Summary report of the

INTERAGENCY HEALTH AND NUTRITION

NEEDS ASSESSMENT,

facilitated by WHO and UNICEF

BURUNDI, May 2004

AND THE HUMANITARIAN

HEALTH AND NUTRITION STRATEGY FOR 2005

30 September 2004
This report is the result of a process facilitated by WHO and UNICEF to make an independent description of the humanitarian needs related to health and nutrition in Burundi. This took place in April and May 2004. It contributes to the wider humanitarian needs assessment process coordinated by OCHA.

The content is based on the material and opinions of NGOs, Red Cross, UN agencies and representatives of the national health authorities who were willing to share their knowledge, for which we thank everyone. When regularly updated, it will allow all humanitarian actors and the Ministry of Health to monitor progress and evaluate the overall impact of the interventions. If you were not contacted and wish to contribute to the process, please contact WHO and/or UNICEF. We hope that in return, the report will be useful to everyone concerned with the health, survival and protection of the populations in Burundi affected by the crisis.

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The findings were used to develop a health and nutrition sector strategy and determine respective priority interventions for the Common Humanitarian Action Plan. This was done following the CHAP workshop in Bujumbura, 1-3 September 2004. The full version of the health and nutrition sector strategy is integrated in the summary and annexes of this report.

Acknowledgement regarding the assessment section of the report
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1. SUMMARY

I. Main Public Health Issues and Concerns

The crude mortality rate between 1.2 and 1.9/10,000/day and an under-5 mortality rate ranging from 2.2 to 4.9/10,000/day continue to exceed the rate expected for emergency situations. The infant mortality rate (114/1000 live births) and maternal mortality ratio (800-1300/100,000 live births) are above the regional average as well.

The anthropometric survey carried out in 8 provinces in 2003 showed acute malnutrition rates that were under the emergency threshold of 10% in all the provinces except Makamba and Karuzi which had rates of 11.5% and 12.6% respectively. An improvement in acute malnutrition rates were only seen in Bubanza Province (3.2% in 2003 compared to 8.6% in 2001). Malnutrition remains an underlying cause of morbidity and mortality in infants and young children.

The major health problem in Burundi is Malaria responsible for 47% of deaths of children less than 5 years of age in the hospitals and 40% of consultations in the health centers. Respiratory Tract Infections and Diarrhea are also frequent causes of morbidity and mortality and are often due to environmental conditions such as close living quarters, poor hygiene practices, and inaccessibility to potable water among others. Other frequent causes of morbidity and mortality result from complications of pregnancy and childbirth as well as traumatic injuries. The control of epidemics remains a major priority in Burundi due to the continuous risk and reports of epidemics such as Malaria, Meningitis and Cholera. The prevalence of anemia is high in children less than 5 years of age. A national survey carried out in 2003 showed that 56% of the children were anaemic. The last population-based assessment of iodine deficiency disorders, carried out in 1992, showed that 42% of the population suffered from iodine deficiency.

Another major health problem is Maternal Mortality. The current proportion of women that deliver at home without the assistance of a trained professional is 80%. The fertility rate at 6.8% remains elevated with a contraceptive utilization rate low at 5.4%.

The situation of HIV/AIDS is of concern with a prevalence ranging from 6-8%. The reported prevalence is approaching the average for Sub-Saharan Africa (9%). The prevalence of HIV/AIDS is related to the increase in incidence of tuberculosis. These diseases have a close relationship with malnutrition, whether it is a consequence of the disease or a factor of vulnerability.

The problem of sexual violence remains largely under documented; nevertheless the cases that have already been managed have shown that sexual violence has negative outcomes with regard to reproductive and psycho-social health. A predominance of mental health and psychosocial issues has been noted and becoming more and more alarming resulting from the crisis.

There is a strong prevalence of anemia in children less than 5 years of age at 56%. The last population survey of iodine deficiency made in 1992 showed a prevalence of 42%.

Many of the health problems described above are due to factors concerning structural vulnerability such as extreme poverty, unemployment, high population density, displacement, continuous population movements, political instability, lack of security, reduced access to potable water, food insecurity and weak health services.
II. The Health System and its performance

Concerning the performance of the health system, the availability of health services is appreciable with 80% of the population living within 5 km of a health center; however, this is not the case with assisted deliveries and the complication of childbirth. The utilization rate of health services is relatively acceptable with 0.4 to 0.8 consultations/person/year. The Minimum Care Package of health activities (MCP) is completely available in 55% of the health centers, however, it is not adequate to resolve the principal problems of morbidity and mortality.

The population has been confronted with access constraints: many of the patients (80-90%) go into debt or sell their belongings to pay for medical costs (policy of cost sharing varies from one province to the other). Because of the problems of resistance to anti malarial drugs, the protocol for the treatment of malaria has changed to the use of combination therapy with Artesunate/Amodiaquine. There is still no information on the utilization and coverage of impregnated bed nets. The vaccination coverage was estimated in 2003 at: 84% for BCG, 94% for DTP3, 89% for OPV3 and 80% for Measles. The campaign in 2003 for the distribution of vitamin A has reached coverage of 94% of children between 6-59 months, but faces problems of continued support. The Minimum Initial Service Package for reproductive health is not yet available for all of the vulnerable population. The capacity of the health services to delivery activities for nutrition is weak.

Access to second level referral services still remains a serious problem without a solution. The capacity to carry out emergency surgical procedures is limited and the costs of a surgical intervention (a cesarean section for example costs between 150 and 400 dollars in the public hospitals) are prohibitive. The referral system is not functioning correctly due to a gap in resources for a system of communication and transportation. Many hospitals do not have the personnel and/or equipment to respond to emergencies, above all surgical.

There is a critical lack of health personnel and nutritionists throughout the whole country. The capacity and quality of the training systems for human resources are insufficient to meet demand. The different initiatives for refresher training are not integrated which negatively affects the capacity of the health care provider to carry out important activities. The salaries paid by the Ministry of Health are low so staff pursue other ways to add to their income.

The health information system is well organized with a regular system of monthly reporting (96% of the health centers do a monthly report, however, less than 30% of the hospitals submit information on their activities). The processing, analysis and dissemination of collected data could be improved. The sentinel sites surveillance system for nutrition is not functioning well.

Following the « Etats Généraux de la Santé » organized in June 2004; The Ministry of Health is in the process of working on a National Health Policy. This can be a reference for humanitarian short term programs to contribute to longer term development objectives. A National Plan of Action for Nutrition has been developed but needs to be endorsed by the Government. Several national nutrition strategies have been elaborated but implementation is weak.

The Coordination within the health sector includes well organized fora to exchange information and joint planning. The technical committees composed of the Ministry of Health, the UN agencies, the NGOs and the donors have permitted the arrival of consensuses on important health questions. However, the mechanisms of coordination at the provincial level remain to be reinforced.
III. Strategic goal

Reduce the morbidity and mortality caused by illness, malnutrition, pregnancy and its complications by ensuring access to a Minimum Care Package (MCP) of health activities in order to improve the health of vulnerable populations in areas affected by conflict or natural disasters.

Strengthening and expanding equal access to health services, and the early detection and containment of major epidemics, are the principal challenges and priorities for humanitarian response in Burundi, with the particular emphasis on women and children.

As indicated by the needs and vulnerability assessment, the humanitarian response must guaranty an access to health services that is not limited by economic barriers and that the household health expenditures does not lead to poverty.

IV. Target groups and the priority areas of intervention

The provinces and target population will be selected based on populations most vulnerable as a result of the conflict (displaced, repatriates, labile security situation, etc).

V. Objectives

- Improve the access to primary health care through the access to the MCP including curative and preventative care in 100% of the priority areas in 2005;
- Strengthen access to health care at the second reference level notably for severe cases, urgent obstetrical care and the management of victims of sexual violence in each of the priority provinces;
- Improve the access to prevention and effective treatment for malaria in each priority zone;
- Prevention of malnutrition and proper management of cases of severe malnutrition;
- Reduction in the transmission of HIV/AIDS in the priority provinces during 2005;
- Explore the level of the sexual violence and assure medical, psychosocial and legal management for victims;
- Strengthen the preparedness for epidemics in the priority provinces and the response to epidemics and natural disasters in all of the country;
- Strengthen mechanisms of coordination and collaboration between all of the partners intervening in the health sector.

For key-activities and indicators related to the objectives, see Annex 7.
VI. Implementation strategies

The majority of the humanitarian interventions are implemented by making use of existing health structures. Considering the context in Burundi there are increasing opportunities to change the approach of how priority interventions are implemented, preparing for a link between relief and development. In order to effectively reduce the morbidity and mortality rates it is clear that the interventions must be multi-sectoral, and that basic livelihoods are maintained or strengthened.

- Strengthen coordination, to review the role of health authorities at the central and peripheral levels;
- Ensure technical support and financing of the Provincial Health Bureau, including the training of personnel in management and supervision and strengthen the functionality of the existing health centers. Make available the necessary resources for the Provincial Health Bureau to carry out activities of supervision (including the collection, analysis and interpretation of data);
- Financial support must be based on results and performance standards
- See how humanitarian priorities link with the national policy, and support the prioritized provinces with putting the national policies in practice;
- Consider the problem of the national strategy of human resources for health (baseline training, recruitment, placement, salaries, etc.);
- Ensure the necessary links with financing: Global Fund, '3 by 5' initiative, interim report PRSP with the World Bank, etc;
- Support the initiation of health activities in parallel with activities for determinants of health including food security and water/sanitation.

VII. Monitoring and evaluation of sectoral plan

Each partner implementing projects adhering to the humanitarian strategy included in the CAP must ensure the monitoring of indicators proposed above reporting on activities to be shared with partners in order to complement each other in the implementation of initiatives.
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2. PRESENT CONTEXT

- The newly established UN Mission in Burundi, ONUB, has taken over the peacekeeping tasks from the African Mission in Burundi (AMIB).
- While Burundi is dedicated to reconciliation and reconstruction, several parts of the country still face armed unrest and a large group of Burundian displaced and refugees still are unable to return home.
- By adoption of resolution 1545, the Council also decided that ONUB would be headed by the Special Representative of the Secretary-General, Carolyn McAskie.

- Since the beginning of this year, 140,000 displaced Burundians have returned and up to 52,000 refugees have returned spontaneously or with assistance. Resettlement remains precarious due to continued violence and fundamental issues, such as land rights, unresolved.

- The crisis in DRC continues to have impact on refugee issues in Burundi, recently there was a new influx of Congolese refugees into Bujumbura Rural et de Cibitoke.

Burundi is a small, landlocked country (27,834 sq km) in the Great Lakes region of Africa, bordered by Rwanda, Tanzania and the Democratic Republic of Congo. Current population estimate is approximately 6.8 - 7 million in 2004. The country is divided into three zones according to altitude, the low zones (700 – 1,400 metres), high plateaus (1,400 – 1,800 metres) and the escarpments of the Congo-Nile (>1,800 metres), which have a bearing on the distribution of certain epidemic and endemic diseases, such as malaria, onchocerciasis and trypanosomiasis.

For over 10 years the country has suffered from insecurity and civil war (‘the crisis’), a long term complex emergency with armed conflict, attacks on civilian populations, disruption or destruction of essential services and infrastructure. There have been documented human rights abuses including torture, summary executions, the use of child soldiers and gender based violence. It left an estimated 250,000 – 300,000 dead, by 2003, and as of April 2004, 140,000 displaced in 182 sites (OCHA- 2004, a decrease of 50% since 2002) and over 500,000 refugees in neighbouring countries, mainly in Tanzania. Although the security situation has improved in most of the country in 2004, 35,000 - 40,000 are displaced monthly (as of April-May 2004) in southern Bujumbura Rural province.

Many factors have contributed to the increasing poverty in Burundi over the past ten years including decreased production and a fall in GNP, inflation, marked decrease in external aid and investments, depreciation of the Burundian franc and increasing debt and debt servicing. There has also been increased soil degradation and erosion, plus fluctuations in the international prices of primary products (Burundi exports are mainly coffee, tea, cotton, rice and sugar). As a consequence the population has become poorer, quality and access to social services decreased, compounded by the rise in HIV/AIDS, effects of combat, and displacement (World Bank -2). World Bank defines absolute poverty threshold as below the sum of the minimum costs for food and essential non-food items/person/year and estimates that this is 410.400 Fbu (approximately $US 400) in Bujumbura city and 91.947 Fbu (approximately 88 $US) for the rest of the country, giving an overall estimate of 68.7% of the population living below the absolute poverty threshold. The overall well being as measured by the Human Development Indictor, is 171 out of 175 countries in 2003 (HDR, UNDP, 2003), the lowest for this region of Africa.

1 Estimates are that 98% of the population live on less than 1$US/day. MSF-B
3. THE NATIONAL HEALTH SYSTEM

The Ministry of Health (MOH) is organised by three levels:

**The central level** is responsible for the definition, development and elaboration of health strategies, planning and administration of the health sector, coordination of sectorial activities, training of paramedical staff and the definition of standards for quality control, follow-up and evaluation.

**The intermediate level** consists of 16 provincial health bureaus and the sector of Mairie de Bujumbura (Bujumbura city). These are further divided into 1-4 health sectors. The provincial medical officers and the head of the sector(s) are responsible for the coordination of all health activities in the province and the ongoing training and supervision of the health staff.

**The peripheral level** covers all the centres of health care provision – public, private or ‘agree’ (run by missionary groups), and covers 3 levels according to type of health facility and the workers present.

1st level: 517 (327 public and 190 private) health centres
2nd level: 27 hospitals of first level reference
3rd level: 4 hospitals of National reference, 3 in Bujumbura city and one in Gitega.

There are 4 specialised hospitals, three in Bujumbura: 2 for general cases and one neuro-psychiatric centre, and the Kibumba TB sanatorium.

**Community-based structures** are key links in the health systems of developing countries. While the country slowly returns to peace, setting up community-based activities (CBA) should be a challenge.

WHO Burundi is carrying out a survey of all public health facilities, which should provide a good base for staffing needs, population served, reconstruction, re-equipment and supplying the minimum package, and hence deciding priority areas for construction, staff redistribution, etc.

3.1 Access to health services:

The population living within 5 kms of a health facility is estimated to be 80%. This is often over very mountainous terrain, where climbing and descending 500 metres can be taken as the equivalent to walking 5 kms on flat ground, thus real access may be <80%. There is little transport and the costs are often beyond the reach of a great part of the population. It is unknown what the real proportion of the population is that has geographical and financial access to health centres, see also below regarding cost recovery.

3.2 Health staffing:

**Physicians**: There is one (national) physician/34,800 inhabitants\(^2\), distribution is very inequitable - 1/4,000 in Bujumbura city to 1/123,000 in the province of Cibitoke, (Carte Sanitaire MoH '00).

**Nurses**: 1/3,500 inhabitants. Midwifery was not a speciality, but was included in nurses’ general training. It has only recently become a specialisation of 2 years duration at the Institute Nationale de Santé Publique (INSP).

The **lack of medical staff** of all categories/specialities is of great concern. In 2003, there were 27 new graduates from the Medical Faculty. This is far below what the country needs and needs addressing urgently. Many leave the country, especially to France, Rwanda and Belgium for a better professional development, social reasons, remuneration and better working conditions. Others join the UN and NGOs. Of 41 doctors sent overseas in for further training, only 20% attended.

\(^2\) WHO norm is: for physicians 1/10,000 population, for nurses 1/3,000 population
returned. In 2003, of 675 newly graduates from paramedical institutes 115 (17%) came for recruitment, including 45% of nurses and 50% of laboratory technicians. (WB-3).

As regards food and nutrition, the country has very few nutritionists; these few are found in projects, or they work locally with NGOs, when not outside of the country. In some provinces, nurses with a “speciality” in nutrition work in support of BPS or hospital directors. In the various CNT and CNS, NGOs have hired and trained local nurses and facilitators in order to conduct nutrition activities. The status of such personnel will have to be discussed when integrating nutrition activities into the health services. They have gained know-how, and might be considered an asset to reinforce health services when integration is implemented.

3.3 Performance of services:

**Primary health care:** the Government of Burundi has made health one of the priorities for development and in agreement with the Declaration of Alma Mata is committed to the promotion and extension of primary health care. Health centres provide curative and preventive care. In large centres all activities are provided daily. In the smaller rural ones, preventive activities are offered 1-2 times/week. See also mental health section.

**Utilisation rate:** the average number of curative consultations (new and follow-up) is 0.4-0.8/habitant/year, which is relatively good by Sphere standards (p 268) of 0.5-1 new/consultation/habitant/year in stable populations, but lower than the 4/person/year in displaced/unstable populations.

The MOH/WHO and partners have defined a **minimum package of services** (annex 5) and efforts are being made to ensure that this is available in all health centres to cover basic curative and preventive needs. As of May, 2004, in public health centres, it is place in 55%, absent in 8%, and needs strengthening in the remainder, (WHO/HAC Burundi).

**Health education** is provided at all preventive health activities in the health centres and by the community health workers (CHWs) and traditional birth attendants (TBAs) at the community level. Subjects covered by the CHWs include water and sanitation, food and personal hygiene, nutrition, the treatment of diarrhoea, family planning and HIV/AIDS. At the community level NGOs are assisting with the formation of peer education groups.

**Quality of care:** Quality of care is considered to be variable, not because of lack of knowledge or information, but due to the individual health provider’s attitudes and the kind and frequency of supervision given. One exit interview survey showed that most patients were pleased with the confidentiality of the consultation, but that only 2.3% of the mothers of children less than 5 years of age were requested to show the immunisation card leading to many lost opportunities, when children come for curative care. A study on injection safety highlighted: the mistakes made with preparation of vaccines, the poor use of safety boxes, the poor disposal of waste except in few places and self wounds by used needles, especially by auxiliary nursing staff.

**Clinical guidelines:** In all health centres visited, MoH guidelines, such as universal precautions and charts for diagnosis and treatment, were stuck to the wall. There are national guidelines for diagnosis and treatment of common conditions, (for peripheral and intermediate level health workers).

**Essential drug list and availability of drugs:** Burundi has an essential drug list that is reviewed and updated each 2 years. The latest update was in April, 2004, and a group of NGOs submitted their proposals for changes to the list to MoH. The Central Purchasing Department of essential
drugs (CAMEBU) is said to be running much better (UNICEF, WB, FED) than before due to more autonomy, increased salaries, extra vehicles, computers and the availability of foreign exchange. It has a budget of $US 500,000 for external purchase of essential drugs, the remainder being supplied by Programme Sante Population and other projects. The new malaria treatment is currently supplied by UNICEF (83%) and MSF (17%). Thus CAMEBU acts as the main store for medicines and the principal distributor. NGOs import medicines (either as kits or as separate items) which are distributed directly to the health centres where they support. UNICEF imports kits with 33 medicines for 1,500 treatments, based on the country’s epidemiological profile and distributes these to 67 health centres and the charging for these is left to each province to decide. Other sources of medicines are private pharmacies and in the markets.

3.4 Referral and communications:

A study by MoH/WHO (WHO-3) showed that the war had severely affected or destroyed much of the health infrastructure, communications and transport systems: communication, supervision and referral are extremely difficult at the present time and the periphery is naturally more affected than the provincial capitals.

There is at least one vehicle per provincial health bureau, and 7 provinces with outside assistance are overall better off in terms of transport and communications than those not assisted. Only 81% of provincial health bureaus have phone and 41% fax access. The study assesses the percentage of health facilities that could use walking, bicycle, motorbike or need a vehicle according to the distance from the provincial health bureau and the possible sorts of telecommunications possible. The proposals about walking and/or using a bicycle do not consider the feasibility of these, in relation to weather, the mountainous terrain and female health workers.

3.5 Financing and costs of health care:

Before the 80s health care was free but various schemes were introduced to recover some of the costs – these included voluntary informal sector pre-payment schemes (Care Assurance Maladie CAM, 1984) and for the public service via monthly salary deductions (Muteuelle de la Fonction Publique, MFP cards) covering 10-12% of the population.

In 1999 the Government reduced the allocation to MoH, from 5% of total capital expenditure ($US 2.1/p.capita/year) to 2.2% in 2003 ($US 0.7/p.capita/year). External aid, either loans or gifts, and implemented via NGOs or the state, constitute 56% of the total health costs in the country.

‘Autonomy’ for hospitals (the decision making, running and management of all activities including financing) commenced in 1992 and has been fully implemented since January 2004. Budget comes from the state, users’ fees and contributions from insurance schemes. A study of 6 autonomous hospitals in 1997 showed annual deficits of between 8-87% (MoH 1).

In January 2002, the cost sharing/recovery programme for curative care was altered. Cost recovery in public facilities was via the schemes mentioned above CAM and MFP, or via direct charging to the patient for consultation, tests and prescriptions, aiming at 115-120% recovery on the cost of medicines. Private and mission health facilities charge higher rates. Recently there has been reluctance or refusal to accept CAM cards in many health facilities.

3 Before 2002, 80% of money paid to the health centre was returned to the commune, but as of 2002, 80% remained at the health facility and 20% returned to the commune.
**MoH Salaries** are low (depending on category), between 30 –100 $US/ month. There are marked inequalities between and inside provinces, e.g.:

- Some staff receive incentives, up to the doubling of the basic salary
- Others receive an additional percentage paid to all staff of a health facility according to its monthly performance, determined by preset indicators.
- For others there are no such systems. There are reports of trying to increase salaries by ‘under the table’ charging for services that ought to be free.

Salaries and running costs are mainly covered by the government allocation to the health facilities, money gained from cost recovery/sharing is used for the purchasing of drugs, incentives, etc.

**Recovery/sharing of drugs costs and affordability;**

Three parallel systems are operating in 2004.

**Token payment/flat rate/ ‘forfetaire’:**- in the provinces of Cankuzo, Karuzi, Bujumbura rural, Ruyigi and part of Makamba. Between 50 and 300 Fbu is paid for all curative treatments (in and outpatient) and the remainder of the costs are covered by NGOs via donor support

**Cost sharing** - part of Makamba is covered by the NGO, CORDAID, whereby patients pay for consultation and tests, and 50% of the drug costs.

**Cost recovery** – the remaining provinces and Bujumbura city.⁴

Two surveys were carried out in 2003-04 to evaluate the impact of cost recovery on health care seeking behaviour and the means and ability to pay the costs.

1. SCF(UK) 2003, in 3 provinces with cost recovery, studying the ability to pay according to socio-economic groups (quintiles)
2. MSF (B)-2, 2004, carried out three surveys, according to the three different systems of payments at health facilities, covering all provinces.

A high proportion of the population (50-90%) needed to go into debt &/or sell assets to pay for curative care. Both studies recommend a more equitable system by increasing public funding to the health sector, making health care affordable. NGOs, donors and the NA team express the same concerns. All efforts have to be made to protect the poorest and avoid spiralling poverty related to health costs, bearing in mind that the poorest are also more likely to fall/ill than the better off.

Inpatient costs were not evaluated in detail, but the range of costs for the same treatment are very varied, e.g. for a Caesarean section from 500 Fbu to 400,000 Fbu, or more in private facilities. There were many reports of patients being locked in hospitals until bills were paid – a habit reportedly less common over the past 2 years.

While ‘someone has to pay’ for health provision, the debate over health financing for the most vulnerable and in complex emergencies is ongoing, with those who are in favour of community funding, etc, and those who feel it imposes an unnecessary burden on the very poor and recovers a very small percentage of costs and other methods need to be found – via increased government allocation to health, donors, debt reduction/ cancellation, a topic for urgent debate.⁵ ⁶ Cost recovery/sharing have not shown to be effective in countries in crisis.

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⁴ Some of these provinces have subsequently adopted cost recovery but at less than 120%, eg. 70% of drug costs paid, becoming a form of cost sharing. (source 7th FED).
⁵ See WB web site for arguments pro and con cost recovery plus LSHTM (in references), during and post complex emergencies
The very poor and the ‘Carte d’indigence’ (destitute’s card). The definition of an indigent depends who one talks to. Broadly it includes all those who are most vulnerable and poor, such as IDPs, orphans, disabled, some returnees, the homeless, etc. It is often the commune and colline level that decides who is indigent. On one hand this is the best method as they should know the residents of the area, their assets/ vulnerabilities and their safety nets/coping mechanisms. There is concern by some NGOs that few will be identified as indigent, if the cost of their care is to be paid by their community. In all health centres visited there was an Indigent Book, those with cards making up less than 50% of those considered too poor to pay by the health centre staff.

3.6 Partners and coordination:

NGOs do not run their own clinics or hospitals, but support the public sector of the MoH, i.e. there is no parallel system. They have different strategies and projects according to their mandate and the needs of the country: e.g.

- helping manage provincial hospitals and providing clinical care,
- the supply of medicines and consumables to the provincial health facilities,
- working strictly with the MoH assisting to implement activities,
- form the health committees at different levels,
- carrying out surveys and assisting with the health information system (HIS),
- working mainly at the community/colline level,
- setting up groups for those with special needs, such as psychosocial, survivors of rape, minor war wounds,
- National NGOs are especially active in areas or HIV/AIDS education, counselling, prevention and home care.

The role of the NGOs at this stage, and for some years, is considered indispensable for the continuation of provision of health activities. NGOs are not always involved enough in priority areas, and their potential contribution was overlooked/ underestimated when MoH was making implementation plans. Their input can be of great importance to increase priority health activities in the country. More attention should be paid to the contribution and potential of national NGOs, and they need to be more included in meetings and decisions and able access to more funding.

Coordination in the sense of the definition of ‘Sharing information, in order to make the best decision at the time’ include: 1. The Health Exchange (Echange Santé), held each two weeks with UN and NGOs (MoH participates in technical sessions). 2. Working groups on technical issues, which feed information to the technical committees. 3. Technical Committees which include MoH and NGOs. 4. Special groups with MoH and implementing partners for defining problems, and decision making (e.g. the change of the malaria treatment protocol. 5. Interagency Health Committee, chaired by the Minister of Health. 6. Thematic groups such as HIV/AIDS. There are many examples of all partners (MoH, NGO and UN) working together in areas such as the new malaria protocol, outbreak response, new vaccines and home treatment for PLWHA. These groups perform well.

6 it will be discussed in the ‘Etats Generaux de Sante’ (General state of health) meeting of MoH with other stakeholders in June and other proposed meetings on the same subject.
4. MORTALITY AND MORBIDITY

4.1 Mortality rates

All the mortality rates are higher than what could be expected in a ‘chronic complex emergency’ and reflect what in fact, is a prolonged acute complex emergency, at least for those upon whom it impacts, i.e. displaced, lack of food, water, shelter and other determinants of health. For most of the country the rates may be lower in 2004 with the improving security situation and thus better access to determinants of health and preventive and curative health care. All the mortality rates are far higher than those of Burundi refugees hosted in UNHCR run camps in Tanzania.

Summary of mortality rates:

- Crude mortality rate (CMR) : (emergency threshold) 32-69/1,000/year (1-2/10,000/day)
- < 5 mortality rate (U5MR): estimates are variable and range from emergency threshold to crisis out of control: 24-190/1,000 year (2-4.9/10,000/day).
- Infant mortality rate: estimates are 114/1,000 live births in 2002 (UNDAF/UNICEF) and 183/1,000 live births (ICRC, 2003)
- Maternal mortality ratio estimates for Burundi 300-1,900/l00,000 live births/year, Tanzania (accurate) 59.8/100,000 live births/year. See also RH section.

An estimate of excess mortality in 2003:
Under 5s – approximately 77,000/deaths/year
Whole population – approximately 270,000/deaths/year

The main causes of mortality include:

1. Communicable diseases, malaria, pneumonia, diarrhoeal diseases and measles and malnutrition.
   They are either:
   - preventable (usually by improving the determinants of health such as safe water, sanitation and food security, or via preventive health services such as immunisation and growth monitoring and the correct use of mosquito nets, or
   - easily treatable, provided access and care are adequate, affordable and of good quality, especially via the introduction of Integrated Management of Childhood Illnesses (IMCI) at health centre and community level.

2. Complications of pregnancy/childbirth, wounds and accidents, due to lack of adequate referral system to a suitable hospital for appropriate care.

3. HIV/AIDS, TB and associated malnutrition. As the other causes of morbidity and mortality come under control, the importance of these conditions will emerge, and for that reason some attention is given to TB below.

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7 The table below uses international standards. Sphere project gives mortality rates for Sub-Saharan Africa in terms of expected and emergency threshold as deaths /10,000/day -> CMR 0.44 and CMR emergency threshold 0.9, U5MR 1.14, and U5MR emergency threshold as 2.3. There is little difference between the two methods. Burundi figures were taken as the mean of values obtained as in annex 7, 1.3 and 3.3/10,000 day respectively for CMR and <5MR & total population between 6.8 and 7 million
8 measles coverage has not reached the level of 90-95% to achieve 'herd immunity' to prevent outbreaks.
### Table 1: Main causes of mortality in hospitals and proportion in descending order

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt; 5 years</th>
<th>5-14 years</th>
<th>&gt;15 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>41%</td>
<td>Malaria 47.3%</td>
<td>Malaria 44.8%</td>
<td>Malaria 36.3%</td>
</tr>
<tr>
<td>LRTI (i)</td>
<td>8.9%</td>
<td>LRTI 10%</td>
<td>LRTI 10.6%</td>
<td>AIDS 9.3%</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>7.3%</td>
<td>LRTI 15.4%</td>
<td>Malnutrition 10.6%</td>
<td>AIDS 8.2%</td>
</tr>
<tr>
<td>AIDS (ii)</td>
<td>5.9%</td>
<td>Anaemia 7.7%</td>
<td>AIDS 4.7%</td>
<td>Trauma/burns 5.4%</td>
</tr>
<tr>
<td>Anaemia</td>
<td>5.5%</td>
<td>Diarrhoea 5.4%</td>
<td>Hepatitis 4.7%</td>
<td>TB 3.8%</td>
</tr>
<tr>
<td>Wounds/burns</td>
<td>3.5%</td>
<td>Meningitis (iv)3.3%</td>
<td>Meningitis 3.5%</td>
<td>Anaemia 3.6%</td>
</tr>
<tr>
<td>Meningitis</td>
<td>3.4%</td>
<td>AIDS 1.3%</td>
<td>Trauma/burns 3.5%</td>
<td>Meningitis 3.4%</td>
</tr>
<tr>
<td>Diarrhoea 3.1%</td>
<td>NNT (iii) 0.8%</td>
<td>LRTI 2.6%</td>
<td>Pregnancy related 3.4%</td>
<td></td>
</tr>
<tr>
<td>Pulmonary TB</td>
<td>2.3%</td>
<td>Trauma/burns 0.8%</td>
<td>Typhoid fever 1.2%</td>
<td>Hepatitis 1.9%</td>
</tr>
<tr>
<td>Pregnancy related (v)</td>
<td>1.9%</td>
<td>Diarrhoea 1.8%</td>
<td>Pulmonary TB 1.2%</td>
<td>Trauma/burns 1.9%</td>
</tr>
<tr>
<td>Pregnancy related (vi)</td>
<td>1.9%</td>
<td>Diarrhoea 1.6%</td>
<td>Meningitis 3.5%</td>
<td>Meningitis 3.4%</td>
</tr>
</tbody>
</table>

EPISSTAT 2003, hospital data. (n.b. <30% of hospitals report regularly, there is no breakdown of mortality by sex)  
(i) Lower respiratory tract infection  
(ii) AIDS confirmed or suspected  
(iii) Neonatal tetanus <1 month  
(iv) meningococcal meningitis  
(v) Pregnancy related – the denominator used is **males plus females**  
(vi) There is no differentiation between natural and manmade causes (such as weapons). ICRC data shows that of all manmade wounds only 1.6% are related to landmines or UXOs.  

### Case fatality rates in hospitals: from EPISSTAT, 2003.  
Neonatal tetanus >1 month (60%), Neonatal tetanus < 1 month (33.3%), Meningococcal meningitis (23.5%), AIDS associated (confirmed or suspected (22.1%), Hepatitis (11%)  

### 4.2 Main causes of morbidity  
Main causes in health centres and proportion (%) in descending order (of most important and life threatening diseases).  

### Table 2:  

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt; 5 year</th>
<th>5-14 years</th>
<th>&gt;15 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>40.5%</td>
<td>Malaria 33.3%</td>
<td>Malnutrition 41.2%</td>
<td>Malaria 42.6%</td>
</tr>
<tr>
<td>LRTI 10.6%</td>
<td>LRTI 16.6%</td>
<td>LRTI 10.2%</td>
<td>LRTI 7.6%</td>
<td></td>
</tr>
<tr>
<td>Diarrhoea 3.3%</td>
<td>Diarrhoea 6.6%</td>
<td>Trauma/burns 3.8%</td>
<td>Burns/trauma 2.9%</td>
<td></td>
</tr>
<tr>
<td>Trauma/burns</td>
<td>2.8%</td>
<td>Malnutrition 3%</td>
<td>Diarrhoea 3%</td>
<td>Pregnancy related 1.9%</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>1.4%</td>
<td>Trauma/burns 1.9%</td>
<td>Malnutrition 1.4%</td>
<td>Diarrhoea 1.6%</td>
</tr>
<tr>
<td>Pregnancy related</td>
<td>1%</td>
<td>Anaemia 0.5%</td>
<td>Anaemia 0.6%</td>
<td>Gonnoccal infection 0.6%</td>
</tr>
</tbody>
</table>

EPISSTAT 2003: health centre data. 95-98% of health centres report regularly.

### Table 3: Burden of major communicable diseases

<table>
<thead>
<tr>
<th>Population estimate, approx</th>
<th>Under 5 years</th>
<th>Total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria/100,000</td>
<td>976,400</td>
<td>6,800,000</td>
</tr>
<tr>
<td>LRTI/100,000</td>
<td>52,327/100,000</td>
<td>32,988/100,000</td>
</tr>
<tr>
<td>Diarrhoeal diseases/100,000</td>
<td>26,000/100,000</td>
<td>8,608/100,000</td>
</tr>
<tr>
<td>Intestinal parasites and protozoa</td>
<td>10,295/100,000</td>
<td>2,650/100,000</td>
</tr>
<tr>
<td>Intestinal parasites and protozoa</td>
<td>22,859/100,000</td>
<td>11,635/100,000</td>
</tr>
</tbody>
</table>


9 of those seeking care in health centres.
5. NUTRITIONAL STATUS

5.1 Protein-energy malnutrition (PEM)

In 1987, the EDS survey showed that 5.6% of children in Burundi were affected by acute malnutrition, 48.1% by chronic malnutrition, and 38.3% by underweight. Malnutrition was worse in rural than urban areas (W/A and H/A<-2SD) and was both more frequent and more severe in children whose mothers had low education. Malnutrition was worse in children aged 12–23 months and 24–35 months. The 12–23 months range covers the critical weaning period when children are at higher risk of malnutrition.

The second national survey was carried out in April 2000 in Burundi and was called the "National assessment survey on the living conditions of children and women in Burundi" (ENECEF), otherwise known as the UNICEF "Multiple Indicator Cluster Survey" : 45.1% of children under 5 years were moderately underweight, 56.8% were moderately stunted; severe underweight and stunting rates were 13.3% and 27.7% respectively. The prevalence of acute malnutrition (wasting) was 7.5% (moderate) and 0.5% (severe).

Other nutrition surveys were carried out between 2001 and 2003, mainly by NGOs operating in the various provinces. Results showed global acute malnutrition rates ranging from 5.99% to 17.8%, and severe acute malnutrition rates varying from 1.1% to 4.1% in children under 5 years. The Table (see Annex) shows the progress of acute malnutrition in Burundi since 1998.

The data on malnutrition prevalence started dropping in mid-1998. At the end of 1999, in 2000 and early 2001, the country underwent a serious nutrition crisis due to drought in some areas of the country, mostly in the north, which meant a severe cut in crops. It should be noted that because of the ongoing war and resulting insecurity in the Bujumbura area, no survey was attempted in the area. Most surveys took place in side the country.

### Critical points in Burundi:
- **10-15%** children weigh <2500 grams at birth (LBW)
- **57%** children <5 years (3 out of 5) are stunted
- **45%** children < 5 years (1 out of 2) are underweight
- **8-10%** children < 5 years (1 out of 10) are wasted

**Main causes:** i) insufficient, inadequate feeding due to food insecurity; ii) high disease incidence; iii) inappropriate infant and young child feeding practices; iv) extreme poverty; v) HIV/AIDS and TB.

### Low birth weight (LBW) in Burundi:
Low birth weight (weight <2.5kgs) reflects the nutritional status of mothers; it puts newborn babies at risk of morbidity and mortality. In Burundi, the national average LBW was **25%** in the early 1990s, a relatively high figure as compared to other countries south of Sahara. Between 1990 and 1998\(^\text{10}\) this rate fell to 16% but remained high (estimated average rate in Sub-Saharan countries: 14%). During 2000, the national assessment survey on the living conditions of children and women in Burundi" (ENECEF)\(^\text{11}\), also referred to as the MICS 2000 Survey, confirmed the downward trend with a rate of 10.5%. In 2003, national statistics (EPISTAT) stated that 15% newborn babies weighed <2500 grams at birth. Such differences arise from the fact that in 2000 the survey was based

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\(^{10}\) The State of the World's Children 2004, UNICEF

\(^{11}\) Enquête Nationale d'évaluation des conditions de vie de l'Enfant et de la femme au Burundi UNICEF et ISTEEBU 2000 (MICS).
upon a recall questionnaire of birth histories, while the 2003 data (EPISTAT) were collected in health centres.

5.2 Micronutrient deficiencies:

**Vitamin A deficiency (VAD)** - Before the crisis occurred in Burundi, no clinical cases of VAD was reported. However, with regard to the typical Burundi diet (low in fruits and pulses, animal products and fats), sub clinical VAD may exist in vulnerable groups exposed to low carotene intakes – such as displaced persons, women and children. The MICS survey (2000) showed that only 38% of children aged 6-59 months had been given a high dose of Vitamin A in the 6 months before the survey was conducted. Only 15.9% of postpartum mothers had received a high vitamin A dose (200,000 IU).

**Iodine deficiency** : 1990 : 36% of Burundi schoolboys and 50% of schoolgirls were iodine deficient. 1992 : 42% of the total population suffered from iodine deficiency related disorders (66% of girls aged 7-18 years); 30 cases of cretinism were identified in two provinces (Muyinga and Rutana). About 90% of all households in Burundi use iodized salt, however the legislation on iodized salt needs revision and promotion, since new ICCIDD/UNICEF/WHO recommendations have been issued. *Programme weakness* : No programme impact assessment survey has been made since 1992 (iodine rate, T3, T4 thyroid hormones).

**Iron deficiency - Aaemia** - A UNICEF-supported national survey\(^{12}\) in May 2003 showed anaemia to be a serious public health problem in Burundi. The most severely affected provinces by anaemia in children <5 years are (in decreasing order) Makamba (89%), Cibitoke (81%), Muyinga (78.9%), Bubanza (66.7%) Kirundo (63.8%), Muramvya (63.4%) and Gitega (61.5%). Such data call for action in order to reduce the extremely high infant and child mortality (190‰) in Burundi. Provinces where anaemia is very high in women are: Bubanza (53.4%); Cibitoke (48.4%), Muramvya (44.7%), the same provinces as with children. Associated and aggravating diseases are: malaria; parasitosis; malnutrition ; infectious diseases.

5.3 Causes of malnutrition:

Following the 1993 crisis and the ensuing embargo in 1996, all social welfare indicators fell dramatically. Poverty affected one individual out of three (33.8%) in 1990, and rose to over two out of three (67.4%) in 2000. The diet was initially of little variety, consisting mainly of cassava, bananas, sweet potato and beans (all vegetal products), and it deteriorated when insecurity froze any efforts of the rural population aiming at increasing production.

Meanwhile, potentially epidemic diseases increased: shigellosis, tuberculosis, malaria, HIV infection. A weakened health system was unable to respond to the huge needs of ever impoverishing populations. In Burundi and elsewhere, malaria and acute malnutrition are reportedly closely correlated. When malaria cases increase, so do arrivals at nutritional centres. Anaemia and malaria were noted as being positively correlated in children under 5 years of age. Furthermore, attitudes towards the feeding of very young children are inappropriate for adequate infant nutrition.

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\(^{12}\) Burundi national anaemia survey May 2003
5.4 Food security:

Previous to the 1993 crisis, Burundi enjoyed comparative food self-sufficiency, and food aid programmes set up since 1965 were a generally adequate response. Ever since the 1993 social and political outbreak occurred, Burundi has been facing political instability and an overall deterioration in security, leading to the collapse of crop production systems in rural areas. Moreover, the armed conflict situation prevailing in the country has lead to internal and international displacement, thereby restraining the access to land and causing destruction of homes and basic infrastructures. The situation was made worse by periodic droughts and plant diseases, resulting in permanent "food insecurity" in Burundi.

Evolution du prix de la farine de manioc de juillet 2002 à mars 2004
6. CONTROL OF COMMUNICABLE DISEASES

6.1 Malaria

Most of the 1-3 million who die each year from malaria are found in the hyper-endemic areas of Africa. In children under 5 years of age, particularly in infants, the disease tends to be atypical and more severe (from malariasite.com). Pregnant women are at increased risk from malaria: 10-13% of maternal deaths are caused by malaria in endemic countries; spontaneous abortions are reported in up to 60% of maternal malaria cases and in sub Saharan Africa up to 40% of low birth weight is attributed to maternal malaria. (WHO – RBM)

Malaria is the main cause of morbidity and mortality in all age groups. The lower altitudes, with 23% of the population, are hyper-endemic zones, the high plateaus, with 56%, are epidemic zones and areas above 1800 metres have no transmission, only imported cases. (OMS/WHO Sept 2003, EPISTAT). Recent epidemics in the middle altitude zone have been attributed to the creation of fish and rice culture ponds in the swamp areas and increased holes left from excavating clay for brick and pots production.

Table 4: Evolution of malaria cases in Burundi, 2000-2003.

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of cases reported</td>
<td>3,110,327</td>
<td>2,888,586</td>
<td>2,316,237</td>
</tr>
<tr>
<td></td>
<td>Incidence/100 population</td>
<td>46.5%</td>
<td>42.1%</td>
<td>35.1%</td>
</tr>
</tbody>
</table>

(Source: EPISTAT) Incidence may include new cases, resistant cases, or relapse.

Drug resistance, change of treatment protocol and costs: Studies in 2000-2001 showed a high resistance to both first line drugs: 51.2 – 73.7% for chloroquine and 8.9 – 49.1% for Sulphadoxine/pyramethamine (SP), according to sites sampled. This was of great concern to all health partners, especially in view of the burden of malaria, both short and long term In November 2003; the above drugs were replaced by a combination of artesunate and amodiaquine. The change in protocol has been very expensive, as the new treatment costs $US 2.8/treatment, though the patients pay 100 (child) and 200 (adult) Fbu/treatment.

Six sentinel sites have been set up to monitor side effects and pharmacovigilence. There is no prophylaxis or intermittent treatment for pregnant women (World Bank -3) due to the high resistance to SP (OMS/WHO 2003). MSF (B), with the Antwerp Institute of Tropical Medicine and MoH, is carrying out a control study (2002-2004) in Karuzi province to evaluate the effect of indoor residual spraying and the use of impregnated bed nets (ITN) within a range of 700 metres from the main mosquito breeding sites. MSF (B) -1. Preliminary results showed that in the treated houses there were significantly lower densities and infection rate of mosquitoes. Of the 24,000 mosquito nets distributed in 2003, 60.6% were being used correctly, 15% not/incorrectly used and 24.4% were absent (stolen or torn).

Prevention: The main strategy is the use of insecticide impregnated bed nets (ITN), targeting the most vulnerable, <5’s and pregnant women living in endemic and epidemic areas. These are being distributed free to very vulnerable such as IDPs or sold at a low price by Population Services International (PSI), about $US2 instead of $US7. UNICEF is targeting 50% of pregnant women/year, with long life ITNs, distributing 335,000 in 2003. They wish to document the distribution of the nets by different organisations, the correct usage rate, misuse rate, and attrition rate due to sale, damage or other uses (such as fishing nets, bridal dresses and underclothes).
6.2 Acute Respiratory Illnesses (ARI) and acute watery diarrhoea are major causes of morbidity and mortality, especially in young children, related mainly to overcrowding and poor housing, unsafe water and inadequate hygienic practices.

6.3 Expanded Programme of Immunisation:

The programme is running well, with assistance of many partners, including UNICEF, WHO and GAVI, to the Ministry of Health. Major constraints for 2004 are the lack of the MoH supervision at all levels, mainly due to lack of transport.

New vaccines introduced in 2004:
- Hepatitis B was introduced into the EPI schedule after a survey of sero-prevalence of VHC, VHB and HIV among 5000 volunteer blood donors to the National Centre for Blood Transfusion found a prevalence of Hepatitis B virus in 4.8% of those tested.
- Haemophilus Influenza B (Hib): In children the main causes of bacterial meningitis in descending order are Streptococcus pneumoniae, Haemophilus influenzae and Neisseria meningitides. Other pathologies caused by Haemophilus influenzae are being monitored at the sentinel site at the University Hospital, which has a suitably equipped laboratory.

Table 7: EPI Schedule by age and antigen.

<table>
<thead>
<tr>
<th>Antigen/age</th>
<th>Schedule</th>
<th>Evolution by year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>birth</td>
<td>X</td>
</tr>
<tr>
<td>OPV</td>
<td>X</td>
<td>6 weeks X</td>
</tr>
<tr>
<td>DTP</td>
<td>X</td>
<td>10 weeks X</td>
</tr>
<tr>
<td>DTP + Hib*</td>
<td>X</td>
<td>14 weeks X</td>
</tr>
<tr>
<td>Hep B</td>
<td>X</td>
<td>9 months X</td>
</tr>
<tr>
<td>Dtp+Hib+Hep B</td>
<td></td>
<td>2003</td>
</tr>
<tr>
<td>Measles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT in women of child bearing age (pregnant and non-pregnant)</td>
<td>TT 1 at 1st contact, TT 2 after 1 month, TT 3 after 6 months, TT 4 after 1 year, TT 5 after 1-3 years</td>
<td></td>
</tr>
</tbody>
</table>

Source: Plan stratégique PEV 2002-2006

* Haemophilus influenzae b.

National EPI coverage estimates for 2003 are BCG 84%, DTP3 94%, OPV3 89% and measles 80%. A recent survey found many problems related to the whole of EPI including data recording. Provincial level EPI coverage surveys could be carried out, to assist with ascertaining the actual coverage, giving a useful baseline data and pointing out specific weaknesses to be addressed.

Campaigns planned for the future: TT for women of child bearing age to commence August 2004 in 5 provinces and each year will expand to include 3 more provinces until the country has been covered. Measles campaigns are carried out each 2 years, the next is planned for 2005, to cover children aged 9 months to 14 years.

13 Quality control of EPI, by Price Waterhouse – results not yet published
Missed opportunities for immunisation: During the curative consultations for <5s the immunisation card is seldom requested by the nurse (MSF-B and observation of the NA group), with the result that there are many missed opportunities for immunisation.

Table 8: Evolution of cases of EPI preventable diseases and AFP* surveillance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFP</td>
<td>7</td>
<td>27</td>
<td>21</td>
<td>5</td>
<td>23</td>
<td>17</td>
<td>55</td>
<td>89</td>
<td>86</td>
<td>76</td>
</tr>
<tr>
<td>Polio</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Measles</td>
<td>880</td>
<td>188</td>
<td>163</td>
<td>514</td>
<td>146</td>
<td>298</td>
<td>217</td>
<td>2016</td>
<td>1016</td>
<td>224**</td>
</tr>
<tr>
<td>NNT</td>
<td>7</td>
<td>29</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>58</td>
<td>25</td>
<td>32</td>
<td>45</td>
</tr>
</tbody>
</table>

* Acute flaccid paralysis (AFP) surveillance is considered to be good with 280% more than the minimum expected cases notified in the <15 years age group. Specimens from these cases are sent to the Kampala laboratory (85% arrived in good condition) and all negative for polio. Burundi is expected to be declared polio free in 2005.

** The notification is of clinical cases of measles. In 2003, all 224 specimens were sent to the laboratory of the Nation Institute of Public Health, and only 3 (1.3%) were positive for measles, 11 (5%) positive for rubella and the remainder were negative.

The Integrated Management of Childhood Illnesses programme (IMCI) is just being launched in Burundi, after a long planning process. ToT courses have been held and piloting will take place in three provinces.

6.4 HIV/AIDS:

HIV prevalence data: Two national prevalence surveys, 1989 and 2002, and UNAIDS results are presented in the table below.

Table 5: Estimated HIV prevalence rates in Burundi

<table>
<thead>
<tr>
<th>Survey</th>
<th>Setting</th>
<th>National</th>
<th>Urban</th>
<th>Semi-urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90 national survey of 15-49 year</td>
<td></td>
<td>1.5%</td>
<td>11.3%</td>
<td>14.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td>2002 national survey of 12-49 year</td>
<td></td>
<td>3.2%</td>
<td>9.4%</td>
<td>10.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>UNAIDS 2002 estimate (15-49 year)</td>
<td></td>
<td>8.3%</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

MPDR et PNUD, 2004 and UNAIDS, 2002

The 2002 study included individuals from the age of 12 years (the age of first sexual experience in Burundi), which may have underestimated the prevalence in the population. Prevalence increases to 3.6% for those 15 years and older, and to 3.9% for those 18 years and older.

Sampling required the study to be representative by sex and age range, not by province, and 2 provinces were excluded for security reasons. Moreover a significant number of those selected refused to respond which may have biased the results.

Conclusions from the studies:

- Nationally, HIV prevalence is increasing.
- In the rural areas (where 90% of the population lives) it has increased significantly since 1989, while it may be stabilising in urban and semi-urban settings.
- Prevalence is higher among women as compared to men in urban (13% versus 5.5%) and semi-urban settings (13.7% versus 6.8%). In rural settings, the male-female difference was not statistically significant.
- Prevalence was also related to marital status, with higher rates among those who are divorced or widowed. The cause of this may be related to either one spouse dying of AIDS, the
partner would also be infected and of those who have lost their spouse (due to any cause) may be more likely to have multiple partners as a means of survival, than married individuals.

**Sentinel surveillance** is carried out among pregnant women attending antenatal care in seven areas, urban, semi-urban and rural. There is increased prevalence among young (15-24 years) pregnant women: 14% in Bujumbura, 5-6% in two semi-urban sites (12% in the third) and 1-3% in the rural sites.

**Nutrition and HIV/AIDS :** In the Gatumba CNT (Bjumbura Rural), 15 - 20% of patients admitted to hospital because of severe malnutrition are HIV infected, including 60-65% of adults, of which many are single or widowed women. In all other CNTs (Buhiga, Gitega, Kabezi...) children and adults are admitted for severe malnutrition while being infected by HIV. In 2003, estimates of HIV/AIDS prevalence rates were over 18% in urban areas and over 7% in rural areas. This ranks Burundi respectively as 2nd in Central Africa, and 13th in Africa south of Sahara, among countries most affected by the HIV/AIDS epidemics. The epidemics also impacts on most vulnerable groups, such as women, children, displaced persons, refugees and victims of all sorts of violence.

**HIV/AIDS prevention:** The minimum standards for HIV prevention in emergency settings are not yet in place in Burundi. The government of Burundi has recognized that HIV/AIDS is a priority; in April 1999, the President declared HIV/AIDS a crisis and national priority. A few studies provide some insight into specific groups’ KAP regarding HIV/AIDS. Knowledge is insufficient (see KAP section).

Discussions with NGO and UN staff suggest that **universal precautions** are poorly practiced in Burundi. **Condoms** are available in most government health facilities; however, a national stock-out of condoms occurred before the start of the mission and the government was trying to obtain more condoms as soon as possible. Several sources indicate that if the man does not want to use a condom, the woman is not in a position to negotiate, regardless of whether that man is her husband, a boyfriend or a client. Therefore, prevention education must focus strongly on men (while also educating women so they will agree to use a condom if the man suggests it).

Seroprevalence among blood donors has steadily decreased, from 9.2% in 1988 to 0.2% in 2002 (MPDR et PNUD, 2004). The **blood supply** in Burundi is generally safe, with all blood screened for HIV, syphilis and Hepatitis B and C. Health centres use **syndromic diagnosis of STIs** according to the national protocol. It is unclear how correctly health workers follow the protocol and how regular their supply of STI drugs is.

Some 80 sites for **voluntary counselling and testing (VCT)** exist in Burundi, although they are not well dispersed throughout the country. It appears that some therapeutic feeding centres perform HIV tests on children they suspect of having AIDS; whether the mother is consulted, counselled and/or tested at the same time is unclear. In one VCT site, the nurses told us they had not received any training on counselling but did what they could. Approximately 80-90% of those tested reportedly return for their results.

**Anti-retroviral therapy for HIV-positive persons:** The government has declared that 25,000 people living with AIDS will be on anti-retroviral (ARV) treatment by the end of 2006 (as part of WHO’s 3X5 programme). Currently, 1200-1500 PLWA, primarily living in Bujumbura, receive

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14 Cadre Stratégique intérimaire de relance de la croissance économique et de lutte contre la pauvreté (CSP-Intérimaire)- Burundi Novembre 2003.
Programme for the prevention of mother to child transmission (PMTCT): A Programme for the prevention of mother to child transmission (PMTCT) does exist in Burundi. By supporting the PMTCT Programme, the rights of children and women are protected. The Programme considers expanding its activities to all health centres by 2006, but dramatically lacks resources. It also considers expanding the opening of PMTCT centres throughout the country by 2006. Support from different partners is vital in order for the Programme to reach its targets.

Family planning: Burundi’s fertility rate is among the highest in the world at 6.8 (UNDP, 2003). In a country as densely populated as Burundi where land is already scarce, this represents a significant problem. The contraceptive prevalence rate (CPR) for modern methods is very low at 4%, ranging from 12% in Bujumbura Mairie to 1% in Makamba province (PNSR, 2003). In Burundi, men manage the family and make related decisions; therefore, it is essential that they be educated about the benefits of family planning if women are to be allowed to use them.

6.5 Tuberculosis:

MoH acknowledges that
- TB will continue to be one of the major causes of mortality or morbidity, due to the increasing prevalence of HIV/AIDS, ‘promiscuity’, increasing poverty and the poor living conditions in most of the country
- it is a major impediment to development and reconstruction
- more needs to be done in terms of health education and active case detection
- Untreated/partially-treated cases will cause a spread of the disease.

The programme saw considerable progress throughout 2003, due to the improving security situation and accessibility to health facilities: 91% of programmed supervision visits took place and of the 98 diagnostic centres 84 (88%) were functioning.

2003 TB programme statistics:
- Only 45% of the expected sputum positive cases were diagnosed (WHO goal is 70%), of which 98% were new cases, 78% were aged 15-44 years and 61% were males.
- An estimated 50% of cases are HIV/AIDS positive
- Drop-out rates 16% (compared to 33% in 1998)
- Case fatality rate: 7-12%
- Cure rate (of those who complete treatment) >80%

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15 From annual report 2003, National TB control Programme, MoH -2, and interviews with the programme manager, WHO focal point and health facility staff.
Table 6: Notified, new and Sputum Smear (SS) +ve cases by year, 1999-2003

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td># TB cases notified</td>
<td>6412</td>
<td>6441</td>
<td>6512</td>
<td>6395</td>
<td>6846</td>
</tr>
<tr>
<td>% new cases</td>
<td>99</td>
<td>98</td>
<td>97</td>
<td>95</td>
<td>89</td>
</tr>
<tr>
<td>% smear +ve</td>
<td>77</td>
<td>79</td>
<td>81</td>
<td>85</td>
<td>82</td>
</tr>
</tbody>
</table>

The above figures give an annual TB detection rate of 71 SS+/100,000, and 87/100,000 for all cases. From AFRO (WHO): the majority of the countries reported notification rates of less than 100/100,000 population (all cases). Compared to the estimated numbers of TB cases, there is generally gross under reporting of cases in all countries. At least 11% of countries reported more than 300 cases per 100,000. All of these countries are in the southern African sub-region. (Note: Data received from 41 of 46 countries) The majority of the countries are able to detect 40-69% of the expected smear positives cases in the population. 23% of the countries have reached WHO target of 70%.

In Bujumbura city the detection rates are high, 342/100,000 habitants in 2003, but these include an unknown number of people from outside the city, thus do not reflect the real incidence in the city. All new cases are on the short course of treatment, 30% directly observed (DOT) and the others supervised by a family member, collecting drugs on a weekly/monthly basis.

Quality control: over 10,000 slides were controlled, showing correct diagnosis of 97.4% of positives and 98.6% of negatives. The Tropical Medicine Institute in Antwerp regularly tests and cultures samples of the sputum. Multiple drug resistance (MDR) in 2002-3 was 2.49%. Cases of MDR are sent to the Kibumba Sanatorium for second line treatment for periods up to 15 months.

6.6 Others:

Of over 5.5 million consultations seen in health centres there were 27,950 cases of shigellosis, 5096 of onchocerciasis (in Bubanza, Bururi, Rutana, Cibitoke provinces with small pockets in Bujumbura rural), 4397 of schistosomiasis (Cibitoke, Bubanza, Kurundo and Bururi), 329 of cholera, 198 of typhus, 115 of meningococcal meningitis and 67 of leprosy (EPISTAT, 2003).

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16 The programme is about to restart after a break from 1996-2004
7. REPRODUCTIVE HEALTH

Estimates of maternal mortality in Burundi vary according to the source, ranging from 300 to 1900 maternal deaths per 100,000 live births. In 2003, approximately 9% of morbidity and 3.4% of mortality in hospitals among individuals 15 years and older was due to problems related to pregnancy and delivery (EpiStat, 2003). It is important to note that the data are not disaggregated by sex. Both men and women are included in the denominator, meaning that these proportions are an underestimation of the real burden of pregnancy-related death and disability among women.

7.1 Antenatal care:

Although nationally, the proportion of pregnant women who attend at least one antenatal visit is quite high (110% in 2002 compared to 75% in 2001), the proportions vary considerably by province. In Makamba and Mbaro provinces, for example, only 66% and 77% respectively of pregnant women attended at least one antenatal visit (PNSR, 2002). At least three antenatal visits are recommended, with the first occurring early in the pregnancy. In Burundi, women tend to come for their first antenatal visit during the third trimester. Fewer than two in three (64%) return for a second visit, and fewer than one in three returns for a third (27%). Women in one focus group said that women come to the health centres during pregnancy only if they are sick, but not if they feel healthy. Although most health centres provide antenatal care the quality is poor as staff have minimal training.

According to a needs assessment conducted in seven provinces in 2000, blood pressure was checked in fewer than half of the antenatal sessions observed. Although a few malaria control programmes have distributed impregnated mosquito nets to pregnant women registered for ANC, fewer than 7% of women received malaria prophylaxis. More than 85% of health facilities were unable to conduct syphilis tests. (MSP, 2003). The PNSR provides iron tablets to health centres to be distributed to pregnant women coming for ANC, but it is unclear as to how regularly the tablets are given. The proportion of pregnant women who received the recommended two doses of tetanus toxoid immunization in 2002 varied: 17% according to the PNSR and 42% according to EpiStat. The MICS 2000 study found that 60% of the women surveyed had adequate protection against neonatal tetanus (ISTEEBU, 2001).

7.2 Delivery care:

The occupation of midwife does not exist in the Burundian system. A school for midwives was recently established in Bujumbura with the first cohort expected to graduate in 2005. Although nurses receive some training in obstetrics, their training is inadequate; some are unable to recognize danger signs that require immediate referral for emergency obstetric care (MSP, 2003).

Most deliveries in Burundi occur at home, often with a TBA (whose assistance is of varying quality). Only 22% of expected births took place in a health facility with a skilled attendant in 2002, just below the national goal of 25% set by the PNSR (PNSR, 2003). Proportions vary widely by province, from 55% in Bujumbura Mairie to 10% in Ruyigi. Health sectors with a higher number of health facilities providing maternity services showed higher rates of deliveries in those facilities, reinforcing the concept that if services are provided (and are of reasonably good quality), women will use them. Data from the MICS 2000 survey indicate that 27% of women deliver with no assistance, as compared to 26% with a TBA and 23% with a nurse.
7.3 Emergency Obstetric Care:

Global safe motherhood guidelines are clear on the need to improve women’s access to good quality emergency obstetric care (EmOC) for the treatment of life-threatening complications to reduce maternal mortality and morbidity. Most life-threatening complications can neither be predicted nor prevented, but can be treated through emergency obstetric care (Maine et al, 1997). In Burundi, basic and comprehensive emergency obstetric care are only available in the provincial and some private hospitals. It is unclear how many facilities are able to perform the six signal functions of basic EmOC and/or the additional services for comprehensive EmOC. According to UNFPA, caesarean sections can be performed in an emergency in nearly all of the provinces, albeit in sometimes utterly inadequate conditions. Some provinces have only one doctor who is both the provincial director for the MOH and in charge of the provincial hospital. In 2002, fewer than 5% of births occurring in health facilities were delivered by caesarean section (PNSR, 2003). In two provinces (Cibitoke and Ruyigi), no C-sections were performed in 2002.

Social and economic factors also affect the low use of health facilities for deliveries. It is important to note that a normal delivery in a health centre may cost as much US$20, while a caesarean section can cost US$150-400, well beyond the means of the vast majority of Burundians. Women have reportedly been “imprisoned” in the hospital following a caesarean until her family paid the bill. Another barrier to access is transportation. Health centres lack means of communication with the hospital, and most hospitals do not have an ambulance.

7.4 Post-abortion care:

Abortion is illegal in Burundi, except where necessary to save the life of the woman. Little data on the prevalence of unsafe induced abortion are available. In 2002, health facilities reported cases of abortion (primarily spontaneous) totalling 1.3% of expected births (PNSR, 2003). However, this is likely an underestimate as many women experiencing complications from abortion may never reach a health facility or admit to attempting an illegal induced abortion. In a 2003 national survey on maternal and child health, 20% of the women surveyed reported having at least one abortion (Suguru et Ntafatiro, 2003).

7.5 Gender-based Violence:

Although few data are available, sexual violence is reportedly widespread in Burundi. A 2001 study found that 9% of female respondents had been forced to have sex, with 30% of the perpetrators an intimate partner or close family member and 43% of the perpetrators unknown to them (MPDR et PNUD, 2004). Sexual violence is reportedly even more prevalent in the displaced camps. Stigma against a woman who has been raped is also high; the woman is often blamed for the rape and sent away by her husband. Women in the focus group discussions suggested that domestic violence is common.

In Bujumbura, some services are available for women who have experienced sexual violence. MSF Belgium established a Women’s Health Centre (CSF, Centre de Santé des Femmes) that provides family planning, treatment for sexually transmitted infections and a comprehensive range of services for survivors of sexual violence. Since October 2003, the Centre has assisted some 400 female survivors of rape, 50% of their clients were under 18 years old. ABUBEF (the Burundian affiliate of IPPF) and Nturengaho, a national NGO targeting young women, also provide counselling, emergency contraception and STI treatment to survivors of sexual violence. In general, health centres are ill-prepared to assist survivors of sexual violence, and health workers lack appropriate training.
8. NON COMMUNICABLE DISEASES

8.1 Disability:

International Rescue Committee (IRC) carried out 3 surveys in 2002-3 in the provinces of Bujumbura Rural, Makamba and Muyinga, using 2 stage cluster sampling methods.

- The prevalence of people living with disabilities ranged from 6-10%. Acute disease and their consequences was the major cause of disability: 59%-65%, followed by injuries, congenital causes and aging, and severe mental illness.
- Trauma-related injuries included bullet wounds, consequences of rape, results of falls, beatings and road traffic accidents and poorly given injections.
- The reports are particularly concerned with TB and its consequences as a public health problem. Many of those with TB did not continue treatment for financial reasons, as they were charged, although the treatment ought to be free.

Handicap International-B is working 3 provincial rehabilitation centres, 2 centres for those with multiple disabilities and one prosthesis centre. Their main activities include training in rehabilitation, physiotherapy in particular, early detection and treatment of disabilities and the making and supply of wheelchairs, crutches and other aids.

8.2 Antipersonnel landmines and unexploded ordnances (UXOs):

Anti-personnel and anti-tank mines, booby traps with landmines and UXOs such as grenades, shells and rockets present a threat to the population (UNICEF 2001-2002)

Extensive contamination is believed to exist primarily in the southern provinces and along the Tanzanian border, plus in Bujumbura Rural. Of a total of 230 victims, 88% were due to landmines, 4% anti-tank mines and 8% UXOs. The overall fatality rate was 19%. More incidents occurred inside the country than on the border. Mine risk education is being carried out by several organizations. Danish Church Aid is to begin in Makamba, then Rutana and Ruyigi, with defining mine fields and later mine clearance. UXOs are considered to be a greater threat, especially to children, than landmines.

8.3 Psychosocial and Mental Health:

Conflicts subject people to frequent and gross human rights violations. New patterns of violent situations, coupled with shortcomings in the international legal regime, and lack of respect for legal standards, exclude millions of people from humanitarian protection and assistance. The most vulnerable are under greater physical and psychological pressure. These include, but are not limited to: children; unaccompanied minors; orphans; children heads of households; the physically and mentally disabled; the chronically mentally ill; elderly persons alone; survivors of organised violence, torture, sexual violence; detainees; and prisoners of war. Their special needs should be addressed. Women are increasingly the targets of harsh persecution, while paying a very heavy price due to the family, and social dislocation and the added responsibilities which result from the situation. (WHO-2)

Addressing mental health is gradually being recognized as an important development issue, especially in the case of conflict-affected countries. Although mental health issues have received increased attention in post-conflict settings, there has been a tendency to implicitly assume that the impact of trauma caused by mass violence may be transitory and non-disabling, and that interventions in the emergency phase are sufficient. Current research suggests that major depression and Post-Traumatic Stress Disorder (PTSD) are prevalent and chronic among refugee
and displaced populations. Research also shows that the impact of trauma is long term. (World Bank-4)

The National Service for the Promotion of Mental Health (MoH) began in 1998. It sees mental health as a cross cutting issue, that will affect not only the individual, but also the community and the development of the country. The plan of action (2000-04) outlines priorities, objectives, strategies and activities. So far many categories of professionals have been sensitised about mental health (teachers, social assistants, judges, prisons, police, military, etc) and hopefully the parliament. WHO has funded training in psychosocial care and activities for 500 volunteers who work at community level in all provinces, and for 6 provincial teams (with TPO) from the hospital to care.

There is one psychiatric hospital – le Centre Neuro-psychiatrique de Kamenge – in the country, run by the Brothers of Charity. There are 60 inpatient beds, 30 male and 30 female. There are 5 long term chronic patients. For the remainder the average inpatient stay is 31 days, with a bed-occupancy is 92%. There is a large outpatients section for those in need of mental health and psychosocial support as well as a general clinic.

Transcultural Psychosocial Organisation (TPO) works at community level by training psychosocial assistants to work with individuals, families and groups, using counselling and animation groups. They deal mainly with domestic violence, interpersonal conflicts, effects of trauma/the war, gender based violence (GBV) and acceptance of stigmatised persons such as epileptics. They have set up self help groups, which include epileptics, widows, street children, orphans, alcoholics and HIV/AIDS. Clear cut cases of mental illness are referred to Bujumbura or to the local hospital, where they have trained, with MoH, a team of one doctor and 5 nurses.

Other NGOs are working in specific areas, such as HIV/AIDS, reconciliation, dispersion of rumours and survivors of torture.
9. NUTRITION PROGRAMMES

9.1 Existence of national policies and strategies:

- Government-set up Deficiency diseases control programme LMTC (1984), with a built-in nutrition section.
- Government developed with partner support National Plan of Action for Nutrition (PNAN) following the International Conference on Nutrition held in Rome (Italy) in 1992. The question of a national intersectoral Commission was also raised, and an operational system was proposed. The adoption of PNAN also solves this coordination problem.
- Adoption by the Government of an Integration strategy of nutrition activities into health structures aiming at replacing the malnutrition monitoring, prevention and treatment programme in the national health system, after a crisis period when NGOs stepped in for the Ministry of Health. Some problems exist on logistics, equipment, transfer of responsibility, etc.
- Adoption by the Government with partner support (UNICEF, FAO, WFP...) of a Community-based Nutrition Programme (PNAC) in 2003. The Programme aims at improving the food and nutrition situation in the most vulnerable population groups by empowering households, families and communities. Through this project, Burundi intends to establish a close link between development activities and nutrition programmes.
- At the health sector level the Government adopted several strategies and programmes: a National Programme of HIV/AIDS Control, a new protocol for malaria treatment, IMCI, a Reproductive Health Programme (HRP), etc. (more information is available in the Health section) in order to help reducing the high levels of malnutrition in the country.

Gaps at psychological care structures level: Psychological care is almost unavailable in Burundi; some is available at CNTs, while needs are expressed as a consequence of war and HIV/AIDS.

9.2 Nutrition services availability and access in Burundi

Nutrition services in Burundi: Nutrition surveys were periodically carried out in order to set up nutritional rehabilitation programmes through Nutrition Supplementary Feeding Centres (CNS) and Nutrition Therapeutic Feeding Centres (CNT). This action had direct results, and the lives of children and women were saved through such food aid at various levels.

The CNS Centres track down and manage moderately malnourished patients; there are 214 CNS in Burundi throughout the 17 provinces of the country. In 2003, 111,600 people were admitted in CNS Centres, of which over 50% were children of 6-59 months of age. CNS Centres highly contribute in controlling protein-energy malnutrition (PEM) in extremely poor, vulnerable groups. However, the only adequate and sustainable way of controlling moderate malnutrition rests in the hands of the family and the community.

CNT Centres are for managing severe malnutrition. 24 such structures exist in the country, helping restoring adequate nutritional status in some 16,000 people every year (15,994 in 2003), with a majority (65%) of children under 5 years of age. Their efficiency depends on existing management systems and resources. The number of such Centres should be restricted by insisting upon the role of families, which by reducing moderate malnutrition may avoid the child having to arrive at a CNT. In 2003, 21,473 severely malnourished patients were admitted to CNTs, of which 74.5% had recovered at outcome. CNTs helped reduce infant and child mortality in Burundi by saving the lives of 10,400 children under 5 years of age.
9.3 Nutrition services quality and performance:

Existing protocols - Many tools have been developed in Burundi to control various forms of PEM. After undergoing several revisions, protocols for moderate and severe malnutrition management were approved in 2002. All NGOs now implement those protocols, an asset which has to be supported and reinforced. Burundi's integration policy should also lead the country to adopt, like in the health sector, a "minimum package of nutrition activities (PMAN)"\(^\text{17}\) in the health districts.

Data collection forms (for CNS and CNT) were also approved and disseminated to all field implementers (BPS, NGOs) with the support of UNICEF, the coordinating agency for nutrition activities within the UN System. When integration takes place some of these will require revising in view of context and forthcoming activities in health centres.

Nutrition data processing: The LMTC Programme manages the nutrition programme on behalf of the Ministry of Health, and is responsible for the technical monitoring and evaluation of all nutrition activities in the country. To date, UNICEF has been the main partner of LMTC in the area of nutrition data management.

9.4 Breastfeeding:

In 1987, the Population and Health Survey in Burundi (EDS) showed that over 90% of women breast-fed their children for longer than 12 months after birth, and nearly half of women (49%) did so after 24 months. The same survey showed exclusive breast-feeding to be 89%, an exceptional success as compared to the average 25% in Africa at the same period. For children from 0 to 3 months old, the same rate was 73.3% in 2000 (MICS). Because of the crisis, it fell to 65.2 in 2002\(^\text{18}\). After the first 4 months, only 23.9% infants were still exclusively breast fed. On average, 50.7% of mothers kept breast-feeding after 24 months. This percentage is higher in rural than urban areas. Because of the impact of the crisis on the normal operation of programmes, efforts to meet the 1987 figures are now being hampered.

9.5 Complementary feeding practices:

In Burundi, the introduction of complementary food in addition to maternal milk is made precociously and often inadequately. Locally-produced enriched complementary food formulas are not available, and when some (imported) are available the prices are unaffordable for most mothers. In general, feeding practices for infants and young children are inadequate in Burundi; complementary food is introduced too early (earlier than 6 months of age) and children receive alcoholic beverages. All such practices expose children to PEM, including marasmus (22%) and kwashiorkor (78%), according to admissions statistics\(^\text{19}\) in Nutrition Treatment Centres.

9.6 Childhood illnesses and nutrition:

The importance of monitoring the child's growth is generally unknown to mothers. Among 34.8% of mothers who know about the growth record form, only 62.6% know it provides for follow-up of the child's growth. In fact, healthy infant visits (CN) are inadequate in the health services.

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\(^{17}\) Benin, Senegal, Mali and Niger already adopted PMAN as a component of their nutrition policy.


\(^{19}\) Données des admissions dans les CNT de 1999 à 2003 UNICEF 2004
10. THE HEALTH INFORMATION SYSTEM (HIS)

Routine health system reporting
- The registers in health centres are detailed (name, age, sex, address, diagnosis, confirmation (if and where applicable) and treatment given). A daily tally is performed on the diseases of public health importance.
- The HIS concentrates on communicable diseases, and most other conditions are classed as ‘other’ so details related to trauma, chronic diseases and mental health are lost, as is disaggregation of data by sex and population group (e.g. resident, returnee).
- The health centres send the HIS form monthly to the sector head, who sends it to the provincial health bureau, and from there it is sent to central level to EPISTAT Bujumbura. Re completeness of the reporting, most health centres (96%) report regularly but <30% of hospitals do and it is not clear why, and why they are not followed up.
- NGO information is of several types: when assisting the health centres or the provincial bureau with the HIS, it is called ‘MoH information’, even if the NGO often sets up its own database also and other information such as surveys seems to be shared very openly.
- Information about different types of violence - an analysis is made at health centre/NGO project level, e.g. MSF, ICRC, TPO and other reports

Reporting of potentially epidemic diseases and diseases being eradicated: the new manual by MoH and WHO (MoH-3) on integrated surveillance and response is printed and the training of trainers course took place late 2003. Reporting is done immediately in case of potential epidemics and weekly and monthly for the remaining conditions. The new forms will be introduced early May, 2004. The manual includes case definitions, alert thresholds, periodicity of reporting of the different conditions (including clusters of cases of unknown cause) and early response to outbreaks.

The 7th FED, with MoH, is piloting a more comprehensive HIS in the 5 provinces, based on the system used in Rwanda and some West African countries. The data includes curative, preventive and promotional health activities, staffing, infrastructure, pharmacy, finance, and supervision. Hospital and provincial health bureau information is equally as detailed. The data is entered into an adapted ACCESS programme that can then give information by indicator, health facility, province, etc. If the assessment is positive, it will be the base for the new national HIS.
11. HEALTHY LIVING AND KAP SURVEYS

Numerous community-based KAP studies have been performed over the past years and some of the main points are presented below. KAP studies give percentages but there is a lack of focussed group discussions that give richness to the results, and an understanding as to, for example: reasons for certain beliefs and behaviours. Results from studies of HIV/AIDS and reproductive health are under reproductive health.

**Children:** 19% of children <14 years of age have lost one or both of their biological parents and an estimated 240,000 children have lost at least one parent to AIDS (Tailhades et al, 2004). Of children aged 5-14 79% work an average of less than 4 hours/day in household chores, such as cooking, getting water and caring for siblings, while 2% work at least 4 hours/day in these kinds of chores.

**IMCI:** 82% of mothers know at least 2 of the danger signs of childhood illness, for which a child should be taken to the health centre (58% difficulties with eating or drinking, 51% difficulty in breathing, and 53% blood in the stools). 43% of children <5 years had a vaccination/growth card present. In general when a child is ill, 47% are breast fed normally, and 27% and 24% are given respectively more or less than usual.

**Malaria and fever:** signs and symptoms of malaria: 80% mothers/guardians said fever, 73% headaches and 50% a cold feeling. Transmission: 57-62%- mosquito bite was the only way to get malaria (other causes - poor food and water or nothing or a combination of causes). In malaria endemic areas 2.6% of young children sleep under a bed net. To lower a fever 36% used a bath, 36% wrapping in wet cloths, 9% both methods and 18% other.

**Diarrhoeal diseases** in children aged 6-23 months: While 97% of mothers said diarrhoea was liquid stools, 24% said that 3 or more liquid stools/day was serious and 12% that dehydration was a danger sign. 11% of children with diarrhoea had received some form of ORS, 60% received breast milk and 22% received cereal gruels during the illness. 9% of children had received more liquids than usual. 29% of mothers give only medication, 21% more fluids, 7% both medication and fluids, and the remainder were other treatments or no answer.

**LRTI (ARI):** little useful information has been collected on this subject though it is a major cause of morbidity and mortality. One study claims that few mothers knew that cold weather and draughts case ARI, and thus left their children exposed to these dangerous factors.

**Sex, HIV/AIDS and STIs:** The MICS 2000 study found that only 46% of women aged 15-49 could name at least two ways of preventing AIDS transmission, while one in five (22%) did not know even one way (ISTEEBU, 2001). Just over one in three (36%) women aged 15-29 could identify three common misconceptions about HIV/AIDS, and fewer than half (48%) knew that AIDS cannot be transmitted by mosquito bites. A majority (81%) of women knew that AIDS can be transmitted from a mother to her child, although nearly one in five (19%) did not know any specific way in which transmission occurs. A 2001 study showed that although 81% of respondents knew of condoms, only 21% had ever used one (Niyongabo, 2001). Commercial sex workers reported that men often refuse to use condoms or are willing to pay a higher price to dispense with this “irritating” object. They reported agreeing to sex without a condom because they must eat (Niyongabo, 2001).
Use of traditional medicines in young children:
26% of mothers said they used traditional medicines (as well as going to the health centre) to protect their children against childhood illnesses, guarantee good growth and protect against evil spirits. In the case of diarrhoea 89% go the health centre, 4% use traditional healers, the remainder both methods or nothing.

**Water:** Access to safe drinking water – total 78%, urban 91%, rural 77%
10% of households use water from lakes, streams and swamps. One study found that 69% of households did not have potable water and do not/cannot boil it. On average water collection takes 1-1.5 hours/day in rural areas.

**Fuel:** 95% of rural houses depend on wood for cooking and heating, and for 52% it takes more than 1.5 hours/day. In urban areas 90% of households use carbon.

**Sanitation:** the results are variable. The percentage of the population using adequate sanitation facilities is: total 77- 88%, urban 88%, rural 65%- 76%.
Inadequate latrines are mainly open trench/hole and adequate is considered as connected to a main sewerage system, covered trench/hole, and covered latrines with doors. Disposal of young children’s faeces: while most mothers/guardians dispose of the faeces in toilets, 3-11% throw them on them ground, often very close to the house.

**Personal hygiene:**
Soap: 97% of urban households to 77% of rural households had soap in the house.
Hand washing: 80% of persons wash their hands after going to the toilet (96% in urban areas and 76% in rural) and 90% before eating (same for all areas). Body washing: 60% of children are washed daily, 12% of children are washed once a week.

**Alcohol:** No information was found on alcohol abuse though it was mentioned frequently, as a problem leading to domestic violence, wasting the household money and as a coping mechanism to help forget problems. The mental health programmes feel that substance abuse, especially alcohol, is of concern. 2.5% of children in one survey had been given sorghum beer the day before the study (it is not stated if it was fermented or not).
12. VULNERABILITY, CAPACITIES, RISKS AND SEVERITY

It can be seen that Burundi population is highly vulnerable, not only due to poverty, but many other factors, summarised in table 9 below. Some of the vulnerabilities are intrinsic to most of the population, but can be addressed over time, such as poverty, illiteracy and fertility reduction. Other vulnerabilities are related to specific groups, to do with where they live and the associated hazards, or their particular state/status such as widows, disabled whose needs vary and need to addressed in specific and different ways i.e. All ‘vulnerable groups’ do not possess the same characteristics of vulnerability.

Some hazards are predictable and therefore, possibly, avoidable or their effects mitigated, but others, especially natural causes, are usually sudden and unexpected.

The risks are many and high at the present, with the present vulnerability and hazards. Given the risk factors and overall poor health status of much of the population the severity of the situation could be judged as medium-high.

The capacities of the institutions are not strong, especially in human resources but there are many dedicated, motivated and good health workers among those who remained working. Much of the infrastructure is in need of minor repairs and painting, but is still functioning: others need major additions/reconstruction.

There are other community capacities, including able bodied persons to assist in reconstruction, many who have accepted voluntary community jobs on top of their normal roles and an unknown number of trained paramedics and social assistants returning from neighbouring countries.
<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Hazard</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>Violence</td>
<td>High morbidity rates</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Weapons</td>
<td>High mortality rates</td>
</tr>
<tr>
<td>Insecurity and population displacement</td>
<td>Antipersonnel landmines and UXOs</td>
<td>Epidemics/outbreaks</td>
</tr>
<tr>
<td>High population density</td>
<td>Contaminated water</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>High fertility rate</td>
<td>Contaminated environment</td>
<td>Accidents and injuries</td>
</tr>
<tr>
<td>Low status of women and certain cultural practices</td>
<td>Contaminated food</td>
<td>Increased mental health and psychosocial problems, and substance abuse.</td>
</tr>
<tr>
<td>Many vulnerable groups – IDPs, returnees, female/child headed households, elderly, disabled, PLWHA, (competing for attention and scarce resources),</td>
<td>Endemic presence of agents of communicable diseases</td>
<td>Increasing GBV – especially rape.</td>
</tr>
<tr>
<td>Land pressure and ownership issues, with possible farming marginal and mine infested areas</td>
<td>Vectors and human carriers of communicable diseases</td>
<td>Spread of HIV/AIDS/STI and TB</td>
</tr>
<tr>
<td>Lack of access to water and sanitation Overcrowding</td>
<td>Increases in prices of food and other essential goods</td>
<td>Unwanted pregnancies (in/outside of marriage)</td>
</tr>
<tr>
<td>Lack of access to soap</td>
<td>Climatic and environmental factors – drought, pests such as mosaic of cassava, floods, landslides, erosion, deforestation, farming marginal areas</td>
<td>Unsafe induced abortions</td>
</tr>
<tr>
<td>Inability to practice good hygiene</td>
<td>Food insecurity</td>
<td>High maternal mortality</td>
</tr>
<tr>
<td>Poor quality of housing and shelter</td>
<td>National health system disrupted: - lack of access - inequitable – 1. costs to patients 2. system of incentives to workers distribution of health workers - poor communications and referral system - variable quality of care and availability of essential drugs, supplies and equipment - breakdown of public health control programmes</td>
<td>Sale of assets and loss of means of production/livelihood to cover basic needs including health → increased destitution</td>
</tr>
</tbody>
</table>
## 13. ANNEX 1: Key indicators

### General Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2004)</td>
<td>7,068,000</td>
</tr>
<tr>
<td>Refuge</td>
<td>800,000</td>
</tr>
<tr>
<td>Internally Displaced Persons</td>
<td>140,000</td>
</tr>
<tr>
<td>Healthy life expectancy at birth m/f (years)</td>
<td>39/43</td>
</tr>
<tr>
<td>GNI (Gross National Income) per capita (US $, 2002)</td>
<td>100</td>
</tr>
<tr>
<td>Infant Mortality rate (deaths/1000 live births)</td>
<td>116</td>
</tr>
<tr>
<td>Under-five mortality rate (deaths/1000 live births)</td>
<td>190</td>
</tr>
<tr>
<td>Total adult literacy m/f % (2000)</td>
<td>56/40</td>
</tr>
<tr>
<td>Population using improved drinking water sources</td>
<td>78</td>
</tr>
<tr>
<td>Population using adequate sanitation facilities</td>
<td>88</td>
</tr>
<tr>
<td>UNDP's Human Development Index ranking</td>
<td>173/177</td>
</tr>
</tbody>
</table>

### Health Systems Profile

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expenditure on health as % of GDP</td>
<td>3.6</td>
</tr>
<tr>
<td>Total per capita health expenditure (US $)</td>
<td>4</td>
</tr>
<tr>
<td>Nurses rate per 100,000 population</td>
<td>28</td>
</tr>
<tr>
<td>Physicians rate per 100,000 population</td>
<td>2.9</td>
</tr>
<tr>
<td>Hospital Beds per 1000 population</td>
<td>0.7</td>
</tr>
</tbody>
</table>

### Tuberculosis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence per 100,000</td>
<td>445</td>
</tr>
<tr>
<td>Mortality rate per 100,000</td>
<td>50</td>
</tr>
</tbody>
</table>

### HIV/AIDS

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult prevalence of HIV/AIDS (15-49 years)</td>
<td>6.0</td>
</tr>
<tr>
<td>Estimated number of adults living with HIV/AIDS (2001)</td>
<td>220,000</td>
</tr>
<tr>
<td>Reported number of people receiving antiretroviral therapy (15-49 years)</td>
<td>2186</td>
</tr>
<tr>
<td>Orphans due to AIDS</td>
<td>200,000</td>
</tr>
</tbody>
</table>

### Malaria

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality rate per 100,000</td>
<td>149</td>
</tr>
</tbody>
</table>

### Immunization (2002)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>84</td>
</tr>
<tr>
<td>DPT3</td>
<td>74</td>
</tr>
<tr>
<td>Measles</td>
<td>75</td>
</tr>
<tr>
<td>Polio</td>
<td>69</td>
</tr>
<tr>
<td>Pregnant women receiving tetanus vaccine</td>
<td>42</td>
</tr>
</tbody>
</table>

### Women’s Health

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fertility rate</td>
<td>6.8</td>
</tr>
<tr>
<td>% of antenatal care coverage</td>
<td>88</td>
</tr>
<tr>
<td>% of skilled attendant at delivery</td>
<td>24.9</td>
</tr>
<tr>
<td>Maternal mortality ratio</td>
<td>1000</td>
</tr>
</tbody>
</table>

---

22 http://www.who.int/3by5/en/Burundi.pdf, see Annex 2  
23 http://www.unicef.org/infobycountry/burundi_statistics.html
ANNEX 2: References


Human Rights references, examples:
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république du Burundi, L. Maure. 2003
MOH-5 : Politique sectorielle du Ministère de la Santé Publique, 2002-2004
Niyongabo, T et al. Enquête socio comportementale sur l’infection par le VIH/SIDA au
Burundi : Rapport Final. Banque Mondiale et Programme National de Lutte contre le
Programme National de Santé de la Reproduction (PNSR). Bilan des activités de santé de la
Programme National de Santé de la Reproduction (PNSR). Bilan des activités de santé de la
SCF (UK) 2003: Community health financing in Burundi: Illness costs and their implications for
poor households’ abilities to pay for health care and children’s access to health services
Suguru, S and F Niafatiro. Enquête sur les pratiques de soins maternels et infantiles dans les
2004.
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May 1998.
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2002 Update.
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UNICEF: *Water and sanitation figures from 2000.*


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World Bank -3 : *Aide Mémoire de la mission de Supervision* 16-20/2/04

World Bank-4 : *Mental health and conflict*, Vol. 1 of 1
ANNEX 3: Gender

MALES:
Males have been ‘excluded’ from most studies, which is in itself a gender issue, attributing to them a role in which they have no/little responsibility for their families, use of income, and other issues such as alcohol, FP, access to safe deliveries and GBV, and how to prevent violence.

FEMALES:
Examples of Inequalities between the sexes:

Literacy rates/ratios:

<table>
<thead>
<tr>
<th>Education Level</th>
<th>M:F</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary education</td>
<td>1:0.8</td>
<td>UNDP 2000-01</td>
</tr>
<tr>
<td>Secondary education</td>
<td>1:0.78</td>
<td></td>
</tr>
<tr>
<td>Tertiary education</td>
<td>1:0.37</td>
<td></td>
</tr>
</tbody>
</table>

Obstacles faced by girls (to education) include lack of infrastructures, long distance to walk from home to school in a context of insecurity and sexual violence, or poverty. To address this situation, UNICEF, with the Ministry of Education, has set up the AGEI (African Girl's Education Initiative) project since 2001, covering 3 provinces. (Reliefweb 24.12.03)

From WB-2 on poverty reduction, summary of p27, gender related areas. In spite of efforts made ... there is much to do in the area of equality of sexes. Cultural constraints exist, and there are deficiencies in participation in decision making and the women’s role in the economy. Talk of gender equality is seen by some as changing the culture. The conflict that Burundian society faces is disturbing families and households. It is also contributing to the inequalities of women accessing resources at a time when there is large number of female headed household. The laws are discriminatory with regard to them (e.g. access to land, etc)

From SCF (UK): women tend to work their plots, and men keep control of the money they earn outside the household. “People are different, some husbands don’t care about family problems, others abandon their families, while a woman cannot abandon her child”.

The above quotations are included to show that in spite of all the limitations, Burundian women, like all/most women in the world, are the ones who keep families together and life in general going on, with little credit and recognition of their important role/work and their enormous strengths, courage and capacities.

Some Burundian Cultural Traditions: Certain aspects of Burundian culture increase the risk of HIV transmission, placing an entire family in danger, for example from Min. Planification:
- Umugore si uvwumwe, umugore n’uvumuryango: A married woman does not belong only to her husband, but to all of the men of her husband’s close family. In some regions, upon her husband’s death, the woman is required to marry one of her late husband’s brothers.
- Gutera intobo: proposition of sexual relations by a man to his daughter-in-law.
- Gushinga icumu: free access to sisters-in-law
- Umwonga umwe wonza inyoni: Only one woman is not enough for a man; he should have several women for his satisfaction.
- Imprizi ntiyimigwa: A bull may have sexual relations with any cow in the herd. For people, any man may have sexual relations with all of the women that he desires.
- Hagupfa wifuza wopfa wivuza: Rather than die without ever having experienced sex, it is better to die suffering of AIDS.
ANNEX 4: The Minimum Package of health services

At community level, to promote:
- The correct practices of the mother when her child has fever or diarrhoea
- Positive practices and abilities for breast feeding
- Good hygiene and sanitation practices
- The use of ITNs, especially for pregnant women and children <5 years of age.
- Other target/priority activities at community level

At health centre level provide the curative, preventive and promotional health activities by the following:
- The management of the most common conditions (malaria, diarrhoea and respiratory infections)
- Ensure the availability of essential medicines and supplies
- Immunization
- Ante-natal care, including vitamin A and iron therapy
- Family planning
- Deliveries and referral of complicated cases
- Management of sexually transmitted infections and the prevention of HIV/AIDS
- Growth monitoring of children (plus supplementary feeding if there is additional funding)
- Health education

At the management level:
- Good management of stocks of essential medicines and supplies
- Management of the cost sharing/cost recovery programmes
- Organisation of community participation

\(^{24}\) means of referral are not included in the Minimal Package
## ANNEX 5: mortality rates

### CRUDE MORTALITY RATES

<table>
<thead>
<tr>
<th>Mortality Benchmarks *</th>
<th>Crude mortality rate</th>
<th>Burundi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>/10,000/day /1,000/year</td>
<td>Crude mortality rate</td>
</tr>
<tr>
<td>Normal in developed countries</td>
<td>0.2 / 7.3</td>
<td>3.6/1,000/year (4) Tanzania</td>
</tr>
<tr>
<td>Normal in SSA developing countries</td>
<td>0.4-0.6 / 18.3</td>
<td></td>
</tr>
<tr>
<td>Elevated</td>
<td>0.5-&lt;1 / 18.3 – 36.1</td>
<td>1.2/10,000/day (2)</td>
</tr>
<tr>
<td>Emergency threshold</td>
<td>&gt;1 / 36.2 – 69.4</td>
<td>1.2- 1.9/10,000/day (3)</td>
</tr>
<tr>
<td>Out of control</td>
<td>&gt;2 / 69.4- 182.5</td>
<td></td>
</tr>
<tr>
<td>Catastrophe</td>
<td>&gt;5 / &gt;182,5</td>
<td></td>
</tr>
</tbody>
</table>

### UNDER 5 MORTALITY RATES

<table>
<thead>
<tr>
<th>Mortality Benchmarks *</th>
<th>Under 5 mortality rate</th>
<th>Burundi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>/10,000/day /1,000/year</td>
<td>Under 5 mortality rate</td>
</tr>
<tr>
<td>Normal in developed countries</td>
<td>0.4 / 14.6</td>
<td>10.1/1,000/year (4) Tanzania</td>
</tr>
<tr>
<td>Normal in developing countries</td>
<td>1.0 / 36.5</td>
<td></td>
</tr>
<tr>
<td>Elevated</td>
<td>1-&lt;2 / 36.5 – 72.3</td>
<td>24/1,000/year (2)</td>
</tr>
<tr>
<td>Emergency threshold</td>
<td>&gt;2 / 71.3 – 138.7</td>
<td>2.2/10,000/day (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1-4.9/10,000/ day (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40-42/1,000/ year (2)</td>
</tr>
<tr>
<td>Out of control</td>
<td>&gt;4 / 138.8 - 364</td>
<td>223/1,000/year (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1-4.9/10/000/day (3)</td>
</tr>
<tr>
<td>Catastrophe</td>
<td>&gt;10 / &gt;364</td>
<td></td>
</tr>
</tbody>
</table>

---

* after WHO, UNHCR, IDHA, Sphere Project,
(1) UN CCA national estimates for 2002
(2) IRC surveys in 2002-2003 in three provinces Makamba, Muyinga and Bujumbura rural.
(3) MSF.B. Access to health care in Burundi, 2004. (National estimates by cluster surveys)

### Table 1: Estimated Maternal Mortality Ratios for Burundi

<table>
<thead>
<tr>
<th>Maternal Mortality Ratio (per 100,000 live births)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 – 750</td>
<td>MPDR et PNUD, 2004</td>
</tr>
<tr>
<td>866</td>
<td>UNFPA, 2003</td>
</tr>
<tr>
<td>1000</td>
<td>WHO, Unicef, UNFPA, 2000</td>
</tr>
<tr>
<td>1900</td>
<td>World Bank and WHO, 2000; UNDP, 1995</td>
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</tbody>
</table>
ANNEX 6: Malnutrition rates

Evolution de la malnutrition aiguë (P/T <-2ET & P/T <-3ET) modérée (MM) et sévère (MS) au Burundi : MM = <-2ET  MS = <-3ET

<table>
<thead>
<tr>
<th>Provinces</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
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</thead>
<tbody>
<tr>
<td>Malnutrition</td>
<td>MM  MS</td>
<td>MM  MS</td>
<td>MM  MS</td>
<td>MM  MS</td>
<td>MM  MS</td>
<td>MM  MS</td>
</tr>
<tr>
<td>Bujumbura Urbain</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
</tr>
<tr>
<td>Bujumbura Rural</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>7,1 1,7 (II)</td>
<td>Insécurité</td>
<td>Insécurité</td>
</tr>
<tr>
<td>Bubanza</td>
<td>17,2 4,5 (I)</td>
<td>15,6 5,1 (II)</td>
<td>12,8 4,4 (II)</td>
<td>8,6 0,7 (I)</td>
<td>8,6 2,2 (I)</td>
<td>Insécurité 3,2 0,1 (II)</td>
</tr>
<tr>
<td>Bururi</td>
<td>Insécurité</td>
<td>9,1 2,4 (I)</td>
<td>8,5 1,4 (II)</td>
<td>5,9 1,5 (II)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cankuzo</td>
<td>10 2,7 (II)</td>
<td>8,4 0,8 (II)</td>
<td>8,4 0,8 (II)</td>
<td>Insécurité</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cibitoke</td>
<td>21,2 10,5 (II)</td>
<td>5,6 0,8 (II)</td>
<td>5 0,9 (I)</td>
<td>9,4 2,1 (II)</td>
<td>4 0,1 (II)</td>
<td>-</td>
</tr>
<tr>
<td>Gitega</td>
<td>23,8 6,5 (NI)</td>
<td>13,3 5,7 (SI)</td>
<td>12,9 2 (NII)</td>
<td>8,3 1,4 (SI)</td>
<td>6,9 0,9 (NI)</td>
<td>6,9 1,5 (NI) 7,6 1,8 (SI)</td>
</tr>
<tr>
<td>Kayanza</td>
<td>9,8 1,7 (II)</td>
<td>6,5 0,9 (II)</td>
<td>8 0,6 (II)</td>
<td>3,9 0,0 (II)</td>
<td>7,1 2,1 (II)</td>
<td>-</td>
</tr>
<tr>
<td>Kirundo</td>
<td>13,3 6,1 (II)</td>
<td>7,3 1 (II)</td>
<td>6,8 1,2 (II)</td>
<td>7,2 1,1 (I)</td>
<td>3,4 0,8 (I)</td>
<td>5,23 2 (II)</td>
</tr>
<tr>
<td>Karuzi</td>
<td>6,7 1,7 (II)</td>
<td>-</td>
<td>23,7 14,4 (II)</td>
<td>4,2 0,4 (II)</td>
<td>3,8 0,4 (I)</td>
<td>12,6 2,8 (I)</td>
</tr>
<tr>
<td>Makamba</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>Insécurité</td>
<td>6,3 1,1 (SII)</td>
<td>8,4 2 (SII)</td>
<td>9,8 0,9 (II)</td>
</tr>
<tr>
<td>Mwaro</td>
<td>-</td>
<td>14,5 2,8 (I)</td>
<td>12,9 3,9 (II)</td>
<td>7,4 1,3 (II)</td>
<td>8,1 1,0 (II)</td>
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<tr>
<td>Muramvya</td>
<td>15,2 2,5 (I)</td>
<td>11 1,5 (I)</td>
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<td>-</td>
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<td>Ngozi</td>
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<td>14,7 2,9 (I)</td>
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<tr>
<td>Ruyigi</td>
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<td>-</td>
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<td>6,4 0,8 (II)</td>
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<tr>
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<td>13,4 (I)</td>
<td>12,4 3,6 (II)</td>
<td>-</td>
<td>19,2 6,3 (II)</td>
<td>Insécurité</td>
<td>8,9 3,2 (II)</td>
</tr>
</tbody>
</table>

Légende :
MM : Malnutrition Modérée (P/T <-2ET ) (I) : Janvier à Juin : Saison A et Saison B
MS : Malnutrition sévère (P/T <-3ET ) (II) : Juillet à Décembre : Saison C
(N) : Gitega Nord (S) : Gitega Sud Insécurité : Cause d’absence d’enquête
ANNEX 7: Priority Objectives, key-activities and indicators

1. Improve the access to primary health care through the access to the MCP including curative and preventative care in 100% of the priority areas in 2005
   - Renforcer le PMA avec un accent sur le traitement et prevention du paludisme, IRA, diarrhée, la rougeole et la santé de la reproduction
   - Réhabiliter les structures de santé (petit œuvre)
   - Former et motiver le personnel de santé (diagnostics et prescription rational)
   - Approvisionner en médicaments essentiels et équipements de base
   - Réaliser des mini enquêtes de population/santé : accès aux services (financier, géographique, "health seeking behaviour"), mortalité et morbidité
   - Review the various health financing mechanisms at health facility level.
   - Renforcer le système d’information sanitaire
   - Renforcer les mécanismes de référence vers le second niveau de soins (maladies graves, chirurgie, soins obstétricaux d’urgence, prise en charge des victimes de violence sexuelle, etc.)
   - Water and sanitation activities in health facilities to ensure basic hygienic condition are met

Indicateurs :
   - % d’accès des populations des zones prioritaires aux SSP
   - % de structures fonctionnelles/structures prévues, ayant le PMA (complet, partiel, inexistant)
   - Taux d'utilisation des différents services (new contact/person/year, PEV, CPN)
   - Curative services provided at a cost commensurate with the beneficiary community's revenues (reduced to a minimum or if necessary suspended), all preventive services for free
   - % of correct diagnosis and prescriptions
   - Couverture d’accouchements assistés (attended deliveries/expected number of deliveries)
   - Ruptures de stock des médicaments et équipements essentiels dans la structure de santé (days/facility/month)
   - % of epidemiological reports completed correctly and in time
   - % of facilities with adequate latrines and clean water

2. Strengthen access to health care at the second reference level notably for severe cases, urgent obstetrical care and the management of victims of sexual violence in each of the priority provinces
   - Réhabiliter les structures de centres de santé de référence (petit œuvre)
   - Former et motiver le personnel de santé
   - Approvisionner en médicaments et equiper
   - Renforcer le système d’information sanitaire
   - Subventionner les services de santé de référence, review the financing mechanisms at hospital level

Indicateurs :
   - % de césarienne par rapport au nombre d’accouchement (estimé entre 5 et 15%)
   - Referral services provided at a cost commensurate with the beneficiary community's revenues (reduced to a minimum or if necessary suspended)
   - Nombre de victimes de violence sexuelle qui sont prises en charge
   - % of epidemiological reports completed correctly and in time
   - % of facilities with adequate latrines and clean water
3. Improve the access to prevention and effective treatment for malaria in each priority zone
- Introduire un protocole de traitement efficace basé sur les enquêtes existantes
- Assurer la prise en charge efficace des cas graves de paludisme au niveau de référence
- Disponibiliser les médicaments
- Former le personnel
- Distribution à base communautaire des moustiquaires imprégnées
- Appuyer les activités d'Information, Éducation et Communication (IEC/CCC)

Indicateurs:
- % des centres de santé qui appliquent le protocole
- Ruptures de stock en medicaments anti-paludisme (days/facility/month)
- % des ménages qui retiennent et utilisent bien des moustiquaires imprégnées
- Morbidité liée au paludisme lors des consultations (number of episodes of 'fever of unknown origin' compared to number of times received treatment in health facility)

4. Prevention of severe malnutrition and proper management of cases of malnutrition;
- Ensure nutritional rehabilitation services for moderately and severely malnourished children based on survey results indication unacceptable acute malnutrition rates (usually >10% -2 Z-score including oedema of children under 5)
- Strengthen integration of a package of minimal nutritional activities within the health system in areas where acute malnutrition rates are falling below the emergency threshold.
- Training to staff on adequate treatment of acute malnutrition
- IEC at household level to recognise malnutrition and provide appropriate care.
- Integrated nutrition with food security programmes to contain and reduce acute malnutrition rates
- Distribution of micronutrients (vitamin A, iron, etc)
- Adopt a national policy for nutrition
- Nutritional surveys to monitor effectiveness of programs

Indicators:
- GAM rate among children under 5 yrs reduced to < 10% in target areas
- Food basket monitoring: targeted families receive rations as planned
- SFC and TFC indicators: as per Sphere handbook

5. Reduction in the transmission of HIV/AIDS in the priority provinces during 2005;
- Assurer la prévention de la transmission mère enfant
- Assurer les précautions universelles dans les structures sanitaires fonctionnelles situées dans les zones prioritaires
- Assurer la sécurité transfusionnelle (VIH et hépatite B et C)
- Assure la disponibilité de préservatifs (inclus dans le PMA)
- Assurer la prise en charge syndromique des IST/Infections Opportunistes (incl. dans le PMA)
- Appuyer la mise en place de Centre de conseil et test volontaire (VCT)
- Assurer des activités de Information Éducation Communication /Communication pour un Changement de Comportement (IEC/CCC) pour l’ensemble de la population dans les zones prioritaires

Indicateurs :
- % des structures sanitaires appliquant les précautions universelles
- % de transfusion sanguine réalisée de façon saine
- Nombre de préservatifs distribués par mois
6. Explore the level of the sexual violence and assure medical, psychosocial and legal management for victims;
- Surveys to investigate scope of sexual violence.
- Finaliser les protocoles de prise en charge des victimes de violences sexuelles (services disponibles au premier niveau et au niveau de référence)
- Diffuser et renforcer la mise en œuvre des protocoles
- Former le personnel selon le niveau des soins de santé sur la prise en charge psycho médicale des victimes
- Sensibiliser les communautés sur la prévention, l’existence de services de prise en charge
- Approvisionner en médicaments (PEP, contraception d’urgence, prévention des IST)
- Assurer le conseil des victimes
- Assurer les références vers structures de second niveau (voir objectif 4), les structures de conseil, les structures judiciaires, etc.
- Renforcer le groupe multi-sectoriel sur les violences sexuelles et les liens entre la capitale et le terrain.

Indicateurs :
- Reports with analysis of problems related to sexual violence
- % de centre de santé qui fournit les services selon le protocole
- Nombre de cas référés/pris en charge

7. Strengthen the preparedness for epidemics in the priority provinces and the response to epidemics and natural disasters in all of the country;
- Établir des plans de contingence, preparation et réponse pour les épidémies les plus fréquentes dans la région en fonction de l'appui existant dans chaque zone de santé
- Les campagnes de vaccination pour la rougeole et/ou le Meningite selon les besoins
- Pré-positionner les kits liés aux plans de contingence
- Former le personnel sur l’élaboration de plan de contingence et réponse aux épidémies
- Appuyer le système de surveillance pour détecter les épidémies

Indicateurs :
- Existence d’un plan de contingence pour les épidémies et désastres naturels les plus fréquentes
- Time between alert and response = case by case
- Taux de couverture de vaccination de la rougeole (9 mois à 15 ans) > 90%
- Case fatality rates of cholera less than 1% after 2 weeks intervention

8. Strengthen mechanisms of coordination and collaboration between all of the partners intervening in the health sector.
- Maintain the existing coordination fora in health and nutrition
- Strengthen provincial coordination (involve local health authorities and civil society groups)
- Follow through on more indepth and country wide collection and analysis of information, agreement on key indicators for monitoring progress, relevance and effectiveness of interventions.

Indicateurs:
- 3 monthly progress report with analysis on key indicators as per the health sector strategy
- Twice a year, linked to Mid Year Review and CHAP workshop, review status and necessity to adapt the strategy.
ANNEX 8: Priority intervention provinces

Overview of Internally Displaced Populations and expected numbers of returnees

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Bujumbura Urban</td>
<td>4,699</td>
<td>3,503</td>
<td>363,833</td>
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<tr>
<td>Bujumbura Rural</td>
<td>11,487</td>
<td>4,743</td>
<td>480,690</td>
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<td>Bubanza</td>
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<td>2,980</td>
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<td>Gitega</td>
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<td>532</td>
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<tr>
<td>Rutana</td>
<td>670</td>
<td>27,073</td>
<td>263,971</td>
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<td><strong>Total</strong></td>
<td><strong>141,192</strong></td>
<td><strong>329,292</strong></td>
<td><strong>6,799,325</strong></td>
</tr>
</tbody>
</table>

Provinces with more than 10,000 expected returnees

[Map of Rwanda showing displaced camps]