



Violence and access to health in Congo (DRC)



Results of five
epidemiological surveys
December 2001

EXECUTIVE SUMMARY

The people of the Democratic Republic of Congo (DRC) have been living for years in a situation of chronic crisis characterised by the destruction of the economic and social fabric of the country. This situation has been exacerbated by two successive wars since 1996. In order to improve the response to the needs of the population by providing reliable data on mortality, violence and access to health care in the DRC—useful for guiding the political and humanitarian decision-makers—Médecins Sans Frontières (MSF) conducted a retrospective epidemiological survey between August and October 2001 in five health zones: Basankusu and Lisala (Equateur), Kilwa (Katanga), Kimpangu (Bas Congo) and Inongo (Bandundu). Using a two-stage cluster method, the survey covered 4.500 families and produced the following results.

Very disconcerting mortality rates in the zones close to the front-line

In Basankusu (Equateur), a zone under rebel control very close to the front-line, we were able to extrapolate that around 10% of the global population had died over a 12-month period (2.7 deaths/10.000/day). In a normal situation in a developing country, an average annual rate of only 2% is expected. In Kilwa (Katanga) and Lisala (Equateur), both withdrawal zones for the military, 4% and 3% of the population died over a 12-month period (1.1 deaths/10.000/day and 1 death/10.000/day).

In the zone closest to the front-line (Basankusu), mortality greatly exceeded the threshold of alarm (2 deaths/10.000/day), a situation calling for greater humanitarian intervention. The two withdrawal zones are near the alarm threshold (1 death/10.000/day), and the other zones beyond the front-line had mortality rates comparable with the norm, but their populations are living on a razor's edge.

Children have been particularly affected by the war

In Basankusu, we were able to extrapolate that around a quarter of under-fives died over a 12-month period, although the mortality rate for under-fives in a normal situation would be around 3.6%. In Kilwa, the mortality rate for the under-fives was also alarming with around 12% dying over a 12-month period. In the other zones studied, the percentage of under-five deaths was higher than the threshold of alarm, but the situation was not as serious.

The war has led to an increase in infectious diseases and malnutrition

Although related to violence, the increased mortality in zones affected by war is mainly due to the increase in infectious diseases and malnutrition. Although the people are not dying from the physical violence, the indirect effects are nonetheless devastating. Violence is destroying coping strategies and makes families more vulnerable to disease.

Significant levels of violence on both sides of the front-line

In the two zones on either side of the front-line (Basankusu and Kilwa), among families having experienced violence, the looting reached dizzying rates for 2000 (77% for each zone) and remains high in 2001 (45% et 17%). The percentage of houses and fields all or partially destroyed by fire, shelling or other means is also very high in the zone very close to the front-line (from 30% to 46%), much lower in the withdrawal zone (3% to 4%). In addition, in Basankusu and Kilwa zones, from 50% to 90% of households questioned had to flee during the war that began in August 1998.

With regard to physical violence, the same observation holds: physical assaults, arbitrary arrests and detentions, torture and sexual abuse show high rates in the zone very close to the front-line and less high in the withdrawal zone. For example, closest to the front, prior to 2001, 15% of households had experienced violence involving the torture of at least one family member and in 13% of such households at least one member that had been sexually abused. In the withdrawal zone, prior to 2001, 17% of households experiencing violence had seen at least one person forcibly recruited by the military from within the family.

Violence was also experienced in Kimpangu health zone, which borders northern Angola, but to a lesser extent (12% of households surveyed). This violence was either linked to the rebel withdrawal in August 1998 during an attempt to open a front to the west, or to the frequent raids by UNITA (Angola) rebels in this border region.

Violence and the increased number of deaths are related

In the zones close to the front-line, households that have experienced violence also counted more deaths among members in the previous six months. For example, for the under-fives in Basankusu, the mortality rate for the under-fives living in families that had encountered violence was 7/10.000/day, while it was 4/10.000/day for children living in families not subjected to violence. Violence forced people to flee, but paralysed the transport system. Violence led to scarcities of food, other products and services, but increased the frequency of theft and the destruction of civilian property. Violence weakened the population's immunological defences, but strengthened the resistance of infectious agents through the use of fake medicines and/or incomplete treatments.

A large part of the population has no access to health care

In the two zones close to the front-line (Basankusu and Lisala), about three to four sick people out of ten have not consulted anyone outside the family (nurse, doctor, traditional healer, first-aid worker), mainly for financial reasons (consultations and medicines are too expensive for around three-quarters of them), but also because of the lack of available medicines and, to a lesser extent, because of transport problems. In addition, between a quarter and a half of those patients seeking consultation do not obtain the medicines prescribed or make do with an incomplete treatment. This is mainly due to the lack of financial means (over 80% of them) and, to a lesser extent, because of the lack of available medicines. The results in the zones less severely affected by the conflict are no more encouraging.

Taking all categories together, we can say that for four zones out of five, between 40% and 70% of sick people did not receive adequate access to health care (either they were unable to receive consultation, or they could not obtain the medicines prescribed or obtained only part of them). Although unable to calculate the poverty rates, the survey teams observed extreme poverty in these zones, with hardly any money circulating in rural areas (most households without bank notes, even in small denominations; children, and sometimes adults, completely naked; no salt; malnutrition problems, etc.). In addition, out of those who obtained all the medicines prescribed, still in the same zones, between a quarter and a half of them were unsatisfied with their treatments, which leads us to suppose that they received fake medicines.

Different degrees of suffering within the population

The Congo is not homogenous. Although the population's access to health is catastrophic everywhere, it becomes increasingly difficult to measure the closer one gets to zones of

violence. In the front-line zones, the indicators for mortality and access to health have reached alarming levels, in others zones they give rise to concern.

Given the extreme gravity of the situation, MSF is calling on external partners and the Congolese authorities to ensure:

- An end to the violence, the reopening of the river to traffic in an effective manner, tighter control of troops and the repair of roads and bridges;
- A tripling of the funding granted to humanitarian action in general and to health services in particular, compared with present levels of aid;
- A reinforcement of aid in the problem zones, and greater adaptability and flexibility in the approach to and funding of projects;
- The distribution of social kits (clothes, kitchen utensils) and agricultural kits (hoes, seeds) where the needs are greatest;
- A considerable increase in the aid envelope allocated to the health sector;
- The systematic vaccination of children against measles;
- Particular attention to the treatment of malaria, AIDS, tuberculosis and trypanosomiasis;
- Genuine access to health care for the population with a realistic level of community participation for all health zones, and free care for those zones particularly affected by the conflict.

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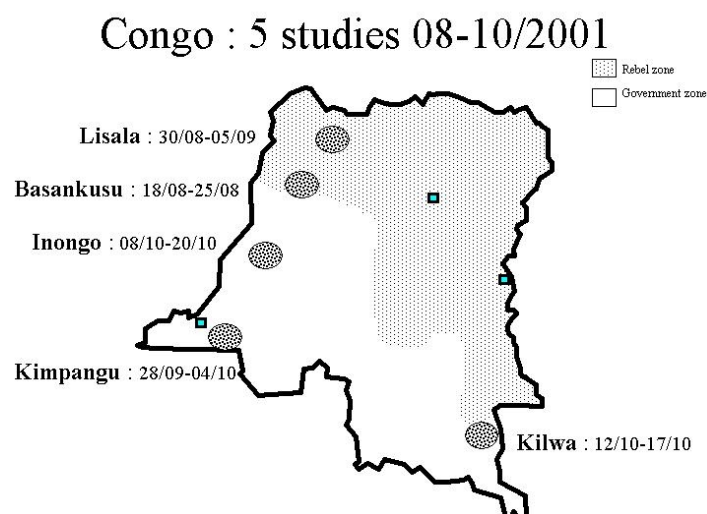
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I. INTRODUCTION AND BACKGROUND CONTEXT

For years now, the population of the Democratic Republic of Congo (DRC) have been living through a situation of chronic crisis characterised by the destruction of the country's economic and social fabric. This situation has been exacerbated by two successive wars since 1996. In June 1997, the Mobutu regime was overthrown in a rebellion led by Laurent Désiré Kabila. A little over a year later, in August 1998, a new rebel movement, supported by Rwanda and Uganda, launched an offensive aimed at overthrowing the government of President Kabila. Today, three years later, the conflict continues to affect the civilian population, even if the recent advance in the negotiation process allows hope for peace in the near future.

Médecins Sans Frontières (MSF) has been working in the Democratic Republic of Congo (DRC, formerly Zaire) since 1981. During these years of activity, we have witnessed the deteriorating situation and the emergency of a humanitarian catastrophe on a huge scale. In December 1999, MSF drew attention to the rapid decline in the economic, humanitarian and medical indicators, and launched an appeal for urgent measures to be taken to put an end to the infernal cycle of violence and human suffering. At that time, however, it was difficult, given the insecurity, to collect reliable data in regard to the health situation of the people of Congo. The MSF study entitled "Survival in the Democratic Republic of Congo" was thus limited to outlining tendencies indicative of the actual economic and health situation within the country, with some examples of the deplorable state into which the health services have fallen.¹

In June 2000 and April 2001, the International Rescue Committee (IRC) published the results of 11 surveys of the mortality in the east of the DRC that indicated very high mortality rates. In order to collect precise data for other regions of this vast country, MSF decided to conduct a survey on the mortality, access to care, vaccination coverage and the violence in five health zones²: Basankusu and Lisala (Equateur), Kilwa (Katanga), Kimpangu (Bas Congo) and Inongo (Bandundu).



¹ See the MSF book of photos from Congolese health facilities, "Congo 2000: The Health of the National Health System" (Brussels: MSF/Roger Job, 2000).

² Congo is divided into 306 health zones, each comprised of 100.000 to 150.000 inhabitants. Each zone has a central office under a head doctor for the zone. The health centres and general reference hospitals are where the population's health is really taken in charge.

Equateur (Basankusu and Lisala health zones)

Equateur is one of the provinces most severely affected by the war that has been underway since 1998. The fighting has divided the province into two: the north and the east are occupied by the rebel FLC (Forces de Libération Congolaises)³; the west and the south are under government control. The two health zones surveyed, Basankusu and Lisala, lie on the rebel side. The intensive military activity in this province has led to a situation of generalised insecurity with the population experiencing looting, the destruction of harvests and large-scale displacements. According to an estimate by the Food and Agricultural Organisation (FAO) in March 2001, over 100.000 people have fled into the Central African Republic, Congo Brazzaville and south of Basankusu to escape the fighting. In addition, the few business enterprises in the region (palm oil refinery, soap factory, etc.) are no longer functioning because the Congo river is closed to traffic. The humanitarian situation is particularly precarious in the zones on the front-line or close to it, particularly in Basankusu health zone, which continues to receive the displaced from neighbouring health zones (Bolomba and Befale). Of the province's 34 health zones, 28 have experienced the systematic looting of their health structures (source: OCHA⁴). Lisala health zone, further from the front-line, has been less affected by the war.

Katanga (Kilwa health zone)

The province of Katanga is divided into two by the front-line: the northern part is controlled by the RCD-Goma (Rassemblement Congolais pour la Démocratie)⁵, and the southern part by the government. There is reason for concern about the humanitarian situation there also. Intensive military activity in the north of Katanga has resulted in population displacements, the region's isolation turning it into enclave, further and more serious outbreaks of epidemics, malnutrition problems, etc. The large-scale displacements are leading people to seek refuge as far away as Zambia and Tanzania. Kilwa, the health zone surveyed by MSF, lies south of the front-line. In June 2001, it still contained 24.812 displaced persons (source: OCHA/Kinshasa). Of the province's 40 health zones, only 14 are regularly supplied with essential medicines (source: OCHA).

Bas Congo (Kimpangu health zone)

The province of Bas Congo has been feeling the effects of conflicts in neighbouring Angola and Congo Brazzaville for several years. A large number of refugees from these two countries have spilled over onto Congolese territory. In May 2001, their number was estimated at 69.409 (source: UNHCR). The war that has been fought since August 1998 has not spared this government-controlled province: the looting of socio-economic infrastructure and of the people themselves, much loss of human life, etc. In November 1999, Kimpangu, the main town in the health zone of the same name in which MSF carried out its survey, was attacked by Angolan UNITA rebels making an incursion into the DRC. The general reference hospital in Kimpangu, as well as the central office of the health zone, was completely looted. Everything was either carried off or destroyed: cold chain material, surgical equipment, pharmaceutical stocks, etc. In December 1999, MSF suspended its support for the health zone because of the insecurity, but started up again in July 2000.

³ Congolese Liberation Forces.

⁴ United Nations Office for the Coordination of Humanitarian Affairs.

⁵ Congolese Assembly for Democracy.

Bandundu (Inongo health zone)

The province of Bandundu also lies on the government side. It is the only province that has not been directly affected by the war. However, it holds a considerable number of refugees (26.423 according to the UNHCR) and suffers the indirect consequences of the economic crisis sweeping the country. In Inongo health zone, where MSF conducted its survey, the absence of conflict has not meant an improvement in the situation of the local population. Essential infrastructure, such as roads and bridges, continues to deteriorate, making some regions practically inaccessible. The health system no longer functions due to the lack of medicines, material and finance. The nearest reference hospital (Lukolela, in Equateur, 350 km from Inongo) is difficult to reach. It is not easy for a geographically isolated population to pay for the few medicines available on the market in a province where there is little trade because of the state of the roads and the lack of boats. Of Bandundu's 38 health zones, only 17 are regularly supplied with essential medicines.

II. SURVEY OBJECTIVES

MSF's survey pursued three objectives:

- 1) To complete the collection of reliable data making it possible to measure the mortality among the civilian populations in the DRC, in regions other than those studied by the International Rescue Committee (IRC), in order to measure and make known the degree and extent of the deadly crisis that is sweeping the country.
- 2) To make reliable data available to the political decision-makers and humanitarian actors on the mortality, violence and access to health care in the DRC so that they are better able to meet the needs of the population and may be guided in their initiatives with objective information.
- 3) To measure the effects and the limits of MSF projects supporting primary health care and, if necessary, to redirect these operational programmes.

III. METHODOLOGY

The same methodology was used to estimate the mortality, the access to care, the vaccination cover and the violence.

Geographic localities, and methods used for selecting samples and for interviews

For each of the five surveys conducted in the DRC during the summer and autumn of 2001, the retrospective Crude Mortality Rate (CMR) as well as the results regarding access to care and the violence, were estimated according to the two-stage cluster system. This is the same approach as that used by the World Health Organisation (WHO) to estimate vaccination coverage (Expanded Programme for Immunisation – EPI).

Five health zones were selected, two in rebel areas and three in government areas, on the basis of the following criteria:

- health zone supported by MSF/health zone not supported by an external actor (isolated);
- health zone close to the front-line/far from the front-line/close to another conflict;
- locality: if possible, zones in different provinces;
- accessibility (in regard to security and logistics);
- cooperation of the local authorities and the head doctor in the zone;
- zones not covered by the IRC survey.

The health zones of Basankusu (Equateur), Lisala (Equateur), Kimpangu (Bas Congo), Kilwa (Katanga) and Inongo (Bandundu) were selected. The local health authorities provided population lists per zone, divided into health areas⁶, dating from the last polio vaccination campaign organised by the WHO in July and August 2001. The number of clusters was first calculated per health area, in proportion to the population (WHO method). The specific locality of the clusters in each health area (village, hamlet) was later determined by the same method.

Once the specific sites were identified, those conducting the survey determined the centre of the village or hamlet or district, with the direction chosen at random. The houses within the grid in that direction were numbered. A random number was picked to define the house from which the survey would begin. The second house chosen was that closest to the first, and so on.

On average, twelve teams of two people were selected on the basis of their abilities, their knowledge of the field and how well they could speak the local languages. These teams received specific training on the methodology and procedures to be used and then went through a test period. Monitoring was organised by at least two supervisors, headed by a coordinator. The questionnaire was comprised of 22 closed or semi-open questions covering four issues: violence, mortality, access to care and vaccination. This was also tested in advance. Contrary to the surveys on mortality and on violence, which concerned the whole household, questions relating to access to health care and to vaccinations concerned a single sick person or a child picked randomly for each household.

Calculating the size of the sample and making the analysis

The size of the sample was calculated on the basis of the percentage of expected deaths supposing that the mortality would be three times greater in the zones under survey. The mortality rate in a stable population is from 0.5/10.000/day in developing countries. Over 180 days and out of a population of 5.500, this percentage of deaths rises to 0.9%. Supposing this mortality rate to be three times greater, a rate of 2.7% is expectable. In order to allow us to differentiate between a normal situation and a situation where the mortality is three times greater, we fixed a confidence interval (CI) of +/- 0.8%. This CI and a cluster effect between 3 and 4, requires a sample of between 4.731 and 6.308 people. If each household averages between 5 and 7 members, the sample should cover 900 households, or 30 clusters of 30 households. An approximate eight-month period was selected for studying the mortality and the access to health care (from January 2001 up till the time of the survey). A longer period was picked for examining the violence and population displacements (from August 1998).

⁶ In theory, each health area (*aire de santé*) includes a health centre (1 for around 5-10.000 inhabitants).

We chose the household as the base unit rather than the family, which could be understood in the wide sense of the term (extended family) and include members not necessarily living under the same roof. There is a risk of bias in data if people talk about family members with whom they do not share everyday life (problems of accuracy and memory). The household was defined as: a group of people who sleep and eat under the same roof at least three days per week. According to the type of habitat and the social codes, these could include brothers, sisters and their nuclear families, second or further wives where polygamy is practised, a distant cousin adopted into the family, etc.

The data was encoded into the Epi Info 6.04 (French) programme and checked as soon as supervisors returned from the field. The analysis was carried out in Brussels. Given the sample method used, the results are not extended to a larger region (province for example). A qualitative study of the same health zones, as well as of other DRC zones, was conducted in parallel and will be the subject of a separate publication.

IV. RESULTS OF THE INDIVIDUAL SURVEYS

1. Mortality

Basankusu (Equateur Province)

Overall

Households visited:	912
Sample population:	11.532
Total population in the zone:	198.438
Number of under-fives:	2.783
% of under-fives in the sample:	24%
CMR 1/01-21/08/2001:	2.7/10.000/day ⁷ (95% CI: 2.3-3.1)
Mortality rate among < 5 years	6.6/10.000 /day ⁸ (95% CI: 5.3-7.9)

Among the households questioned in Basankusu health zone, malnutrition, together with anaemia (24.2%), was cited as the first cause of mortality. This was followed by diarrhoeal diseases, grouped together with digestive problems (20.9%) and malaria fever (18.9%). Violence was a significant cause of mortality as it represented 4.1% of deaths in the households questioned. For the full picture of the causes of mortality, see annex.

Distinction between urban and rural zones

Town of Basankusu

Sample population:	2.219
Total population in the zone:	43.017
Number of under-fives:	487

⁷ The Crude Mortality Rate (CMR) in a stable population in a developing country is estimated at around 0.5/10.000/day (for industrialised countries, this rate is around 0.3) The situation begins to give rise for concern when the CMR is greater than 1/10.000/day. An emergency is declared when the CMR exceeds 2/10.000/day.

⁸ For the under-fives, the situation is described as alarming when the CMR is greater than 2/10.000/day. An emergency is declared when it exceeds 4/10.000/day.

% of under-fives in the sample:	22%
CMR 1/01-21/08/2001:	1.3/10.000/day (95% CI: 1.0-1.6)
Mortality rate among < 5 years	3.2/10.000/day (95% CI: 2.3-4.1)

Rural zone

Sample population:	9.313
Total population in the zone:	155.421
Number of under-fives:	2.296
% of under-fives in the sample:	25%
CMR 1/01-21/08/2001:	3.0/10.000/day (95% CI: 2.6-3.5)
Mortality rate among < 5 years	7.3/10.000/day (95% CI: 5.9-8.8)

Lisala (Equateur Province)

Households visited:	907
Sample population:	8.331
Total population in the zone:	204.544
Number of under-fives:	1.955
% of under-fives in the sample:	23%
CMR 1/01- 2/09/2001:	0.8/10.000/day (95% CI: 0.6-1.0)
Mortality rate among < 5 years	1.8/10.000/day (95% CI: 1.0-2.5)

In Lisala health zone, the two most common causes of death are respiratory infections (14.7%) and malaria fever (14.1%). Violence represents 2.4% of deaths. (The complete picture of the causes of mortality in general can be found in annex.)

Kimpangu (Bas Congo Province)

Households visited:	907
Sample population:	4.491
Total population in the zone:	93.975
Population of under-fives:	914
% of under-fives in the sample:	20%
CMR 1/01- 1/10/2001:	0.6/10.000/day (95% CI: 0.4-0.7)
Mortality rate among < 5 years:	2.0/10.000/day (95% CI: 1.4-2.6)

Malaria fever is the first cause of mortality in Kimpangu (40.3%), with diarrhoea the second cause (11.1%). Violence represents 1.4% of deaths (see annex).

Kilwa (Katanga Province)

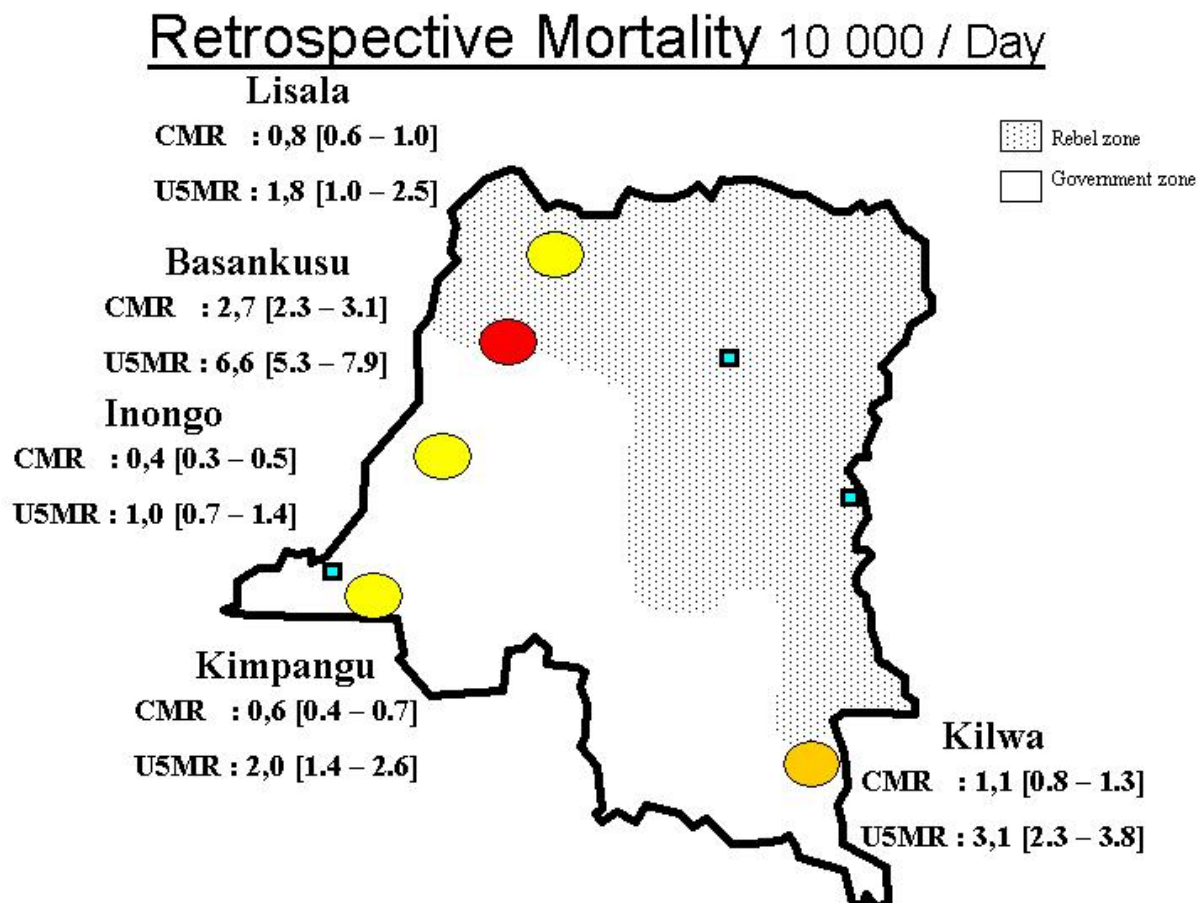
Households visited:	901
Sample population:	5.077
Total population in the zone:	234.630
Number of under-fives:	1.178
% of under-fives in the sample:	23%
CMR 1/01- 15/10/2001:	1.1/10.000/day (95% CI: 0.8-1.3)
Mortality rate among < 5 years:	3.1/10.000/day (95% CI: 2.3-3.8)

In Kilwa health zone, the first cause of mortality is malaria fever (32.7%), followed by diarrhoeal diseases (22.0%) and respiratory infections (19.5%). Violence represents only 0.6% of the causes of mortality. For the other causes, see annex.

Inongo (Bandundu Province)

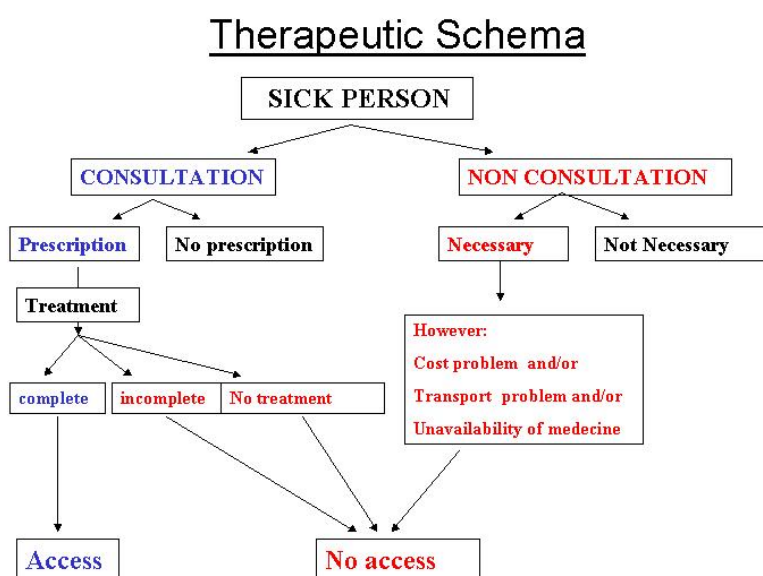
Households visited:	900
Sample population:	6.172
Total population in the zone:	241.240
Number of under-fives:	1463
% of under-fives in the sample:	24%
CMR 1/01- 13/10/2001:	0.4/10.000/day (95 % CI: 0.3-0.5)
Mortality rate among < 5 years:	1.0/10.000/day (95 % CI: 0.7-1.4)

Malaria (19.7%) and respiratory infections (18.4%) are the two main causes of mortality in Inongo zone. No death due to violence was recorded in Inongo (see annex).



2. Access to care

In order to synthesise the results in regard to access to care, we created two categories: those who consider they received an offer of complete care and those who received either no care or incomplete care. In the first category, we grouped together people who, having consulted a medical structure, obtained a complete treatment (access to health care). In the second, we grouped together those who did not have a consultation, although they considered one was necessary, with those who did not obtain any treatment or complete treatment (no access).



	Basankusu (n=884)		Lisala (n=869)		Kimpangu (n=793)		Kilwa (n=841)		Inongo (n=891)	
	%	CI*	%	CI	%	CI	%	CI	%	CI
Access	32.6	[24.1-41.0]	58.8	[51.1-66.5]	86.9	[81.9-91.9]	55.7	[49.6-61.8]	57.9	[52.4-63.4]
No access	67.4	[59.0-75.9]	41.2	[33.5-48.9]	13.1	[8.1-18.1]	44.3	[38.2-50.4]	42.1	[36.6-47.6]

*Confidence interval at 95% (contains the true percentage of the population)

Two-thirds of sick people in Basankusu did not have access to health. The figure for Lisala, Kimpangu and Kilwa was two-fifths.

We also calculated the mortality rate in the different zones according to the following categories.

	Basankusu (n=884)		Lisala (n=869)		Kimpangu (n=793)		Kilwa (n=841)		Inongo (n=891)	
	*	CI	*	CI	*	CI	*	CI	*	CI
CMR with access	1.6	[1.3-1.9]	0.7	[0.5-0.9]	0.4	[0.2-0.5]	1.0	[0.8-1.2]	0.4	[0.3-0.6]
CMR without access	3.3	[3.0-3.7]	1.0	[0.7-1.3]	1.3	[0.5-2.2]	1.2	[0.8-1.6]	0.4	[0.2-0.6]
MR < 5 with access	4.2	[3.4-5.1]	1.6	[1.2-2.1]	1.3	[0.5-1.9]	3.0	[2.2-3.7]	1.0	[0.5-1.4]
MR < 5 without access	7.8	[6.7-9.0]	1.8	[1.1-2.4]	4.3	[1.8-6.7]	3.2	[2.0-4.4]	1.1	[0.5-1.6]

* death/10.000/day

In the category of households receiving an offer of complete care, the mortality rate is less high in all zones. However, the difference is not statistically significant for Basankusu.

For a complete picture of the survey on access to care, see results below

Basankusu

Out of 912 households questioned, 884, or 96.9%, stated that at least one person had been ill within the past six months. To reduce intra-family cluster effect, cases of illness were chosen at random. Out of all those said to have been sick, 36.4% stated that they did not consult anyone outside the family (nurse, doctor, local healer, pharmacist, etc.). Why not? The table below gives the reasons put forward by the sick.

<i>Reasons given for not attending consultation (n=322)*</i>	#	%	CI
Consultation too expensive	255	79.2%	[67.0-91.4]
Medicines too expensive	252	78.3%	[65.4-91.1]
Absence of medicines	151	46.9%	[30.1-63.7]
Transport/distance problem	138	42.9%	[24.6-61.1]
Absence of personnel in the health structure	76	23.6%	[7.4-39.8]
Lack of confidence in the health personnel	28	8.7%	[2.0-15.4]
Security problems	20	6.2%	[0-14.6]
Feeling that consultation was not necessary	17	5.3%	[1.2-9.3]

* It was possible to give several reasons.

The two main reasons put forward were the lack of financial means to pay for a consultation or to buy medicines. Two other quantitatively non-negligible reasons were the lack of medicines in the health centres and the transport problems involved in reaching the health centre, hospital or other medical actor.

These two reasons were more common in rural zones (48% and 52%), while remaining minimal in the towns (2.6% and 7.9%). In rural parts, the lack of care personnel was frequently put forward (26.8%), while this problem did not exist in the towns (0%).

<i>If yes, who gave the consultation? (n=562)</i>	#	%	CI
Doctor or nurse from a health centre or religious structure	274	48.8%	[34.3-63.3]
Hospital doctor or nurse	198	35.2%	[22.1-48.4]
Private doctor or nurse	77	13.7%	[5.3-22.1]
Traditional healer	8	1.4%	[0-3.6]
Pharmacist	5	0.9%	[0.1-1.6]

In general, the public health centres or centres run by a religious order are more usually frequented by the sick, followed by hospitals. In towns, the hospital is the most frequented (89% of the sick consulting did so at a hospital against 3.4% at a health centre). In rural zones, the tendency is inverted (64.7% of sick consulting went to health centres against 16.3% going to a hospital).

Of all those presented as ill and attending a consultation, 98.2% received a prescription for medicines. Did they obtain these medicines? In general, 49.5% of the sick people questioned said they either did not obtain them at all or did not obtain everything prescribed. Why not? The reasons are given below.

<i>Reasons put forward for not obtaining medicines (n=273)*</i>	#	%	CI
Medicines too expensive	239	87.5%	[80.3-94.8]
Medicines not available	85	31.1%	[15.5-46.7]
Transport/distance problems	18	6.6%	[1.8-11.4]
Other reasons	15	5.5%	[0.8-10.2]

* No medicines or treatment not complete. It was possible to give several answers.

Once again, the lack of financial means is the main reason for not obtaining medicines (87%). Next come problems related to the lack of medicines and to transport (31% and 7%). As for consultations, these two reasons are more significant in rural parts (34.7% and 7.6%) than in urban areas (8.1% and 0%). Among those obtaining only part of the medicines prescribed, the rate of effectiveness indicated is very much less significant than among those obtaining a complete prescription (12.3% against 47.9%).

<i>Where did you obtain all or some of these medicines?</i>	#	%	CI
Health centre	279	54.2%	[39.1-69.2]
Hospital	169	32.8%	[19.1-46.5]
Commercial pharmacy	52	10.1%	[2.7-17.5]
Market	8	1.6%	[0.0-3.1]
Other places	7	1.4%	[0.1-2.6]

In general, as with consultations, the health centres and hospitals remain the two principal places for obtaining medicines (54% and 33%).

In urban areas, the hospital is frequented more often than the health centre for acquiring medicines (86% for the hospital against 7.1% for the health centres, although the tendency is inverted in rural parts (72% in health centres against 12.6% in hospitals).

Of all those obtaining the complete or partial prescription (n=515), 92.6% stated that they had paid for their medicines.

Lisala

Of the 907 households questioned, 869, or 95.8%, stated that at least one person had been sick within the last six months. After selecting one sick person per household at random, it emerged that 23.8% of the sick said they had not consulted anyone outside the family. They put forward the following reasons for not consulting.

<i>Reasons put forward for not consulting (n=207)*</i>	#	%	CI
Consultation too expensive	162	78.3%	[66.8-89.7]
Medicines too expensive	156	75.4%	[62.9-87.8]
Feeling that a consultation was not necessary	18	8.7%	[3.5-13.9]
Transport/distance problems	4	1.9%	[0.1-3.7]
Security problems	2	1.0%	[0-2.3]
Lack of personnel in the health structure	1	0.5%	[0-0.4]
No confidence in the health personnel	1	0.5%	[0-1.4]

* It was possible to give several answers.

Over three-quarters of the sick not consulting stated that they did not have the financial means to attend a consultation or to buy medicines.

<i>If yes, who gave the consultation? (n=662)</i>	#	%	CI
Doctor or nurse from the health centre or religious structure	338	51.1%	[39.2-62.8]
Hospital doctor or nurse	167	25.2%	[16.3-34.1]
Private doctor or nurse	109	16.5%	[10.5-22.4]
Traditional healer	48	7.3%	[4.1-10.4]
Pharmacist	0	0.0%	

For those who did consult, more than half attended a public health centre or one run by a religious order, a little more than a quarter attended a hospital and 16% a private structure.

Of the total of sick people attending consultations, almost all, or 99.2%, obtained a prescription for medicines. 30.4% of them stated that they obtained no treatment or only part of the treatment prescribed. The following reasons were put forward.

<i>Reasons put forward for not obtaining some/any medicines (n=160)*</i>	#	%	CI
Medicines too expensive	133	83.1%	[73.8-92.4]
Medicines not available	25	15.6%	[6.7-24.5]
Transport/distance problems	5	3.1%	[0-7.0]
Other reasons	4	2.5%	[0.2-4.8]

* No medicines or treatment incomplete. Several answers were possible.

The lack of financial means was the main reason for not obtaining medicines. Next came problems regarding the lack of medicines and transport problems.

The effectiveness rate indicated was much less significant among those who obtained only some of the medicines than among those who obtained all the medicines prescribed (45.2% against 73.7%).

<i>Where did you obtain all or some of the medicines prescribed? (n=653)</i>	#	%	CI
Health centre	364	55.7%	[46.2-65.3]
Hospital	162	24.8%	[16.5-33.1]
Commercial pharmacy	41	6.3%	[3.4-9.2]
Market	21	3.2%	[1.2-5.2]
Other places	65	10.0%	[5.7-14.2]

The health centre and the hospital are the two structures most commonly used for obtaining medicines by the sick attending consultations in Lisala.

In addition, of all the sick people who obtained medicines (n=367), 96.5% declared that they had paid for them.

Kimpangu

Out of 907 households questioned, 793, or 87.3%, stated that at least one person had been sick in the previous six months. After selecting one sick person at random from among these households, it turned out that one-fifth of them, or 20.2%, stated that they had not consulted anyone outside the family. The following reasons were put forward.

<i>Reasons put forward for not consulting (n=160)*</i>	#	%	CI
Feeling that a consultation was not necessary	87	54.4%	[41.4-67.4]
Consultation too expensive	83	51.9%	[41.0-62.7]
Medicines too expensive	54	33.8%	[23.1-44.4]
Transport/distance problems	9	5.6%	[0-15.0]
Lack of medicines	2	1.3%	[0-2.8]
No confidence in the care personnel	1	0.6%	[0-1.8]

* It was possible to give several reasons.

The first two reasons were the feeling that a consultation was not necessary and the lack of financial means.

Among the sick who did consult, over half did so in a public health centre or one run by a religious order, and about a third in a private structure. Only 2.5% of the sick visited the hospital.

<i>If yes, who gave the consultation? (n=633)</i>	#	%	CI
Doctor or nurse in a public health centre or religious structure	363	57.3%	[47.2-67.5]
Hospital doctor or nurse	16	2.5%	[0.7-4.4]
Private doctor or nurse	221	34.9%	[25.9-44.0]
Traditional healer	28	4.4%	[2.7-6.1]
Pharmacist	5	0.8%	[0.2-1.4]

Out of all those who stated that they had been sick, 99.5% received a prescription for medicines. Only 3% of those consulting stated that they did not obtain any treatment or did not obtain all the treatment prescribed. The following reasons were given.

<i>Reasons put forward for not obtaining medicines (n=19)*</i>	#	%	CI
Medicines too expensive	12	63.2%	[38.4-87.9]
Medicines not available	6	31.6%	[7.6-55.5]
Other reasons	1	5.3%	[0-15.6]
Transport/distance problems	0	0.0%	

* No medicines or treatment not complete. Several answers were possible.

The lack of financial means is the main reason for not obtaining medicines, followed by problems in regard to the lack of medicines. Among those who received only some of the medicines, the effectiveness rate indicated is very much less significant than among those obtaining the whole prescription (54.5% against 85.9%).

<i>Where did you obtain all or some of the medicines? (n=622)</i>	#	%	CI
Health centre	492	79.1%	[72.1-86.1]
Hospital	20	3.2%	[1.6-4.8]
Commercial pharmacy	84	13.5%	[8.4-18.6]
Market			
Other places	26	4.2%	[2.4-6.0]

The health centre is the main structure for the distribution of medicines, followed by the commercial pharmacy.

Out of all the sick who obtained medicines (n=622), 95.2% stated that they paid for them.

Kilwa

Of the 901 households questioned, 841, or 93.3%, stated that at least one person had been sick within the previous six months. After a random selection, 28.2% stated that they had not consulted anyone outside the family. The following table covers the reasons for the lack of consultations.

Reasons given for not consulting (n=237)*	#	%	CI
Consultation too expensive	192	81.0%	[74.1-87.9]
Medicines too expensive	177	74.7%	[63.5-85.9]
Transport/distance problems	38	16.0%	[3.9-28.2]
Consultation not regarded as necessary	23	9.7%	[3.4-16.0]
Lack of personnel in the health structure	18	7.6%	[0-18.3]
Lack of medicines	14	5.9%	[0-15.5]
No confidence in the health personnel	2	0.8%	[0-2]
Security problems	2	0.8%	[0-2]

* It was possible to give several answers.

Over three-quarters of the sick not consulting stated that they did not have the financial means to do so or to buy medicines. Another non-negligible quantitative reason given was transport problems getting to the health centre, hospital or other medical actor.

<i>If yes, who gave the consultation (n=604)</i>	#	%	CI
Doctor or nurse in a public health centre or religious structure	251	41.6%	[29.0-54.1]
Hospital doctor or nurse	114	18.9%	[9.6-28.2]
Private doctor or nurse	178	29.5%	[18.8-40.1]
Traditional healer	38	6.3%	[2.9-9.7]
Pharmacist	23	3.8%	[0.6-7.0]

Among those who were able to attend a consultation, over a third did so in a public health centre or one run by a religious order, about a third in a private structure and a fifth in the hospital.

Out of the total number of sick attending consultations, almost all, or 99.5%, obtained a prescription for medicines. One quarter, or 24.5% did not obtain the treatment, or only in part. The following reasons were given.

<i>Reasons given for not obtaining medicines (n=147)*</i>	#	%	CI
Medicines too expensive	130	88.4%	[82.8-94.1]
Transport/distance problems	13	8.8%	[2.7-15.0]
Medicines not available	8	5.4%	[2.4-8.5]
Other	6	4.1%	[0.2-7.9]

* No medicines or treatment not complete. Several answers were possible.

The lack of financial means was the principal reason for not obtaining medicines. This was followed by transport problems and the lack of medicines.

Among those who obtained only a part of the prescription, the effectiveness rate was stated as being much less significant than among those who obtained the whole prescription (46.1% against 61.5%).

<i>Where did you obtain all or some of the medicines? (n=595)</i>	#	%	CI
Health centre	337	56.6%	[44.5-68.7]
Hospital	100	18.8%	[8.6-25.0]
Commercial pharmacy	26	4.4%	[2.1-6.6]
Market	43	7.2%	[1.0-13.4]
Other places	89	15.0%	[8.9-21.0]

Over half of the sick attending a consultation obtained medicines in the health centres and one-fifth at the hospital.

Out of all the sick who obtained medicines (n=515), 96.3% stated that they paid for them.

Inongo

Out of 900 households questioned, 891, or 99%, stated that at least one person had been sick within the previous six months. After a random selection, 22.2% stated that they had consulted nobody outside the family. The reasons given were as follows.

<i>Reasons given for not consulting (n=198)*</i>	#	%	CI
Consultation too expensive	160	80.8%	[72.4-89.3]
Medicines too expensive	151	76.3%	[67.2-85.4]
Consultation was not necessary	90	45.5%	[33.3-57.6]
Lack of medicines	23	11.6%	[5.5-17.8]
No confidence in the health personnel	15	7.6%	[1.8-13.4]
Lack of personnel in the health structure	9	4.5%	[0.4-8.7]
Transport/distance problems	6	3.0%	[0-6.3]
Security problems	1	0.5%	[0-1.5]

* It was possible to give several reasons.

The main reasons put forward remained the lack of financial means for attending a consultation or for buying medicines. In addition, almost half of the sick regarded a consultation as unnecessary.

<i>If yes, who gave the consultation? (n=693)</i>	#	%	CI
Doctor or nurse from a health centre or religious structure	427	61.6%	[49.1-74.1]
Hospital doctor or nurse	130	18.8%	[7.5-30.0]
Private doctor or nurse	75	10.8%	[6.1-15.6]
Traditional healer	48	6.9%	[4.7-9.1]
Pharmacist	13	1.9%	[0.1-3.7]

The public health centre or centre run by a religious order was attended by about 60% of sick people seeking consultations. However, only 19% and 11% of those seeking consultations attended the hospital and private structures, respectively.

Out of all those consulting, 98.3% received a prescription for medicines. 32.9% did not obtain a treatment or only obtained part of a treatment prescribed. The following reasons were given.

<i>Reasons given for not obtaining medicines (n=224)*</i>	#	%	CI
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Medicines too expensive	136	60.7%	[46.4-75.1]
Medicines not available	118	52.7%	[39.3-66.1]
Other reasons	11	4.9%	[1.2-8.6]
Transport/distance problems	8	3.6%	[0.9-6.3]

* No medicines or treatment not complete. Several answers were possible.

The lack of financial means was the main reason for not obtaining medicines. In addition, over half of the sick attending consultations stated that the prescribed medicines were not available.

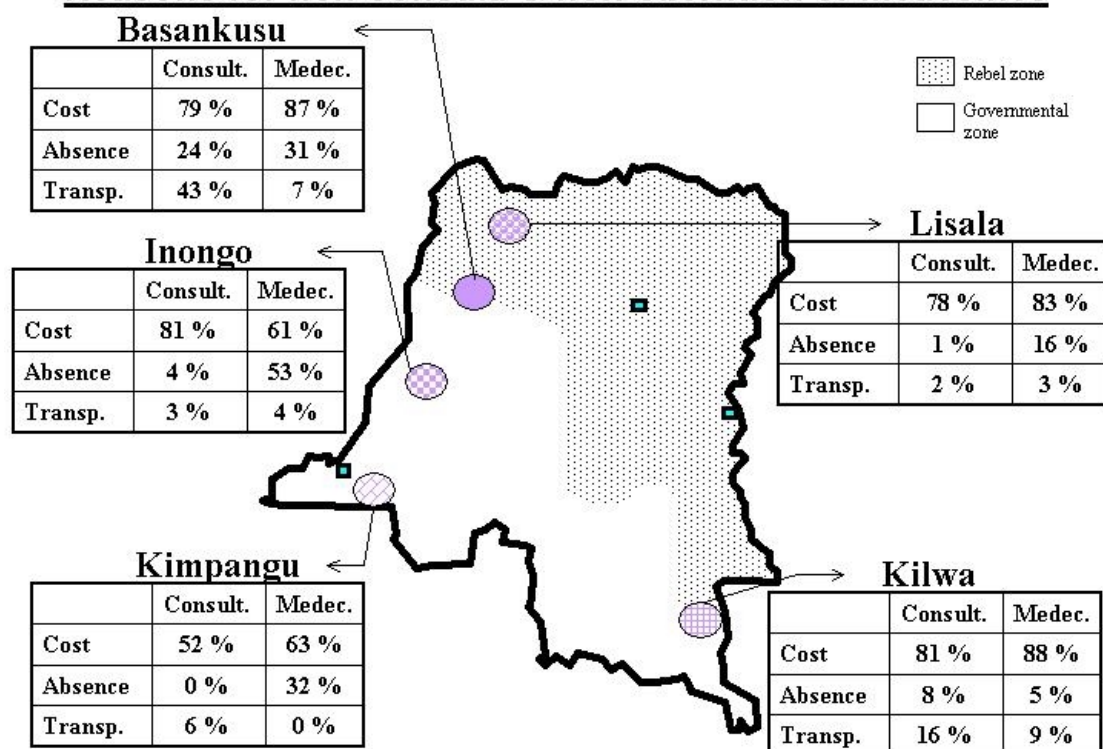
Among those receiving only part of the medicines, the rate of effectiveness stated was much less significant than among those who obtained all the medicines (32.7% against 57.8%).

<i>Where did you obtain all or some of the medicines?</i> (n=668)	#	%	CI
Health centre	421	63.0%	[53.3-72.7]
Hospital	12	1.8%	[0.6-3.0]
Commercial pharmacy	177	26.5%	[17.4-35.6]
Market	12	1.8%	[0.4-3.2]
Other places	46	6.9%	[4.6-9.2]

The health centres and pharmacies are the two main places for obtaining medicines.

Out of all the sick who obtained medicines (n=668), 93.6% stated that they had paid for them.

Reasons for non-consult. & non-obtention of medecines



3. Vaccinations

Vaccinations were evaluated among children ranging from 9 to 59 months in families with a child within this age limit. In order to limit the intra-family “cluster” effect, one child was selected from each household at random. The figures below therefore cover only one child per household.

POLIO	Basankusu (n=783)		Lisala (n= 742)		Kimpangu (n=566)		Kilwa (n= 613)		Inongo (n=732)	
	%	CI	%	CI	%	CI	%	CI		CI
Card*	4.9	[1.8-8.3]	0.7	[0.1-1.2]	34.4	[26.1-42.4]	8.8	[2.7-14.9]	3.1	[0.9-5.4]
History**	91.2	[87.2-95.2]	98.1	[97.0-99.2]	64.8	[56.6-73.0]	87.8	[81.3-94.3]	96.2	[94.0-98.4]
Not vaccinated	4.0	[2.1-5.8]	1.2	[0.42.1]	0.9	[0.0-1.9]	3.4	[1.8-5.1]	0.7	[0.1-1.2]
EPI**	BCG****		MEASLES		MEASLES		MEASLES		MEASLES	
Card	1.5	[0.2-2.9]	4.3	[1.2-7.4]	29.2	[21.2-37.1]	6.0	[2.4-9.7]	2.7	[0.9-4.6]
History	53.1	[41.1-65.2]	27.2	[17.2-37.2]	41.3	[32.5-50.2]	39.0	[30.6-47.4]	20.5	[11.8-29.2]
Not vaccinated	45.3	[33.2-57.5]	68.5	[58.1-78.8]	29.5	[20.9-38.0]	55.0	[45.4-64.6]	76.8	[67.5-86.0]

* = vaccination recorded on a vaccination card

** = no vaccination card, but parents made a verbal statement that the child had been vaccinated

*** = Expanded Programme on Immunisation

**** = vaccination against tuberculosis (TB)

The polio eradication campaign was surveyed in the five health zones. The EPI had evaluated for early vaccination (at birth) in Basankusu (TB) and for late vaccination (9 months to 5 years) in the other health zones (measles).

Basankusu

Among the 912 households questioned, 783 stated that at least one child was present between the age of 9 months and 5 years. The polio coverage rate is high if the statements of people whose children were vaccinated, but who were unable to provide a proof of vaccination, are taken into account. Even taking account of verbal statements by the mothers, the BCG rate is low.

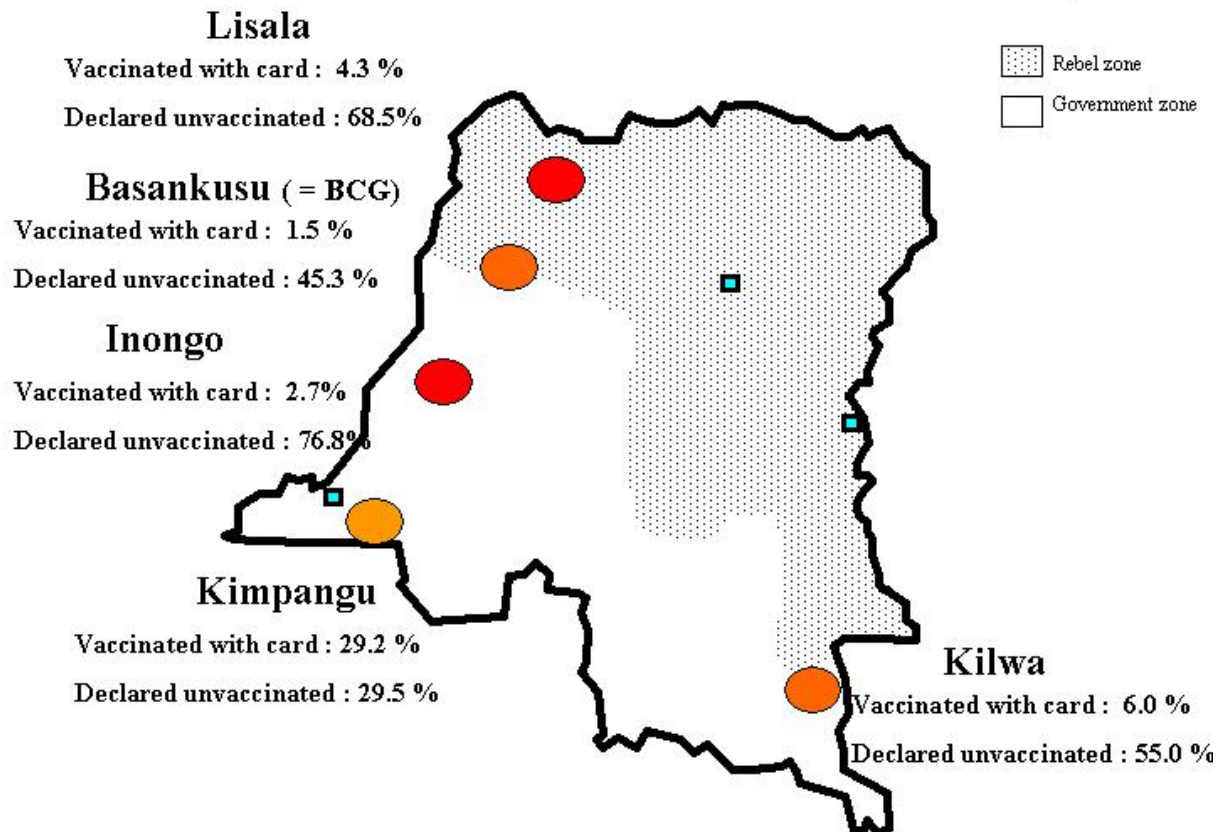
Lisala, Kilwa and Inongo

As for Basankusu, the polio vaccination rate, taking mothers’ statements into account, is high. However, the measles vaccination rate is very low.

Kimpangu

Among the 907 households questioned, 566 stated that at least one child was present between the age of 9 months and 5 years. The same general remark as for the preceding zones in regard to polio holds here as well, but more results were obtained from vaccination cards: 34.3% of randomly-selected children had a card mentioning polio. For measles, 29.2% of children were in possession of a card and 41.3% of mothers stated that their children had been vaccinated, which results in an overall rate of 70%.

Measles Vaccination : pev programme



4. Violence and population displacement

In general, the inhabitants of Basankusu and Kilwa, two zones close to the front-line, have experienced significant violence, with up to 80% personally affected in Basankusu health zone.

Violence	Basankusu	Lisala	Kimpangu	Kilwa	Inongo
#	771/912	NR*	112/907	360/901	0/900
%	84.5%	NR	12.3%	40.0%	0%

* Data not collected.

In the zones close to the frontline, looting and the destruction of property were generalised. Other violence was not systematic, but nevertheless showed significant rates, with up to more than a fifth of households questioned affected (physically assaulted).

Basankusu

Of the 912 households questioned, 774, or 84.9%, stated that at least one member had experienced violence during the second war, which began in August 1998.

Type of violence (n=771)**	<2001*	%	CI	2001	%	CI
Theft	596	77.3%	[65.8-88.8]	349	45.3%	[29.9-60.7]
Destruction of houses or fields	362	47.0%	[33.0-60.9]	236	30.6%	[16.7-44.5]
Physical assault	160	20.8%	[10.2-31.3]	140	18.2%	[7.0-29.3]
Imprisonment	85	11.0%	[5.7-16.4]	59	7.7%	[3.2-12.1]
Torture	118	15.3%	[8.5-22.1]	55	7.1%	[3.2-11.0]
Sexual abuse	103	13.4%	[5.8-20.9]	82	10.6%	[4.0-17.3]
Mines	3	0.4%	[0-0.8]	2	0.3%	[0-0.8]
Bullet wound	41	5.3%	[0.4-10.2]	34	4.4%	[0-9.2]
Knife/machete wounds	34	4.4%	[0.2-8.6]	13	1.7%	[0.6-2.8]
Forced recruitment	82	10.6%	[2.1-19.2]	54	7.0%	[2.0-12.0]

* Violence committed since 1998.

** It was possible to give several answers.

Looting and the destruction of property were the two most extensive types of violence, both prior to 2001 (77% and 47% respectively) and during 2001 (45% and 30% respectively). Physical assaults, torture, imprisonment and sexual abuse also reached high rates, going from 7% to 21%.

Crude mortality rates resulting from violence

CMR/violence	Violence		No violence	
	deaths/10.000/day	CI	deaths/10.000/day	CI
CMR	2.9	[2.5-3.3]	1.5	[1.1-1.9]
TM < 5 years	7.0	[5.6-8.4]	3.9	[2.6-5.1]

The mortality rate in the category where at least one household member experienced violence is higher in households where no violent incident was declared.

Access to care following violence

Violence		No violence	
Access	CI	Access	CI
30.1%	[21.8-38.5]	47.0%	[35.1-59.9]

The phenomenon is comparable if we link violence with access to care. Households not experiencing violence have greater access to care than those that do, although the difference is not significant.

Out of 912 households questioned, 88.6% stated that they had been obliged to flee or had experienced displacement during the second war.

Lisala

For security reasons, the survey team was not authorised to pose questions about the violence in this zone. However, out of 907 households questioned, 88.6% stated that they had been obliged to flee or had experienced displacement during the second war.

Kimpangu

Out of 907 households questioned, 114, or 12.6%, stated that at least one member had experienced violence during the second war.

<i>Type de violence (n=112)</i>	<2001*	%	CI	2001	%	CI
Thefts	38	33.9%	[0-68.7]	59	52.7%	[15.4-89.9]
Destruction of houses or fields	1	0.9%	[0-2.4]	0	0.0%	
Physical assault	5	4.5%	[0.1-8.8]	6	5.4%	[0-14.7]
Imprisonment	2	1.8%	[0-5.1]	0	0.0%	
Torture	2	1.8%	[0-5.1]	0	0.0%	
Sexual abuse	0	0.0%		0	0.0%	
Mines	0	0.0%		0	0.0%	
Bullet wounds	6	5.4%	[0-11.8]	0	0.0%	
Knife/machete wounds	0	0.0%		0	0.0%	
Forced recruitment	6	5.4%	[0-11.8]	1	0.9%	[0-2.4]

* Violence committed since 1998.

Apart from thefts of houses and fields, which remain significant, both before and after 2001 (33% and 52%), other types of violence are minimal: bullet wounds prior to 2001 (5%), physical assaults (4% prior to 2001, 5% in 2001), imprisonment and torture (2% prior to 2001). 25.5% of households fled or were displaced during this second war.

Kilwa

Of the 901 families questioned, 361, or 41.16%, stated that at least one member of the household experienced violence during the second war.

<i>Type of violence (n=360)</i>	<2001*	%	CI	2001	%	CI
Thefts	278	77.2%	[63.5-90.9]	62	17.2%	[3.2-31.3]
Destruction of houses or fields	49	3.6%	[7.1-20.1]	15	4.2%	[0-8.6]
Physical assault	21	5.8%	[3.1-8.5]	5	1.4%	[0-2.8]
Imprisonment	5	1.4%	[0-2.8]	1	0.3%	[0-0.8]
Torture	4	1.1%	[0-2.2]	1	0.3%	[0-0.8]
Sexual abuse	2	0.6%	[0-1.2]	1	0.3%	[0-0.8]
Mines	1	0.3%	[0-0.8]	0	0.0%	
Bullet wounds	3	0.8%	[0-2.0]	0	0.0%	
Knife/machete wounds	5	1.4%	[0.3-2.5]	1	0.3%	[0-0.8]
Forced recruitment	61	16.9%	[1.8-32.1]	3	0.8%	[0-2.0]

* Violence committed since 1998.

Looting is the most significant type of violence (77% prior to 2001, 17% in 2001). The households questioned stated that a significant number of forced recruitment by soldiers had taken place prior to 2001 (17%). Other types of violence were minimal or even non-existent. In addition, 53.8% of households questioned had to flee or were displaced during the second war.

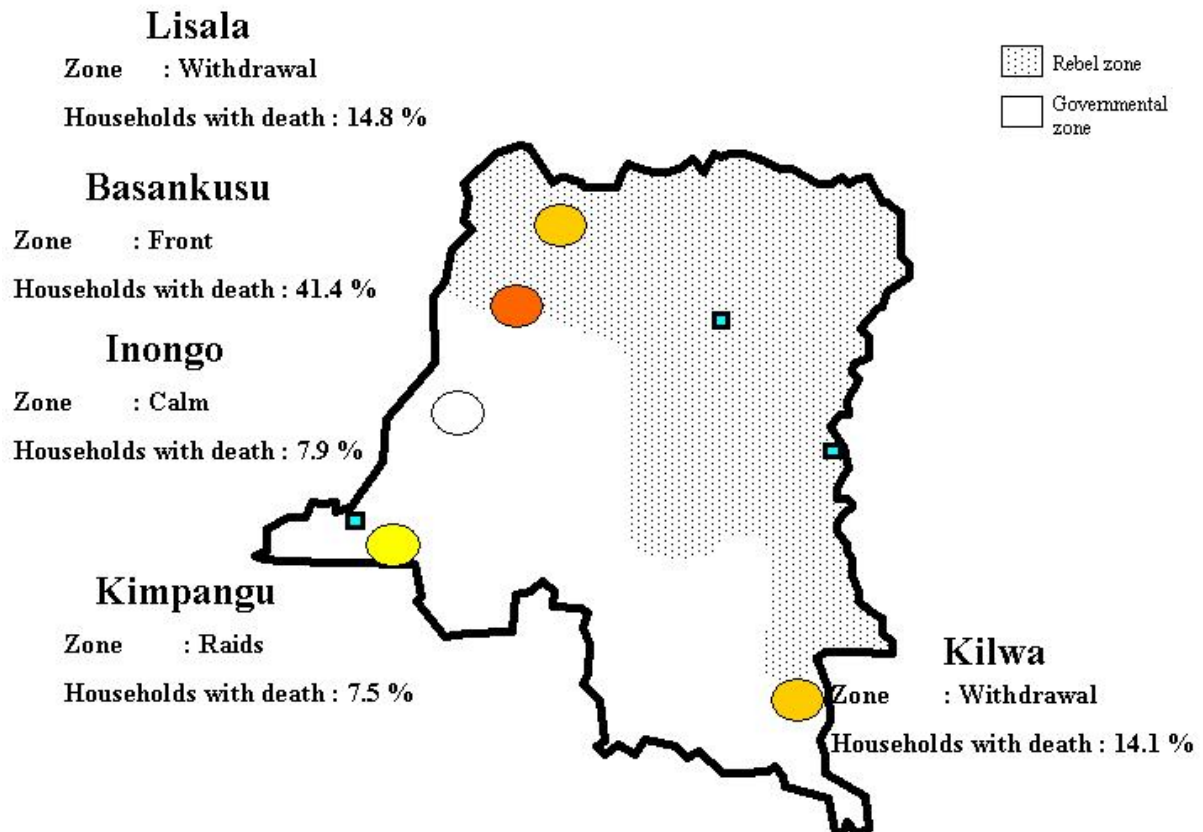
CMR/violence	Violence		No violence	
	deaths/10.000/day	CI	deaths/10.000/day	CI
CMR	1.3	[1.0-1.7]	0.8	[0.7-1.0]
TM < 5 years	3.7	[2.6-4.8]	2.5	[1.8-3.2]

We were able to observe that the mortality rate in the category of households with at least one member experiencing violence has increased by 50%. This increase is at the limit of statistical significance for the Crude Mortality Rate. It is not significant for the under-fives.

Inongo

The households in Inongo health zone stated that there had been no violence or displacement in connection with the second war.

Type of violence & Households with mortality



V. DISCUSSION

Possible biases

Choice of zones

When selecting zones, we decided not to repeat the surveys done in the east of the country so as not to duplicate the work done by the IRC, in which MSF participated for Kisangani. In addition, one of the determining criteria was accessibility. It is likely that the results of a similar enquiry in zones that remained inaccessible during the period in which we carried out our survey could be even more catastrophic.

Accessibility

In Basankusu health zone, four health areas very close to the front-line were inaccessible for security reasons (these inaccessible areas contained 5.2% of a total population of 198.438 people). The results can therefore only be extrapolated to 94.8% of the population of Basankusu. The mortality rates, as well as the other results regarding access to care and vaccinations, and the violence, could thus be slightly underestimated.

In Lisala health zone, one health area was not accessible because a bridge had been destroyed (representing 2.3% of a total of 195.336 people). The results can therefore only be extrapolated to 97.7% of the territory. Given the heterogeneity of the clusters (no marked differences between urban and rural parts, between the north and the south of the country, etc.), it is not possible to determine whether this led to results being overestimated or underestimated.

Absence of inhabitants

A high proportion of empty houses was observed in the rural parts of the Inongo zone because the survey was carried out in the dry season. A large number of inhabitants had left their homes to live in camps in the bush and forest in order to fish. Among the people remaining in the village, the number of elderly people and children seemed higher than average. The absence of a relatively large number of households could have influenced some results.

The gender question

When the survey teams were being hired in Congo, despite our best efforts, it was impossible to have an equal distribution of men and women. In the more distant zones, it was difficult to find any qualified female personnel. In Basankusu, Kimpangu and Kilwa zones, out of a total varying between 12 and 26 team members, there was only one woman. In Lisala and Inongo zones, two women were hired. We think that this low rate of female participation in the survey team considerably influenced answers to questions about sexual violence, a subject that remains relatively taboo, even more so when raised by males. We therefore think that such incidents could be underestimated.

Replies filtered to be “acceptable”

Apart from Inongo health zone, the population already knew of the existence of Médecins Sans Frontières and that it is a medical humanitarian organisation. Linked to the fact that state health personnel have in the past conducted campaigns promoting modern medicine, we sometimes observed that people were reticent to talk to us about consultations with traditional healers, or to admit that children had not been vaccinated during the WHO polio vaccination campaign. Such reticence was even more marked when the supervisor accompanying the

survey team was white. We think that the attendance rate for consultations with traditional healers could therefore be underestimated and the polio vaccination rate overestimated.

Cultural differences

Depending on the region, culture and ethnic group, some communities are less inclined than others to speak to strangers about problems related to their health and their extreme poverty. In fact, we sometimes observed that people who were visibly ill or had obviously malnourished children preferred to tell us that the whole family was in good health in order to evade the question about consultations with external medical or paramedical actors. This phenomenon was particularly obvious in Lisala health zone (Equateur) and Kimpangu health zone (Bas Congo). The attendance rates at the health centres and other medical services could therefore be slightly underestimated.

Different responses by different family members

We noted that in some villages reactions differed between husband and wife. Some husbands were less inclined than their wives to speak of difficulties in the household, particularly regarding children's health problems. Out of respect for the family, we never pointed out these contradictions, but we think that this sometimes influenced some results so that problems were underestimated, especially in regard to child health care.

Interpretation of results and comparison with other surveys

1) The mortality rates in the zones close to the front-line of great concern

The CMR in Kilwa of 1.1/10.000/day is disconcerting, because it is higher than the alarm rate of 1/10.000/day. The rate in Basankusu of 2.7/10.000/day is above the emergency threshold (2/10.000/day). The CMR of Basankusu and Kilwa, close to the front-line, are comparable with the mortality rates presented by the IRC for the east of the country in May 2001⁹.

How can the differences in the rates between Basankusu and Kilwa be explained? On the one hand, past health indicators were always more disconcerting in Equateur than in Katanga¹⁰. On the other hand, Basankusu health zone is geographically closer to the front-line than Kilwa (Kilwa is separated from the front-line by Pweto health zone and serves more as a withdrawal zone for soldiers and the civilian population).

The CMR for Lisala health zone (0.8/10.000/day), which has been relatively spared by the war but nevertheless experienced fighting in 1999 between rebels and the regular army, is slightly higher than in a stable population (0.5/10.000/day), but without reaching an emergency level. In the Kimpangu zone, where UNITA (Angolan rebels) incursions in the southeast have occurred, the rate (0.6/10.000/day) is comparable to that of a zone regarded as stable. In Inongo health zone, which is located in the only province of the DRC not to have been directly affected by the present war, the CMR is comparable to that of a stable population.

2) Children have been particularly affected by the war

The mortality rates for under-fives in the two zones close to the front-line are higher than the 2 deaths/10.000/day considered to be the threshold for alarm. For Basankusu, the mortality rate among under-fives is three times greater (6.6/10.000/day) than this generally accepted limit (2/10.000/day) and greatly exceeds the threshold beyond which the situation would be declared an emergency (4/10.000/day). Differentiating between the rural and the urban parts (Basankusu town), this rate rises up to 7.3/10.000/day in rural parts against 3.2/10.000/day in urban parts. For Kilwa, the rate is disconcerting (3.2/10.000/day). Again, these rates are comparable to those presented by the IRC¹¹. The under-five mortality rates for the other zones studied by MSF and located outside the conflict zones are equal to or inferior to the threshold of alarm.

3) War has provoked an increase in infectious diseases and malnutrition

Although the mortality rates in the zones affected by the conflict are also higher than those in the other zones studied, deaths cannot be attributed mainly to violence (4.1% for Basankusu

⁹ The rates presented by the IRC were expressed in terms of thousands of deaths per month. After conversion, the CMR for Basankusu and Kilwa were respectively 8.1/1000/month and 3.3/1000/month. The CMR presented by the IRC for the six health zones studied varied between 2.8 and 10.8/1000/month.

¹⁰ For example, in 1998, the rate of infant mortality (percentage of children dying before the end of their first year) for the province of Equateur was 208/1000, while it was 69/1000 in Katanga (source: DRC Ministry of Public Health).

¹¹ The mortality rates for under-fives for Basankusu and Lisala were respectively 19.8 and 9.3/1000/day. The rates for this group in the six individual surveys made by the IRC varied between 5.6 and 23.8/1000/day.

and 0.6% for Kilwa), but rather to malnutrition, malaria, infectious diseases and diarrhoeal illnesses. War has probably increased the lethality from infectious diseases through reduced resistance in those infected (problems related to food and shelter) and through the lack of available health care (destruction of infrastructure, looting, insecurity). We think that the low proportion of directly violence-related deaths indicates that the ceasefire has been relatively well respected on the front-line in these conflict zones for over six months. These results are considerably different from those presented by the IRC for the east of the country where, despite the absence of a front-line, physical violence remains a significant cause of mortality (between 0% and 23%).

4) No access to health care for a large part of the population

Access to care

In the two zones close to the front-line, around three to four sick people out of ten have not consulted anyone outside the family (nurse, doctor, traditional practitioner, pharmacist, first aid worker), mainly for financial reasons (costs of consultation and medicines too high for around three-quarters of them). In addition, 24% to 49% do not obtain any of the medicines prescribed, or have to be satisfied with an incomplete treatment, mainly due to the lack of financial means (over 80%). Although unable to calculate the poverty rates, the survey team observed a disconcerting level of poverty in Kilwa zone (tattered clothing, absence of food stocks and cooking utensils) and extreme poverty in Basankusu where money has almost ceased to circulate in rural parts (most households have no bank notes, even in small denominations; children, and sometimes adults, completely naked; no salt; malnutrition, etc.). The lack of money and the lack of food reserves in places close to the front-line is closely linked to the difficulty local people have to produce and/or to protect their harvests because of the military presence. Although the physical violence has diminished, the ceasefire does not imply the withdrawal of troops who, without logistical back up, continue to feed off the population.

The results regarding access to care are comparable to those drawn from the OCHA survey on the tendencies, levels and causes at the base of the mortality in Kinshasa, which was carried out in June 2001¹². The study showed that a third of Kinshasa households approach someone with medical training when ill, that around two households in ten have absolutely no access to health care due to lack of money, and that around three households in ten have to make do with an incomplete treatment as they cannot afford the full medical prescription.

Access to medicines

In Inongo health zone, which is the only zone studied by the MSF team where primary health care is not supported by an external actor, the access to care is no better than in the zones close to the front-line, but the reasons for this are somewhat different. The percentage of sick people who have not consulted a medically-trained person (in the widest sense) is a little lower (22.2%) than that for the two zones close to the front-line (36.4% and 28.2%), while the percentage of households not obtaining medicines or not obtaining a complete medical prescription is comparable (32.9% for 49.5% and 24.5%). However, although the lack of financial means remains the principal reason for this situation (60.7%), more than half of households stated that the prescribed medicines were not available, a state of affairs that was much less predominant in the two zones close to the front-line, which are supported by an external actor (from 5% to 30%). This difference can be easily explained: in the zones

¹² *Etude sur les tendances, niveaux et causes à la base de la mortalité à Kinshasa*, OCHA Kinshasa, DRC, June 2001.

supported by MSF or another external actor, essential medicines are supplied free-of-charge to the health centres supported¹³. In the province of Bandundu, although there is a large diocesan-run pharmaceutical depot at Kikwit, which serves neighbouring structures, Inongo zone is geographically too distant and difficult to access to be kept supplied with essential medicines. War is therefore clearly not the only reason why the Congolese population has problems in accessing health care.

It should be noted that even in the zones supported by an external actor access to medicines remains a problem in rural parts. In the rural parts of Basankusu, 52% of sick people not consulting stated that they did not do so because they knew that they would not find the medicines prescribed and 34.7% of those who did consult stated that the prescribed medicines were not available (in urban areas, these rates are only 7.9% and 8.1%). The same phenomenon is present in Kilwa, but to a lesser degree (no consulting sick person in an urban area claimed that this was due to the lack of available medicines against 9% in rural zones). Several explanations have been put forward for this by survey respondents, including a lack of support for health areas and distance from areas supported, transport problems experienced by medical personnel in supplying the central office of the zone. The theft of medicines by soldiers occurs more often in rural parts, and the population in some health zones accuse medical personnel of misappropriating medicines.

Transport/distance problems

In Basankusu, the distances to be covered to reach a health structure remain a problem in rural parts: 48% of sick people not attending consultations stated that they do not do so because of problems related to distance or transport against 2.6% in urban parts. The same phenomenon is present in Kilwa, but to a lesser extent: in rural zones, 19.2% of those not attending consultations stated that this was due to problems of distance or transport against 9.9% in urban areas. This can be explained by the immense size of the provinces themselves, the bad state of the road network (many bridges destroyed) and the extortion of civilians using dugout canoes on the river. In Inongo, only 3% of the sick not consulting stated that they had problems with distance and transport to get to the health centre or hospital. Yet, this transport problem appeared evident to us in Inongo. Any patient seeking treatment has to get there on foot, by bicycle or by dugout canoe. The distances are measured in terms of days, not in hours or kilometres. Transport is not declared as a reason because, perhaps, people are resigned to this phenomenon of structural failure.

Attendance rates at health structures

In all the zones studied, the public health centres or those run by a religious order are the first point of consultation by the sick (from 41.6% to 61.6%). However, there are significant differences in the rates of attendance from the health zone hospital to another (from 2.5% for Kimpangu to 35.2% for Basankusu). This very low attendance rate for the hospital in Kimpangu can be easily explained: it was destroyed in 1999 during a UNITA incursion. Patients requiring hospitalisation are obliged to go to the private hospital in the neighbouring zone, which is relatively expensive. During our survey, families explained that relations and neighbours have died on the way to this hospital.

In Basankusu town, we observed that the hospital has become the first structure consulted (the attendance rate for the hospital is 89% while that for the health centres is only 3.4%) and the first structure for obtaining medicines (86.5% of medicines bought at the hospital against 7.1% at the health centres). There is concern about this because the hospital is being sidetracked from playing its main role as the reference structure for the hospitalisation of

¹³ Not all the health centres in one health zone are supported by MSF.

more complicated cases from throughout the zone. This phenomenon did not appear in the other zones.

The attendance rates for private structures are comparable in three zones (from 10.8% to 16.5% for Inongo, Basankusu and Lisala) but are very much higher for Kilwa and Kimpangu. There is a disconcerting explanation for this in Kilwa: a large number of sick people are being treated by first-aid workers. Although these people have received some training, this was limited to providing first aid in emergencies and they are in no way capable of caring for any illness that might present. This proliferation of first-aid apprentice nurses is an indicator of the problem of access and the poor functioning of primary health care in this zone. This practice was also observed in Lisala, but to a lesser degree. In Basankusu, private health structures are more developed.

Vaccination coverage

Thanks to the mass vaccination campaign run by the WHO, the large majority of children, at least according to their mothers, (from 96. % to 99.3%) have received at least the second polio vaccination¹⁴. Vaccination cover against measles is as bad, at least according to the mothers, in both Equateur and Katanga (31.5% and 45.0% for Lisala and Kilwa) as in the unsupported zone of Inongo (23.2%). This low rate of vaccination coverage can be explained in various ways: households lack the financial means to pay for the vaccination cards, poor management of the central office of the zone and of some health centres, vaccination strategy from fixed bases only, vaccine supply problems at the health centres, problems with the cold chain (distance to health centres, broken refrigerators), etc. We do not have a vaccination rate for Basankusu, but given that TB vaccination is generally carried out during the routine EPI, as well as that against measles, and that a loss of contact is generally observed between the BCG (at birth) and the measles vaccination (as from 9 months), there is reason to suspect that the vaccination rate for measles is very much lower than the BCG (54.6% for the BCG). Note that the measles vaccination rate is very much higher in Kimpangu (70.5%, of whom 29.2% have a card). The less serious socio-economic conditions in this zone and the dynamism of the chef medical doctor there in regard to routine EPI explain these encouraging results. In a general manner, the low rate of vaccination with cardholders, with the exception of Kimpangu, can be explained by the fact that these cards have to be paid for, which again illustrates the problem of financial access to health care.

5) A significant level of violence on both sides of the front-line

The violence exists at different levels of intensity: continuous in Basankusu and Kilwa, sporadic in Kimpangu and non-existent in Inongo. On each side of the front-line (Basankusu and Kilwa) households having experienced violence, looting reached dizzying rates for 2000 in both zones (77% for each of the zones) and remains very high in 2001 (45.1% and 17.2%). A higher percentage of houses and fields have been completely or partially destroyed, by fires, shelling or other means, in Basankusu than in Kilwa. This difference can be explained by the presence of a military base in Basankusu and the fact that the zone was shelled in 1999, while Kilwa is more distant from the front-line (withdrawal zone).

¹⁴ Three vaccinations are essential for coverage against polio. In four of the zones studied, all three were given. However, in Basankusu, the third shot had not been given as the result of logistical problems, but was foreseen to take place in the coming weeks. The low rate of replies indicating possession of a vaccination card can be explained by the fact that during the WHO mass vaccination campaign, the mothers were only given tokens, which they did not often keep.

Regarding the physical violence, the same observation holds: the rate of physical assaults, arbitrary arrests and imprisonment, torture and sexual abuse is higher in Basankusu than in Kilwa. The same explanations as those given above can be put forward here: the whole zone of Basankusu has been the theatre of armed conflicts between the rebel forces and the government army at one time or another during the war when the front-line moved. Kilwa zone, on the contrary, has seen withdrawals rather than conflict, withdrawals both by the soldiers of the government army in flight and by the civilian population fleeing or obliged to flee the rebel advance towards Pweto in December 2000.

The proportion of households questioned that were obliged to flee during the war is also higher in Basankusu and Lisala than in Kilwa. During meetings with the families, the survey team was instructed not just to fill in the questionnaire, but also to allow the population to talk and to note what they said, especially where the families were particularly traumatised by the violence they had experienced. Without being able to translate this into figures, the survey team gathered a large number of witness accounts of violence and flight because of the insecurity. Many of the testimonies expressed the psychological trauma following violence. These accounts will be produced in a separate document.

Violence was also present in Kimpangu, but to a lesser extent (12.6% of households). This violence is either linked to the withdrawal of the rebels in August 1998 during their attempt to open a western front, or to the frequent incursions by UNITA rebels from Angola in this border region.

6) The link between the war-related violence and the increased number of deaths

In the zones close to the front-line, households experiencing violence have also suffered more deaths within the last six months (e.g., 2.9 deaths/10.000/day for Basankusu) than households without violence (1.5 deaths/10.000/day). Since then, however, violence itself has significantly lessened in these regions, although its long-term effects will continue even after it has ceased. As was seen in the results of the survey, the direct cause of almost all these deaths is not violence, but the increase in infectious diseases and malnutrition. Violence results in flight, while it paralyzes transport. Violence causes a reduction in goods and services, while increases the frequency of thefts and the destruction of civilian property. Violence weakens human defences, but reinforces the resistance of infectious agents by the use of fake medicines and incomplete treatments.

VI. CONCLUSIONS AND RECOMMENDATIONS

Extreme gravity of the situation

The MSF survey shows that the RDC crisis continues to be acute. Indeed, in some areas of social and economic life, it has intensified to such an extent that the population is on the point of complete breakdown, particularly near the front-line. Each successive violent incident throughout the years of war has weakened the population further. In some regions, the people are sinking into a state of utter destitution in which the absence of money and the lack of clothing serve to illustrate their isolation and abandonment. The inaccessibility of these populations also means their complete absence from the international landscape. It bears repeating that all these victims are dying in silence, far from the world's attention. However, their suffering is no less acute simply because it goes unnoticed.

The IRC survey has already drawn attention to the problem of excessive mortality rates in the country's eastern provinces, where there is violence but no front-line. The MSF study shows that in the health zones surveyed on the front-line, mortality has now moved far beyond the thresholds of alarm and calls for increased humanitarian intervention.

The results of our survey show that other regions are also strongly affected, with death rates particularly high among the under-fives. Although the increased mortality is linked to the violence, it is mainly caused by the increase in infectious diseases. Although the majority of deaths are not due to physical violence, the indirect effects of the violence are nevertheless devastating. Violence is destroying coping strategies and making families more vulnerable to disease.

Although excessive mortality has not been revealed in other zones surveyed, their populations are nevertheless living on a razor's edge.

Given the extreme gravity of the situation and the immensity of the country, MSF is calling for funds allocated to general humanitarian action in the DRC to be considerably increased beyond the levels at which they are presently fixed.

There are different degrees of suffering among the people of Congo

The Congo is not homogenous. As we have seen in the survey, although the general condition of the people is catastrophic, the extent to which the socio-economic and health situations are falling apart varies greatly from one zone to another. In the zones on the front-line and in the east of Congo, the mortality indicators are alarming; in other regions they give reason for concern. Yet many zones, even those less affected by the fighting, have not been receiving aid for many years.

Presently, a little more than 55% of the health zones in the DRC receive no support at all from external partners. In the example of Inongo health zone (Bandundu), we have been able to see the extent to which the State itself is failing to provide support, and the inability of the private sector to compensate for this failure. Either the health centres do not have medicines or the population does not have the means to pay for them. In addition, the different humanitarian and non-governmental organisations are all concentrated in the most accessible parts of the country: around Kinshasa, Lubumbashi, Goma and Kisangani. There are very few projects in the centre of the country (Bandundu, Equateur and Kasai, etc.).

For all these reasons, **MSF is calling on Congo's external partners to reinforce the problem zones and to demonstrate more adaptability and flexibility in their approach and in financing aid projects.** Although it is sometimes useful to categorise situations (emergency, rehabilitation and development), we should not forget that our main objective is to save lives. In certain health zones, the criteria for granting aid either do not apply or else they straddle two of the categories defined by donors. At each step, we should be guided by the need for adaptability, flexibility and rapidity in our interventions. Dogmatic criteria for determining the quantity and forms of humanitarian assistance can soon become shackles. This is why MSF is calling for basic aid for all Congolese, with specific support to the zones particularly affected by the conflict.

In addition, in order to reinforce all projects with the maximum number of partners, we believe that it is essential to hold regular discussions on the policies of the different institutional donors, of the Congolese government and of the humanitarian agencies and organisations. The platform for dialogue that was initiated in Geneva in July and in Nairobi at the end of September is the first step in this direction. **MSF is asking that this platform should become the format for regular consultations between partners.**

War's influence on the population's health

Violence

In eastern Congo, the IRC clearly showed that physical violence is continuing and that it remains a cause for concern. The MSF survey shows that although such physical violence may be on the decrease in the zones surveyed, material violence (looting, destruction of houses and fields) remains at a very high level. On the front-line, people face great difficulties in producing and/or protecting their harvests because of the military presence. The ceasefire has not implied troop withdrawals, and soldiers without logistical support will only prey upon the local population.

The peace process is a long one, full of pitfalls and difficult for the Congolese people to understand. Although there is room for hope in diplomatic terms, they have not seen any concrete change that might improve their daily lot. Although UN troops are present, their mandate is limited to protecting UN personnel, which means that the looting and destruction of houses and fields, the thefts and extortion all continue. We repeat that the population's survival depends on the institution of a state of security. There must also be a halt to the excessive taxation of the humanitarian agencies by parties to the conflict as this greatly reduces the volume of aid that actually reaches the population.

Nobody knows when or how the peace process will conclude. Although it is important that the international community support this process, it is just as important to provide unconditional support for the Congolese people. In no way should they be held hostage to the negotiations. The aid required to ensure their minimal needs must be provided, regardless of the stage reached in the peace process and in the democratisation of the country.

As far as the socio-economic situation and the health sector are concerned, **the principal condition for either of them to move forward is an end to the violence.** The population were unanimous in their request that we pass on their message: "We want peace above all!"

Restoring dignity

In some places close to the front-line, such as Equateur, the population remains in the forest or shut up in their homes because they have no clothes and refuse to come out in order to visit a health centre. Many families also lack basic materials and farming tools. **Particular attention needs to be paid to the distribution of social kits (soap, clothes, kitchen utensils) and agricultural kits (hoes, seeds), as these are among the greatest needs.**

Reopening and securing the main transport routes

The closing of the Congo River to traffic and the destruction of transport infrastructure (roads and bridges) have completely destroyed the country's economic structure. Although the river was symbolically reopened with the arrival of MONUC troops,¹⁵ this was not followed by the hoped-for resumption of river transport, such that even short journeys are hampered by the extortion rackets run by the military. **The resumption of economic life is crucially dependent upon the effective reopening of the river, securing safe passage of rivers and roads, better control of soldiers and the restoration of roads and bridges.**

Medical assistance contributes to a population's health

Basic criteria

Financial access

In 1990, Belgium, and then other countries, suspended aid. MSF and other NGOs tried to maintain a certain level of functionality in the health zones through indirect development cooperation and a basis of self-finance and partial cost recovery in the health zones. MSF's experience and the results of the survey show that the cost recovery system is at present counter-productive, when in fact the objective is to ensure that people have real access to care. The country's socio-economic and monetary systems do not enable it to work. **Any system involving the financial participation of the population must be attentive to the following conditions:**

The prices charged must be affordable for 90% to 95% of the population.

There must be a system of free health care for indigents that functions, and that is not intended only for military and State employees. If such a system is forced to finance more than 10% of those unable to access it, it should be abandoned and replaced by a pricing system pitched to the most accessible levels.

Regular and appropriate training and supervision must be provided, both in the medical domain and in management.

The State's failure to pay the salaries of health personnel must be addressed and resolved.

Considerably increased funding for health

Given the immensity of the needs, **the health sector requires a considerably increased financial input from both the State and donors.**

Infectious diseases

In three of the five zones studied, the first cause of mortality remains malaria. Various studies in the region have shown that the most common treatment currently used (chloroquine) is ineffective. **MSF is calling for other studies to be set up urgently and for the malaria treatment protocol to be modified, if these results are confirmed. In addition, particular**

¹⁵ Mission d'Observation des Nations-Unies pour le Congo.

attention needs to be paid to the treatment of AIDS and STDs (especially in zones close to the front-line), TB and trypanosomiasis.

Consideration of alternative strategies

The present health system is not adapted to responding to the health problems, even when minimal operability is maintained through external support. Other, more effective strategies are required to deal with the catastrophic situation in health care:

Given the risk of epidemics, systematic vaccination against measles must be treated as a priority. The population is impoverished to such a degree that it is unrealistic to expect patients to approach health structures on their own. **Medical staff must be encouraged to go to patients and become more visible in patient health care (e.g., the set-up of mobile teams), in the absence of a functional health system.**

Preparing the stabilisation phase

The reconstruction and rehabilitation phase cannot be implemented until a certain degree of stability returns. However, now is the time to start preparing this second phase, which could overlap with the first.

2. Acute crisis

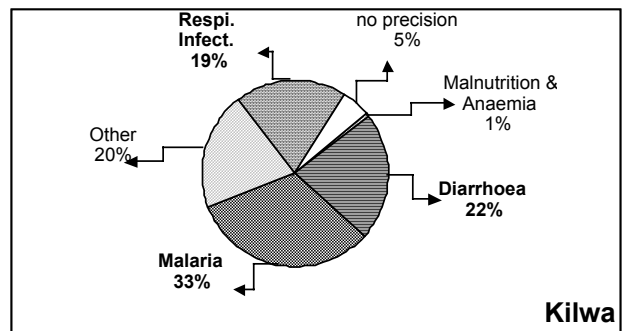
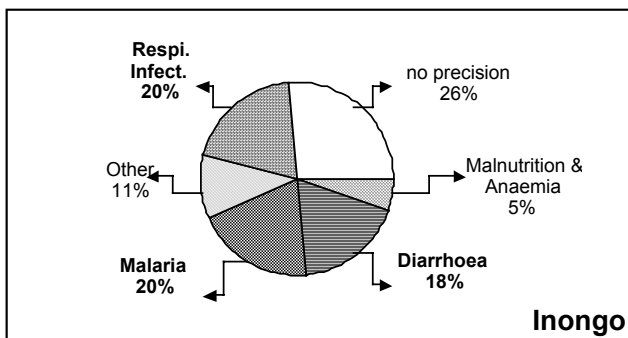
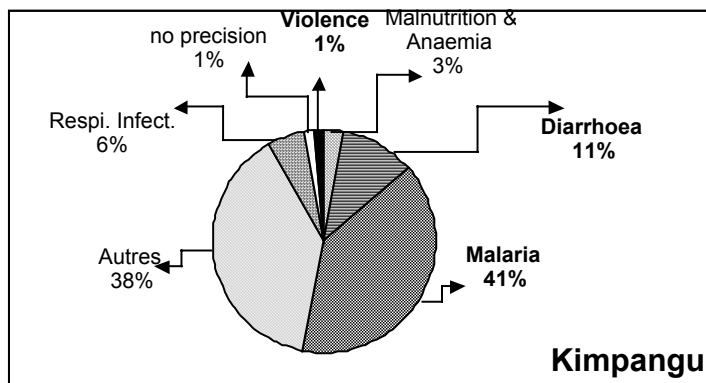
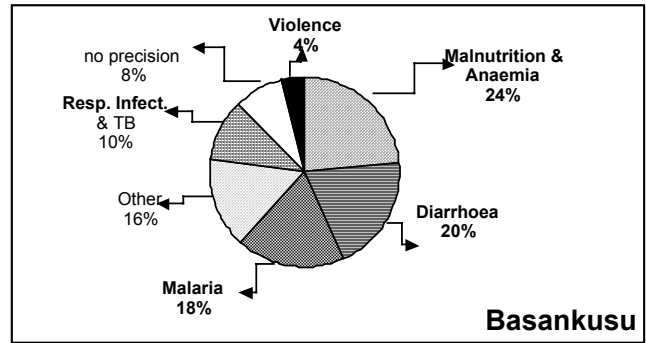
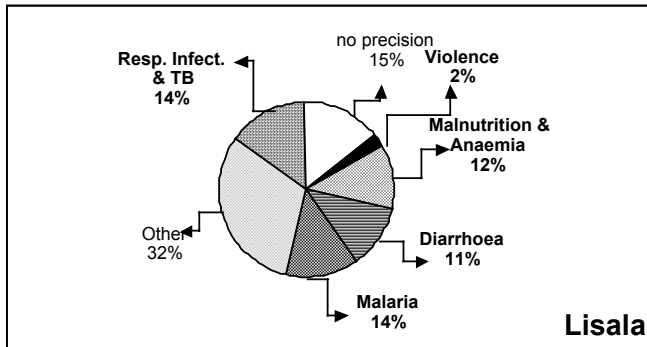
Free health care in the zones particularly affected by the conflict

In the zones where the mortality rates are greater than 1/10.000/day, MSF proposes free health care for all. In these areas of extreme poverty where money may no longer be circulating, it is illusory to believe that health care can be provided for all through a cost recovery system (in which the population participates in the cost of health care alongside the Congolese State and its external partners). A pricing system, even minimal, constitutes a real obstacle to access to health care in zones where demonetisation is total.

In its general plan for 2002, the European Union, via ECHO, is proposing free health care during the emergency phase and a system of partial cost recovery in the second phase, before the actual rehabilitation phase. According to our experience, and to the results of the survey, the move to such a second phase should only be made after there has been a clear improvement of the economic situation, one that is objectively confirmed (i.e., with a survey).

MSF is calling for free health care in these zones until violence against civilians abates and economic activity resumes.

ANNEX : Percentage of mortality causes





Duprêstreet 94
1090 Brussels
tel : 02/474.74.74
fax : 02/474.75.75
<http://www.msf.be>

Authors :
Véronique Parqué
Dr. Michel Van Herp
Edward Rackley