 – 0.7]

The mortality due to malaria or fever is significantly higher in Groups B and C compared with Group A ($p < 0.05$).

III. MORBIDITY

Within households chosen at random, the interviewer asked if one or more people had been ill during the past three months. If there were several of them, the person who had most recently been ill was questioned.

1.Description of the sample

1.1 Number of families with at least one person sick during the preceding three months

Number of families having with at least one sick member during the preceding three months

Group C	Group B	Group A
941	924	903
97.3% [96.1-98.5]	97.9% [96.9-98.9]	94.6% [92.7-96.4]

1.2 Composition of families with a sick member

	Group C	Group B	Group A
Composition of households	N° of people	N° of people	N° of people
< 5 years	802 (15.6%)	854 (16.6%)	871 (16.8%)
5-14 years	1.642 (31.9%)	1600 (31.1%)	1.692 (33.0%)
15-50 years	2.395 (46.6%)	2.392 (46.4%)	2.251 (43.5%)
> 50 years	302 (5.9%)	298 (5.8%)	315 (6.1%)
Total	5141	5.148	5.418
NB: Average n° of people/family	5.5	5.6	5.7

The composition of the households is similar to that of the total sample, as is the percentage of households with no children aged below 5 years (38.6%, 40% and 42.1% respectively) and of households with elderly members (23.5%, 23.6% and 22.7% respectively).

2. Gravity of the illness and type of treatment

2.1 Gravity of the illness

	Group C			Group B			Group A		
Gravity	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Serious	813	86.5	[83.2-89.8]	760	82.4	[77.6-87.3]	687	77.2	[72.6-81.8]
Not very serious	127	13.5	[10.2-16.8]	162	17.6	[12.7-22.4]	203	22.8	[18.2-27.4]
TOTAL*	940	100		922	100		890	100	

** Missing data: 13 for Group A, 2 for Group B and 1 for Group C.*

The proportion of sick people who felt their illness to be serious is greater in Groups B and C than in Group A. This tendency is statistically significant ($p<0.05$).

2.2 Type of treatment

	Group C			Group B			Group A		
Type of treatment	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Traditional products	28	3.0	[1.4-4.6]	6	0.6	[0.1- 1.2]	21	2.3	[1.3-3.3]
'Modern' medicine+/- Traditional products	761	80.9	[77.2-84.5]	834	90.3	[87.6-92.9]	806	89.3	[86.6-91.9]
Without medication	152	16.2	[13.019.3]	84	9.1	[6.5-11.7]	76	8.4	[5.9-11.0]
TOTAL	941	100		924	100		903	100	

The total 'cost-recovery' group (group C) has a significantly higher proportion of sick people taking no medication (16.2% against 8.4 and 9.1 respectively for Groups A and B) and a significantly lower proportion of people who took modern medicines (80.9% against 89.3 and 90.3 respectively for Groups A and B) ($p<0.05$).

2.3 Type of treatment according to the gravity experienced

2.3.1 People who felt they were seriously ill

	Group C			Group B			Group A		
Type of treatment	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Traditional products	20	2.5	[0.9–4.0]	3	0.4	[0.0- 0.8]	16	2.3	[1.3 – 3.4]
'Modern' medicine+/- Traditional products	683	84.0	[80.5-87.5]	697	91.7	[89.2 –94.3]	619	90.1	[87.2– 93.0]
Without medication	110	13.5	[10.5–16.5]	60	7.9	[5.4 – 10.4]	52	7.6	[5.9-11.0]
TOTAL	813	100		760	100		687	100	

2.3.1 People who felt they were not seriously ill

	Group C			Group B			Group A		
Type of treatment	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Traditional products	8	6.3	[3.1 – 9.5]	3	1.9	[0.0- 4.3]	5	2.5	[0.4 – 4.6]
'Modern' medicine+/- Traditional products	77	60.6	[52.0 – 69.3]	135	83.3	[76.8– 89.9]	174	85.7	[80.2 – 91.2]
Without medication	42	33.1	[24.3 – 41.8]	24	14.8	[7.7 – 21.9]	24	11.8	[7.0 – 16.6]
TOTAL	127	100		162	100		203	100	

When we stratify according to the gravity of the illness, this difference remains significant ($p<0.05$) for people who felt they were not seriously ill and is at the limit of significance for those who felt they were seriously ill.

3. Types of illness

In the three groups (903, 924 and 942 patients), the majority of people attended a consultation because they suspected malaria or fever.

Group C: 60.9 % CI [55.8-66.0]
Group B: 60.9 % CI [56.8-65.0]
Group A: 56.3 % CI [51.0-61.7]

IV. ACCESS TO CARE

1. Consultation

1.1 Out of the total (n = 2768)

	Group C			Group B			Group A		
had consulted	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
No	164	17.4	[14.0-20.8]	89	9.6	[6.7-12.5]	84	9.3	[7.0-9.5]
Yes	777	82.6	[79.2-86.0]	83.5	90.4	[87.5 – 93.3]	819	90.7	[88.4-93.0]
TOTAL	941	100		924	100		903	100	

Between 14 and 20.8% of sick people in Group C did not attend a consultation. This is significantly higher than for Groups A and B ($p<0.05$).

1.2 Among the seriously ill (n = 2260)

	Group C			Group B			Group A		
Had consulted:	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
No	118	14.5	[11.4 – 17.6]	63	8.3	[5.4 – 11.1]	55	8.0	[5.4 – 10.6]
Yes	695	85.5	[82.4 – 88.6]	697	91.7	[88.9 – 94.6]	632	92	[89.4 – 94.6]
TOTAL	813	100		760	100		687	100	

1.3 Among those not seriously ill (n = 492)

	Group C			Group B			Group A		
Had consulted:	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
No	46	36.2	[27.1 – 45.3]	26	16.0	[9.2 – 22.3]	29	14.3	[9.5 – 19.1]
Yes	81	63.8	[54.7 – 72.9]	136	84.0	[77.1 – 90.8]	174	85.7	[80.9 – 90.5]
TOTAL	127	100		162	100		203	100	

The number of people who did not attend a consultation in Group C represents almost double those who did consult in Groups A and B, no matter how ill they perceived themselves to be ($p<0.05$).

Reasons for not seeking a consultation

	Group C			Group B			Group A		
Reasons for not seeking a consultation	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Not sufficiently ill	19	11.6	[5.8 – 17.4]	9	10.1	[4.0 – 16.2]	13	15.5	[6.3-24.6]
Lack of money	134	81.7	[75.0 – 88.4]	68	76.4	[67.6 – 85.2]	61	72.6	[61.1-84.1]
Other reasons	11	6.7	[2.2 – 2.4]	12	13.5	[6.6 – 20.4]	10	11.9	[2.8 – 21.0]
TOTAL	164	100		89	100		84	100	

The main reason why the person did not attend a consultation is the lack of money, but a considerable percentage of sick people did not consult because they considered that the illness was not sufficiently serious to require a consultation (between 10 and 15% depending on the group).

1.4 Among those regarding themselves as seriously ill (n = 236)

	Group C			Group B			Group A		
Had not consulted	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Lack of money	107	90.7	[84.8 – 96.6]	54	85.1	[77.2 – 94.2]	43	78.2	[65.6 – 90.8]
Other reasons	11	9.3	[3.4 – 15.2]	9	14.3	[5.8 – 22.8]	12	21.8	[9.2 - 34.4]
TOTAL	118	100		63	100		55	100	

Although the difference is not significant, we can note a growing tendency among the three groups regarding the proportion of people not consulting because of a lack of money.

1.5 Among people who considered themselves to be only slightly ill (n = 101)

	Group C			Group B			Group A		
Had not consulted:	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Lack of money	27	58.7	[43.7 – 73.7]	14	53.8	[37.6 – 70.0]]	18	62.1	[39.6 – 84.4]
Other reasons	19	41.3	[26.3 – 56.3]	12	46.2	[30.0 – 62.4]	11	37.9	[15.6 – 60.2]
TOTAL	46	100		26	100		29	100	

The other reasons for not consulting are described as: "a lack of transport or the health centre considered too far away", "the security problems", "the health centre has no medicines", "the waiting time is too long at the HC", "a lack of confidence in the personnel of the HC", "HC personnel absent", "money owed to the HC", "the sick person considered to be incurable", "the family turned to prayer" or "already had medicines".

2. Primary care received

	Group C			Group B			Group A		
Place of consultation	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
HC chosen	573	73.7	[67.6 – 79.9]	626	75.0	[66.9 – 83.1]	642	78.4	[72.2 – 84.5]
Other HC	112	14.4	[9.0 – 19.8]	110	13.2	[7.9 – 18.5]	109	13.3	[8.1 – 18.5]
Hospital	40	5.1	2.6 – 7.7]	41	4.9	[2.8 – 7.0]	24	2.9	[0.9 – 5.0]
Other	52	6.7	4.5 – 8.9]	58	6.9	[3.8 – 10.1]	44	5.4	[3.1 – 7.6]
Total	777	100		835	100		819	100	

2.1 Overnight stay

Type of tariff	N =	Overnight stay in a HC	Overnight stay in a hospital	Total (overnight stay either in HC or hospital)	95% CI
Group C	777	78 (11,4%)	40 (5,1%)	118 (15,2%)	[10.0 – 20.4]
Group B	835	71 (9,6)	41 (4,9%)	112 (13,4%)	[10.0 – 16.8]
Group A	819	47 (6,3%)	24 (2,9%)	71 (8,7%)	[5.4 – 11.9]

In Group A, fewer people spent a night in the HC (health centre) or went to the hospital. This difference is at the limit of significance ($p<0.05$)

2.2 Treatment prescribed and received

The following data was calculated for patients who consulted in the nearest HC .

2.2.1 Laboratory

	Group C (n = 655)			Group B (n = 663)			Group A (n = 642)		
Laboratory	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Prescribed	216	37.7	[27.6 – 47.8]	372	59.5	[52.9 – 66.1]	170	26.5	[19.2 – 33.7]
Actually performed*	209	96.8	[93.4 - 100]	335	90.1	[85.2 – 94.9]	168	98.8	[96.5 – 100]

* *The % represents the proportion of prescribed tests actually performed (n = prescribed tests).*

Significantly more tests were prescribed in Group B than in the 2 other groups, although there was a general tendency to perform fewer.

Reasons why the test was not performed:

In Group A, the failure to perform 2 tests was due to a lack of money or lack of availability of the test in the laboratory. In Group B, the failure to perform the tests (37 tests) was mainly due to the lack of availability of the test or a laboratory (19 tests, or 51.3 %) and then to a lack of money (16 tests, or 43.2 %). In Group C, of the 7 tests not performed, 4 (57.1%) were due to the lack of a laboratory at the HC and 3 (42.9%) to a lack of money.

It is astonishing to observe how many tests were prescribed in Group B, although they were not available.

2.2.2 Treatments

	Group C			Group B			Group A		
Treatments:	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Prescribed	573	99.6	[99.2 - 100]	626	99.4	[98.6 - 100]	637	99.2	[98.6 – 99.9]
Received completely	543	95.3	[93.4 – 97.1]	588	94.5	[92.6 – 96.6]	611	95.9	[94.1 – 97.7]
Received completely at the HC	539	99.3	[98.4 – 100]	571	97.4	[95.7 – 99.1]	594	97.2	[95.4 – 99.0]

The percentage of treatments prescribed and received completely is similar for the three groups.

Reasons for failure to provide prescribed tests

	Group C			Group B			Group A		
	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Treatments received partially or not at all	27	4.8	[2.9 – 6.6]	34	5.4	[3.4 – 7.4]	26	4.1	[2.3 – 5.9]
Reasons									
Lack of money	17	63.0	[45.6 – 80.3]	17	50.0	[34.3 – 65.7]	8	30.8	[9.4 – 52.1]
Not available	10	37.0	[19.7 – 54.4]	16	47.1	[28.5 – 65.6]	15	57.7	[36.4 – 79.0]
Don't know/other	0	0		1	2.9	[0.0 – 8.4]	3	11.5	[0.0 – 25.0]

About 4% of patients receiving a prescription for medicines did not receive a complete treatment. In Group A, the main reason for not receiving part or all of the treatment was its non-availability in the health centre selected or elsewhere (57.7%). In groups B and C, the main reason was the patients' lack of money (50 and 63% respectively).

Summary of points 1 and 2

The following table summarises the percentage of patients (from among those who considered a consultation necessary[5]) having access to a consultation and receiving a complete treatment in the HC selected:

Percentage of patients with access to a consultation and receiving a complete treatment in the HC selected:

	Group C			Group B			Group A		
Access to a complete treatment	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Yes	539	58	[52-65]	571	62	[55-70]	594	67	[60-73]
No	383	42	[35-48]	344	37	[30-45]	296	33	[27-40]
TOTAL		100						100	

3. Price paid for care or linked to care

The following data are calculated for the people who attended the HC selected:

Group C: n = 573 (- 65 missing data)
Group B: n = 626 (- 35 missing data)
Group A: n = 642 (- 10 missing data)

3.1. Total price of a consultation

3.1.1 Percentage of free consultations

	Freq %	CI to 95 %
Group C (508) 9	1.6 %	[0.6 – 2.5]
Group B (591) 33	5.6 %	[2.9 – 8.3]
Group A (632) 37	5.8 %	[3.1 – 8.6]

Group C includes significantly fewer free consultations than the two other groups.

3.1.2 Total price of a consultation when the patient has to pay:

		Group C (n = 499)	Group B (n = 558)	Group A (n = 595)
Total price	Average price Median price Range	2.254 [1.163 – 3.346] **1.100** 100 – 60.000	1267 [1031–1504] **800** 100 – 20.000	472 [320 – 625] 300 20 – 20.000
		(448)	*(510)*	*(567)*
Price without an over-night stay	Average price Median price Range	1.421 [1176 – 1665] 1.000 100 – 14.200	987 [856 - 1117] 750 100 – 13.000	402 [295 - 509] 300 20 – 9.100
		(51)	(48)	(28)
Price with an over-night stay	Average price Median price Range	9.578 [2.996 – 16.161] 6.000 1000 – 60.000	4.250 [2.701 – 5.799] 3.500 600 – 20.000	1.906 [388 – 3.425] 500 100 – 20.000

The average prices in Groups B and C correspond to more than double or four times the average price in Group A, the difference being statistically significant and the median prices in Groups B and C corresponding to more than double or triple the median price in group A.

Without including an overnight stay in the HC, we note that a straightforward consultation will cost, on average, more than twice in Group B than in A, and more than three times in C than in A, the difference between the three groups being statistically significant. The increase in the median price between the groups is roughly the same proportion as for the average price.

However, once an overnight stay in the HC is included, the gap widens considerably. Given the weakness of the sample, the average prices are not statistically different, although they are twice and five times higher in Groups B and C compared with A. On the other hand, compared with Group A, the median price in Group B is seven times higher and in Group C, twelve times higher.

3.2 Price of laboratory tests in the health centres

Many people do not know in detail how the cost of a consultation breaks down (especially in Groups B and C); there is a great deal of missing data regarding the cost of tests:

Group C: 209 tests performed – 116 missing data= 93.
Group B: 335 tests performed – 180 missing data= 155.
Group A: 168 tests performed – 30 missing data= 138.

3.2.1 Percentage of free tests (or included in the flat fee):*

	Freq	%	CI to 95 %
Group C (93)	5	5.4 %	[1.3 – 9.4]
Group B (155)	14	9.0 %	[2.9 – 15.2]
Group A (138)	94	68.1 %	[54.7- 81.5]

After excluding the "I don't knows"

In group A, of 138 tests prescribed, 44 patients (31.9%) had to pay for the laboratory tests although the health centres theoretically offer a flat fee consultation with tests and medicines included.

3.2.2 Price of tests when the patient has to pay

		Group C (n = 88)	Group B (n = 141)	Group A (n = 44)
Price of the lab test	Average price Median price Range	405 [258 – 553] 300 100 – 3.000	261 [210 – 313] 200 50 – 1000	223 [159 – 286] 200 50 – 1.400
		n=61	n=130	n=39
Price without overnight stay	Average price [95%CI]	315 [259 – 371]	259 [206 – 312]	211 [141 – 282]
		n=27	n=11	n=5
Price with overnight stay	Average price [95%CI]	610 [211 – 1009]	286 [155 – 417]	310 [186 - 434]

We can observe an increase in the cost moving from A to C, although the weakness of the sample does not enable us to prove this difference statistically.

Without an overnight stay, we note a slight increase from A to C, although it is not significant. In addition, we observe that, in Group C, more tests are performed when there are one or more overnight stays (A: 5/29 = 1/6, B: 11/49 = 1/4, C: 27/51 = 1/2).

3.3. Price of treatments in the health centres

Many people do not know exactly how the cost of the consultation breaks down (especially in Groups B and C). There is a great deal of missing data regarding the cost of treatments:

Group C: 539 treatments received in the HC – 432 missing data= 107.
Group B: 571 treatments received in the HC – 453 missing data= 118.
Group A: 594 treatments received in the HC – 202 missing data= 392.

*3.3.1 Percentage of free treatments (or included in the flat fee)**

	Freq	%	CI to 95 %
Group C (107)	10	9.3 %	[3.4 – 15.3]
Group B (118)	30	25.4 %	[11.3 – 39.5]
Group A (392)	364	92.9 %	[89.3 – 96.4]

* After excluding the "I don't knows".

Out of 392 patients, 28, or 7.1 %, had to pay for treatment in Group A, although this is theoretically included in the flat fee price. This proportion is nevertheless markedly lower than for tests.

3.3.2 Price of treatments in the health centres when the patient has to pay

		Group C (n = 28)	Group B (n = 85)	Group A (n = 95)
Price of the medicines	Average price Median price Range	2.000 [1166 – 2835 **1.000** 120 – 13.780	853 [574 – 1131] **600** 50 – 10.000	750 [270 – 1230] **300** 50 – 5.000
		(n=27)	(n=83)	(n=87)
Price without a overnight stay	Average price [95%CI]	1.624 [986 – 2.261]	840 [557 - 1122]	763 [266 - 1260]
		(n=8)	(n=2)	(n=1)
Price with a overnight stay	Average price [95%CI]	6.100 [4345 – 7855]	1.400	400

The average price in Group C is 2.5 times higher than in Group A and 2.3 higher than in Group B. As the sample in A is very limited, the statistical significance of this difference only applies between B and C. The median prices in Groups B and C correspond to double or almost triple the median price in Group A.

As with the tests, we can observe that the fact of being hospitalised in the HC practically quadruples the price of treatment in Group C.

3.4. Cost of an episode of malaria or fever among patients paying for their care

In the three groups, we find the same proportion of patients consulting with suspicion of malaria or fever:

C: 330 / 499 = 66.1 %
B: 362 / 558 = 64.9 %
A: 368 / 595 = 61.8 %

3.4.1 Global price of a consultation for fever or malaria

		Group C (n = 330)	Group B (n = 362)	Group A (n = 368)
Total price for malaria	Average price Median price Range	2.238 [1045 – 3430] 1.000 100 – 60.000	1.301 [968 – 1635] 800 100 – 20.000	458 [339 – 577] 300 50 – 9.100
		(n=65)	(n=104)	(n=30)
Price of the lab test	Average price Median price Range	342.7 [244.6 – 440.8] 300 100 - 800	259 [202 – 316] 200 100 – 1.000	180 [147 – 213] 175 50 – 500
		(n=56)	(n=49)	(n=15)
Price of the treatment	Average price Median price Range	1.790 [997 – 2582] 1.000 120 – 9.500	918 [466 – 1370] 600 50 – 10.000	963 [55 – 1872] 300 150 – 5.000

We observe an increase in the average price moving from Groups A to C, although the weakness of the sample does not allow us to prove this distance statistically. The median price is double and triple in B and C compared with A. We can also see that in Groups A, B and C, respectively 4.1%, 13.5% and 17% of patients paid for the treatment, although it is theoretically included in the flat fee for malaria.

3.4.2 Global price of a consultation for fever or malaria according to overnight stays

		Group C (n = 330)	Group B (n = 362)	Group A (n = 368)
Total price for malaria	Average price Median price Range	2238 [1045 – 3430 **1.000** 100 – 60.000	1301 [968 – 1635] **800** 100 – 20.000	458 [339 – 577] **300** 50 – 9.100
		(n=293)	(n=326)	(n=352)
Price without a overnight stay	Average price Median price Range	1.303 [1053 - 1554] **1.000** 100 – 14.200	977 [802 - 1552] **750** 100 – 13.000	409 [287 – 530] **300** 50 – 9.100
		(n=37)	(n=36)	(n=16)
Price with a overnight stay	Average price Median price Range	9.636 [2835 - 16437] **6.000** 1.100 – 60.000	4.241 [2254 - 6228] **3.350** 700 – 20.000	1.549 [814 – 2283] **1.050** 250 – 5.000

A. Total price of a consultation for fever or malaria without overnight stay
We note that the cost of a straightforward consultation for malaria is, on average, two times higher in B than in A, and more than three times higher in C than in A, the difference between the three groups being statistically significant. The increase in the median price between the groups is similar.

B. Total price of a consultation for fever or malaria with overnight stays
We observe an increase in the cost moving from Groups A to C, although the weakness of the sample does not allow us to prove this difference statistically. The median price is triple and more than quintuple that in B and C compared with A.

3.4.3 Average price of treatment for malaria according to overnight stays

Price of treatment		Group C	Group B	Group A
		(n=51)	(n=48)	(n=14)
Price without a overnight stay	Average price [95% CI]	1.469 [829 - 2109]	921 [459 - 1383]	1.004 [33 - 974]
		(n=5)	(n=1)	(n=1)
Price with a overnight stay	Average pric [95% CI]	5.060 [2.980 – 7.140]	800	400

We see for malaria treatment a similar increase in cost as for the lab tests; the price increases strongly from group A to group C although the weakness of the sample does not allow us to prove this difference statistically.

3.6. Additional costs

The additional costs represent mainly indirect costs related to a consultation.

Proportion of patients who had additional costs:
Group C: 97 / 571 = 17.0% [11.6 – 22.3]
Group B: 129 / 623 = 20.7% [13.4 – 28.1]
Group A: 108 / 642 = 16.8% [11.3 – 22.3]

	Group C**			Group B*			Group A		
Type of cost	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Transport	85	89.5	[82.8 – 96.1	94	76.4		89	82.4	[73.4 – 91.4]
Food	6	6.3	[0.8 – 11.8]	19	15.4	[0.0 – 32.3]	4	3.7	[0.1 – 7.3]
Registration sheet or card	1	1.1	[0.0 – 3.1]	9	7.3	[0.0 – 19.4]	6	5.6	[0.2 – 11]
Transport and food	3	3.2	[0.0 – 6.5]	1	0.8	[0.0 – 5.0]	9	8.3	[2.5 – 14.1]
TOTAL	95	100		123	100		108	100	

* 6 missing data
** 2 missing data

For the three groups, the additional costs are mainly related to transport.
Costs of transport (transport alone, or in combination with food costs):
Group C: 88 / 95 = 92.6% [87.0 – 98.3]
Group B: 95 / 123 = 77.2% [57.7 – 96.7]
Group A: 98 / 108 = 90.7% [83.9 – 97.6]

3.5. Origin of the money spent on health care

We asked the patients if they had paid for their care in cash or if they had used another solution to pay for health care, such as selling land, livestock, the current or future harvest, working elsewhere, borrowing from a third party, incurring a debt, etc.

People able to assume the cost of care by taking from their savings
Group C: 82 / 499 = 16.4% [11.5 – 21.2]
Group B: 141 / 558 = 25.3% [18.5 – 32.1]
Group A: 247 / 595 = 41.5% [32.5 –50.5] (significantly more than the two other groups)

In Group A, two out of five people could pay for a consultation out of their savings, as opposed to one in four in Group B and fewer than one in six in Group C. Conversely, in Group C, the fact of having a sick person in the family leads to impoverishment in 83.6% of families (through falling into debt, selling off whatever the family produces or realising some capital, etc.). In Group B, 74.5% of families become impoverished and in Group A, 59.5%.

4. Exemption system

In Group A, the proportion of patients with the right to a reduction in health care costs is 130/902 = 14.4 % [9.6 – 19.2]. In Group B, the proportion of patients with the right to a reduction in health care costs is 67/923 = 7.3 % [4.2 – 10.3]. In Group C, the proportion of patients with the right to a reduction in health care costs is 80/941 = 8.5 % [4.5 – 12.5]

	Group C			Group B			Group A		
Type of reduction	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
CAM card	62	77.5	[65.1 – 89.9]	35	52.2	[29.5-75.0]	70	53.8	[40.3 – 67.4]
MFP (civil servants insurance)	9	11.2	[2.7 – 19.8]	12	17.9	[6.6-29.2]	35	26.9	[11.0 – 42.8]
'Indigence card'	6	7.5	[0.2 – 14.8]	6	9.0	[0.4-17.6]	18	13.8	[6.5 – 21.2]
Soldiers and their families				1	1.5	[0.0 – 4.0]	1	0.8	[0.0 – 2.3]
Other	3	3.7	[0.0 – 8.5]	13	19.4	[0.0 – 39.9]	6	4.6	[0.0 – 10.0]
TOTAL reductions	80	100		67	100		130	100	

* Other = repatriated by the UNHCR, parish certificate, health personnel, etc.

In Group C, 0.06% of patients were in possession of a 'poverty card'. In Group B, 1.3% of patients have the right to free care because they are destitute. In Group A, there were a few more people holding an 'indigence card' (2%).

IV. SOCIO-ECONOMIC CONDITIONS

1. Vulnerability

We categorized seven types of vulnerability according to the following criteria:

Criterion 1 = factors linked to the family situation (female-headed household, with or without dependent children; child-headed household with no outside assistance; elderly person, isolated or with dependent children; handicapped person dependent on the family or a chronically sick person dependent on the family);
Criterion 2 = land-related factors (without land or without access to the land owned)
Criterion 3 = factors linked to displacement (displaced or repatriated);
Criterion 4 = family and land;
Criterion 5 = family and displacement;
Criterion 6 = land and displacement;
Criterion 7 = family, land and displacement.

The proportion of patients meeting at least one of the criteria for vulnerability is 44.5 % [CI 37.0-52.1] for Group A (402 patients out of 903), 73.2 % [62.3-84.1] for Group B (676 patients out of 924) and 48.9 % [41.9-55.8] for Group C (460 patients out of 941).
Groups A and C are more or less similar, while Group B contains significantly more patients meeting at least one of the criteria for vulnerability than Groups A and C: this is due to the special and geographically limited situation of this group, which is only within the province of Makamba where there are many sites with displaced people, while the two other groups are distributed over several provinces.

2. Weekly expenditure and income

Weekly expenditure based on all the data available

Group C 931 / 941 = 10 missing data
Group B 896 / 924 = 34 missing data
Group A 840 / 903 = 63 missing data

Expenditure	Group C (931)	Group B (896)	Group A (840)
Average	2516 [2010 – 3022]	3071 [2618 – 3524]	3062 [1922 – 4202]
Median	1500	2000	1000
Range	20 – 30000	100 – 30000	50 –50000

The difference in expenditure between the groups is not significant. If we establish a national average by putting the three groups together, the average monthly expenditure would be 12.078 Fbu per family or 2.157 Fbu per person.

If we look at the average expenditure among patients consulting, among those consulting at the HC selected and among those consulting at the HC selected and paying for the consultation, we find similar values.

Weekly expenditure per group

	Group C	**Group B**	**Group A**
<1000 BIF	270=29% [23.1-34.9]	186=20.8% [14.3-27.2]	327=38.9% [30.4-47.4]
1000-1999 BIF	245=26.3% [22.3-30.3]	197=22.0% [17-4-26.6]	207=24.6% [20.3-29.0]
2000-4649 BIF	269=28.9% [24.9-32.9]	289=32.3% [27.8-36.8]	147=17.5% [13.9-21.1]
4650 BIF and +	147=15.8% [10.7-20.9]	224=25.0% [18.3-31.7]	159=18.9% [10.1-27.8]

The number of families in the category " less then 1000 Fbu" is statistically different between the 3 groups ($p<0.05$).

Weekly income based on all the data available

Group C 912 / 941 = 29 missing data
Group B 888 / 924 = 36 missing data
Group A 818 / 903 = 85 missing data

	Group C (912)	**Group B (888)**	**Group A (818)**
Average income	**2.625** [2.118 – 3.132]	**3.342** [2.871 – 3.813]	**3.413** [2229 – 4599]
Median income	**1.500**	**2.100**	**1.250**
Range	20 – 50.000	100 – 45.000	50 – 60.000

If we look at the average income among people consulting, these are similar for any health centre consulted (the nearest one or another).

Percentage of families below the poverty threshold* (based on the data available)

	Freq	%	CI to 95%
Group C	696 / 843	82.6%	[79.0-94.7]
Group B	701 / 767	91.4%	[88.4-94.4]
Group A	649 / 721	90.0%	[87.2-92.8]

* The relative poverty threshold for Burundi according to the preparatory text for the 'Poverty Reduction Strategy Paper' prepared by the Burundian government with the aid of the IMF is 53.650 Fbu/per/yr, or 1031.73 Fbu/per/wk, or less than 1 USD per week.

V. SOCIO-ECONOMIC CONDITIONS AND ACCESS TO CARE

1. Total price of consultation / median income

Below we compare weekly incomes (calculated for the health centres; not including free consultations; overnight stays included).

The consultation price /income ratio was obtained by calculating for each family the proportion that represents health-care expenditure compared with the household's weekly income. The results presented below are the averages and median ratios, expressed as percentage.

The price of a consultation compared with weekly income expressed as an overall percentage

	C (n = 490)	B (n = 549)	A (n = 545)
% average	**173.8% [122.1 – 225.6]**	**93.7% [66.3 – 121]**	**52.2% [33.4 – 71.1]**
% median	73.3%	31.3%	20.0%
Range	0.8 – 3800%	0-5000%	0.3 –2000%

In the flat fee group (Group A), the average price of a consultation represents around half the average income of a whole family. This expenditure amounts to almost one week of income in Group B, and 1¾ weeks in Group C. The increase from A to C is significant ($p<0.05$).

It is well known that extreme values draw the average upwards. Therefore, the median is often preferred, as it is unaffected by these extreme values. The median price for a consultation represents 1/5 of the weekly income in Group A, around 1/3 in Group B and about ¾ in Group C. Although the median values in itself are inferior to the average, the ratio between the groups remains the same.

The price of a overnight stay (higher than a normal consultation) influences this global proportion, as indicated in the following results.

Proportion of weekly income spent on a consultation, according to overnight stay

	Group C		**Group B**		**Group A**	
	N	**%**	**N**	**%**	**N**	**%**
Without	15	313 [241 - 386]	501	81.7 [52.9-110.5]	522	43.5 [30.1 – 56.9]
With	5	1.460 [0 - 3044]	48	219.6 [111.7-327.5]	23	250.1 [25.3 – 475]

Roughly speaking, without overnight stay overnight stay, the ratio between the groups remains the same. With overnight stays, the weakness of the sample does not permit a statistical demonstration of the difference.

Comparison on the basis of a family's daily income
Group C: 1 consultation = +/- 12 days of income
Group B: 1 consultation = +/- 6.5 days of income
Group A: 1 consultation = +/- 3.5 days of income

The same calculation, based on the median values:
Group C: 1 consultation = +/- 5 days of income
Group B: 1 consultation = +/- 2 days of income
Group A: 1 consultation = +/- 1.5 days of income

Roughly speaking, the ratio between the groups remains similar.

2. Vulnerability and access to care

2.1 Relationship between vulnerability and consultations (calculated on all sick people presenting at least one criterion of vulnerability)

% of vulnerable people who did not consult

	Freq	%	95% CI
Group C	99 / 460	21.5%	[17.2- 25.8]
Group B	80 / 676	11.8%	[8.5 – 15.1]
Group A	48 / 402	11.9%	[7.8 – 16.1]

The percentage of vulnerable people who did not consult is significantly higher in Group C than in the two other groups ($p<0.05$). Compared with the total population, the percentages for those not consulting are slightly higher among vulnerable people (9.3 and 11.9% for Group A, 9.6 and 11.8% for group B, 17.4 and 21.5% for Group C).

Among vulnerable people not consulting, % claiming lack of money as the reason

	Freq	%	95 % CI
Group C	89 / 99	89.2 %	[82.5 – 97.3]
Group B	64 / 80	80.0 %	[71.8 – 88.2]
Group A	38 / 48	79.2 %	[61.3 – 97]

We note no statistical difference between the three groups because the total number included is too small.

2.2. Relationship between vulnerability and reduction cards (calculated on all vulnerable sick people)

% vulnerable people holding a reduction card

	Freq	%	95 % CI
Group C	33 / 460	7.2%	[4.1 – 10.3]
Group B	49 / 676	7.3%	[3.9 – 10.6]
Group A	63 / 402	15.8%	[10.6 – 20.8]

In these three groups, we could observe that the percentage of vulnerable people holding a reduction card is not very high. In Group A, this percentage is, however, double (statistically significant). This percentage is comparable to that of the overall sample. This means that the vulnerable have no more chance of obtaining a reduction card than the general population.

2.3 Percentage of the population below the poverty threshold attending a consultation when sick

	Freq	%	CI to 95 %
Group C	696 /843	82.6 %	[79.0 – 86.2]
Group B	701 / 767	91.4 %	[88.4 – 94.4]
Group A	649 / 721	90.0 %	[87.2 – 92.8]

We notice that in Group C, those living below the poverty threshold consult significantly less than in the two other groups.

PART FOUR

RESULTS OF THE USER SURVEYS AT THE EXIT OF THE HEALTH CENTRES AND THE SURVEYS OF PATIENT CARDS AT THE HEALTH CENTRES

I. DESCRIPTION OF THE SAMPLE AND CHARACTERISTICS OF THE PATIENTS

1. Patients questioned

Within Group A, 458 patients or other persons accompanying a patient were questioned at the exit of the health centre. Within Group B, 469 patients or their relations were questioned. Finally, within Group C, 458 patients or persons accompanying them were questioned.

2. Morbidity

	Group C			Group B			Group A		
Severity of the illness	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Not very serious	48	10.5	[5.9-15.1]	54	11.6	[5.7-17.4]	59	12.9	[7.9-17.9]
Serious	117	25.6	[19.8-31.4]	275	58.9	[51.9-65.8]	297	65.0	[56.9-73.1]
Very serious	292	63.9	[55.6-72.1]	138	29.6	[22.1-36.9]	101	22.1	[14.4-29.6]

There is a significant difference in how patients regarded their illness between Groups A and B and Group C ($p<0.05$). The proportion of patients in Group C who considered themselves to be seriously ill is significantly greater than in Groups A and B. In fact, in Group C, 63.9% of patients regarded themselves as seriously ill, while in Groups A and B, only 22.1 and 29.6 % of patients considered themselves seriously ill.

II. ECONOMIC CHARACTERISTICS

This is the same question as that posed in the 'household' survey. We hoped, given the difficulty of the question and out of a concern for verification, to double check its results in the household survey with the results from the exit user survey.

1. Expenditure

In Group A, the average expenditure per household and per week is 2.557,3 Fbu. The range extends from 0 to 35.000 Fbu. In this group, 50 % of the sample spent less than 1.200 Fbu per week.
In Group C, the same expenditure was evaluated at 2.244,9 Fbu and the range extends from 0 to 30.000 Fbu. Here, 50% of the sample is lower than 1.200 Fbu.

2. Income

In Group A, the average income per household and per week is 3.458,1 Fbu and the range extends from 0 to 70.000 Fbu. Here, 50 % of the sample is lower than or equal to 1.500 Fbu.
The income of the households in Group C is evaluated at 2.524,3 Fbu.

These results are similar to those of the household survey.

III. QUALITY OF THE DIAGNOSIS AND THE CARE PROVIDED

1. Indicators of quality observed or reported

As regards the quality of the diagnosis and the care provided in the HC, we utilised 'proxy' indicators, which are quite easy to observe and to measure. Here is a summary of the principal results.

Temperature-taking

Temperature-taking in general

	Group C			Group B			Group A		
Temperature taken	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Patients overall	140	30.6	[19.3-41.9]	112	23.9	[11.5-36.3]	180	39.3	[26.5-52.1]
Children < 5 years	30	33.0	[16.4-49.5]	30	26.8	[11.5-42.1]	43	49.4	[32.1-66.7]
Patients complaining of fever	76/211	36.0	[21.4 – 50.7]	64 / 233	27.5	[13.6 – 41.3]	101 / 218	46.3	[30.5 – 62.2]

The proportion of patients whose temperature was taken is slightly higher in Group A than in Groups B and C, but this difference is not statistically significant.

Performing a clinical examination

For all patients together

	Group C			Group B			Group A		
Clinical examination	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Performed	48	10.5	[5.9-15.1]	42	9.0	[5.4-12.5]	48	10.5	[5.3-15.7]
Not performed	117	25.6	[19.8-31.4]	185	39.4	[31.4-47.5]	219	47.9	[38.9-57.0]
Not applicable	292	63.9	[55.6-72.1]	242	51.6	[43.9-59.3]	190	41.6	[33.7-49.4]
TOTAL	457	100		469	100		457	100	

We notice that only one patient in ten, no matter the group, was given a clinical examination. This tendency is met again in children under five years.

Vaccination card controls

In the three Groups A, B and C, among children < 5 years, the consultant asked to see the vaccination card in only two cases (2.3%, CI [0.0-5.7] for A; 0.4%, CI [0.01.3] for B and 2.2%, CI [0.0-5.1] for C). These very low figures indicate how frequent opportunities are lost to refer a child from the curative consultation towards vaccination.

Diagnosis given to the patient

Few consultants took the trouble to give the diagnosis to the patient.

Knowledge of the diagnosis	**Freq**	**%**	**95%CI**
Group C	155 / 458	33.8 %	[25.8 – 41.8]
Group B	191 / 469	40.7 %	[33.5 – 48.0]
Group A	115 / 458	25.1 %	[18.8 – 31.4]

The patients in Group B were slightly more aware of the diagnosis that those in Group A.

Length of the consultation

The length of the consultation was calculated by an interviewer from the moment when the patient sat down in front of the consultant to the moment s/he left.

	Average	**Median**	**+ frequent**	**Range**
Group C (n = 30)	6 min 48 sec	6 min	5 min	3 - 15
Group B (n = 17)	6 min 48 sec	7 min	7 min	5- 10
Group A (n = 24)	6 min	5 min	5 min	3 - 10
Total for the HC	**6 min 30 sec**	**6 min**	**5 min**	**3 – 15**

The length of a consultation is comparable in the three groups and varies from 5 to 7 minutes per patient.

Confidentiality

In a large majority of cases, the environment in which the consultation takes place makes it possible to maintain confidentiality (verified at each centre by the interviewer):

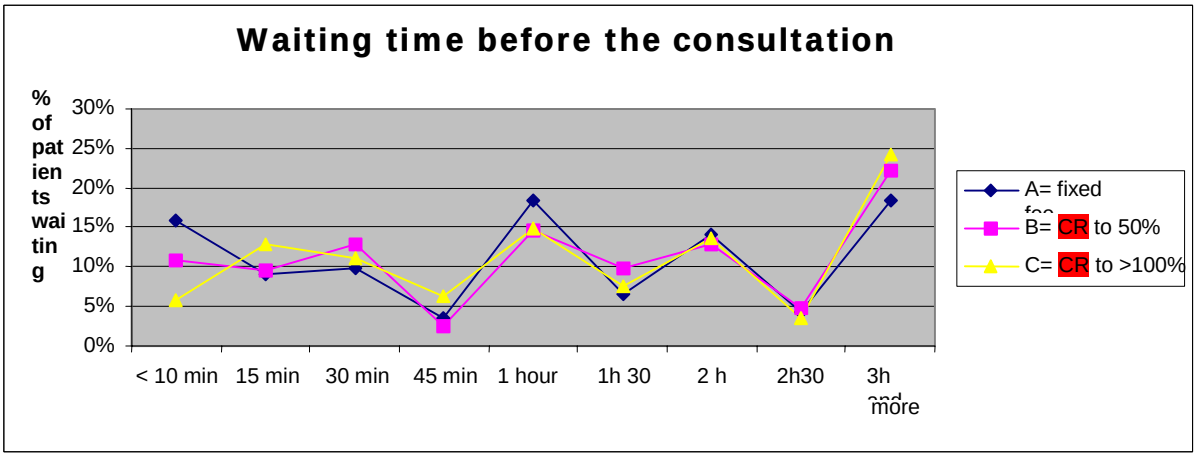
	Freq	%	CI to 95%
Group C	25 / 29	86.2%	[73.4 – 99.0]
Group B	15 / 17	88.2%	[72.4 – 100]
Group A	18 / 24	75%	[57.3 – 92.7]
Total for the HC	59 / 71	83.1%	[74.6 – 91.6]

There are no statistically significant differences between the three groups.

Waiting time

In Group A, the average waiting time is 1 hr 24 min, varying from 0 to 6 hr; 55.6% of patients waited a maximum of 1 hr (n = 258), but 18.4% had a very long waiting time of up to or beyond 3 hr. In Group B, the waiting time average is 1 hr 30 min, varying from 0 to 5 hr; 49.8% of patients waited a maximum of 1 hr, but 21.8 % had a very long waiting time of 3 hr or beyond. In Group C, the average waiting time is 1 hr 42 min, varying from 0 to 9 hr 10 min; 50.8% of patients waited a maximum of 1 hr (n = 232), but 24.3% had a very long waiting time of 3 hr or beyond.

	Group C			Group B			Group A		
Waiting time	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
<10 minutes	27	5.9	[3.1 – 8.7]	51	10.9	[6.3-15.5]	72	15.8	[9.5-22.1]
15 minutes	59	12.9	[8.7 – 17.2]	45	9.6	[5.4-13.8]	41	9.0	[5.2-12.8]
30 minutes	51	11.1	[7.7 – 14.6]	60	12.8	[9.2-16.5]	45	9.9	[7.0-12.8]
45 minutes	29	6.3	[3.6 – 9.1]	12	2.6	[1.1-4.0]	16	3.5	[1.7-5.3]
1 hour	68	14.9	[10.9 – 18.9]	68	14.5	[10.6-18.4]	84	18.4	[13.9-22.9]
1 hour 30	34	7.4	[4.6 – 10.3]	46	9.8	[6.1-13.5]	30	6.6	[3.7-9.4]
2 hours	62	13.6	[9.2 – 17.9]	60	12.8	[8.8-16.9]	64	14.0	[9.9-18.2]
2 hours 30	16	3.5	[1.7 – 5.3]	22	4.7	[1.8-7.6]	20	4.4	[2.7-6.1]
3 hours and more	111	24.3	[14.7 – 33.9]	104	21.8	[15.5-28.9]	84	18.4	[11.1-25.7]
TOTAL	457	100		468	100		456	100	



The indicators for the quality of care are summarised in the following table

	Result (good / average / poor)		
Indicator	**Group C**	**Group B**	**Group A**
Temperature-taking	Poor	Poor	Poor
Clinical examination	Poor	Poor	Poor
Confidentiality potential	Good	Good	Good
Patient's knowledge of the diagnosis	Average	Average	Average
Length of a consultation	Average	Average	Average
Waiting time	Poor	Poor	Poor

2. Utilisation of the HC and patient satisfaction

Decision to return to this health centre

In answer to the question "Will you return to this health centre if you, or someone in your family, is ill?", between 94.3 and 98.1% of patients replied in the affirmative. The differences between the groups are not statistically significant.

	Group C			Group B			Group A		
Return and reason	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
Yes	432	94.3	[91.6-97.1]	460	98.1	[96.6-99.6]	437	95.4	[93.3-97.5]
Satisfied with the care provided	157	34.3	[28.1-40.5]	207	45.1	[37.7-52.5]	195	44.6	[37.1-52.1]

The principal reason given in the three groups for agreeing to return to the same centre is satisfaction with the care provided. There is no significant difference between the groups. There is a striking difference with the result of the 'objectivised' indicators above.

The other reasons evoked were: "satisfaction with the reception", "served rapidly", "not too expensive", "I don't know another HC" and "it's the nearest HC".

IV. ACCES TO CARE AND VULNERABILITY

1. Reductions

1.1 Holders of a reduction card

In Group A, 10.7 % (49 / 458) [7.2 – 14.2] of patients have the right to a reduction or an exemption. In group B, 15.8% (74/469) [11.3-20.8] have the right to a reduction or to free care. Finally in Group C, 12.2 % (56 / 458) [4.7 – 19.7] of patients have the right to a reduction or to free care. The differences between the groups are not significant.

1.2 Type of reduction card

	Group C			Group B			Group A		
	Fr.	%	95% CI	Fr.	%	95% CI	Fr.	%	95% CI
CAM	29	52.7	[32.7 – 72.8]	5	6.9	[0-14.8]	5	10.2	[0.0-22.0]
Indigence card (Certificate proving poverty)	4	7.3	[0.0 – 15.8]	34	46.6	[29.0-64.2]	27	55.1	[32.6-77.6]
Certificate proving displacement, repatriation, victim of disaster	2	3.6	[0.0 – 8.9]	17	23.3	[11.6-35.0]	6	12.2	[0.4-24.1]
Insurance (mutuelle) for civil servants	13	23.6	[10.1 – 37.1]	9	12.3	[3.7-21.0]	5	10.2	[1.8-18.6]
Military and family	1	1.8	[0.0 – 5.3]	2	2.7	[0.0-6.3]	2	4.1	[0.0-11.7]
Health personnel	3	5.5	[0.0 – 16.0]	2	2.7	[0.0-6.3]	1	2.0	[0.0-6.1]
Other	3	5.5	[0.0 – 12.5]	4	5.5	[0.0-11.9]	3	6.1	[0.0-17.7]
TOTAL		100			100		49	100	

In Group C, the number of patients holding a 'indigence card' (7.3%) at the exit of a health centre is markedly lower in Groups A and B (55.1 and 46.6). This difference is significant.

2. Payment difficulties

1.1 Presence of a difficulty to pay

In Group A, 138/457 people, or 30.2 % [21.1 – 39.2] experienced difficulties in paying for health care. In Group B, 194/469, or 41% [32.5-50.2] experienced payment difficulties. Finally, in Group C, the figure is comparable: 192 / 458 people, or 41.9 % [33.6 – 50.3] experienced difficulties in paying for health care.

1.2 Reasons for the difficulty

	Group C			Group B			Group A		
Reasons	**Fr.**	**%**	**95% CI**	**Fr.**	**%**	**95% CI**	**Fr.**	**%**	**95% CI**
1. Not earning enough	106	55.8	[46.9 – 64.7]	88	45.6	[36.7 – 54.5]	75	54.7	[45.4 – 64.1]
2. Previous expenses for this illness	27	14.2	[8.0 – 20.4]	18	9.3	[4.7 – 13.9]	21	15.3	[9.7 – 21.0]
3. Too many expenses in other domains*	11	5.8	[2.1 – 9.5]	18	9.3	[5.0 – 13.6]	11	8.0	[3.4 – 12.6]
4. Price of the care is too high	17	8.9	[2.5 – 15.4]	4	2.1	[0.2 – 3.9]	6	4.4	[1.0 – 7.8]
5. Several illnesses	22	1.1	[3.5 – 19.6]	6	3.1	[0.0 – 6.4]	2	1.5	[0.0 – 3.3]
6. Temporary cash flow problem	2	3.6	[0.0 – 2.5]	25	13.0	[6.2 – 19.7]	5	3.6	[0.8 – 6.5]
7. Other	5	2.6	[0.0 – 5.2]	34	17.6	[9.3 – 25.9]	16	11.7	[7.1 – 16.2]
1 + 3	190			0			1	0.7	[0.0 – 2.2]
TOTAL		**100**		**193**	**100**		**137**	**100**	

* E.g. school fees, seed purchases, etc.

1.3 Potential solution envisaged

	Group C			Group B			Group A		
Solutions	**Fr.**	**%**	**95% CI**	**Fr.**	**%**	**95% CI**	**Fr.**	**%**	**95% CI**
1. None	11	5.7	[1.6 – 9.8]	9	4.7	[1.5 – 7.8]	21	15.4	[8.2-22.7]
2. Loan from family or neighbours	60	31.2	[23.2 – 39.3]	82	42.5	29.5 – 55.4]	23	16.9	[10.6-23.2]
3. Debt incurred at the HC	21	10.9	[3.4 – 18.5]	9	4.7	[1.4 – 7.9]	13	9.6	[0.0-19.4]
4. Work in the fields	18	9.4	[4.1 – 14.6]	32	16.6	[8.4 – 24.8]	17	12.5	[6.1-18.9]
5. Work elsewhere	19	10.0	[5.4 – 14.4]	22	11.4	[5.4 – 17.4]	32	23.5	[14.3-32.7]
6. Reduce other expenses	2	1.0	[0.0 – 2.5]	4	2.1	[0.0 – 4.4]	0		
7.Sell vegetables, fruit, etc.	43	5.2	[15.5 – 29.2]	26	13.5	[7.5 – 19.5]	20	14.7	[9.4 – 20.0]
8. Sell livestock	5	0.7	[0.1 – 5.1]	0	0		2	1.5	[0.0 – 3.4]
9. Sell a piece of land	2	0.5	[0.1 – 2.5]	1	0.5	[0.0 – 1.5]			
10. Sell something else	10		[1.0 – 9.5]	0	0		7	5.1	[1.0 – 9.3]
11. Other	1		[0.0 – 2.1]	4	2.1	[0.2 – 4.0]	1	0.7	[0.0 – 2.1]
12. 2 + 4				0	0		1		[0.0 – 1.5]
TOTAL		**100**		**193**	**100**		**192**	**100**	

VI. HEALTH CENTRE ATTENDANCE

Analysing the number of curative consultations for 2002 and 2003 reported by the health centres surveyed applying cost recovery at 100 % or more we notice a **reduction of 10% in attendance rates**. This corresponds to a reduction of 0.49 to 0.44 of the curative care coverage, expressed by the number of consultations per inhabitant and per year. [6]

Although this could be interpreted as a limited reduction, it must not be forgotten that this represents over 29.000 consultations less over the year for the health centres (HC) visited alone. Extrapolating from this representative sample towards the population covered by HC with cost recovery of 100% or more, we can estimate the yearly loss of curative coverage at more than 243.000 consultations for the country.

These figures are even more worrying as this reduction is occurring against a background of a relatively low curative cover. For rural zones in Africa, the World Health Organisation (WHO) often takes a coverage of 0.6 new cases per inhabitant and per year as a reference.

[6] The quality of the registration in the HC does not make it possible to differentiate between new cases (NC) and old cases (OC). We prefer to use the indicator of the number of consultations per inhabitant per year. We could estimate that the number of NC is about 85% of the total number of consultations.

More detailed analysis shows us that it is mainly the attendance at public health centres that is falling considerably. We observe a reduction in coverage from0.57 in 2002 to 0.47 in 2003, which is a reduction of 0.09 cons/inhab/yr (17%).

Conversely, the attendance at private (religious)health centres in which there is little or no change in the tariff system (these have been applying cost recovery for a long time) is increasing slightly. It should be noted that the coverage here is very much weaker (0.36 cons/inhab/yr).

Cost-recovery system at 100% or more (group C)	Population covered	Consult. 2002	Consult. 2003	Cons/ inhab/yr 2002	Cons/ inhab/yr 2003	Difference cons/ inhab/year	Difference in n° cons.
private (religious)HC	178.511	4.523	5.333	0,30	0,36	0,05	9.724
Public HC	409.726	19.336	16.097	0,57	0,47	-0,09	-38.868
Total	588.237						

The downward tendency in HC with tariffs set at 100% or more[7] is not uniform across Burundi during this same period. On the contrary, in the HCs applying the flat fee system an increase in curative care coverage is noted. In the province of Makamba, where the level of cost recovery is set at 50%, a reduction in attendance is also noticed, but the health coverage is well above the average in public HC.

	Consultations 2002	Consultations 2003	Cons/inhab/an 2002	Cons/inhab/an 2003	Difference
HC charging a flat fee (Group A)	20.110	22.808	**0.74**	**0.84**	**+ 0.10**
HC with tariff set at 50% (Group B)	12.412	10.538	**0.79**	**0.65**	**- 0.12**

[7] This in spite of the fact that in some HC, the change towards a flat fee only took place towards the middle of 2003. For example, in May 2003 in Cankuzo and in September in Ruyigi.

PART FIVE
RESULTS FROM INDIVIDUAL INTERVIEWS WITH KEY ACTORS

The health services

The basic package of health activities organised at the level of the health centres includes curative consultations and preventive activities: vaccination (Expanded Programme of Immunisation/EPI) and antenatal consultations (ANC). Most of the primary care is supplied in two types of health centre: the public health centres and the private (religious) health centres that are recognised by the ministry of health. Most of the health centres have the possibility of beds for hospitalising patients for observation or for treatment. The survey made it possible to establish a list of the country's functioning health centres (see annex).

The private (religious) **health centres** sign an agreement with the Bureau Provincial de la Santé (BPS)[8]. They receive material and supplies for preventive activities from the BPS. Medicines are supplied at cost price[9]from the medicinal depots managed by the diocesan offices. This supply system is dependent on the purchasing possibilities in Bujumbura (Centrale d'Achat en Medicines du Burundi[10]/CAMEBU, ONAPHA[11], Caritas or private depots such as ALCHEM). They also receive donations of medicines. The tariffs follow a list of prices calculated on the base of 150% of the cost price of the medicines. This price per unit might fluctuate for each batch supplied, as purchase prices differ according to the possibilities of that moment. A more or less standard price list also exists for medical acts.

The **public health centres** depend on the BPS. Several health centres benefit from external support, of an NGO, or from a project financed by institutional donors such as the EDF, the World Bank, etc. Supplies of medicines for the public health centres are obtained through different sources:

- Purchases from CAMEBU (requisition by the provincial doctor);
- Medicines linked to specific support programmes: CURE (World Bank), EDF (EU) and UNICEF;
- Medicines supplied by NGOs.

During the interviews, the problem of the **lack of qualified personnel** in several provinces was often raised. In the province of Bujumbura Rural, for example, several actors spoke about the practise of 'sharing' a nurse between several health centres, in order to assure a type of rotating scheme. This lack of personnel is a consequence of the insecurity, but also of the impossibility of employing additional staff (instruction at national level).

Although the hospitals were not examined in detail, the lack of doctors in the provincial hospitals is striking. Apart from expatriate reinforcements (Cuban or linked to an external support), the only doctors present in a province are the provincial doctor and the medical director of the hospital, but these posts are not filled everywhere. In addition, we were able to observe that these doctors are very often solicited for training or other meetings in the capital, which leads to frequent and extended absences.

The tariff-setting system in place

Apart from some health centres where a flat fee is applied, the price of care in the health centres is **composed** of different elements: the consultation, the medical acts, the medicines and the medical material, overnight stay for hospitalisation, each of which needs to be paid for separately. The total price paid by the patient is composed by the various **unit prices and thus depends on the unit price of the different care elements and the number of units needed; the unit price relates proportionally to the purchase price** of the input. Consequently, for each health problem and each treatment provided, the price to pay varies.

[8] The Provincial Health Office. Although all the private (religious) health centres say that they supply preventive services, it should be noted that the family planning includes no other method than natural birth control.
[9] Bureau Diocésain de Développement de Ruyigi (Diocesan Development Office for Ruyigi). They supply the health centres in the provinces of Ruyigi, Cankuzo and Rutana.
[10] Burundi's central purchasing office for medicines.
[11] The national pharmaceutical office.

For patients, this means significant financial insecurity. The health personnel do not have a good overall view of the total price to be paid either. This leads to under-estimating the financial load for the patient. This system makes verification (by the patient, by the community, or by the technical supervisors of the Ministry of Health or the NGO) difficult and renders comparison of the prices between different structures almost impossible

Although a surprising diversity has been remarked in the field, it is possible to discern the following principles regulating the tariff-setting.

- The private health centres (Catholic network) apply cost recovery at 150% for medicines and a separate tariff system for medical acts, overnight stays and other care. Although preventive care is theoretically free, it was reported to us in several provinces that a (modest) payment is requested; for example, for vaccinations or antenatal consultations, to cover the costs of the card or the act of injection.
- In the public health centres, the medical acts are paid for separately, for each act, according to a list of prices provided by the BPS[12]. The price of medicines is based on CAMEBU's price list, increased (or subsidised) according to the level of cost recovery in place. For most of the public health centres, this rises to 115%.

But, as illustrated in the annexed table, which gives an overview of the system in the different provinces, the application of these principles is far from homogeneous. The instructions received from the Ministry of Health allow the BPS and others concerned quite a wide interpretation in their application.

- The time of introduction of the cost-recovery system varies widely;
- The percentage of recovery varies between 100 and 120% in the public structures; in the province of Makamba, 50% is applied.
- The validity of the CAM card (giving a reduction of 80%) is not always recognized, or only applied for medical acts, or only in the health centres linked to the hospitals.

Subsidies and exemption systems
In principle, in the public health centres, the 'indigence card' obtained at the level of the commune remains valid for obtaining medicines and medical acts free of charge. Nevertheless, it was reported to us several times that this free care is limited to the acts, with the medicines being paid for at the usual price. Again, local or individual interpretations are common practice. The criteria for obtaining a certificate affirming destitution are not very clear. Such certificates are not common (see the exit survey of the health centre).

At the moment, health care for the destitute is not subsidized. For the health centres, no compensation is foreseen for the 'loss of income' associated with care for the destitute. Consequently, these centres accept exemption for this group very reluctantly. Under a new ministerial directive (Ministry of Health and Ministry of the Interior), in the future it is the community that will make the decisions about issuing these cards and will therefore decide on the number of people with the right to free care. The loss of income for the health centres will be registered in the accounts. It has been proposed that reimbursement should be shared between the commune (20%) and the Ministry of Health (80%), but in most provinces these proposed modalities are still unknown and the health committees are not yet functioning.

Normally, the health structure can also decide whether a person is destitute and grant a reduction or allow a debt. Nevertheless, since the introduction of cost recovery, this effectively loss-making practice is tending to disappear and, in some provinces, specific instructions have been received to end it. Some interlocutors in the field have received orders to reimburse out of their own pocket the cost of health care provided to patients that can not pay.

There are also certificates for repatriated people to obtain free care, issued by the UNHCR and validated by the commune. Their validity is reported as varying between 1 and 6 months. Patients referred from NGO structures (Supplementary Feeding Centre (SFC), Therapeutic Feeding Centre (TFC), mobile clinics, transported by an NGO) are looked after at no cost or at a reduced price, according to specific local agreements. In the private (religious) health centres, the communal certificates proving destitution are not recognized. The parish committees can grant free care, but on the condition of complete reimbursement to the health centres.

[12] Bureau provincial de santé (provincial health office).

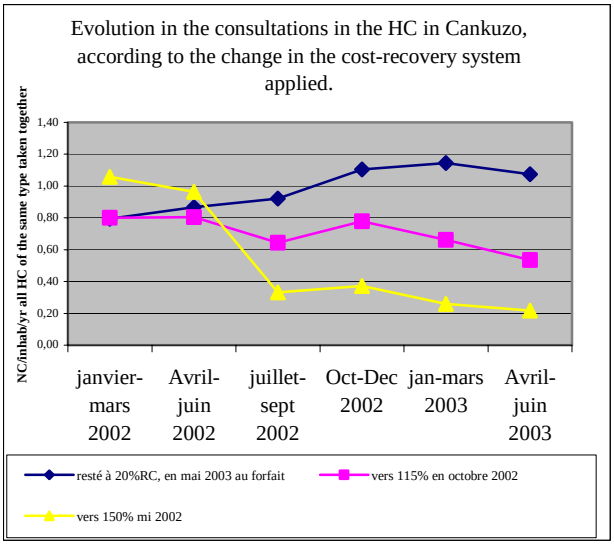
All state employees, including health agents, receive an insurance (mutuelle) card (referred to as the MFP), which gives the patient (and immediate family) the right to care at a reduced price (20% of the base price), for medical acts as well as for medicines[13]. In the public health centres and in the private (religious) health centres, the MFP is accepted and gives the right to a price reduction for medical acts (20% cost recovery) and for certain medicines (a specified list with current medicines).

There is still a variable utilisation of the revenues collected in the health centres. Several interlocutors consider the present situation as a transition period in which several of the planned elements are not yet in place. In the public health centres, a system is foreseen in which the majority of the income generated by the sale of medicines should be utilised for purchasing new stocks via CAMEBU. This income is to be paid into local accounts managed by the health care manager (titulaire), assisted by a community representative (if the health committee is already functioning) and supervised by the BPS. Nevertheless, in some health centres, it was pointed out to us that a part of the income continues to be deposited at the level of the commune.

Consequences of the new tariff-setting system

Since the increase in tariffs, there has been a strong decline in attendance at the health centres (see the previous section). This reduces the global coverage for curative care. In some health centres, we also remark a reduction in the coverage for preventive activities such as vaccination. This can mainly be explained by the fact that the financial barriers cause more exclusion for the sick, which means less opportunity to refer children when they consult for health problems, despite the fact that these activities are presently subsidized by external funds. In the long run, this could have strategic implications for the Expanded Programme of Immunisation (EPI).

It was not possible to make a detailed analysis of the attendance rates in all the provinces. The province of Cankuzo provides an opportunity to study the evolution in attendance rates at health centres with different types of tariff systems: cost recovery at 115% was introduced in July 2002, except in the health centres supported by MSF and the one health centre linked to the provincial hospital where the price was maintained at 20%. In the absence of significant changes in the epidemiology in the province, the evolution of the attendance rates over time shows a clear link with the introduction of the tariff system.



Apart from patients who do not, or no longer attend a consultation, the structures indicate a strong increase in the number of patients incurring debts at the health centres. The long lists of debts in these centres are testament to the fact that the prices are unaffordable for a large number of patients (see the statistics for the 'household' survey and 'exit' survey regarding patients' recourse to debt). This applies as much to hospitalisation as to out-patient consultations. The amounts owed vary according to whether an out-patient

[13] The possibility of obtaining this reduction for medicines at HC level is also recent (mid-2003). This was previously limited to the hospitals and prescriptions by a doctor. The HC can be reimbursed by Bujumbura.

consultation or a hospitalisation[14] was required, but it is striking to observe that sums as modest as 300 to 500 Fbu can already constitute a problem for some patients.

In order to recover these debts, the structures confiscate identity papers, CAM cards or personal belongings. The patients sometimes resort to forced labour in compensation for their debts: for example, working in a field belonging to the health centre or a nurse. It was reported several times that the practice continues of imprisoning patients as long as the bill remains unpaid. Some NGOs, or other civil actors, make payments to obtain the release of such patients.

In several structures, the increase in the cost-recovery rate has led to an **unexpected drop in income at the level of the health structures** following the combination of an appreciable reduction in attendance rate and in the proportion of patients unable to pay. Several structures indicated to us that their average incomes are not reaching the amounts regarded as necessary for ensuring supplies of medicines. A rapid calculation was made on the basis of the financial needs for the annual supplies of medicines in the province of Cankuzo.

Within the framework of the EDF programme, a budget for medicines of 54.000 Euros is planned for the hospital and the 12 health centres in the province. It is estimated that a health centre should be able to bring in an average of 290 Euros per month. At the time of the visit, the monthly income reported at the level of the four health centres visited in Cankuzo, stood at an average of around 50.000 Fbu, or 41 Euros[15], which covers only 15% of the sum required for renewing the stock of medicines. If the real recovery rate is similar in other provinces, it is impossible to replace the rotating medical stock only on the basis of income raised by the tariff system for patients[16].

Other problems observed in connection with the tariff system in place regarded the quality and rationality of care. Payment per pill or other unit of medicine encourages treatments that are contrary to the national protocols, incomplete treatments or under-dosing. The flat fee determined as a proportion of the CAMEBU price[17], without any special subsidy for specific health problems or specific treatments, leads to the choice of less efficient medicines for serious problems. This not only affects the efficacy of the care, but also includes other potential disadvantages such as the introduction of resistance against antibiotics for example. Current examples of a defective quality of care mentioned during the interviews are:

- Prescription of a less expensive medicine when the protocol proposes a more efficient, but more expensive, medicine. For example, in the treatment of malaria, the use of quinine instead of Fansidar, despite the high resistance to the former;
- After the introduction of the new malaria protocol (ACT), we observe that some health centres continue to prescribe quinine (which is similarly efficient, but with a lower adherence rate) because the tariff system based on unit pricing brings in much more profit than the price set for ACT;
- Reduction in the number of quinine perfusions from 3 to 2 per day for patients hospitalised for a severe malaria crisis;
- Treatment against malaria without testing by thick blood smear because this is too expensive for patients;
- Incomplete antibiotic treatments (lasting 2 or 3 days instead of a minimum of 5 days) or anti-malarial treatments;
- Less monitoring of hospitalised patients.

Other examples of non-rational care linked with payment for each medical act:

- Attempt to access a hospital consultation where the price is more affordable than in those of the health centre (in Cankuzo for example);
- Attending a health centre with a lower tariff rather than the one closest to the patient;

[14] Most of the health centres have a limited capacity for overnight hospitalisation. Patients are kept in for a few days of observation or treatment. No standard referral criteria have been established.
[15] Applying the exchange rate of 1.226 Fbu for 1 euro.
[16] These calculations do not take into account the effects of devaluation, nor the difficulties of putting into practice CAMEBU's legal right to convert Fbu into other currencies for issuing international tenders. Again, this does not take into account the delays in the supply system at provincial and central level.
[17] Burundi's central purchasing office for medicines.

- Delivery by episiotomy, which brings a higher financial return than a normal delivery (Ruyigi provides an example of an increase in episiotomies);
- Delayed consultation for a health problem that could be treated easily at the early stage, with a consequent deterioration in the illness and sometimes a need for more complex treatments.

PART SIX
DISCUSSION AND ANALYSIS OF THE RESULTS

A. POSSIBLE BIAS

Bias linked to the selection and to the limitations of the study (representativeness of the sample)

Population less than 5 km from HC
We voluntarily limited the survey to population groups living less than 5 km from the health centre, in order to focus on financial accessibility of care and limit the influence of other problems of access, such as geographic access, for example. People living far from a health centre could experience additional transport problems, but in addition, as they are at a distance from the 'economic centre' where a health structure generally is located, they could experience even greater poverty-related problems. This limitation to the study could lead to as slight under-estimation of the levels of poverty and thus also of financial exclusion to health care.

Communes excluded for security reasons
At the time of the field survey, security in the provinces of Bujumbura Rural and Bubanza was very problematic. A large part of these two provinces therefore had to be withdrawn from the sample. In addition, security constraints were also encountered, to a smaller extent, in the provinces of Cibitoke and Bururi (see selection of the sample). As mortality and violence are generally linked, the mortality rate, as well as the other results regarding exclusion from care, could therefore be under-estimated.

Bias linked to the classification into three groups

Classification according to the theoretical system of tariff-setting
The flat fee system applied in certain provinces of Burundi is a recent initiative, which started, except in the province of Karuzi, only a few months before the survey. Consequently, there are still differences between the system that should theoretically be applied and its practical implementation. This means that some HC are not yet systematically applying the flat fee. The classification of these HC in the flat fee group could over-estimate the problems of financial access to care in this group.

Timing and installation of the general flat fee system in the province of Ruyigi
A flat fee system set up by MSF-Holland began in mid-October. The survey in the province of Ruyigi (6 clusters out of 30) began at the end of November. This means that the flat fee system was set up during the three-month 'recall period'. Nevertheless, we have placed these clusters in the 'lump-sum' group. This situation could have led to an over-estimation of the level of inaccessibility to care in Group A and contributed to an increase in the median and average prices of consultations. Consequently differences in access between the flat fee group and the other groups could be slightly underestimated.

Bias linked to the replies given by households

Cultural and social bias in the replies
The population is well aware of the existence of Médecins Sans Frontières and knows that it is an international medical organisation, and therefore foreign, which could have led to reticence.

Additionally, we have sometimes observed people's reticence to talk to us about their consultations with a traditional practitioner (healer). As a result, the attendance rate outside the public health or state-approved structures could be under-estimated.

Within the culture of Burundi, it is not usual to open up to just anyone, especially if the person comes from a non-Burundian organisation, and are thus 'foreigners'. The issues relative to health could therefore be under-estimated (particularly gynaecological problems for women) and those relative to the appreciation of the health services could therefore by over-estimated.

In addition, we noticed that this population experiences difficulty in speaking about violence-related problems that have direct repercussions on health.

The formulation of certain questions could have offended the dignity of some heads of household who preferred to be evasive in order to avoid losing face. Thus we observed that many households in which the living conditions appeared very precarious refused to put themselves in the category of 'requiring perpetual assistance'. Only the holders of an official 'indigence card' acknowledged that they fell into this category.

In addition, the categorization as poor, very poor or well-off can vary according to the context. In a particularly poor zone, in identical conditions of poverty, some people may place themselves in the 'poor' category because other people in the neighbourhood are even poorer. For example, depending on the district, some people in the province of Bujumbura Rural, living on the periphery of Bujumbura Mairie described themselves as poor, although they were visibly better off than other households living in more distant provinces or poorer zones, and vice versa.

Exit survey for the users of the health centre
During the exit survey, we observed that personnel of the HC adapted their practices as soon as it was clear that a survey was taking place. This could have led to under-estimating the problems linked to the quality of care and to the tariff application.

Replies from the family
On some hillsides, we noted that there could be a divergence between the reactions of a husband and a wife in their replies to socio-economic questions. As the women were usually working in the family field and did no income-generating work outside, it was difficult for them to give exact replies to questions about money coming in to the family. However, the people replying to the questions were most often female. Consequently, the estimate of this income could be slightly under-valued.

Education
As most of the peasants in rural environments are barely numerically literate, it sometimes proved difficult to calculate their income and expenditure. These difficulties may have led to an under-estimate of both.

Looting in the neighbourhood
Given the country's socio-economic conditions, the population experiences looting regularly. When these people have some income momentarily available beyond what is customary, they have a tendency to hide it. We even gathered information from people hiding in the bush because they had earned a large sum of money and did not dare remain in their homes for fear of looting. There was thus a tendency to hide such exceptional amounts. We think that this behaviour (which affected only a small number of people) could have created a slight bias in estimating the incomes of the population groups concerned by undervaluing them.

Bias relative to the period of the study

Timing and installation of a flat fee for malaria
The installation throughout the country of a general flat fee system for malaria treatment, amounting to 100 and 200 Fbu depending on the age of the patient (tariffs for children and for adults), began on 15 November 2003. However, the survey began on 15 November and ended in mid-January 2004. This means that, taking into account the three-month 'recall period', the official price was modified for a large part of the consultations during the period of the survey. The tariff averages for malaria consultations could therefore be slightly over-estimated in the survey.

B. INTERPRETATION OF THE RESULTS

Mortality rates everywhere in the country give cause for concern

General mortality
In a high-income population (OECD countries), the mortality rate is 0.3 deaths per 10.000 persons per day. In the population of a country experiencing stable development, the normal mortality rate is around 0.5 deaths per 10.000 persons per /day. In an emergency context, for example in a refugee camp, it is generally accepted that the situation remains under control if the global mortality rate for the population does not exceed 1 death per 10.000 per day. When in a similar context mortality rates rise between 1 and 2 deaths per 10.000 per day, the situation is labelled as an emergency and is to be taken seriously.

The crude mortality rates (CMR) that we found overall in Burundi for the population surveyed are highly worrying in all three population groups analysed. In the 'flat fee' group, CMR is **1.2 deaths per** 10.000 per day. In the 'cost-sharing' and 'cost-recovery' groups CMR is still higher (**1.9** and **1.6**/10.000/day). However, these differences are at the limit of statistical significance. The rates are nevertheless three times higher than normal.

If we extend this to the population represented by the sample in the cost-recovery group, (4.922.241 people)[18] almost 800 people have died every day; we can conclude that in the three months preceding the survey, about 70.000 people died.

The mortality rates for children under five years are even more alarming. In a stable situation in a developing country, the mortality rate for under-fives is 1 death per 10.000 children per day. In an emergency context, the situation is considered to be 'under control' when mortality rates are below 2/10.000/day. Mortality rates between 2 and 4/10.000/day indicate a particularly alarming situation.

In the 'flat fee' group, the rate is **3.1 deaths per** 10.000 children per day. In the 'cost-recovery' group, this rate is higher (**3.3**/10.000/day). In the 'cost-sharing' group, the rate is still higher as it goes far beyond the threshold of 4/10.000/day (**4.9**/10.000/day). The differences between the groups are not statistically significant, but correspond to mortality levels that are three times higher than normal.

If we extend these child mortality rates to the population represented (772.492 people) in the cost-recovery group, about 255 children die daily and more than 20.000 children died over the three-month period studied.

We were also appalled by the fact that in the three groups investigated, around 40% of households had no children below five years, and by the unusually small proportion of children under five (lower than 17% of the total population). These rates, unusual for an African country, could be explained by the high mortality rates.

The survey conducted by MSF in DR Congo[19] showed the indirect link between violence, mortality and access to healthcare. Only 4% of the mortality was due to direct violence, but this violence had caused the impoverishment of population groups, as they were constantly obliged to flee and abandon their harvests. This consequently resulted in many deaths linked to infectious diseases.

As for DR Congo, the study shows that the principal cause of mortality is infectious disease, mainly malaria. The violence endured over ten years has destroyed survival coping mechanisms and rendered families more vulnerable to disease. One example of the population's vulnerability: although food security has improved compared with 2001, the food habits are still associated with behaviour in time of war. The population lives from day to day (daily consumption) and eats in small quantities. These reflexes, acquired during periods of insecurity are still present: out of fear of being attacked, people move at night

[18] The survey clusters were selected out of a population living a maximum of 5km max. Extrapolation has been made from the whole population, without correcting for the higher mortality rates for the population groups living beyond the radius of 5 km from the health centre- where, as explained previously, mortality rates are likely to be higher (geographic access).
[19] Van Herp, M., Parque, V. et al., Mortality, violence and lack of access to health-care in the Democratic Republic of Congo, *Disasters*, 2003, 27 (2°): 141-153.

towards town, further into the bush or closer to military posts). This process of night-time displacement damages the social fabric, the modes of production and consumption, while modifying the mode of daily survival, always without the possibility of planning for the future.

Mortality due to malaria
Although there are no significant differences between the three groups as regards the mortality, the specific mortality due to malaria or fever is significantly lower (0.3%) for the 'flat fee' group than for the 'cost-sharing' group or the 'cost-recovery' group (0.8%). Within the different groups, the same percentage of consultations is reported for malaria/fever. This phenomenon cannot therefore be explained by epidemiological differences. One explanatory factor could be the fact that despite the introduction of a flat fee for treatment against malaria, the tariffs remain very high for 'cost-sharing' and 'cost-recovery' groups (around 1.300 and 2.240 Fbu, or three and five times more respectively than for the 'flat fee' group). There is therefore still a problem regarding financial access for an adequate treatment against malaria, which could have an influence on the specific mortality[20]. This explanation is reinforced by the fact that in the cost-recovery group, patients wait for the illness to become more serious before seeking a consultation.

The cost-recovery system excludes a large part of the population from health care

Exclusion from consultations and treatment
The cost-recovery system is applied in four-fifths of the country and concerns around 5 million people. In this almost generalised system in Burundi, almost one-fifth of the population (17%) **does not have access** to any healthcare whatsoever, principally for financial reasons (82% of sick people have not consulted because of a lack of money). This means that **almost one million people do not have access to health care in Burundi[21]**.

To this one must add the fact that 4.8% of patients who have managed to pay for a consultation in a health centre have not received the treatment, or obtained only part of the treatment, mainly due to lack of money (for 63% of patients in this case).

Even if we only take into account patients regarding themselves as seriously ill, there is a high rate of exclusion because 14.5% of them have no access to a consultation, mainly due to lack of money (90.7%).

In the two systems that are regarded as exceptions because they are applied in health centres serving less than one million of the total population of Burundi (flat fee tariffs and cost sharing at 50%), the proportion of sick people without access to a consultation is more or less halved, decreasing from 17.4%, to 9.3 and 9.6% respectively. This corresponds to approximately 100.000 additional patients excluded from care.

These results are better than those found in the cost-recovery group, but about 10% of sick people are still excluded from primary health care, principally due to lack of money (72.6 and 76.4%). To this must still be added 4.1% of patients in the flat fee system who have consulted at a health centre, but who have not obtained a treatment, mainly because it was not available (for 58% of them). In the cost-sharing system, an additional 5.4% of patients consulting at the health centre did not receive their treatment or received it only partially, mainly due to lack of money (for 50% of them). An exclusion of 10% of the population without a correct system for protecting the poor is contradictory to the objective of health for all.

Comparing these figures with the results found by Save The Children in a study carried out in May-June 2002 and published in March 2003, the percentage of sick people who did not consult outside the family in the provinces de Gitega, Mwaro and Muramvya was 9.5%. In these provinces, the cost-recovery system was applied in February 2002. This difference can

[20] Not only did the new malaria treatment protocol only begin on 15 November, with a flat fee set at 100-200 Fbu, but it seems that there are still problems in the application of the tariff and the new protocol.
[21] 17.4% of sick people do not have access to a consultation. The sample is limited to the population living less than 5 km from the health centre. Extrapolation was made to all households and to the population: 17.4% of the population, or 17.4% of 4.922.241 people do not have access to consultations, or 856.470 people are excluded from care. If we take into account the fact that the access to care for people living beyond 5 km from the HC is worse, we approach the figure of one million.

be explained by the fact that this 9% represents sick people who not only did not consult a medical structure, but also did not visit any pharmacy or traditional healer.

Patients wait too long before being able to attend a consultation
In the cost-recovery system, 36% of patients who considered their state of health as "not very serious" did not consult, principally through lack of money (for 58.7% of them). This means that for mainly financial reasons, the households refrain to go for a consultation until they judge the situation to be quite serious. This can be very dangerous because these households have no diagnostic knowledge and may arrive in the health centre or the hospital far too late. This practice could be a factor in explaining the disturbingly high mortality rate for malaria found in the cost-recovery system.

Of those who judged themselves to be seriously ill, 14.5% still did not present themselves for a consultation (for 91% of them, because of lack of money).

In the two other systems easing the patient's financial burden (flat fee and cost-sharing), the lack of access to a consultation is around two times less important, because 14% and 16% respectively of sick people considered by their households to be "not very serious cases" did not consult, mainly for financial reasons (for 62 and 54% of them).

Finally, 8% of people judging themselves to be seriously ill have no access to a consultation, principally through lack of money (for 78 to 80% of them).

Cost of care
The average price of a consultation is more than four times higher in the cost-recovery system (2254 Fbu) than in the flat fee system (472 Fbu). The average price of a consultation in the cost-sharing system is about half that in the cost-recovery system.

If we want to compare with the Save The Children results, which gave the average price of a consultation (including hospitals), the total price of a consultation is comparable to the cost-recovery group. Save The Children obtains an average of 2.478 Fbu per consultation, while in the present study within the cost-recovery system, the average is 2.254 Fbu.

Recourse to extreme measures to pay for consultations
Within the cost-recovery system, a large number of patients who paid for a consultation did so by using a coping mechanism that drew them deeper into poverty. More than 80% of patient households paid for health care by incurring a debt (with neighbours, the family or the health centre), by selling a possession (livestock, part of the present or future harvest, or a piece of land), or by taking on additional work, generally paid labour at someone else's farm. This means that by drawing on a part of their production, their assets or their productive capacity, these households risk – next time – no longer being able to pay for essential household expenses and sinking even further into poverty.

As regards the debts to health centres, some of the behaviour of those in charge of the health centres represents an abuse of human rights and the dignity of the people concerned. The interviewers and the NGOs interviewed reported to us many disturbing examples, such as forced labour, with patients being obliged to work in a field belonging to a health centre, the seizure of official documents, imprisonment of patients who could not pay for their care, etc.

The presence of several sick people in the same household at the same time, or a chronic illness, makes payment for care even more onerous while also reducing the human capital necessary for the creation of income.

Within the cost-sharing system at 50%, the number of households obliged to have recourse to extreme solutions decreases, remains very high (75%). With the flat fee system, this number drops further (48%), but still remains too high.

Comparable results were found in the Save The Children survey. In the provinces studied, from 55% to 61% of households, depending on the level of poverty, had to sell possessions

in order to pay for health care. Of these, 22 to 25% had to borrow from neighbours or friends to pay for the care[22].

The whole of the population is living in extreme poverty and health care expenses aggravate this precarious situation still further

Income and expenditure
The population's weekly income is extremely low. The median income per household in the three groups is considerably below the relative poverty threshold for Burundi. A relative poverty threshold specific to Burundi was calculated in the Burundian government's preparatory text for a strategic framework for economic growth and the fight against poverty (PRSP[23]), sent to the IMF and the World Bank in November 2003[24]. The estimate was 53.650 Fbu per person per year, or 1.031,73 Fbu/week. According to the 'Enquête prioritaire' (priority survey) conducted in rural areas for a study by ISTEEBU (Institut de Statistiques et d'Etudes du Burundi), 69% of the population were living below this poverty threshold. In the MSF survey, the proportion of the population that found itself below this relative poverty threshold is still higher: in Groups A, B and C, respectively 86%, 85% and 91% of the population lies below the poverty threshold.

Comparing with the internationally agreed poverty threshold used by the World Bank for all the countries of the world, which is 1 USD per person per day, we can say that over 99% of the Burundian population in rural settings falls below the extreme poverty threshold.

In the study conducted for Save The Children in 2002, the annual average expenditure per person amounts to 38.013 Fbu whereas the average expenditure per person per year within the framework of our study comes to 26.000 Fbu. This could be explained by the geographical variability of the sample. The Save The Children study was conducted over three provinces generally regarded as relatively well-off. Our study covers the whole of the country, and the preparatory text for the PRSP prepared by the Burundian government for the IMF not only stresses the rural-urban disparities, but also the regional disparities.

According to this document, drawing on a 1998 survey, the provinces that suffered most from the conflict in terms of poverty are Bubanza, Cibitoke and Karuzi. In the provinces of Rutana and Karuzi, where the poverty levels were already particularly high before the war, the rates are alarming, exceeding 70%[25]. Finally, the provinces of Bubanza, Cibitoke and Bujumbura Rural also have poverty rates that have risen considerably, although they count among the most 'well off' provinces in the country. Finally, in some geographical regions, the conflict has had repercussions, notably on the plains of Bugesera, Imbo and Moso[26].

In addition, as the fighting then moved elsewhere in the country, our interviewers also found that the provinces of Ngozi and Kayanza, and the frontier communes in the east of the provinces of Ruyigi and Cankuzo (a strip from Kininya to Cankuzo) are also affected by the war. Other provinces, such as Kirundo and Muyinga, which might appear richer, are in reality concealing a great deal of poverty. The livestock encountered on some large properties in fact belong to a minority from Bujumbura. These provinces give the impression of regions that are very neglected.

During the survey, it was noted that despite the ceasefire, the population was continuing to adapt its way of life to the situation of insecurity that has prevailed over more than ten years of civil war. Rural development activities have suffered greatly from this. For example, travel to markets to sell livestock or agricultural produce remains limited. The seasonal work migration is also limited. The violence around Bujumbura in particular poses a problem of access to the capital. Agricultural work has also been greatly disrupted by the insecurity, with land abandoned for several years and a shift in crops towards growing tubers or root crops.

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[22] International Programme Centre for Health Economics, Coping with community health financing: Illness costs and their implications for poor households' abilities to pay for health care and children's access to health services, study conducted for Save the Children UK, March 2003.
[23] PRSP: Poverty reduction strategic paper.
[24] Government of Burundi, Interim Poverty Reduction Strategy Paper (I-PRSP), Bujumbura, November 2003, p. 11.
[25] ISTEEBU, "Enquête prioritaire 1998".
[26] *Op. cit*.

The MSF survey and a study carried out by Oxfam in Gitega[27] clearly shows that the less well-off depend strongly, or almost exclusively, on the possibility of outside labour for acquiring income, particularly liquid currency. The chance of finding outside work varies strongly according to the season and the type of agricultural land in the region. On average, a peasant succeeds in finding manual work for two or three days a week. The average return for a day's labour in the fields depends on the region and the season, but lies between 250 and 400 Fbu, which represents about three times less than the extreme poverty threshold. The presence of cattle also varies according to the region. Cattle are the property of a very well-off strata of the population. The only livestock reported by the very poor are guinea pigs and rabbits.

Compared with these extremely low incomes, the total price of a consultation represents an enormous proportion of the expenditure or income of a household. This proportion varies considerably according to the group because in the cost-recovery system the average price that has to be paid for a consultation represents about 12 working days income. Within the flat fee system, the consultation represents the income from about 3½ working days, while within the health centres applying cost sharing at 50%, the income from 6½ working days is required.

In the results of the survey carried out by ISTEEBU in 1998, it was noted that health expenses represents 2.4% of the total expenditure of a Burundian household, breaking down differently for the rich and for the poor. The poor population devotes 3.2% of its total expenditure to health, while the 'non-poor' devotes only 1.9% for this.

If we compare with the present study, the price of an average consultation in a health centre in the cost-recovery system represents about 15% of the annual expenditure of a household. Adding on the costs for hospitals, which, although not investigated in the course of this survey, are very high (all the hospitals in Burundi, except for those in Makamba, Karuzi and Kinyinya and a part of the hospital in Ruyigi, supported by MSF, are presently managed according to the principle of financial autonomy, commonly referred to as 'autonomie de gestion'), we can say that in the population dependent on health structures applying cost recovery, the health care expenses represent well over 2.4% of monthly expenditure. The health care expenditure in the cost-recovery system is therefore presently very high, not to say catastrophic, for a household budget[28].

The system for protecting the poor functions badly or not all

The system
In the 'cost-recovery' group, which represents four-fifths of the population, the destitute face a catastrophic situation. Whereas just over 20% of the vulnerable people in this payment system do not have access to consultations, mainly for financial reasons, only 0.8% of those using the health services possess an 'indigence card' and can obtain free care. This means that, in the cost-recovery system, there is no system of protection for the destitute to ensure healthcare, which is contrary to the principle of equity.

In the 'flat fee' and 'cost-sharing' system, respectively 5.9% and 7.2% of health-service users hold a 'indigence card'. This means that also here a large number of the destitute do not have an 'indigence card'.

In the 'flat fee' group, this situation can be explained by the fact that at the time of the survey, following contradictory instructions from one of the provincial health authorities, a large number of those holding 'indigence cards' saw these cards refused by the healthcare personnel. In the 'cost-sharing' group specific to Makamba, the situation is different. As the destitute need to be taken in charge by the community and not by a third party, the community has a tendency to under-estimate their number in order to avoid significant financial losses.

[27]Oxfam-UK, Food security and income programme, report of a socio-economic evaluation of Giheta and Makebuko, period evalued: November 2002-November 2002, Gitega, January 2003. See also, Establishment of the socio-economic situation referring to the action zone of the BUR 02 programme (communes of Cankuzo and Cendajuru), October 1999.
[28] Ke Xu, Evans, David B., Household catastrophic health expenditure: A multi-country analysis, *Lancet*, Volume 362, Issue 9378, 2003, p. 111.

Even if the NGO Cordaid reimburses the health centres, the health committees experience this situation as a problem. Cordaid reimburses in kind, meaning with medicines and medical products, which health centres and the health committee perceive as a loss of cash income. As in the other systems, the direct payment of consultations is regarded as more worthwhile because it generates revenues that are then immediately available at the level of the HC. Given the extreme poverty of the country, there is too strong a temptation for a large number of actors to 'draw on' this financial manna in one way or another.

The present exemption systems for the destitute are often blocked by the lack of financial compensation for the care provided to patients that do not pay. Theoretically, it is the communes on whom the responsibility falls for paying the healthcare bill for the poor in the health centres. The communes, lacking the financial resources, are rarely able to do so. For example, in the province of Ngozi, only the commune of Ngozi reimburses health centres for the health costs of the destitute.

In addition, it is regrettable that the criteria for destitution, and the identification of the destitute, are heterogeneous and not coordinated by the public services. In some provinces (for example, Kirundo), a similar waiver system for the poor functions with regard to education. The community members contribute to an education fund according to their ability to do so. Unfortunately this identification process of the poor is limited to the costs of schooling and is not valid for health.

The bad functioning of the waiver system for the poor is almost generalised . It is due to a confusion in the definition of who is destitute and the identification procedures for those families, but also to a lack of transparency, even to a clientelism embedded in the present system. The exemption system has become a sectoral and clientelist practice. It is no longer established according to objective criteria corresponding to the economic situation of the family or to the living conditions of individuals, and the recognition of these by the community.

Perceptions: "One can be poor, but still have the strength to farm"[29]
In general, for the communal and health authorities, if people are capable of working, they are not destitute. That is generally why the categories for the destitute are limited to people who cannot access land: old people, the handicapped, and Twa[30] families who have no land and are usually excluded from working on other people's property.

But we have seen that in the cost-recovery system, a consultation represents 12 days of labour , which puts a considerable strain on the household budget. In addition, if several family members are ill, for example during a malaria epidemic or as the result of other infectious diseases, the ability to work is dramatically reduced as a consequence of the illness. For people dependent on a daily subsistence economy this leads to catastrophic health expenses within a system without any social welfare insurance.

Although the system of 'indigence cards' is not functioning well, the insurance (*mutuelle*) system giving reductions to public employees is more efficient. However, this category cannot be considered as vulnerable and it concerns only a small proportion of the population.

The sickness insurance card (CAM) pre-payment system hardly functions anymore

The CAM card is hardly used any more and has officially been withdrawn in some provinces. In some of these provinces, the foreseen reduction of 80% applies only to the price of the consultation and the medical acts, but not to medicines, which is the major cost.

Following the results of our exit survey at the health centre, only 1% of patients possess this card. In the cost-recovery system, it is still operating to a small degree, as 6.8% of patients at the exit of the health centre still held a CAM card. In comparison with the Save The Children study, the percentage of those in possession of a CAM card varies considerably: in the three provinces studied (Gitega, Muramvya and Mwaro), 20% of the population still held this card. This can be explained by the very strong geographic disparity observed in Burundi

[29] Interview with an administrator, December 2003.
[30] Burundian ethnic group of Pygmy origin.

with regard to health care. The 'cost-recovery' group in our study represents a system of payment, but its results do not reflect the geographic disparities that could exist between the provinces. Furthermore, the CAM card has progressively disappeared in parallel to the generalisation of cost recovery. Between the SCF study in 2002 and this present one, the interest in buying a CAM card may have greatly decreased.

The flat fee tariff for 'malaria treatment' is not respected in many places

The field survey was conducted as from mid-November for the 'flat fee' health centres, from mid-December for the 'cost-sharing' health centres and from January for the 'cost-recovery' group. The general flat fee for malaria treatment[31] established by the government for the whole country at 100 Fbu for children and 200 Fbu for adults, began officially on 15 November 2003. It was rendered possible by financing from external funds.

The patients were questioned over a three-month period, but the questions posed referred only to the most recent episode of illness, which had often occurred during the same month. For all the groups interviewed, at least half of this period coincided with the implementation of the new malaria protocol for artesunate-amodiaquine to be used as a first-line treatment in Burundi- with the price set at 100 or 200 Fbu[32].

The results of the survey showed that in the 'cost-recovery' system patients still pay an average of around 1.000 Fbu for malaria treatment. Even if the period of application of the new protocol and the new tariff concerned at least half of the recall period, it is not normal to still find such a high average price for a malaria treatment. These figures show, without being able to quantify the extent of the practice, that a large number of the 'cost-recovery' health centres are not applying the tariff imposed by the government, or that these health centres abuse the use of quinine, which brings in a lot more money for them (its price continues to be calculated by the unit), although this medicine should only be used as a second-line treatment.

The structural dysfunctions in all the existing health-care payment systems are further exacerbating inequity

The quest for personal advantage
As was observed in a summary report of a socio-anthropological study of the access to care in five West African countries[33], health personnel or the administration often invoked salary-related problems to justify the quest for additional pecuniary advantages in the exercise of their functions. This quest can take several forms, such as the parallel sale of medicines, over-pricing, embezzlement of material for personal use, etc.

The incentives given by some NGOs, notably through the funding of European Union or ECHO projects, are not sufficient to end these 'parallel income' practices. This was confirmed by some members of the health personnel. The consequence of this situation is that health and administrative personnel often obfuscate transparency in the management of health centres, for example, by blocking the possibility of external managers or supervisors in the health centres.

Parallel sales of medicines
In Burundi, as in several other poor countries, circuits exist for the sale of medicines outside the official public sector outlets; this exists at different levels and involves different actors. For example, many people told us about the existence of private pharmacies run by health personnel. It was reported that some embezzled drugs go through Tanzania. Such embezzlement makes individual enrichment/ additional income possible .

[31] This flat fee covers consultations and treatment, but not laboratory tests.
[32] Thanks mainly to funding from the Belgian development co-operation agency, ECHO and different sections of MSF.
[33] Jaffre, Y. and Sardan, J.-P. O. (dir.), 'Urban health' project (UNICEF-French development co-operation agency), Les dysfonctionnements des systèmes de care, *Rapport du volet socio-anthropologique, Enquêtes sur l'accès aux care dans cinq capitales d'Afrique de l'Ouest*, sl., sd., pp. 18, 168-173 The dysfunctions of the care systems, Report on the socio-anthropological aspects, Enquiries into the access to care in five capitals of West Africa.

Embezzled material for personal use
Medical material supposedly belonging to the health centre is embezzled for personal use. We noticed, for example, that a large number of thermometers given to the health centres were used only by health personnel in their own homes.

Health committees representing local elites and authorities
Too often, the health and management committees have not been elected directly by the local population and thus are not representative of the people. They are more representative of local elites or from the local administrative authorities. It is very rare that the interests of the poor or vulnerable people are represented[34]. Taking this situation into account, the health and management committees do not constitute a possible recourse for the population in cases where health personnel's behaviour is not acceptable. This situation was also recorded in the report on the study carried out in the five capitals of West Africa[35].

Monitoring, training and installing inefficient health and management committees
Faced with the dysfunctional management of the health centres, but also the problematic quality of care and the negative attitudes towards patients (see below), projects for training and supervising personnel have multiplied over several years. In this context, where poverty and corruption are linked, such training and supervision are often ineffective[36].

The same remark could be made for the installation of the health and management committees[37]. For the most part, these committees were not set up at the request of their communities. In general, their installation is done by external actors. Often this set-up is limited to their creation, with some additional training and the conception of job profiles for the committee members. There is no follow-up, neither by the BPS nor by the external actors. As a result, the management of the centres lacks transparency and there is hardly any documentation on how decisions are taken.

The quality of care and patient reception need to be improved

In the three payment systems – 'flat fee,' 'cost-sharing' and 'cost-recovery' – the percentage of clinical examinations performed on patients in the health centre is low, only around 10%. For children under five years, the figures remain just as low (13, 12 and 11%respectively). Among patients complaining of fever, less than half of them had their temperature taken (respectively 46, 28 and 36%).

In the three payment systems, the care providers asked to see the vaccination cards of children under five years in only two cases. This indicates how often opportunities are missed for referring children from the curative services for vaccination.

The average length of a consultation is similar between the 3 systems. It varies from six minutes for the 'flat fee' group to 6 minutes 48 seconds for the 'cost-sharing and 'cost-recovery' groups. This difference is not significant. Overall, the waiting time for consultations is very long. In Group C, 49% waited for more than one hour and 24% for three hours or longer.

In the three groups of HC investigated, we observed that simple quality indicators are grossly insufficient . They share a similar urgent need to improve the quality. There is thus no relation between the price paid by the patient and the quality of care in Burundi. If the total cost of consultations increases, the quality of care does not automatically increase, contrary to preconceived ideas. In the study carried out for Save The Children, it was also observed that there are no significant connections between the prices paid and the quality of care.

These 'objectivised' indicators of the lack of quality in the care provided in the HC contrast strongly with the almost general appreciation by patients for the care received. Most of them said they were satisfied and would return to the HC visited. This could indicate that patients

[34] Lay Volunteers International Association (LVIA), Setting up of the health committees and management committees in the priority health centres of the Cibitoke, Rutana, Ruyigi and Cankuzo Provinces, Summary of April 16 – June 20, 2003.
[35] JAFFRE, Y. et de SARDAN J.-P. O., *op. cit*., p. 174.
[36] Same meaning as, *op. cit*., p. 4.
[37] Same meaning as, *op. cit*., p. 29.

lack alternatives or even lack reference standards for good care . The lever for change towards more quality must therefore come from outside the patient-provider relationship (at the national and international level).

PART SEVEN
CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The conflict still has consequences for poverty and mortality

The results of our survey show that –in spite of political progress in Burundi- the precarity of the population remains unchanged. The high mortality rates are extremely worrying and extreme poverty is almost generalised. These disturbing results are to be taken seriously,

The survey shows mortality rates three times higher than those of a stable situation and are well above the internationally recognised thresholds that indicate an emergency situation. The main causes of mortality are infectious diseases, with malaria as the main killer.

The violence has led to a scarcity of goods and services, supply and transport problems, an increase in thefts, and the destruction of family possessions. Daily life is still characterised by the fear of violence and the consequences of insecurity (displacement etc.). By impoverishing the population, violence leads to a weakening of the immune defence system and favours infections. Even when violence ends, its consequences remain and continue over time.

The association between poverty and ill-health is now well known. Populations in extreme destitution and suffering from malnutrition become ill much faster and die much faster from the consequences of their illness. The WHO's Commission on Macroeconomics and Health[38] reminds us of this direct link between poverty and sickness , and confirms that health is a prerequisite for economic development.

One million Burundians do not have access to health care

The study shows that the cost-recovery system in Burundi excludes almost one million people (856.470 people)[39]. The effect of the cost-recovery system on this exclusion is such that the right to health, registered within the national policy of the Ministry of Health, is put at risk.

On top of that there are ill persons that consult the health centre but are deprived of adequate treatment, mainly for financial reasons.
About 80% of the households that are able to pay the price of consultation is obliged to resort to extreme solutions to find the money, such as incurring debt to neighbours, selling a part of the harvest, some cattle, a piece of land, etc. This risk for further impoverishment by health costs concerns 3 million people.

Although more than 85% of Burundians are living below the relative poverty threshold for Burundi (less than 1 USD per week), in the prevailing cost-recovery system, the cost of health care (medical acts, medicines and laboratory tests) is borne entirely by the patients. The state takes responsibility for the infrastructure and for salaries, in both cases completely inadequate.

However, the Burundian population does not have the capacity to bear even the costs of essential heath care. The human price of this cost-recovery policy should not be under-estimated

Access to care for all requires appropriate means

The 2003 budget of the Ministry of Health was estimated at 2.2% of the total budget. However, ensuring access to care for all, with particular attention to the most vulnerable,

[38] World Health Organisation, CMH Support Unit, Investing in health: A summary of the findings of the Commission on Macroeconomics and Health, 2002.
[39] The cost-recovery system is applied in the public health centres covering 4.922.241 people and 17.4% of sick people do not have access to consultations. Extrapolation was made in all households with the same income.

requires appropriate means. The essential expenditure required for health cannot be assumed by the national budget as it stands at present.

It is the responsibility of donors to mobilize additional funds for health .

At the institutional donors' conference held in Brussels in January 2004, donor countries pledged sums amounting to about 810 million Euros, or 1.032 million USD. The main themes focused on at the conference were demobilisation, and the return and reinsertion of refugees and displaced.

These subjects are crucial for the future of the country, but the future of the health sector and the education sector, which are also very important, was not discussed at all. The allocation of the sums promised has not yet been made public.

Access to care for all merits special attention by donors. External resources for the health sector should be utilised in order to guarantee improved access to care for the population.

B. RECOMMENDATIONS

A health care system accessible to all

In view of the results of the survey and the accumulated experience in the field, MSF observes that the cost-recovery system excludes a large part of the population. In fact, as this tariff system is being applied in most of the rural regions, almost one million Burundians, are completely excluded from essential primary healthcare.

The problem of the financial access to healthcare must be seriously reconsidered. An appropriate general policy must allow for access to healthcare for all, including the most vulnerable population groups.

The two exceptions to the national system that were studied during this survey (reducing tariffs to less than 50% or a flat fee) have been able to moderate somewhat the negative effects of the present tariff system, but remain inadequate for guaranteeing financial access for the whole of the population.

In particular, given the precarious state in which the population is living following the war, exclusion is unacceptable. Any actor working in the health domain must realise just how serious this situation is and draw conclusions from these disturbing results.

This alarming state of affairs is the responsibility of every actor, whether government or non-government, operational or donor.

- **Given the gravity of the situation in terms of the prevailing mortality, poverty and exclusion from essential healthcare, MSF is committed to working towards free care.**

This would make it possible to remove an important financial obstacle to the access to care for the majority of patients. Apart from the abolition of a direct financial obstacle to care, free healthcare could offer other advantages. Compared with the other systems, free care makes it possible to avoid certain management problems in the health centres. In fact, given the country's extreme poverty, the money generated by the sale of medicines represents a significant financial interest at several levels. A free care system would make it possible to avoid both bad financial management at the health centres and minimise conflicts generated around this revenue, from which the population itself rarely benefits.

Particular attention to the vulnerable

Paradoxically, although the most vulnerable require closer follow-up of their state of health, it is this layer of the population that has the least access to primary healthcare services.

Contrary to the proposals in the preparatory text on the fight against poverty (prepared for the attention of the IMF and the World Bank), the objective of ensuring access to healthcare for these population groups cannot just be a medium-term objective, but must constitute an

immediate goal. Healthcare must be a priority and can not be secondary to economic objectives.

First of all, because it is a question of humanity: the right to health is a right for all. The mortality rates show that the lack of access to care for these population groups is putting their lives in danger. Next, because it is a question of economics: the proportion of vulnerable people in Burundi is large and risks hampering the development of the human capital necessary for the country's growth.

The government and health actors both have a responsibility to protect the most vulnerable and poorest. This protection in terms of health services is required at two levels:

- Protection regarding the access to essential care;
- Protection regarding the impoverishing effect of healthcare expenditure.

The present systems in no way protect vulnerable people and do not mitigate the exclusion of people too poor to pay for care. The allocation of exemptions presently does not correspond to the vulnerability indicators reported in the population.

- **Specific attention must be paid to the most vulnerable, both in principle and in practice.**

A dialogue on financial access to care involving all the actors

Offering health care without a direct financial contribution by the patients of course implies that other financial resources are allocated to ensure health services. The Burundian government, in line with its budget and the external aid received, could set up a subsidised healthcare system in the public sector.

With the objective of conducting an in-depth discussion on the importance of health as a pre-requisite to the economic development of the country, and the urgency of making the necessary resources available to the health sector, specific time and attention should be given to financial access to healthcare. This calls for a specific reflection process and a close co-ordination between all actors concerned. This dialogue must take place both at the national and the international level (Ministries of Health, Ministries of Finance and of the Interior, institutional donors and the NGOs involved in the health and economic development sectors).

Information and follow-up

As regards the different experiments underway in the domain of primary healthcare, it is essential to share in further exchanges of information and to continue to study the subject.

For example, the access to healthcare had never previously been investigated and no systematic monitoring system has been set up to evaluate the impact on access of changes in the health financing policy. Access to care is an important indicator to follow in order to be able to evaluate effectiveness, coverage and equity within the health services.

Regular simple quantitative studies should be conducted, with a few key questions in order to reach a better understanding of how the situation is evolving. This can facilitate reflection on the most appropriate system of access to healthcare for the country. The present survey has shown the crucial importance of including population-based data in order to get a realistic assessment of access problems. It is the only way of obtaining information on the exclusion of sick people (the non-users). Similar to the monitoring of the nutritional situation, for example, a regular follow-up system should be set up.

The present survey is limited to first-line care in rural regions. The need for a similar survey on access to healthcare in urban settings is imperative. In addition, given the information collected in the margin of this survey in the health centres and the many problems reported from experience in the field, there should be an urgent evaluation of the access at hospital level.

The required financial autonomy foreseen in the 'autonomous management' set-up of the hospitals poses serious questions relative to the financial access to care; these unaffordable

fees will exclude patients affected by serious ailments requiring specialised investigation, hospitalisation, obstetrical or surgical interventions. The prices paid by the patients are higher in hospitals than in primary care, therefore the problem of access is likely to be more acute and its impoverishing effect through catastrophic health expenditure will be all the more serious. **We recommend that a survey on financial access at hospital level be carried out as quickly as possible.**

Annex 1: Income and expenditure by province (in BIF)

	Average expenditure	***Median expenditure***	***Average income***	***Median income***
Karuzi	1.203	700	1.542	810
Cankuzo*	2.659	1.300 and 1.500	2.974	2.000 and 1.265
Ruyigi*	1.674	1.000 and 2.125	2.117	1.000 and 1.500
Kayanza	2.091	1.000	1.984	1.000
Mwaro	3.134	2.000	2.153	1.800
Cibitoke	3.858	2.500	4.162	2.500
Kirundo	1.427	1.000	1.557	1.200
Rutana	833	600	817	600
Muyinga	2.861	2.000	2.804	2.000
Ngozi	1.563	1.000	1.770	1.000
Muramvya	2.823	2.000	3.177	2.000
Bururi	4.913	3.000	4.572	3.000
Gitega	2.485	1.250	2.646	1.500

* These provinces have been investigated in two or three epidemiological surveys, because different types of tariff systems are applied in the same province (flat fee and cost-recovery system). A weighted average was calculated. The two medians (A and C) are indicated, one for each tariff category.

In the provinces studied, those with the lowest average incomes (below 2.000 Fbu per week) are, in increasing order, Rutana, Karuzi, Kirundo, Kayanza and Ngozi. The provinces in the higher income range (above 2.000 Fbu per week) are, in increasing order, Ruyigi, Mwaro, Gitega, Muhinga, Muramvya and Cibitoke.

The difference in median values for expenses and income between the two tariff categories in the province of Ruyigi can be explained by the fact that the catchment areas for the flat fee group are all situated in the Moso region, which has suffered greatly from the war. If we take into account the median for this sub-region only, this is, after Karuzi and Rutana, one of the poorest of Burundi.

Annex 2: HOUSEHOLD SURVEY QUESTIONNAIRE

Date:	….. / ….. / …..	**Health centre:**	
Province:		**Team (names):**	
Commune:		**Cluster N°:**	
Zones:		**Family N°:**	

LE MENAGE

1. Breakdown of the family by age bracket: *Include people who sleep and eat under the same roof at least 3 days a week*	0-4 years*:*…….. people 5-14 years*:*……..people 15-50 years:…….. people > 50 years…… people
How many people live in the household?	TOTAL ……..…..… people

MORTALITY>

2. Were there any deaths in the family in the past three months?	❑ Yes ❑ No ➔ **Go to question 4**

3. Description of the deaths:

	Age (months or years)	**Cause ◊**
1st death		
2nd death		
3rd death		
4th death		
5th death		
Total:		
Total under 5 years		

◊ Causes of death

1. Malaria / Fever
2. Respiratory condition (cough, etc.)
3. Diarrhoea
4. Malnutrition
5. Problem linked with giving birth
6. Violence
7. Other (specify) ……

MORBIDITY

4. Has a member of your family been ill over the past three months?
(include health problems linked to pregnancy / a normal delivery is not an illness)

❑ **YES**	❑ **NO**
Give the age of the person most recently ill …… (years / months) **The sex of the person most recently ill** ☐ Man ☐ Woman	**End the questionnaire and go to another family**

5. Does the family regard the health problem as:	❑ Serious ❑ Not serious
6. What type of illness is the person suffering from? **Only one reply (the main one)**	❑ Malaria / Fever ❑ Diarrhoea ❑ Respiratory condition (cough, etc.) ❑ Complicated birth ❑ Other (specify) ……
7. Were you treated? **……**	❑ 1. With traditional products? ❑ 2. With 'modern' medicines? ❑ 3. With traditional and modern medicines? ❑ 4. Without medication

ACCESS TO CARE

8. Have you seen a doctor, nurse, healer or pharmacist for this episode of illness (somebody outside the family)?

❑ YES			❑ NO
⇓			⇓
Who exactly have you seen?			**Why not?**
❑ HC at: …….	❑ Other HC: ……	❑ Healer ❑ Mobile clinic ❑ Pharmacist ❑ Somebody selling medicines ❑ Hospital at …… ❑ Other ……	❑ 1. Not seriously enough ill ❑ 2. Lack of money ❑ 3. Not enough confidence in the HC personnel ❑ 4. Lack of transport / HC too far away ❑ 5. The HC has no medicines ❑ 6. The HC personnel is absent, HC closed ❑ 7. Security problem ❑ 8. Debt owed to the HC ❑ 9. Other (specify) ….
How much have you paid for care?	**How much have you paid for care?**	**How much have you paid for care?**	
❑ I paid …… ❑ For the total ❑ In part ❑ I don't know	❑ I paid …… ❑ For the total ❑ In part ❑ I don't know	❑ I paid …… ❑ For the total ❑ In part ❑ I don't know	**How much have you paid for care?** ❑ I paid …… ❑ For the total ❑ In part ❑ I don't know
⇓	⇓	⇓	⇓
Continue in 'Care received' Section V	**Continue below**	**Continue below**	**Continue in Socio-economic' Section VI, Page 5**

Why not at the HC at ...?	Why not at the HC at ...?
❑ 1. Not seriously enough ill ❑ 2. Lack of money ❑ 3. Not enou confidence in the H care personnel ❑ 4. Lack of transport / HC too far away ❑ 5. The HC has no medicines ❑ 6. The HC personnel is absent HC closed ❑ 7. Security problem ❑ 8. Debt owed to the HC ❑ 9. This type of care not available at the HC ❑ 10. Other (specify) ……	❑ 1. Not seriously enough ill ❑ 2. Lack of money ❑ 3. Not enou confidence in the H care personnel ❑ 4. Lack of transport / HC too far away ❑ 5. The HC has no medicines ❑ 6. The HC personnel is absent HC closed ❑ 7. security problem ❑ 8. Debt owed to the HC ❑ 9. This type of care not available at the HC ❑ 10. Other (specify) ……
⇓	⇓
Continue in 'Care received' Section V	**Continue in 'Socio-economic Section VI, Page 5**

V. PRIMARY CARE RECEIVED (!Only for care in the HC!)

9. Did you spend a night in the HC?	❑ **YES** ➔ **If yes, how many nights?** …….	
	❑ **NO**	
10. Was a test prescribed? (samples: blood, urine, sputum or other)		
❑ **YES**		❑ **NO**
Was this test performed?		*Continue to question 11*
❑ **YES**	❑ **NO**	
How much have you paid for tests? ❑ I paid …… ❑ I don't know ❑ For the total ❑ In part	**Why not?** ❑ Lack of money ❑ No lab ❑ Lab closed ❑ Test not available ❑ Other ……..	

11. Were medicines prescribed?	
❑ *YES*	❑ **NO**
12. Have you obtained the medicines prescribed?	

❑ YES, all	❑ A part of the medicines	❑ NO, none	Continue to question 13
Where did you obtain the medicines prescribed? *Only one reply possible*	**Why did you not obtain the medicines prescribed?** *Only one reply possible*	**Why did you not obtain medicines prescribed?** *Only one reply possible*	
❑ 1. Same health centre ❑ 2. Other heal structure (HC Hospital) ❑ 3. Pharmacy ❑ 4. Market ❑ 5. Other (specify) …….	❑ **1. Lack of money** ❑ 2. Doctors not available at the HC ❑ 3. Medicines not available elsewhere (pharmacy, market) ❑ 4. Other (specify)……	❑ **1. Lack of money** ❑ 2. Medicines not available at the HC ❑ 3. Medicines not available elsewhere (pharmacy, market) ❑ 4. Other (specify) ……	
How much did you pay for medicines? ❑ I paid: …….. ❑ For the total ❑ I don't know ❑ In part	**How much did you pay for medicines?** ❑ I paid: …….. ❑ For the total ❑ I don't know ❑ In part	***Continue to question 13***	

13. Were there are costs incurred in obtaining care? **(transport, etc ……..)**	
❑ YES **for ……**	❑ **NO**
How much extra did you pay? **……** ❑ I don't know	*Continue to question 14*

14. How did you obtain the money to pay for care? ***Several possible replies so tick all them and circle the principal one***	❑ 1. Taken out of household savings ❑ 2. Sale of land ❑ 3. Sale of a cow ❑ 4. Sale of (a part of) the harvest ❑ 5. Sale of a future harvest ❑ 6. Extra work for somebody else as a labourer ❑ 7. Cut back on expenditure ❑ 8. Borrowed from somebody ❑ 9. Debt incurred at the health centre ❑ 10. The care was free ❑ 11. Other (specify) ……

VI. SOCIO-ECONOMIC CONDITIONS

15. Do you have a paper giving you a reduction on the cost of care, or free care?	❑ 1. Sickness insurance card (CAM) ❑ 2. Insurance card for state employees (FP) ❑ 3. 'Poverty card' (given by the commune) ❑ 4. Soldiers or families of soldiers ❑ 5. Other (repatriated by the UNHCR, parish certificate, health personnel, etc.) ❑ 6. No

16. Does the family present any of the following signs of vulnerability? *Read the replies and tick for each one*	***Yes No*** □ *Female head of household, with responsibility for children* □ *Female head of household, with no responsibility for children* □ Children (below 18 years) as head of household with no outside assistance □ Elderly person(s) (over 55 years), isolated or with responsibility for children □ Somebody without land □ Somebody unable to access his/her land □ Displaced □ Repatriated □ Handicapped person in the care of the family □ Chronically ill person in the care of the family (AIDS, diabetes, tuberculosis, cancer, mental, illness, etc.) □ None of the above
17. In what socio-economic category would you place your household? *(only one reply)*	❑ Requiring perpetual assistance ❑ Very poor ❑ Poor ❑ Slightly well-off ❑ Rich
18. If you have school-age children, how much do you spend for one year of schooling?	❑ **……..** ❑ For some of the children ❑ For all of the children ❑ Not attending school ❑ Free ❑ Not applicable
19. What sort of house do you live in?	❑ Hut ❑ Adobe house ❑ House made out of adobe bricks ❑ House made out of burnt bricks ❑ Provisional housing (sheeting, etc.)
21. Concerning your house …	❑ Owner ❑ Tenant ❑ Site for the displaced ❑ Other (specify) …….
21. Do you own a piece of land? Read out the replies.	❑ Yes, land cultivated for the household's survival ❑ Yes, land cultivated for profit ❑ Yes, a large piece of land for profit, with labourers employed ❑ No
22. Do you own any of the following animals and how many?	❑ Hens ❑ Goat ❑ Cow ❑ Pig ❑ None
23. How much money does the household spend per week? *Calculate together*	❑ .....
24. How much money does the household earn per week? *Calculate together*	❑ .....

Annex 3: User survey at the exit of the health centre (Burundi exit survey)

Date: …… **Interviewer:** …….. **Code:**

HC: …… **Sector:** …… **Commune:** …….. **Province:** ……

Brief explanation of the survey: Hello, we are studying the health care in the province and we would like to speak to you for a moment about the care that you have received. Could you spare us a few minutes? This information will remain confidential and your name will not appear anywhere. Let's move off a little way to the side to talk together.

1. Information about the patient:
Age: …… years …….. months gender**:** M/F

2. Information about the person interviewed, if different from the patient:
Age: ……..…... years Gender M/F

3. Where do you live? Hill:…… **Commune:** ……

The hill is in this HC's catchment area? *(The interviewer should check this)*

❑ Yes	❑ No

4. How long did it take you to reach the HC from leaving your home?

……..…... hours	……..…... minutes

5. Did you pay for transport from your home to the HC today (one way)**?**

……..…... Fbu

6. How long did you have to wait before seeing the consultant?

……..…... hours	……..…... minutes

7. What was the health problem for which you consulted?
(What did you feel before going to the HC?) Explain: this information will remain confidential.
……..
……..

8. Did you regard this health problem as *(tick the appropriate reply)***:**

❑ Not serious	❑ Serious	❑ Very serious

9. Was the patient's temperature taken?

❑ Yes	❑ No

10. Was an examination made of the part of the body affected by the illness?

❑ Yes	❑ No	❑ Not Applicable

11. For children under 5 years: **were you asked to show the vaccination card?**

❑ Yes	❑ No	❑ Not Applicable

12. What diagnosis was made at the HC? (What did they find at the HC?)

……	❑ Information not yet available ❑ I don't know

13. What treatment (medicines and dosage) **was prescribed at the HC?**
(Check the prescription, if available)

	Medicine	*Dosage and duration*	❑ Information not available
1.			
2.			
3.			
4.			
5.			

14. Verification of the medicines and whether the treatment was complete *(keep the same numbering):*

	Indicate whether the medicine was received (Yes / No)	Dosage and duration as indicated? (Yes / No)
1.		
2.		
3.		
4.		
5.		

15. <u>If an answer is NO</u>**, Why was the treatment not completed?**

(Tick the reply closest to the answer received)

[] Out of stock / medicine nor available
[] Cost too high; I could only pay for part of it
[] Cost too high; I didn't receive any more credit
[] That's how they usually do it here at the HC
[] I don't know
[] Other reason (specify).

16. Do you know what tariff-setting system is in place or the usual price at the HC?

❑ Yes	❑ No

Check if the patient's reply corresponds to the system in place: *(for the interviewer to verify)*

❑ Correct (corresponds)	❑ False explanation (does not correspond)

17. What price did you pay today at the health centre?

	Price (BuF)	**Already paid?**		
		YES	**NO**	**Part**
Price of the card/ registration sheet:				
Price of the consultation:				
Price of the medicines (total):				
Price of the lab:				
Price of other care or medical acts:				
Total (Fbu)				

Put a dash if you don't know

18. Do you have the right to a price reduction or to free care?

❑ Yes	❑ No

If yes, which? *(Verify the different possibilities listed below)*

	Yes	***No***
CAM		
'indigence card' (commune)		
Certificate proving holder is displaced/ repatriated/victim of a disaster		
State employees' insurance (mutuelle) card		
Soldier or soldier's family		
Health personnel		
Other: ……. …….		

19. Did you receive a price reduction here at the centre?

❑ Yes	❑ No
❑ For medicines?	
❑ For medical acts?	
❑ For other care?	
❑ On the total?	

20. As regards the price that you paid today, was it difficult for you to pay this?

❑ Yes	❑ No
⇓	⇓
Continue to question 21	**Continue to question 23**

21. How is it that you have difficulty in paying today? Why?
(Tick the reply closest to the answer given)

- ❑ I don't earn enough (in general)
- ❑ The price of care is too high
- ❑ I already spent a lot of money for this illness episode before coming to the HC
- ❑ Several household members are ill
- ❑ Too many expenses in other areas at the moment (school fees, seeds, etc.)
- ❑ I have a temporary money problem (season, etc.)
- ❑ Other: ……

22. If you have difficulty in paying the HC, what are you going to do to find a solution? *(Tick the reply closest to the answer given)*

- ❑ Nothing
- ❑ I'm going to ask for money from the family/neighbours/…
- ❑ I'm going to create a debt at the HC
- ❑ I'm going to work in the field
- ❑ I'm going to work elsewhere
  State where: ….
- ❑ I am going to sell some bananas (or some other crop)
- ❑ I'm going to sell a unit of livestock
- ❑ I'm going to sell a piece of land
- ❑ I'm going to sell something else
  State what: ……

- ❑ I'm going to reduce other expenditure
  State what: ……..
- ❑ Other: ….

23. Do you regard yourself as:

- ❑ Well-off
- ❑ Average
- ❑ Poor
- ❑ Very poor

24. How much do you spend every week on average? *(calculate the total together, if necessary)*

……..…….. Fbu

25. How much do you earn per week? *(calculate the total together, if necessary)*

……..…….. Fbu

26. Are you satisfied with the care received today?

- ❑ Very satisfied
- ❑ Satisfied
- ❑ Not satisfied
- ❑ Not at all satisfied

27. Will you return to this HC the next time that you or one of your family is ill?

❑ Yes	❑ No	❑ I don't know

28. Explain the principal reasons for this choice: why or why not?
(Only tick the most important reason given)

Why?	**Why not?**
❑ I am satisfied with the care	❑ I am not satisfied with the care
❑ I am satisfied with the reception	❑ I am not satisfied with the reception
❑ The service was rapid	❑ There was a very long wait
❑ The price is not too expensive	❑ The price is too expensive
❑ I prefer the care given here for this type of illness	❑ I prefer the care given elsewhere for this type of illness
❑ I don't know any other HC where I can get care	❑ I know another HC where I can get care
❑ Other (specify): ……	❑ Other (specify): ……
❑ I don't know	

Annex 4: Information to be gathered at the focal HC for the cluster concerned

Province:	Commune:
HC at:	Cluster No.:
Date:	Interviewer:

1. Management of the HC: public/ private, state-approved / other: …..
2. Supported by: …… in terms of …….
   ……. in terms of …….
3. Catchment population:
4. Tariff-setting system (specify whether this applies for medicines, the lab and medical acts)
   a. Presently in place: …….
   b. Since: ……
   c. What was the system prior to this date: ……..
   d. Any remarks: ……
5. Average number of curative consultations per month
   a. Total ……..

b. Children < 5 years / adults …….
c. Men/women……/……..
d. Remarks:…….
e. Add together the monthly attendance figures for 2002 and 2003 (total)……

6. Average number of measles vaccinations per month
   a. Total n° of children < 1 year (target group)
   b. Total n° of children < 1 year vaccinated against measles
   c. Remarks:
   d. Add together the monthly measles vaccination figures for 2002 and 2003.

7. Check in the register for the past 5 days:

	Number	D1	D2	D3	D4	D5	Average	%
1	The total number of curative consultations							100
2	The number of patients with a CAM card							
3	The number of patients holding proof of poverty							
4	The number of patients with a MFP card							
5	The number of military patients							
6	The number of health personnel patients (and family)							
7	The number of patients who take on a debt to the HC							

8. Availability of medicines, medical material and other input:
   a. Stock of ASA 500 mg yes/no
   b. Stock of quinine 300 mg yes/no
   c. Stock of amoxicillin yes/no
   d. Stock of co-trimoxazole yes/no
   e. Stock of ORS yes/no
   f. Availability of paracheck or reagent for thick drop yes/no
   g. Availability of RPR test in the ANC yes/no
   h. Disinfectant in the treatment room yes/no
   i. Stock of measles vaccines yes/no
   j. Stock of ferrosulphate and folic acid in the ANC yes/no

9. Check in the register and give a score of 1 to 5:
   a. Treatment for a child with diarrhoea
   b. Treatment for a child with a respiratory condition
   c. Treatment for an adult with malaria
   d. Treatment for a child with malaria
   e. Treatment for a sexually transmitted infection (STI)

10. Other quality indicators for curative consultations:
    a. Level of professional qualification of the consultant: MD/ nurse A1/ nurse A2 / auxiliary
    b. Possibility of thick blood smear or paracheck: yes/no
    c. The opening hours of the HC: from …… to ……

11. Observation of the consultation:
    1) Quality of the reception and triage: priority given to dehydrated or feverish children: yes/no
    2) Consultation conducted with as much confidentiality as possible (privacy): yes/no
    3) Temperature taken systematically before or during the curative consultation: yes/no
    4) Time the length of the consultation (from the moment that the patient and the consultant are sitting until of one of them leaves): ……min…….sec

Give the names of the hills or sites served by the HC:

1).....
2).....
3).....
4).....
5).....
6).....
7).....

Annexe 5: Example of a comparison exercise of the total price to be paid by patients in the different health centres of the province of Cankuzo.

In order to compare the price that patients are asked to pay in health centres with different tariff-setting systems, we add r the total costs to be paid by patients for identical pathologies and according to the care protocols presently employed. A detailed calculation of the 'theoretical' prices to be paid according to the 'type' of patient is presented. It is calculated on the basis of the price of the different elements that contribute to the total price for the care required for current pathologies. We focused the exercise on:

- An out-patient suspected of malaria requiring treatment with oral quinine;
- A patient requiring hospitalisation (3 days) and perfusion of quinine for serious malaria;
- A normal delivery (eutocic) with 2 nights staying at the HC.

In the table, you will also find the price to be paid by patients holding any kind of card qualifying them for subsidised care (CAM, 'indigence card', FP card), according to the current system found in the field. The results are presented in the following tables:

1. **Out-patient (NC) suspected of malaria** (this includes: patient card or sheet, consultation with a paramedical, thick blood smear test, treatment by 21 oral quinine tablets, 500 mg).

Price (Fbu) to be paid by the patient for malaria (out-patient, quinine)	Non-subsidised patient	'Indigence card'	CAM card	Insurance civil servants (mutuelle FP card)
Public HC at 115% cost recovery	1.666	1.256	1.666	1.666
Public HC at 20% cost recovery (Cankuzo Town)	628	0	628	300
Flat fee public HC (MSF)	50	0	50	50
Private religious HC (CR at 150%)	1.868	1.868	1.868	374

2. **Malaria patient requiring a perfusion and three days of hospitalisation** (this includes the patient sheet, thick blood smear test, treatment by a perfusion of glucose, 5%, with vial of quinine (3 perfusions per day for 2 days) and the medical acts, such as the consultation with paramedical personnel during the daily round or putting in the intravenous drip line).

Malaria, quinine, hospitalised for 3 days	Non-subsidised patient	'Indigence card'	CAM card	Insurance civil servants(mutuelle) card FP
Public HC at 115% CR	8.307	0	7.899	7.899
Public HC at 20% CR (Cankuzo Town)	1.866	0	1866	1866
Flat fee public HC (MSF)	250	0	250	250
Private religious HC (CR at 150%)	9.600	9.600	9.600	1.920

3. **A normal delivery** (this includes the act of delivery, an injection of methergine postpartum, necessary material, such as gloves, syringe and needle and overnight stay for 2 days).

Eutocic delivery	Non-subsidised patient	'Indigence card'	CAM card	Insurance civil servants (Carte mutuelle FP
Public HC at 115% CR	1.291	0	698	698
Public HC at 20% CR (Cankuzo Town)	698	0	698	258
Flat fee public HC (MSF)	150	0	150	150
Private religious HC (CR at 150%)	2.812	2.812	2.812	562

Of course, we immediately see the large difference in prices between the public and private religious-run health centres: the latter remain the most expensive. But even in a public health centre with cost-recovery at 115%, this price remains high: a quinine treatment for an out-patient costs about **1.600** Fbu and a patient with severe malaria leaves after 3 days of hospitalisation with a bill of over **8.300** Fbu. A normal delivery (without any intervention whatsoever, only ensuring correct monitoring) costs around **1.300** Fbu**.**