5. Findings

5.1 Improve the access to primary health care through the access to the Minimum Care Package (MCP), including curative and preventative care in 100% of the priority areas in 2005.

The Ministry of Public Health has developed a National Policy for the period 2005 to 2015. The National Policy promotes a multi-sector approach to improve the general health of the population and to prevent disease. In the short term, it is acknowledged that a serious shortage of human and financial resources in the health sector impedes the development of better, more accessible services.

The document, which forms the link between humanitarian assistance and development, emphasises efforts to achieve the Millennium Development Goals (MDG), placing the health sector in the context of final discussions on a Poverty Reduction Strategy. It refers to existing strategic plans of action against communicable diseases that are endemic in Burundi, or have epidemic potential, in particular HIV/AIDS, tuberculosis and malaria. Other vertical programmes are reproductive health services, EPI plus (vitamin A distribution) and the Onchocercosis programme.

The project Access/Use of an Essential Care Package (ECP) is being implemented. (see annex A for areas covered by the ECP) It was agreed upon within the framework of the Memorandum of Understanding (MOU) on *Voluntary Repatriation and Reintegration of Refugees to Burundi: Health Interventions and Health System Reinforcement* programme, signed by WHO, UNICEF and UNHCR in 2004. The MOU was established to reinforce cooperation and coordination among agencies to support the Ministry of Health (MOH) of Burundi to absorb the increased demand for health services in response to the voluntary process of repatriation of Burundian refugees. The repatriation was used to determine geographic priorities for the humanitarian response. In the ten provinces expecting over 10,000 returnees (Muyinga, Ngozi, Kirundo, Karuzi, Ruyigi, Cankuzo, Gitega, Makamba, Rutana and Bururi) 209 health centres were selected. The project will be expanded in 2005 into 106 health centres in the remaining six provinces of Bujumbura Rural, Mwaro, Kayanza, Muranvya, Cibitoke and Bubanza (excluding Bujumbura City). The project should improve access to health care and is an opportunity to support the MOH in the transition between emergency and development to reinforce the functionality of the health system according to national policies, with particular attention to returnees, displaced and most vulnerable population.

A study conducted by MSF- Belgium in 2004 found that, while 80% of the population lives within 5km of a primary health care service, only 80% of those living in an area using cost-recovery system actually use the service when ill (i.e. access drops to 64%). There was a significant increased access in the use of primary health care services in areas where international agencies supported free health care or at low fixed payment. The main reason for not seeking health care, as mentioned by the population interviewed, was the elevated cost in comparison to the average household's financial resources.

The fact that 37% of the primary health care centres are privately managed (many on a non-profit basis), demanding payments higher than those billed by the public system, indicates willingness to pay for better quality services among at least part of the population. The team was informed that faith-based organisations are ready to give credit to patients who cannot afford payment. Gradually, the debts thus incurred may force people into destitution. In the public health care system, patients who cannot pay cash, unless registered as destitute, do not receive treatment (health centre staff denies this information).

The main challenge in the ECP program has been the late arrival of the essential medicines, supplies and medical equipment, resulting in difficulties in reinforcing the ECP in all of the selected health centres and requiring the further selection of priority health centres. Further fine tuning is needed to target health facilities that are not supported by NGOs to avoid overlap. In order to overcome this constrain in the future a workshop will be organized to further evaluate the needs for medicines and equipment to consolidate the 10 priority provinces and submit orders well in advance for the six provinces.

In health centres that had received drug supplies for returnees, Internally Displaced Persons (IDP) and destitute members of the community, the use of these medicines was managed separately from the regular stock. The manager of the health centre keeps records with date, diagnosis, and free treatment dispatched; the name of the person treated does not appear on the record sheet. In one centre visited, the manager was unclear about the source of the medicine and other supplies. Since distribution had been delayed, some centres had not received supplies yet, or had not finished unpacking the goods. Three medical practitioners have been employed by WHO to support, monitor and supervise the scheme as follows: one medical officer based in Muyinga will cover Muyinga, Karuzi, Ngozi and Kirundo provinces, one medical officer based in Ruyigi will cover Ruyigi, Gitega and Cankuzo provinces and one medical officer in Makamba to cover Makamba, Bururi and Rutana provinces. For the extension of the project to the six remaining provinces a fourth medical officer will be soon recruited for covering the remaining provinces.

Returning refugees are entitled to free health care for a period of six months. The policy was inconsistently executed in the targeted health centres. Through discussions with the MOH and the CNRS there will be increased communication with the provincial health teams to enforce this policy. With the arrival and distribution of essential medicines the provision of medical care free of charge will be facilitated. This expected to have a positive influence on the use and effectiveness of services overall. Close monitoring of patient numbers will allow determining whether or not the total workload increases. Prescription patterns, especially for paying patients, should also be followed. The project intends to provide medicine only to health centres implementing cost recovery that do not receive support from NGOs.

In health centres using cost recovery (national policy), the price of medicine was displayed per tablet. The relatively high consumer price of some products (example:

Ciprofloxacin 250 mg @ 350 Burundian Francs, BiF) may pose a heavy strain on the budget of some patients. The nurses agreed that this might be the case, but stressed they would only sell quantities sufficient for at least a short course of treatment. For comparison: 58% of the rural population had average daily expendable revenue of less than 1USD (1120 BiF) in 2004 and 90% lived on less than 2 USD daily. The extent of sharing tablets among family members is unknown. Uncontrolled market sales of prescription drugs are of increasing concern. The present system of cost recovery puts a disproportionate share of the burden on the patient. Several implementing partners in health care expressed the view that a fixed payment (flat fee) would be preferable, as it would make budgeting easier for the patient.

The share of health in the national budget has been reduced over the years from 5% in 1990 to 2.4% in 2004. The total contribution to the health sector, direct or indirect, of bilateral and multilateral donors, could not be estimated in the course of this evaluation. Tentatively, UNDAF estimated budgetary requirements in health and nutrition for the period 2005-2007 to be 27,809,000 USD for primary care (excluding water and sanitation). In addition, the budget for action against HIV/AIDS, tuberculosis and malaria programmes was estimated at 56,105,000 USD, not including 32 million USD requested by WFP for nutrition assistance to people living with HIV/AIDS and other chronically ill persons.

Apart from problems with access to health services, the implementation of the MCP depends on knowledge of good practice, as well as the availability of equipment and supplies, including essential medicine. On the supply side, availability of first and second line anti-malaria drugs was found to be good. At the health centres visited, the stock of other essential drugs was less adequate, but the responsible nurses suggested that shortages were mainly due to the ongoing strike, which had prevented them from replenishing the shelves. In some places, we found relatively large quantities of drugs that were not mentioned in the national list of medicines for first line care (e.g. hydrocortisone). Pharmacy management at the health centre level was inadequate and responsible staff did not have a clear understanding of anticipatory stock management.

EPI coverage is reported to be high. A pentavalent vaccine (DPT plus HiB and hepatitis B) is currently introduced as part of the routine childhood vaccination schedule. Kerosene fuelled refrigerators in some of the health centres were too full to allow proper air circulation. Temperature was recorded from an external thermometer. The country failed its first GAVI audit (consistency of reporting).
At some of the health centres visited by the team, structural rehabilitation work was in progress. Training of health staff is ongoing, with results noticeable in monitoring methods, such as graphical representations of achievements in EPI, and surveillance, especially the monthly evolution of registered malaria cases. Rehabilitation and training are carried out throughout the country with support of various agencies. The level of coordination in this respect could improve.

Because of the ongoing strike of nurses during the field visit, it was not possible to directly assess the knowledge and practice of health staff in rational diagnosis and

prescription. Entries in the register indicated that patients are usually treated on a symptom basis. Some centres had an active laboratory service with many stool analyses, showing a wide variety of intestinal worm infestations. Most health workers are general nurses of the lowest grade (A3). Diagnostic tools in smaller health centres consist of a stethoscope, a sphygmomanometer and a thermometer; many health workers do not have a watch (41% according to a 2005 survey on availability of new anti-malaria drugs). New equipment, especially for obstetric care and minor surgery, was being distributed to larger centres. All health centres have a microscope and should be able to examine thick blood smears and analyse stool for parasites. Laboratory tests are to be paid separately, which may be a deterrent.

Except for a limited number of projects to improve water supply and sanitation in selected institutional settings, communities and health facilities are supplied by the national network, managed by the "Regideso." In rural areas, many people reportedly consume surface water. Diarrhoea is an important cause of death in children (ranking 5th as a cause of death in hospital, 5.4% of deaths in children 0-5 years). IMCI training at the provincial level has started in one province.

Special programs related to the repatriation of refugees:

Technical advice is provided weekly by decentralized National Public Health Officers (NPOs) to support health care at the transit sites implemented by the NGO Africa Humanitarian Action (AHA). The services provided at the health posts include medical screening, first aid, referral of severe cases, assistance to vulnerable people, information on access to health care in communes of return, information on awareness for sexually transmitted infections, HIV/AIDS, response to epidemics, treatment of diseases including malaria according to the new protocol, diarrhoea, acute respiratory tract infections, intestinal parasites and chronic diseases, nutritional screening and verification of vaccination status. During 2004, 24,533 repatriates were examined at the health posts at the transit sites. The seven health posts including Mugano in Muyinga, Mabanda in Makamba, Nyabitare and Gisuru in Ruyigi, Giharo in Rutana, Cankuzo and Rutengama in Gitega are successfully providing these services through financial and logistic support, and medical supplies from UNHCR.

A cross border initiative has been coordinated with partners working in the camps in Tanzania with two cross border health meetings organized by the WHO in Burundi and UNHCR in Tanzania. The goal of the initiative was to coordinate efforts and to facilitate information and resource sharing between the two countries with regards to health and repatriation. As a result monthly health reports from Burundi and Tanzania have been shared as well as information on recent epidemics and health services available on both sides. (see annex B for a more detailed report on the visit to refugee camps in Tanzania)

Recommendations

1. Adherence to a uniform national system of health care financing would improve equitable access to health care. With the levels of poverty in Burundi, costs related to

user fees and cost recovery schemes should not be the most important barrier for access of those who are likely to need health services most. Where possible, fees should be wavered or at least minimal flat fees should be introduced to limit the financial barriers. This is an issue to be discussed and decided at the national level, and for which alternatives need to be identified for the financing of health services that would allow progress toward universal access. WHO is well placed to take on the role of broker between different stakeholders who, at the moment, take sometimes opposite and emotionally charged points of view. Mechanisms should be found to redress the unequal burden placed on the most vulnerable among the sick, and their families. The number of registered destitute is relatively low and cannot cover the entirety of needs. Improved quality of care is linked to working conditions, the funding of which will need to be assured through negotiation with the MOH and donor community.

2. Most health centres would benefit from improvements in hygienic conditions, including basic cleanliness of the premises, regular disposal of waste and standard procedures for discarding old, broken and disused equipment and furniture, as well as expired drugs. Improvements in pharmacy management are also needed. Quality control of the cold chain and EPI practice will need to be strengthened.

3. Short-term improvements in rational diagnosis and prescription at health centre level may be achieved by refresher courses and workshops on specific subjects. This is especially relevant for diarrhoeal diseases, where failure to prevent, timely recognise or correctly treat severe dehydration all contribute to excess mortality. The "Communicable Disease Toolkit" (to be validated at national level) could be a helpful instrument for developing user-oriented materials in the area of communicable diseases. It could also be useful as a reference book for hospital workers at the first level of referral. Considering the very basic working conditions at health centres, and the limited medical knowledge of health workers at this level, the immediate usefulness of this elaborate document at the health centre level is not so apparent.

5.2 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 areas.

The relatively high cost of health care is particularly relevant in relation to emergency obstetric care, and in general for all conditions that require hospitalisation. Health workers at all levels agreed that the most important cause of morbidity and mortality during and following delivery is late referral during labour from the home to the health centre. Reasons for delay are multiple, starting with a negative attitude of women and birth attendants towards institutional delivery. While the cost of transport, and hospital treatment, are important reasons for delayed referral, there is often no trained medical practitioner available at the hospital to perform a caesarean section. In addition, there may be other factors limiting adequate performance, such as a lack of safe water and electricity cuts. There continues to be an acute shortage of medical practitioners working in the provinces, especially doctors with surgical skills. The national health strategy is to

provide on-the-job training to those willing to go to the provinces. Once trained, young doctors often move on after a short time.

A pilot project for emergency obstetric care, jointly planned between the programme national de santé reproductive (PNRS), WHO and MSF-B, started in 2002 in Karusi province. Its components include training of health centre staff at using the partograph, training of hospital staff to perform a caesarean section, provision of an ambulance with resuscitation equipment, solar panels and radios for health centres, as well as surgical instruments and renewable supplies to the hospital. Since the project became operational in November 2004, the number of caesarean sections performed at the hospital has increased, particularly if external financial support is given as they then also receive patients from other provinces. Health workers are being trained to calculate the expected number of deliveries so that in the future, better data is available to calculate the coverage for emergency obstetric care.

The proportion of deliveries taking place in health facilities is still estimated to be low, around 15 percent of the expected total.[5] Data on the intended change in outcome (reduction of stillbirths, perinatal and maternal mortality) were incomplete at the time of the assessment, around 6 months after the full start of the project. There had been no maternal death recorded in the hospital. The maternal mortality ratio in Burundi is estimated at 855/100,000 live births. In an average district of 150,000 inhabitants and with a CBR of 4 percent, we would expect around 500 deliveries and 4 maternal deaths each month. The lifetime risk for a woman to die of a pregnancy-related cause is around 5 percent.

The project is currently being expanded to Muyinga and will start in Makamba soon (2005). UN agencies (WHO, UNICEF, UNFPA) are working with the MOH (Programme National de la Santé Reproductive, PNRS) on different aspects of the project.

With the exception of Karusi hospital (supported by MSF-B), which charges a flat fee of 500 BiF (one dollar was 1120 BiF at the time of the evaluation) for the first week of hospitalization, the price of a caesarean section in the provincial hospitals ranges from 60,000 to 150,000 BiF (that is about 55 to 130 dollars, comparable to, or more than, the annual income of a rural farmer). WHO has negotiated with the community the creation of a solidarity fund, requiring each family to contribute 800 BiF per annum. The health committee is responsible for managing the fund. The committee should function as a link with the health services, and alert health workers about deaths in the community. Health workers have been trained to do verbal autopsy to establish the probable cause of death. The problem of high turnover of health workers and doctors in the provinces (many of those trained in Karusi have left, including 3 Burundian doctors trained to do caesarean sections) remains unresolved.

[5] The latest WHO guideline for making these calculations are (for 100,000 population): 3% pregnancies a year of the population (3,000 pregnancies), 7% of all pregnant women require back up care (210 women), 2-3 procent of all pregnant women require surgical care (60-90 women).

In project areas, the cost to be borne by the community do not include the supplies, which have been donated, but only the cost related to performing the procedure, use of operation theatre, sterilising equipment and possibly a suitable remuneration for the health workers.

In accordance with national policy, training of traditional birth attendants (TBA) is being re-oriented towards timely referral for delivery at the health centre. Training modules, as well as basic delivery kits, are being harmonized among implementing partners. The proportion of women who deliver at home varies from less than 50% in Bujumbura Town to 90% in Ruyigi. In provinces where TBA training had taken place recently, the proportion of women delivering at the health centre had increased (on average by about 15%). Still, at the hospitals we visited, the responsible staff pointed out that most referrals for caesarean section arrived too late to save the child.

The need for appropriate and sensitive management of victims of sexual violence was recognized in the revised national action plan concerning HIV/AIDS (2002-2006). Until now, 4 specialized centres have been set up around the country. The options for care outside these centres are limited, unless trained personnel and PEP (post-exposure prophylaxis) kits are available at the second line referral hospital. At Kirundo hospital, where we observed a large quantity of emergency contraceptive drugs in store, the medical staff told the team that very few victims of SGBV were seen at the hospital and suggested that the medicine should be redirected to the specialized centres. Agencies working with victims at the community level stated that the number of cases seeking help is increasing. There are only few centres, not covering the whole country, and they have been functioning mostly for a short time (one or two years). On average, centres receive 20 to 30 victims each month. As they become more established, more victims are expected to present themselves, including old cases.

Recommendations

1. In the provinces receiving support for improved emergency obstetric care, increased awareness building of TBA to recognise danger signs in pregnancy and to refer women in labour, as well as informing the population should be priorities. This should include husbands, whose agreement is needed before referral. In health centres and hospitals, efforts should be made to increase the number of nurses and midwifes with skills in safe motherhood and obstetrics. Since frequent staff turnover is a major problem, the provincial and sectoral management should play a stronger role in ensuring that acquired knowledge is shared before a person moves on.

2. The cost of hospitalisation is thought to be a major obstacle for timely referral. Access to hospitals that can provide emergency obstetric care, outside the 3 project areas, could be facilitated by developing a system of subsidies for obstetric care and/or community-based solidarity funds similar to those used by the project. In the poorest provinces and those included within the humanitarian priority zones, humanitarian donors should bear these costs, included in projects for NGOs. Quality assurance mechanisms need to be in place to avoid perverse incentives, leading to unnecessary surgical interventions.

3. In addition to the retrospective approach of investigating maternal deaths, it should be possible to improve on the existing health centre registration of pregnant women, by keeping separate individual records of women who are seen at or after 38 weeks gestation. This would allow the health centre manager to actively encourage women to deliver at the health centre, and would make it possible to enquire about pregnancy outcome (delivery, condition of the child) of women who do not spontaneously return to the centre.

4. The newly started training scheme for midwives (a 2 year course for people holding a higher secondary degree) is an attempt to respond to the urgent need for qualified staff. As a short term measure, it would be useful to offer more short courses to nurses working in the national health sector, many of whom have little theoretical or practical knowledge of obstetric care. Some international agencies (IMC) have taken initiatives in this respect, with training courses followed by a clinical attachment. According to national policy, training of TBA, a frequent component of NGO activities, should also be practice-based.

5. Health centres should provide better information and means for family planning. Availability of contraceptives needs to improve.

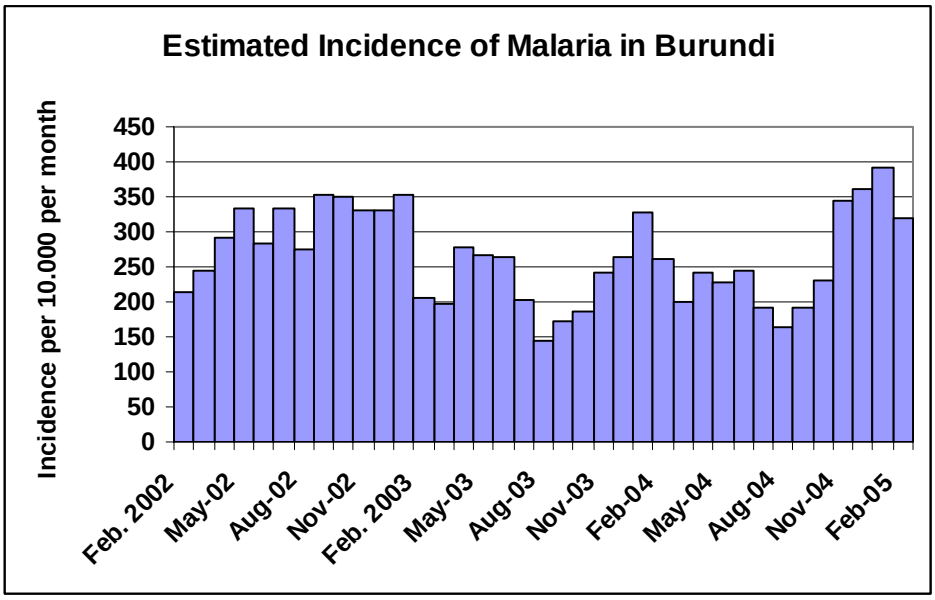
5.3 Improve the access to prevention and effective treatment for malaria in each priority zone

Suspected malaria is the single most important pathology in Burundi. Its incidence seems to follow a cyclic pattern influenced by climatic conditions. It is lower in the dry season and higher in the rainy season and ranges between 150 and 380 new cases per 10,000 per month. Burundi is among countries with year-round hyper-endemic transmission in all provinces below 1,800 m of altitude. Historically, malaria has not been present in the provinces with elevation over 1,600 meters above the sea level. The shifting of climatic patterns and population movements has introduced the disease across the country in late 1990s. The impact on population with little natural immunity to malaria resulted in elevated rates of morbi-mortality in the early 2000s.

Due to reported high resistance to Chloroquin and Fansidar, the MOH decided, in 2001, to change the treatment protocol from Chloroquin as first and Fansidar as second line therapy to Artesunate/Amodiaquine combination as first and Quinine as a second line therapy. The new therapy is now widely available. A recent survey in 10 provinces (February 2005) found artesunate- amodiaquine available in 81% of health centres and quinine tablets in 83%.

Bed net distributions are limited; the population coverage is estimated at less than 6%. Distribution of bed nets had not yet started this year in some of the provinces visited, but nets were said to have arrived in the provincial warehouse recently. The aim is to offer bed nets to carers taking children for measles vaccination, pregnant women attending antenatal consultations, women who deliver in a health facility or those who come for postnatal check-up. At the time of the visit, the team observed that many bed nets used in hospitals were old and torn. The MOH confirmed that hospitals will receive new bed nets

as part of the annual distribution. A study of MSF-B and the Tropical Institute Antwerp on the effect of bed nets and indoor spraying in Karusi is ongoing.



We prefer to refer to reported cases of malaria as suspected malaria because laboratory confirmation in most cases is not done. As per Burundi office of WHO, only about 40% of those treated for malaria had their diagnosis confirmed by thick blood smear and about 60% of thick blood smear test are positive therefore we can estimate that **about 35% of patients treated for malaria do not actually suffer from this disease**. The decision to treat depends on clinical presentation of the patient but no clear guidelines are provided regarding when to use laboratory confirmation and when to treat directly.

Sentinel surveillance records (EPISTAT) show no significant reduction in malaria transmission beyond seasonal variation over the past 3 years. The reported malaria-related death rate in 2003 was 143/100,000 population and 714/100,000 children aged 0-4 years. Case fatality rates in hospitals (2004) vary from less than 1% to 20 percent. As with morbidity, there is no significant change in lethality since the introduction of the new treatment scheme. This might be an indication of delayed health seeking behaviour or too late referral to secondary levels.

Recommendations

1. Intensified free distribution of bed nets to target groups, and social marketing by a variety of agencies, together with effective low-cost treatment, should result in a reduction of morbidity and case-fatality over time.
2. Close monitoring and surveillance are high priorities at national level and should receive commensurate attention from service providers and managers in the provinces.
3. Clear guidelines on when to use laboratory confirmation for suspected malaria cases are needed.

5.4 Prevention of severe malnutrition and proper management of cases of malnutrition [6]

The most recent national data (July-August 2004) on nutritional status in children showed prevalence of 52% for stunting (H/A) and 7% for wasting (W/H); oedema was present in 2.7%. The public health importance of these indicators ranges from high (more than 40% of children stunted), over severe (more than 5% of children wasted) to catastrophic (oedema present in at least in 2% of children). Acute malnutrition is currently under the emergency threshold of 10%. This can be largely attributed to the effect of the large nutritional interventions carried out since 1999.

Anaemia is present in 56% of children under five (2.5% of severe forms), in 31% of women of child bearing age and in 21% of adult men. No data on prevalence of vitamin A deficiency are presently available. Iodine deficiency affected 42% of the population.

Exclusive breast feeding was practised by 65% of mothers with babies under 4 months of age. The prevalence of exclusive breastfeeding dropped progressively with increasing age, with a prevalence of 24% for infants 6 month-old. Complementary foods are administrated to one third of children less than 4 months of age, reaching 76% at 6 months of age.

Assistance in the nutrition sector has focussed on an emergency approach with therapeutic (TFC) and supplementary feeding centres (SFC). In all therapeutic feeding centres there was a space for registration and anthropometric measurement. The phases of treatment had separate designated areas. Kitchens, washing areas, showers and latrines were present in the centres. Food, medicines and equipment were stored appropriately. Training on health and nutrition topics to the hospitalised mothers is provided. The activities of SFC aim to correct moderate wasting or to prevent moderately undernourished children from becoming severely undernourished.

All the provinces were covered by nutritional programmes, with a total number of 20 TFC and 224 SFC as reported by UNICEF in 2004. The number of Nutrition Centres (NC) in each province reflects the level of malnutrition in the area. UNICEF coordinated nutritional activities that were carried out in collaboration with 9 implementing partners (IP). The harmonisation of data collection and reporting was an added value of the coordination of activities. A comprehensive data base with all nutritional indicators from NC is available and constantly updated since 1999. Integration of NC activity in the local health structures started in 2002. The overall proportion of integration was 45% for TFC and 31% for SFC by the end of 2004. The integration process is functioning, though far from perfect.

The evaluation team visited the TFC integrated in Gitega hospital. Thirty five beneficiaries were reported at the moment of the visit. The main reason for admission was oedema, indicating a low performance of anthropometric screening. The local health

[6] The full report on nutrition can be obtained from UNICEF

authorities declared that the home visitors system for detection of malnutrition at village level was not active for logistical constraints. Most beneficiaries live near the town centre. Integration of therapeutic feeding centres in the existing health structures (as part of the paediatric department in hospitals) was said to be suffering from a lack of funds for non-food items, logistics and resources for active population screening (BPS, Gitega). It should be noted that project BDI-05/H09 (UNICEF) specifically mentions these aspects as planned activities. When asked, the UNICEF office informed us of some irregularities in the use of this support at the provincial level.

Supplementary Feeding Centres (SFC) were established near health centres and eventually integrated into them. After a period of admission in the TFC, undernourished children are referred to SFC for follow up. Mothers of severely malnourished children often prefer treatment in SFC because the long stay in the TFC may cause problems for the rest of the family. Distribution of food supplements at the SFC is generally once a week, together with clinical support, anthropometric evaluation and nutritional education. Regular distributions of food protective rations are provided once a month. In 2004, WFP decided to increase the family ration, considering the high vulnerability of families with malnourished children that were often not included in the official poverty lists.

Performance

The performance of the NC was good, in some cases excellent, with key indicators under the Sphere minimum cut off points [7] and good training of the personnel (annex F, figure 1). Figure 2 shows the main performance indicators for TFC and SFC by month in 2004. SFC performance was influenced by the high level of food insecurity in the country. The recovery rate is lower than expected and the non-respondent rate is higher than the standard especially in the pre-harvest period such as November or January. Admission criteria followed the national protocol and the international guidelines. Home visitors system and training of the health centres personnel to recognise malnutrition represent additional strategies for increasing the coverage.

Admission rate

Figure 2 (Annex F) shows the number of admission per month in 2004 in TFC and in SFC. A seasonal pattern can be observed with October/November and January as critical periods. Comparison between 2003 and 2004 admission rate is also shown. 2003 data were those reported in the needs assessment document[8] while 2004 data were elaborated from UNICEF database (excluding December). In 2004, a consistent reduction in TFC admissions was documented. There may still be areas in the country that are vulnerable,

[7] Sphere Project team (2004). The Sphere project 2004 rev. Geneva: The Sphere Project. http://www.sphereproject.org.

[8] 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 200530 September 2004 UNICEF/WHO (2004).
Interagency WHO and UNICEF Health and Nutrition Needs Assessment – Nutrition. Burundi, May 2004 (draft)

especially in the north of the country where there were reported food shortages and an increase in TFC admissions.[9]

The situation for SFC is different: the reduction of admissions in the first half of the year was offset in the second semester with more admission in 2004 than in 2003. Overall, the result is a reduction of the admission rate in SFC (5%) in 2004 respect to 2003. The seasonality pattern described for TFC is confirmed also for SFC. Number of admissions per province in NC is shown in Figure 3 (Annex D). Bujumbura rural, Karuzi, Ngozi and Gitega are the provinces with highest number of admissions, accounting in total about half of the admission (TFC: 52% - SFC: 48%).

Age breakdown of beneficiaries

More than half (62%) of patients in TFC were children under 5; in SFC this age group accounts for more than two third of beneficiaries (76%). Infants aged less than 6 months represent 10% of admission in TFC and 15% in SFC. The proportion of adults is 19% in TFC and 9% in SFC, mainly women of child bearing age. In adults and elderly, malnutrition is usually secondary to other pathologies such as malaria, tuberculosis and HIV. The proportion of different age groups in the NC did not vary by season, except for a slight increase in proportion from 60 to 69% in TFC admissions of children under 5 during the planting season, with a marked increase in admissions of children below the age of 6 months..

The National Protocols for treatment of malnutrition

The setting up of the "*Protocole de Prise en Charge de la Malnutrition Severe*"[10] and of the "*Protocole de Prise en Charge de la Malnutrition Moderee*"[11] was a collaborative effort of the Ministry of Public Health (*Lutte Contre les Maladies Transmissibles et Carentielles - LMTC*) and UNICEF with the participation of all the partners working in nutrition in Burundi (ACF, AHP, CAD, CARITAS, CONCERN, GVC, IMC, MSF-F, MSF-B, MSF-CH, SOLIDARITES). A comprehensive national nutrition protocol is an important tool for improving the management of malnutrition in its severe and moderate forms and to have a homogenous treatment approach by all the partners working in the country. Methods need to be developed for NC staff to provide feedback on the practical lessons, observations and issues from implementation of the Protocols. This information could be used to further refine the Protocols at national level in the light of the MOH commitment in the area of nutrition.

Nutrition surveillance

The main reason for promoting the survey carried out in April 2005 (data not yet available at the time of the evaluation) was to cover gaps in information about the nutritional status of children and mothers, especially micronutrient deficiency. At the

[9] Information received from ACF field staff, Ruyigi and confirmed by ACF in Bujumbura

[10] Ministère de la Santé Public, UNICEF (2001). Protocole de Prise en Charge de la Malnutrition Sévère. August 2001, Bujumbura.

[11] Ministère de la Santé Public, UNICEF (2001). Protocole de Prise en Charge de la Malnutrition Modérée. Programme de Supplementation Nutritionnelle August 2001, Bujumbura.

time of the evaluation, nutrition surveillance is a specific activity of Nutrition Centres. A comprehensive data base of beneficiary nutritional status was available at UNICEF office provided by all NGOs present in the field with nutritional programmes. The MOH or its statistical branch (EPISTAT), are not involved in nutrition surveillance activities, though malnutrition is recognised by the MOH as a priority in Burundi. Its treatment is included in the minimum package of care that has to be provided even in case of reduced activity of the health system (e.g. strike). Actions should be taken in order to guarantee a continuous flow of data on nutritional status. Sentinel data collection for strategic area monitoring could be a cheaper acceptable alternative to a national surveillance system.

Stunting: treatment and/or prevention

Chronic malnutrition prevalence is of public health concern in Burundi with more than half (52%) of the children stunted. Growth failure in childhood is a risk factor for increased mortality, poor cognitive and motor development, and other impairments in function. Stunting starts early in life and usually persists, leading to smaller size and poorer performance in adulthood. The transition phase could be a favourable moment to start with prevention programmes.

Community-based approach to malnutrition

The stabilisation of security and of the nutrition situation permits a combination of responses ranging from emergency activities to strengthening of community based initiatives, to support population reinsertion and reintegration in the short/medium-term. The Burundian MOH, together with UNICEF decided to adopt a strategy for a "*Projet de Nutrition à Assise Communautaire (PNAC)*" in November 2003.[12] The main objective of PNAC is to improve the nutritional status and the food security levels of vulnerable population groups. Community involvement in the project is a prerequisite for implementation. The project represents the first step in the transition from emergency nutritional approach to development initiatives. A preventive approach, nutritional training activities and food security components are part of the strategy. In June-August 2004, two provinces (Gitega and Kirundo) were identified as pilot areas for PNAC implementation, with CARE International as the IP. Results of the first PNAC activities in Gitega are encouraging. [13] Regular anthropometric evaluation of children under five, health training, micro -nutrient supplementation, surveillance of immunisation status, and community nutritional rehabilitation were the project activities. Community involvement was achieved through a committee for nutrition and with selection of "*Mères Lumières (MLs)*" who were trained to act as focal points for other mothers in the community. The large majority of children (94%) showed an improvement in body weight with increase ranging from 200 to 400 grams or more after 10 days of treatment. Six percent of the children failed to gain weight, and some children lost weight during the activity period (2

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[12] Ministère de la Santé Publique, UNICEF (2003). Projet de Nutrition à Assise Communautaire – Document de Stratégie. Bujumbura, Novembre 2003.

[13] Ministère de la Santé Publique - Bureau Provincial de Gitega (2005). Rapport d'Activités du Projet de Nutrition à Assise Communautaire dans la Commune de Mutaho – Province Gitega - Année 2004. Gitega, Janvier 2005.

months). The reasons for this failure were related to extreme poverty (shortage of food). A community-based system for household classification was set up to select vulnerable families. Extreme poverty, lack of access to land and recurrent diseases are the major constraints for a good performance of nutritional programme. A strategy to motivate and encourage the personnel involved should be considered, especially for MLs. The early stages of project implementation did not permit an overall evaluation of the strategy. Further data on nutritional follow up should be collected to evaluate the default rate and the risk of recurrent malnutrition. The introduction of community-based approach also needs an evolution of the clinical management of malnutrition.

There is increasing information[14] on the potential for transforming NC in Community-based Therapeutic Care (CTC). Community mobilisation is an important component of the CTC approach. Other elements of the programme are the evolution of the therapeutic feeding approach to a partially outpatient therapeutic model. This will lead to an increase of the family involvement and reduce absence of mothers form the family. SFCs should become 'nutritional reference points' with a strong community involvement and focused on surveillance, education and chronic malnutrition treatment and prevention. Epidemiological and contextual data for comparing and monitoring the effectiveness of classical and CTC approach with monitoring of outcome variables and cost are necessary.

Vulnerability and poverty reduction strategies: food security

Household food security was a strategic priority of the CAP for 2004. Emergency agricultural assistance reached 15% of households in the country. In terms of food assistance, WFP assisted up to 1.2 million people through its relief and recovery activities. Strong collaboration between FAO, WFP and the wide network of NGO partners in the sector was a key element for the achievements in this sector. In 2004, the "Food security and vulnerability analysis report" of WFP shows that the majority of the households is vulnerable to food insecurity with 16% of surveyed households affected by chronic food insecurity (poor diet quality and the lowest weekly calorie consumption among the most vulnerable categories: less than ½ hectare to cultivate, very low agricultural production and revenue, prevalence of women-headed households or households with handicapped members).

Food insecurity in Burundi follows a circular cause-effect pattern of low food production and extreme poverty. Limited access to land and lack of geographical access to markets have exacerbated this critical situation. Nutrition and food security (FS) are closely linked. The nutritional status of the population is a key indicator for general food security and development; this recognition needs to be reflected in sectoral priorities. To achieve nutritional improvement, a solid foundation on improved FS is indispensable. This requires active collaboration from all actors working in nutrition, health, agriculture, education and other areas.

[14] Collins S (2001). Changing the way we address severe malnutrition during famine. Lancet 358: 498-501. Collins S, Sadler K (2002). Outpatient care for severely malnourished children in emergency relief programmes: a retrospective cohort study. Lancet 360: 1824-30.

Recommendations

1. Consolidation of the results achieved should be a priority for future programmes in Burundi, if the general conditions remain stable or even improve. An appropriate mix of relief and development strategies should be pursued. The community based approach introduced in 2003 should be pursued, and combining it with the CTC should be explored. Nonetheless, given the high vulnerability to food-insecurity, capacity should be retained to scale up nutritional interventions following findings of nutritional surveys.

2. Reduction of malnutrition in project areas should be consolidated through integrated food security interventions, including nutrition and health components, is the most sensible approach to tackle the needs of the affected rural populations. Malaria and HIV prevention should be part of nutritional programs.

3. Actions should be aimed at correcting dietary habits and lifestyle factors that are detrimental to health and child feeding practices. Health staff should be trained to give appropriate counselling to mothers about breastfeeding and child nutrition. Educational campaigns should be intensified to promote exclusive breastfeeding until the age of six months and to improve complementary feeding from six months on. The implementation of the Baby Friendly Hospital Initiative (BFHI) and of the feeding module of the WHO/UNICEF IMCI strategy (Integrated Management of Childhood Illnesses) might be appropriate interventions.

In addition to their current responsibilities, health staff at different referral levels should be given more specific tasks concerning nutritional issues. Promotion of exclusive breastfeeding and good complementary feeding practices are important in the control and prevention of growth retardation and micronutrient deficiencies in childhood. The use of liquids other than breast milk, specifically cow's milk and beer among infants should be discouraged. Complementary feeding guidelines should be designed and included in the National Nutrition Plan.

4. Micro-nutrient deficiency
Children under five should be the target group for iron supplementation programmes. Other interventions such as dietary diversification, facilitated by food security programmes including small husbandry component, should be considered. The transition phase will encourage this kind of processes.

Control of iron deficiency should also involve good prenatal care and obstetric practices. Optimal iron stores at birth are important for the prevention of iron deficiency in infant and young children. To ensure this, the mother should eat a diet with sufficient iron, including foods which enhance iron uptake (fruit and vegetables) and reducing foods which inhibit it (tea). All pregnant women should be given 60 mg iron and 400 μg folic acid daily during the second half of pregnancy. Finally, at birth the umbilical cord should not be clamped and cut until it stops pulsating.

5. Prevention

Stunting prevention and treatment should become a priority in the future. Activities aimed to improve nutritional status in children are similar everywhere. They involve growth monitoring and promotion, promotion of breastfeeding and appropriate complementary feeding, communications for behavioural change (nutrition, information, education and communication), supplementary feeding, health-related services and micronutrient supplementation.

A national nutrition survey with a micronutrient component (April 2005 UNICEF-supported) was necessary to appraise the public health nutrition strategies. The survey will provide an update on the prevalence of anaemia, vitamin A and iodine deficiency in a representative sample of the population at the national and regional level. Appropriate nutritional interventions should be set up after this assessment. The regional distribution of the main nutritional indicators may be important.

6. Local institutional commitment in nutrition and nutrition surveillance

Actions should be taken in order to guarantee a continuous flow of data on nutritional status of vulnerable population groups, such as children and women and eventually elderly. A system of nutritional surveillance should monitor nutrition related diseases and nutrition risk factors, formulate nutrition policy recommendations and evaluate impact of nutrition programmes.

A nutrition policy unit should be established in the MOH with the purpose of data collection from the different institutions, UN Agencies, NGOs and to formulate a plan of action. The process should be supported and facilitated by international agencies. The unit should also be responsible for ensuring good data quality and for providing the necessary training to the field staff.

A pilot surveillance system might be established for children's growth and morbidity. The system could be hospital based. Weight, height and haemoglobin data could be collected. The pilot system could use sentinel sites, strategically located to monitor high risk areas. A school based monitoring system should be established for goitre and other iodine deficiency disorders.

5.5 Reduction in the transmission of HIV/AIDS in the priority provinces during 2005

The number of people infected with HIV in Burundi has more than tripled to an average of 6% (15-49 year age group) over the last 10 years, with a significantly higher proportion of cases among women.

Several agencies made an appeal for funding in CAP 2005 with projects to increase HIV awareness, reduction of HIV transmission, and assistance to people living with HIV/AIDS. The Global Fund made ARV available free of charge as part of the "3 by 5" initiative. Other donors providing smaller quantities of ARV are GTZ and the Belgian Cooperation. Since the Global Fund has not renewed its commitment to Burundi for the next round of funding, the Multi- sectoral AIDS Project (MAP), financed by the World Bank and embodied by the National Action Plan, has been reviewed to include financial resources for medicine.

In the provinces visited, the numbers of patients currently registered for treatment were small (200- 300 per province). Official records indicate that a total of 5050 people were registered on treatment at the end of 2004. Counselling and voluntary testing for HIV infection can be done in 116 health centres, with uneven distribution throughout the country. In 2004, more than 70,000 people were voluntarily tested. Tests for screening donated blood are considered priority and, according to the health workers and managers interviewed, no shortages have occurred in the required materials. Access to prevention of mother to child transmission (PMTCT) sites (13 to date) is very restricted. The number of mother-and-child units under treatment was 990 by the end of 2004. Home based care of AIDS patients, including management of opportunistic infections, is expanding. Many implementers are faith-based organisations.

Health centre staff did not mention testing for syphilis as a routine procedure in pregnancy. In one of the TFC, substitute nursing was recommended for orphans. At another centre, substitute nursing mothers were not actively recruited, but accepted if they came forward. Unsafe injections have been reported, and we observed that used needles were not promptly discarded. A sharps box was shoved far under a desk and difficult to reach. All informants assured us that blood donors were carefully selected and blood for transfusion was duly screened. Posters with syndrome-based diagnosis and treatment of STI were displayed in the health centres.

In spite of reported widespread availability of condoms[15], and community-oriented projects to promote their use, actual changes in behaviour take time. A national survey found that condom use is highest among sex workers (74%) and young people having casual encounters; 41% of young men and 50% of young women reported condom use during most recent intercourse. Condom distribution and sales have reportedly increased, but the figures vary widely between provinces. Cultural attitude favouring men's liberal sexual behaviour has been enforced by many years of conflict and continuing economic

[15] UNAIDS coordinator in Bujumbura informed us that condoms were out of stock

insecurity. Evaluating the effectiveness of different community activities, in conjunction with social changes, to prevent infection and reduce transmission by modifying risky behaviour would require a capacity for professional in-depth analysis, unavailable to the IHE team, given the time constraints and other limitations to field work.

Recommendations

1. The importance of other interventions, such as universal precautions and treatment of STI, needs to be stressed. As mentioned before, the price of first line drugs for STI is relatively high. While testing for HIV infection may not always be possible, diagnosis and prompt treatment of STI should be a priority. Basic hygiene and waste disposal in health centres and hospitals needs drastic improvements.

2. Shortage of testing materials, breakdown of equipment for monitoring of treatment, stock-outs of condoms, and other reported problems are mainly due to managerial weakness. While the programme may need time to get established, technical management should be strengthened now.

5.6 Explore the level of the sexual violence and assure medical, psychosocial and legal management for victims

A UNIFEM study in Bujumbura town, cited in the WHO strategic cooperation document 2005-2009, found that 42% of women interviewed had suffered domestic violence. In the same document, WHO cites an average of 300 **reported** rape cases every month. In another survey, 33% of adolescents aged 10 to 14 reported to have had sexual intercourse (16% at the age of 10). In response, the Association Burundaise du Bien-Etre Familial (ABUBEF) has set up 5 Youth Centres, 2 in Bujumbura, the others in provincial towns (Ngozi, Gitega, Rumonge). UNFPA, in partnership with ABUBEF, ITECA (human rights league) and other national NGOs is developing services at the community level.

UNICEF and UNFPA provide support to a range of implementing agencies for the care of victims of sexual violence. The multisectoral centre in Muyinga (managed by the Society of Women Against Aids, SWAA), has received 130 victims since it opened last year, all female and 55% less than 18 years old. In rural Bujumbura, GVC provides (incomplete) medical services in 3 health centres to an average total of 20 victims each month, many of whom are children. GVC works together with MSF-B, referring patients with additional needs. Every month, MSF-B receives on average 120 women, victims of sexual and gender-based violence, including domestic violence, in their centre in Bujumbura town. In Ruyigi, MSF-H offers medical care in 2 hospitals to a total of 30 victims monthly. In Cancuzo, only psychosocial assistance is given, in the absence of an implementing partner in the health sector. The programme will soon be extended to Makamba, with training of hospital workers by UNICEF, but has been delayed while MSF-F is closing its offices and handing over some managerial responsibilities to CORDAID. Most centres report an average number of 15-25 new cases monthly, except

the centre in Bujumbura Town, which receives around 120 women each month. The capacity is not adequate, and coverage is patchy.

USAID is providing financial support to an interagency initiative, which includes local and international organizations working together on a "victims of torture" project. These groups have been successful in advocating rapid serious handling of rape trials. The ICRC has terminated its project "women and violence" in Bujumbura. The agency continues to incorporate care of rape victims as part of the training for TBA.

Recommendations

1. The institutional capacity to take care of the complex trauma caused by sexual violence is weak. National policy and strategy documents are an important first step, but need to be accompanied by concrete measures demonstrating willingness to take responsibility for victims of sexual violence through the health- and legal system. Gender-sensitive assistance to women and female children cannot be easily provided by the existing male dominated health sector. Active recruitment of female nurses to be trained in this respect should be encouraged.

2. The social stigma attached to rape, and its potential economic consequences to the victim, can only be dealt with if the Burundian leaders of society are willing to publicly express commitment and take consequent action.

5.7 Strengthen the preparedness for epidemics in the priority provinces and the response to epidemics and natural disasters in all of the country

5.7.1. Health Information System

Currently there are two Health Information Systems used in Burundi: Outbreak Detection System (ODS) and Regular Disease Surveillance (RDS). Both of these systems are passive and health centre based. The stakeholders include Staff of Health Centres, NGOs supporting health programs, WHO and MOH (EPISTAT). Both systems aim at a maximum coverage of the clients of health centres throughout Burundi. Since the ODS is a recent initiative, its coverage is still limited.

The Outbreak Detection System was initiated in late 2004 after the collaborative effort of MOH and WHO led to a publication titled “Technical Guide for Integrated Disease Surveillance and Response”. A series of seminars was carried out by MOH, WHO and NGOs for health centre staff regarding proper use of the system and case definitions. New cases and deaths due to the following diseases are recorded on weekly basis at the level of health centres: (there is no division into age groups)

- Acute Flaccid
- Paralysis
- Cholera
- Dysentery
- Meningitis
- Measles
- Neonatal tetanus
- Hemorrhagic fever
- Malaria
- Exanthematic typhus

Regular Disease Surveillance has been in use for many decades with minor changes. There are no case definitions or published protocols for its use. Only morbidity data divided into under and over five year olds are collected, there is no information regarding mortality. The surveillance data is collected on monthly basis on the following diseases:

- Malaria
- URTI
- LRTI
- Parasitosis
- Dysentery
- Diarrhoea
- Measles
- Malnutrition
- Anaemia
- Conjunctivitis
- Gastritis
- Obstetric problems
- Injuries
- STI
- Others

At present, there is no commonly accepted system of HIV/AIDS surveillance other than the sentinel system from UNAIDS, testing women during Ante Natal Care visits.

Data from both systems are transferred through Provincial Health Offices (BPS) to the central data unit in Bujumbura called EPISTAT for processing and analysis. On provincial level, data from the Outbreak Detection System are analyzed and outbreaks declared if published thresholds are surpassed. GESIS 5, an MS Access based application, was planned to be used for data entry and transfer.

Feedback in form of monthly MS Excel Sheet is produced by EPISTAT and sent to WHO, NGOs and Provincial Health Offices.
Intended public health action based on declaration of outbreaks includes:

- Specific response as described in the protocols
- Free treatment to all cases
- Prioritization of supply of stock to outbreak areas
- Prioritization of human resources to outbreak areas

ODS is a very recent system that at present works only in 13 out of 17 provinces. It has been introduced to Burundi as part of a larger international initiative by WHO-AFRO Regional Office. At present ODS is struggling to maintain its functionality. Despite heavy initial funding from the European Development Fund (EDF) and WHO and continued support by WHO, ODS is currently unable to meet the needs for timely outbreak detection in Burundi. So far, there have been two examples of outbreaks detected and responded to according to the protocols. In both outbreaks, free therapy was offered to the cases[16].

Conclusions and Recommendations

1. System simplicity: ODS is a simple system using clear case definitions. It tracks 9 pathologies deemed to have the highest epidemiological significance in Burundi. It does not provide for age categories among the cases which is a drawback. The intended use of

[16] Outbreak of Malaria in Cibitoke in December 2004
Outbreak of Dysentery in Ngozi also in December 2004

GESIS 5 application for data entry and transfer is not done on provincial level. In some provinces, the training of health centre staff is not sufficient, in others, there is no computer or the computer is useless due to lack of electricity. Reports are either produced on MS Excel or hand-written.

- It is recommended to provide for under and over five years of age categories in ODS reporting and to abandon the idea of using GESIS 5 and establish a system of data entry and transfer, using MS Excel or handwritten reports transferred to EPISTAT.

2. Data quality: Data quality was assessed at the point of collection, i.e. the health centres. The vast majority of reported conditions are malaria (over 99.9%). Lack of laboratory capacity and lack of knowledge among health care staff likely lead to misdiagnosing of malaria (see malaria section of this report for more details). Hand-written reports transferred by phone increase risk of data error. However, it should be recognised that working conditions in the provinces pose many practical constraints.

- It is recommended to provide clear guidelines for proper malaria diagnostic and to minimize the chance of error by simplifying reporting forms.

3. Representativeness: A public health system that is representative accurately describes occurrence of a health-related event over time and its distribution in the population. At present only 7 out of 17 Burundian provinces provide weekly data. The data are collected in main health centres, but not in hospitals or most private clinics. The access of population to the health centres is estimated at 70% of total population (due to socio-economic and geographical limitations). Therefore, at present less than 20% of Burundians are covered by ODS and it is possible that outbreaks undetected by ODS will occur.

- It is recommended (a) to insist on more provinces participating in ODS through additional training and participation; (b) to include hospitals and private clinics into ODS; (c) to improve access of Burundians to primary health care.

4. Acceptability: Acceptability reflects the willingness of persons or organizations to participate in the surveillance system. This is a subjective indicator best assessed based on the participation rate of the stakeholders. Interviews with stakeholders in the field revealed that ODS is currently viewed more as a burden and yet another bureaucratic requirement rather than a helpful tool in outbreak detection. The older Regular Disease Surveillance is seen as sufficient for reporting.

- It is recommended to involve all stakeholders (health centre staff, NGOs in health, hospitals, BPS) in introduction of ODS, and additional advocacy may be required to convince stakeholders of the importance for having an effective outbreak detection system with adequate coverage. Regular feedback should stimulate motivation and “buy-in.”

5. Timeliness, feedback and Public Health Action: Timeliness reflects the speed between steps in a surveillance system. ODS is a weekly reporting system, those health centres that do provide reports provide them on time.

Feedback is provided on regular basis from EPISTAT in the form of a MS Excel Spreadsheet. The spreadsheet is not intuitive and not very comprehensive. It is distributed among stakeholders in Bujumbura by e-mail and sent to BPS offices by couriers. There is neither interpretation of trends nor analysis of the epidemiological situation provided.

It is too soon to evaluate public health action based on the results of ODS. In theory, when outbreaks are declared, treatment of all cases is free and medications made available. This was the case in the two declared outbreaks (malaria and dysentery).

- It is recommended to produce Morbidity and Mortality Monthly Review (MMMR) from ODS data including basic and simple description of the health situation. MMMR could be a one-page document summarizing trends in Burundi with analysis of the epidemiological situation. The MMMR would serve as a tool for public health action and a tool for provision of feedback to stakeholders.

6. System stability: Stability refers to the reliability (ability to collect, manage and provide data without failure) and availability (the ability to be operational when needed) of the surveillance system. No problems with system stability were observed during its short lifetime.

7. EPISTAT: The central data unit in Bujumbura should receive ODS data from the field offices every week, then enter the data and produce reports. The computer system is not unified – some provinces use handwritten reporting, some use GESIS software, yet EPISTAT uses EPI Info 6 and Excel to enter and analyze data. This fragmentation is not effective and leads to errors. It is recommended to select one computer application for data management. EPISTAT staff is not sufficiently specialized in Epidemiology or Biostatistics and have limited capacity to provide data interpretation and analysis.

- Further regular training to EPISTAT staff in Epidemiology and Biostatistics is recommended.

5.7.2 Outbreak control

So far, there have been two examples of outbreaks detected and responded to according to the protocols:

- Outbreak of Malaria in Cibitoke in December 2004
- Outbreak of Dysentery in Ngozi also in December 2004

In both outbreaks, free therapy was offered to the cases. EPISTAT data that were made available did not include 2004 yet therefore Attack Rates and Case Fatality Rates cannot be calculated.

There is a simple outbreak contingency plan (Annex C) and there is an interagency working group (NGOs + UN) working on more elaborate plan of action in cases of epidemics. These plans include logistic as well as technical components of the response les of outbreaks detected and responded to according to the protocols. These outbreak control plans required continued capacity for laboratory confirmation and the prepositioning of response kits when an epidemic is confirmed.

- The need for an effective outbreak detection system is clear. Its functioning needs further strengthening to expand the coverage and some improvements on technical components can be considered.
- To ensure that laboratory capacity and prepositioned kits for response are maintained to complement outbreak contingency planning and response plans.

5.7.3 Management of Communicable Diseases (see also chapter on malaria)

The three leading reported health centre diagnoses are suspected malaria, acute diarrhoeas and acute respiratory infections.

Disease	**Proportion of Health Centre Consultations (all ages)**
Suspected Malaria	52%
Acute Diarrhoeas	14%
Acute Respiratory infection, lower and upper	10%

The assessment of causes of mortality is more difficult as the regular surveillance system does not track mortality. Based on interviews, it has been noted that malaria contributes most to the overall burden on mortality. Complications of pregnancies contribute significantly to female mortality (estimated 6%). Overall HIV/AIDS prevalence is estimated at 6-8%. Infection rates are higher in women than in men.

Health centres are the primary providers of health care. At present there is no manual on management of diseases available at the health centre level, but posters on diarrhoea, ARI and STI are usually displayed in the consultation room. WHO's Toolkit on Management of Communicable Diseases in Burundi is currently under revisions and should be validated by the MOH in June 2005 followed by distribution and training. The document could serve as a reference publication for health centre staff in provision of care.
Diagnosis is in most cases determined by clinical observations, laboratory capacity is minimal and testing for malaria is not routinely carried out.

<u>Acute Diarrhoea and Acute Respiratory Infections</u>
The management of acute diarrhoea is carried out according to WHO accepted principles. There are occasional outbreaks of cholera and dysentery. Cholera outbreaks usually occur in the beginning of a rainy season on the shores of Lake Tanganyika, south of Bujumbura. Dysentery may also occur in the first weeks of rainy season and has no particular geographical pattern. The response to cholera is typically led by MSF and standard cholera procedures are put in place. Dysentery is treated with Co-trimoxazole, Nalidixic Acid or Ciprofloxacin, depending on severity of the case and availability of drugs.

Respiratory infections of the upper and lower tract are usually treated with antibiotics, most commonly with Co-trimoxazole or Amoxicillin. Over-prescribing of antibiotics for conditions not requiring this treatment was observed.

Conclusions and Recommendations

At present, there is no protocol among primary health care providers regarding management of communicable diseases. This, combined with often insufficient theoretical base of care providers, may lead to misdiagnosing and over-prescribing of antibiotics and anti-malaria drugs. The main obstacles for effective provision of primary health care transcend the management of communicable diseases and are discussed elsewhere (human resources, equipment, supplies and medicine, access).

- It is recommended to speed up the process of validation and introduction of the "Toolkit on Management of communicable Diseases in Burundi," to provide training and distribute the toolkit as soon as possible. Recommendations regarding human and material resources, as well as improved access to health are provided elsewhere in this report.

5.8 Strengthen mechanisms of coordination and collaboration between all of the partners intervening in the health sector

Coordination mechanisms in the health and nutrition sector are in place and functioning in Bujumbura through the 'echange santé' network. See annex D for mapping of most important health stakeholders. For the repatriation process, a special Steering Committee composed of the MOH, WHO, UNHCR, UNICEF and Minister of Reinsertion and Reinstallation of Repatriates (3Rs) meets every three months to follow the processes carried out and deal with major issues and monitor the progress.

For the strengthening of the access to the Essential Care Package linked to the repatriation process, a Technical Committee (MOH, UN agencies and NGOs) has been organized to coordinate activities at the central level, to plan activities in a joint manner and to discuss challenges of field based programming through regular meetings. They developed national guidelines for training and supervision, organized field based meetings, planned for distribution of medicines and logistical support, planned the national workshop, consented on the plan for the distribution of insecticide treated bed nets (ITNs) within the cadre of repatriation, elaborated on the strategy to manage medicines and medical supplies at the health centre level, coordinating strategies to improve access for repatriates to treatment for HIV/AIDS including ARV and preventing mother to child transmission (PMTCT) and discussed strategies to ensure free health care for repatriates, IDPs and indigents at the field level.

At the regional level programming meetings with all partners have been held as well as provincial meetings to verify functionality of health centres, prioritize UNHCR health centre rehabilitation, distribution plans for UNICEF medicines and medical equipment and assessments for the implementation of the emergency referral system in Muyinga and Makamba. Formal exchange among implementing agencies in the provinces appears still to be limited. As a result, there may be fragmentation or even overlap of efforts with the risk that development-oriented donors and UN agencies might fund projects

independently from other emergency- and transition oriented initiatives. This is at least partly due to a shortage of qualified and experienced staff and the reluctance of professionals to settle in the provinces. Interaction between the community and health services has been strengthened through "health committees," with members elected by the community. Routine supervision and monitoring systems are insufficient.

There was a sense of overload among many humanitarian workers, and an expressed need to reduce the number of meetings and committees, so as to improve results and follow-up in practice. Some of the people interviewed expressed frustration at the low level of willingness to dove-tail related programmes or activities between agencies or sectors. An example given was the lack of coordination between food security, early warning and nutrition programmes. Opinions about the technical role of UN agencies varied from excellent to inadequate, depending on the area of expertise required.

Communication and consequently coordination may be weak within agencies, with high staff turnover in emergency oriented agencies, and individuals becoming absorbed and eventually isolated in their own responsibilities. The increasing tendency towards vertical programme management in the health sector carries the risk of segregation at the top, with an overwhelming administrative burden at the service provision level, where multiple duties converge onto one or few providers. Agencies with different mandates may find it difficult to understand and accept each other's point of view, especially during a transition period, when emergency-oriented and developmental approach should meet and merge. This was most obvious in the debate around funding of health services, but also apparent in the way some NGOs cling to their working methods without acknowledging that new and better options are opening up. An example was the charitable attitude of one NGO towards people living with HIV and AIDS, which ignored the possibility of enrolling the people they care for in an ARV treatment programme.

Recommendations

1. It is time to further develop sectoral coordination systems at the provincial level. Exchange between national and international agencies, as well as between humanitarian agencies and government institutions at the provincial level, requires formal structures. Reported logistic constraints should be assessed and resolved.

At the central level, agencies could spend some time reassessing the necessity for the different committees that exist. It should be possible to merge some groups, especially in the food and nutrition sector.

2. Partners in emergency management can give a valuable input into the process of development. Exchange and coordination among development oriented donors will need to be strengthened.

The PRSP process provides a useful forum for stakeholders with different mandates in the respective sectors to discuss possible responses to the problems in the health-and nutrition sector highlighted in this document.