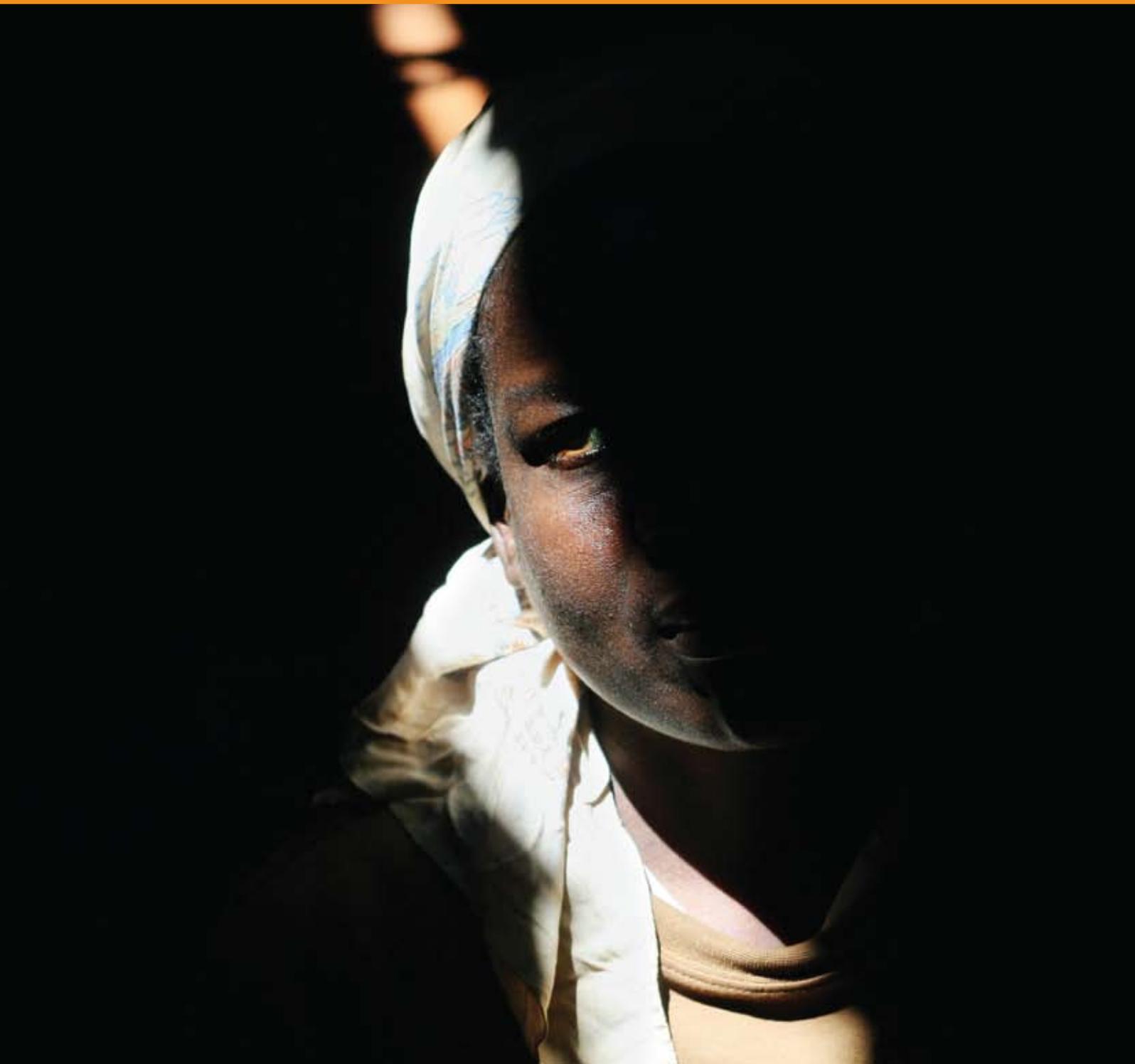


A HUNGER WATCH PUBLICATION

HUNGER AND HIV

FROM FOOD CRISIS TO INTEGRATED CARE



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Claire de Menezes, Editor & Author

ACF International Network

ACF is an international humanitarian network, working in 43 of the world's poorest countries. It comprises of Action Against Hunger-UK (ACF-UK), Action contre la Faim-France (ACF-France), Acción contra el Hambre-Spain (ACF-España), Action Against Hunger-USA (ACF-USA) and Action contre la Faim-Canada (ACF-Canada).

The ACF International Network aims to save lives, especially those of malnourished children, and to work with vulnerable populations to preserve and restore their livelihoods with dignity. Our teams do their utmost to ensure that people are given access to the most basic of human rights – the right to food. International, non-political, non-religious and non-profit making, the ACF International Network helps more than 4.2 million people worldwide.

This report is part of the Hunger Watch series of publications. Hunger Watch is the research and advocacy department of ACF-UK. The Hunger Watch team examines transversal factors such as conflict, market instability and HIV/AIDS, and analyses their linkages to acute hunger.



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Glossary

| | |
|---------------|--|
| AFASS | Affordable, feasible, acceptable, sustainable and safe feeding |
| ART | Antiretroviral therapy |
| CHAM | Christian Health Organisation of Malawi |
| CHBC | Community home based care |
| CINDI | Children in Distress, Zambia |
| CRS | Catholic Relief Services |
| CTC | Community therapeutic care |
| HCT | HIV Counseling and Testing |
| HCW | Home craft worker |
| HAS | Health Surveillance Assistants |
| ICMI | Integrated Management of Childhood Illness |
| MACRO | Malawi AIDS Care and Resource Organisation |
| MOH | Ministry of Health |
| MUAC | Mid-upper arm circumference |
| NAC | National AIDS Commission |
| NRU | Nutrition Rehabilitation Units |
| PLWHA | People living with HIV/AIDS |
| QUAC | Mid-upper arm circumference for height |
| REACH | Malawian NGO REACH Trust |
| RUTF | Ready-to-use therapeutic food |
| SAM | Severe acute malnutrition |
| SC | Stabilisation Centres |
| TB | Tuberculosis |
| UNC | The University of Carolina |
| UNICEF | UN Children's Fund |
| WFP | World Food Programme |
| WHO | World Health Organisation |

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Foreword

In 2001-2 Southern Africa experienced serious food shortages, the causes of which were complex. In the early months of 2002 the Government of Malawi called a Food Emergency and requested the help of outside agencies. ACF International Network was invited by the lead agencies of the Ministry of Population and Health and UNICEF to coordinate training and care in Malawi's widely scattered Nutrition Rehabilitation Units (NRU).

This report describes some of the work that The ACF International Network and partners have carried out in Malawi over the intervening years. It illustrates how the many teams - both governmental and non governmental - involved in delivering emergency nutrition programmes were able to work in collaboration to develop a better understanding of country-specific causes of malnutrition and to adapt international treatment protocols to meet local circumstance.

Whilst those working in Malawi before the Food Emergency were aware of the impact, both direct and indirect, of the Southern Africa HIV/AIDS pandemic on the health and nutritional status of children and families, the complex interactions between HIV infection, nutrition and food security were initially perplexing to outside agencies as published literature was at that time was limited to a number of small but significant research studies not widely accessed by the wider nutrition world. The newly arrived field workers however were quick to recognise the differences to other emergency feeding programmes, particularly the high mortality rates and slow recovery of children with HIV disease. They recognised the importance of developing linkages between nutrition programmes, HIV treatment and social care programmes. Nutritionists soon became powerful advocates for the easier access for children and parents to HIV counseling and testing and later to ARV treatment programmes.

In addition the ACF International Network team undertook major training programmes for health staff at all levels. They were able to introduce the newly revised Malawi National guidelines for the management of severe malnutrition to NRU countrywide and thereafter to stringently monitor outcomes. They helped in the refurbishment of old NRU and helped ensure supply lines of food and drugs to the front line teams. They later moved to preventative work and established and revitalised nutrition gardens.

Malawi has been blessed by two recent good harvests, its HIV treatment programmes are slowly being linked with NRU's in high prevalence HIV areas and it now has a cadre of health workers trained to manage nutrition emergencies. This paper relates some aspects of this work and demonstrates the positive impact of collaborative working by agencies against the background of a strengthened health system.

Anne Nesbitt

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HIV: GENERAL OVERVIEW AND THE IMPACT ON NUTRITION

HIV: GENERAL OVERVIEW AND THE IMPACT ON NUTRITION

✿ ACF International Network and the link to HIV/AIDS

The ACF International Network currently intervenes in 43 countries around the world, with programmes which directly or indirectly tackle hunger and malnutrition. This is done through specialised feeding programmes, the provision of food aid, conducting nutrition surveys and developing surveillance systems to guide nutrition interventions and also through addressing the underlying root causes of hunger and malnutrition. Our specialised areas of intervention are in nutrition, food security, water/sanitation and health care, as well as programmes that aim to improve the quality of services provided by national and local authorities, for example Ministries of Health, Agriculture and Social Welfare, through capacity building. The ultimate aim of all programmes is to enable beneficiaries to regain their autonomy and self-sufficiency as soon as possible.

As part of the wider humanitarian community, the ACF International Network is increasingly active in trying to reduce the impact that the pandemic is having on the populations with which we work. In the treatment of severe malnutrition, HIV is challenging the traditional approaches as more children and carers present with severe forms of complicated malnutrition related to HIV and associated tuberculosis (TB). HIV/AIDS is not only a health issue, but has a profound impact in many spheres: political, social, human, environmental, economic and infrastructural.

The impact of HIV on malnutrition was highlighted for the ACF International Network during the food crisis in southern Africa in 2002/2003. This spurred the organisation to consider how programming could be better adapted in the HIV context. Whilst our responses have started with the treatment issues in the nutrition sector, it is recognised as essential to address also the pandemic at the earlier stages of prevention and mitigation. A large amount of literature exists on the various impacts of the pandemic, and ways in which humanitarian practitioners should take this into account, but the challenge is to translate this into practice and prioritise the needs. The situation requires the ACF International Network to re-examine traditional responses to hunger and malnutrition and mainstream HIV/AIDS throughout our country programmes. Our aim is to both prevent and treat malnutrition whilst enabling HIV infected and affected people to maintain the best quality of life they can, for as long as they can, through the added benefits brought about by optimal and appropriate nutrition, as a part of their overall HIV treatment package.

This report outlines the work that the ACF International Network has done in Malawi addressing nutrition responses to HIV/AIDS. It provides initial evidence that HIV is indeed an important factor in the cause of severe malnutrition and presents our operational research looking at the response of HIV-infected patients to therapeutic feeding. The research aims to help provide answers to the questions surrounding aspects of care that may need change or adaptation to best suit the needs of those infected with HIV and suffering severe malnutrition. This is followed with illustrations of our complementary activities that have been implemented to provide a more complete package of care addressing child and adult nutrition in light of the HIV/AIDS crisis in Malawi.

The report aims to give an overview of programmatic approaches, which, in a technical field that is constantly evolving with new information, offer a valuable platform from which to learn and take further steps forward. Results are not presented here in scientific format with full methodologies and statistical detail such as confidence intervals, but this information can be made available on request. The aim is purely to provide an outline of some approaches in nutrition and HIV, the different challenges we face and also the positive aspects that can encourage further development and progress in this field. Within the report we consider the different challenges faced by both children and adults.

The number of people living with HIV/AIDS (PLWHA) worldwide is now approximately 40 million, with southern Africa suffering the highest number of casualties. Across the globe, AIDS is responsible for an increasing number of deaths each year. In 2005, an estimated 2.8 million people died of AIDS, 380,000 of them children. In the same year, an estimated 2.3 million children remained living with the HIV virus, and an estimated 1.5 million AIDS orphans face serious threats to their food security, access to healthcare and education, greatly increasing their risk of malnutrition¹.

Globally, children under five years of age account for one in six AIDS-related deaths and one in seven HIV infections. As we enter the third decade of the epidemic, a child dies of an AIDS-related illness every minute of every day, and a young person contracts HIV every 15 seconds².

Mother-to-child transmission (MTCT) of HIV accounts for the vast majority of children who are infected with HIV. In the last two decades, before the large roll out of prevention of mother to child transmission (PMTCT) programmes, approximately 30%-40% of HIV infected women transmitted the virus to their newborn babies³. These children have contracted the virus through vertical transmission, either in the womb during pregnancy, during the period of delivery or from being exposed to the virus over the period of breastfeeding. Many of them will suffer from malnutrition at some point in their lives, either as a direct physiological consequence of the virus, or from socio-economic effects from the impact of the virus at household level.

Malnutrition and HIV infection are undeniably linked and together present a serious humanitarian and public health challenge in Southern Africa⁴. In countries that already suffer the chronic burden of malnutrition, the added impact of HIV, which covers largely similar geographical areas, is increasing the complexity of patterns of malnutrition despite steps being taken to address the common causal factors. It is now well documented in several countries with high national HIV prevalence that there is indeed a higher proportion of HIV infected children among those admitted for severe malnutrition in comparison to the HIV prevalence in the national population of a similar age group^{5,6,7,8}. To date, country programmes to address severe malnutrition in childhood have been largely separate from HIV/AIDS treatment and care initiatives. Programmes addressing adult malnutrition are few. However, with the roll-out of Antiretroviral Therapy (ART) largely due to resources from the Global Fund, there is increasing need for integration of HIV and nutrition services, targeting on both population and individual basis. Adults as well as children must be reached, combining different approaches for targeting. Nutrition programmes provide an excellent platform for HIV awareness and the promotion of the benefits of knowing one's HIV status in relation to the prevention of malnutrition and the associated risk of mortality.

Nutrition needs in HIV infection

Food of course is a fundamental need for everyone, but HIV positive children and adults have special nutritional needs. They need more energy to cope with extra losses during episodes of infection and high viral replication, and must ensure a balanced diet to cover for common micronutrient deficiencies associated with HIV infection⁹. For those on ART, a balanced diet is essential to aid the absorption, distribution and excretion of the drugs to maintain optimal levels for successful therapy. Surprisingly, having enough food and the right kind of food has been a long overlooked remedy in the fight against HIV/AIDS but is now thankfully rising on the international and public agenda. Many initiatives are now in place at community and regional level. In May 2007, the second Eastern and Southern Africa Regional Workshop for Nutrition and HIV was held in Nairobi to support national governments to integrate nutrition and HIV in one holistic package of care. It is now internationally recognised that as important as drugs and education are to combating HIV/AIDS, food is a primary defence that enables people to maintain healthier and more positive lives and must be included as an essential component of HIV services.

✿ Impact on childhood mortality

For HIV positive children in under-resourced countries, there is of course an increased risk from the common childhood diseases that can afflict all children, particularly those under five. Most children suffer from childhood illnesses, with the risk and outcome of infection often shaped by geography, poverty, socio-economic status and levels of immunity; the same factors directly linked with both malnutrition and HIV infection¹⁰. Although infectious diseases such as respiratory tract infections, diarrhoea, malaria, and measles are major killers of children, malnutrition is one of the most common childhood illnesses, contributing directly or indirectly to 60% of the more than 10 million child deaths each year¹¹.

One of the key barriers to common childhood infections and early childhood malnutrition is of course breastfeeding¹². With early HIV prevention messages highlighting the transmission risk of HIV through breast milk, the culture of breastfeeding, the single most effective barrier against childhood mortality, has been threatened leading to increased risk of malnutrition and mortality in infants born to HIV positive mothers^{13,14}.

✿ The Affordable, Feasible, Acceptable, Sustainable and Safe Feeding (AFASS) Initiative

Due to the risk of HIV transmission from mother to child during the breastfeeding period, early public health messages supported the use of formula feeding to prevent transmission.¹⁵ The emphasis was to recommend breast milk substitutes and only to breast feed if an 'affordable, feasible, acceptable, sustainable and safe' milk alternative was not available. In reality this meant having a reliable income for formula milk, and everything needed to support safe practice such as safe water, fuel and resources for sterilising, for up to two years. In resource limited settings this was a high expectation, and the introduction of formula feeding into breastfeeding cultures with poor levels of resources led to an increase of gastro-intestinal infections and mortality in infants and young children¹⁶. Steps have now been taken to address this situation with clearer messages emphasising the superior benefits of breastfeeding in under-resourced settings and easily-understood messages on what AFASS really entails.¹⁷ However, the earlier messages remain in the public domain, and it will take time for the full understanding of the balance of HIV transmission versus mortality risk to be clearly understood by both the public and health workers.

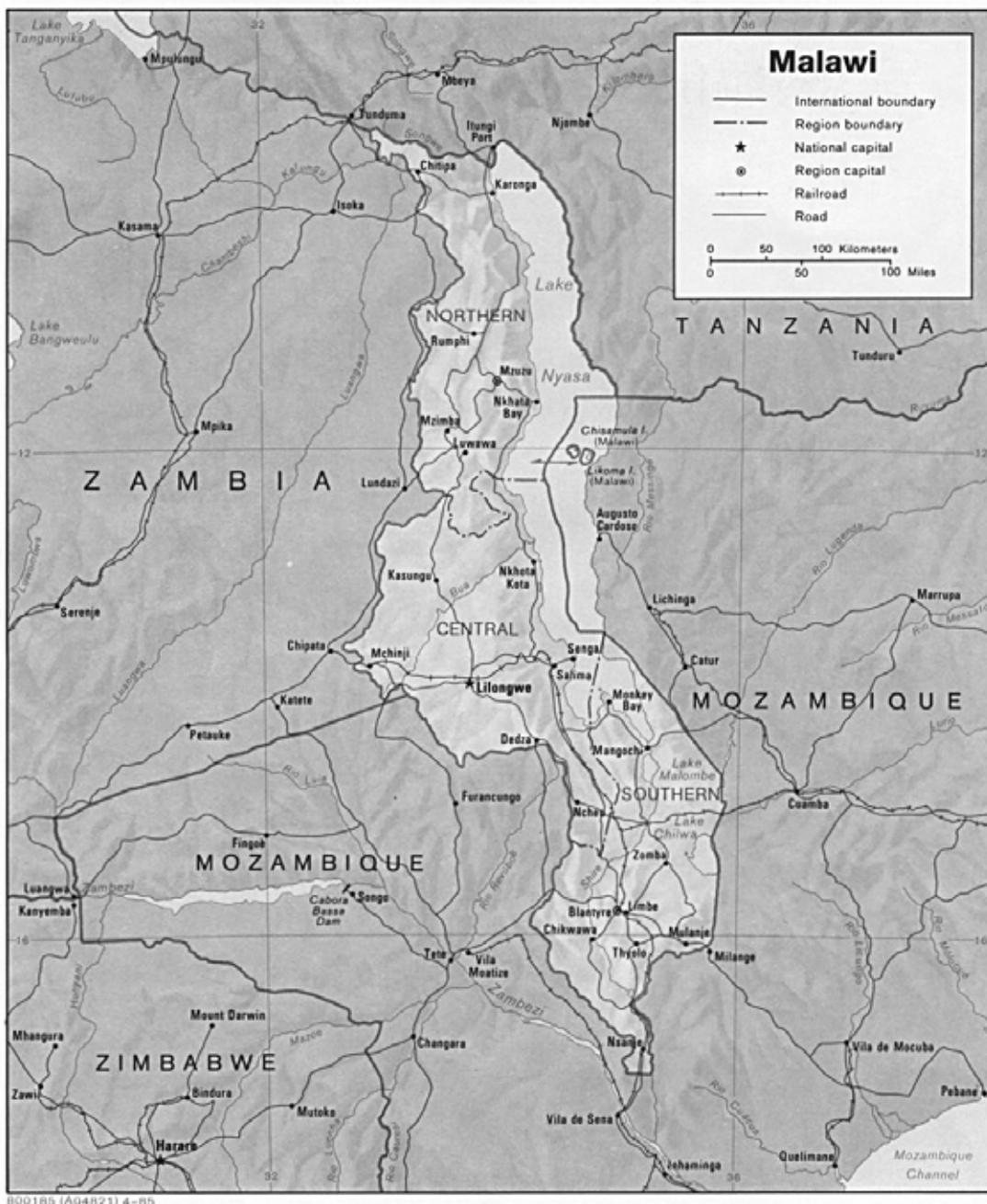
The progression of HIV infection is different in children from that seen in adults, with children having a more rapid deterioration to AIDS increasing their malnutrition risk. Studies that have been done looking at natural survival in childhood HIV infection show approximately 20% will have rapid progression of disease and die by the age of 12 months of age; 50% will die by the age of three and just a small proportion (<25%) will survive past five years of age^{18,19,20}. It is essential that the babies and children who are vertically exposed to HIV are screened for the virus and offered preventative measures such as prophylactic cotrimoxazole²¹ and optimal nutrition for prevention of infections and associated malnutrition. Even for those who are clinically 'well', stunting (low height for age) is common and apparent from as early as a few months showing the essential need for optimal nutrition from birth for all children infected with HIV even before clinical symptoms appear.²²



HIV/AIDS IN MALAWI

HIV/AIDS IN MALAWI

With a Gross National Income per capita of 170 US dollars per year (UNICEF 2006), Malawi is amongst the poorest countries in the world. Poverty is one of the major underlying causes of chronic food insecurity in Malawi; malnutrition particularly affects vulnerable groups such as women, children and those affected by HIV/AIDS. Malnutrition levels in Malawi have remained largely static for the past decade. In December 2005 the Ministry of Health (MOH) conducted a national nutritional survey showing an average of approximately 4% of children below 5 years of age with severe acute malnutrition and 6% with moderate acute malnutrition. The Malawi Demographic and Health Survey 2004 showed that 48% of the children in Malawi are stunted, an indicator of chronic malnutrition. Malawi traditionally experiences a hunger period from December to April, which leads to a yearly peak of malnutrition around February. Recent crises due to drought occurred in 2002-2003 and again in 2005-2006. From December 2005-April 2006 nearly 6,000 children were admitted to ACF International Network supported Nutrition Rehabilitation Units (NRU) with severe malnutrition.



The picture in figures:

- The under 5 mortality rate is estimated to be 118 per 1,000 live births
- The infant mortality rate is estimated to be 69 per 1,000 live births
- 46% of children in Malawi are stunted, 22% are underweight and 5% are wasted
- 12% of adults aged 15-49 are HIV positive. HIV prevalence is higher among women than men (13% and 10% respectively). Prevalence peaks at 19% for adults aged 30-34. An estimated 83,000 children are living with HIV
- 64% of children 12-23 months are fully vaccinated against six major childhood illnesses (tuberculosis, diphtheria, pertussis, tetanus, polio and measles)

With the long-term problem of acute malnutrition in Malawi, there is an established national system of NRU attached to paediatric wards and local hospitals throughout the country to treat severe acute malnutrition. The MOH has adopted the World Health Organisation (WHO) guidelines for the treatment of moderate and severe malnutrition in children and in 2002 the ACF International Network started a capacity building programme for the training and supervision of 48 NRU in these guidelines. Children with moderate and severe malnutrition are treated in NRU and through supplementary feeding programmes (SFP) according to these guidelines. In addition to this, the MOH has recently embraced Community Therapeutic Care (CTC). This approach brings the treatment of children with severe malnutrition to the community level and in doing so, dramatically increases accessibility to care. Within the model of CTC, there are stabilisation centres (SC) for the treatment of those with complicated malnutrition who still require initial inpatient care. The SC still follow the adopted national guidelines for the treatment of severe acute malnutrition (SAM).

Malnutrition is not uncommon in adolescents and adults in Malawi, especially in those who are infected with HIV and/or TB. Nevertheless, up to the end of 2005, no guidelines or programmes targeting adolescents and adults with moderate or severe malnutrition were available in Malawi.

In Malawi, HIV/AIDS has reached a crisis level since it was first diagnosed in May 1985 posing a serious challenge to the country's well being and national development. The overall HIV prevalence in Malawi is estimated to be 11.8% with an 18.3% antenatal prevalence contributing to approximately 30,000 childhood HIV infections every year²³. The HIV prevalence rate varies between the three administrative regions in Malawi, with 17.6% in the Southern region, 6.5% in the central region and 8.1% in the Northern region²⁴.

As already mentioned, HIV infection is increasingly associated with severe malnutrition. Studies done in the NRU at Queen Elizabeth Central Hospital in Blantyre showed an HIV prevalence of 34.4%²⁵ whilst a study conducted by the ACF International Network, MOH and the College of Medicine in Malawi in 2005²⁶, showed 22% of NRU malnourished children to be HIV positive across 12 national NRU. As we will show in the section on the response to therapeutic treatment in HIV infected children, our own clinical research has shown that severely malnourished children who are HIV positive do not respond as favourably to therapeutic feeding when compared to severely malnourished children who are HIV negative. This will of course have an impact on the outcomes of treatment.

Programme implications for the ACF International Network

Faced with the effects the HIV pandemic has on nutrition in Malawi, the ACF International Network developed and implemented, in close partnership with the Nutrition Unit of the MOH, a programme to develop optimal nutritional care and support for People Living with HIV and AIDS in Malawi. The programme was funded through the National Aids Commission (NAC) and intends to improve the care for HIV-affected children and adults with regards to nutrition. The overall programme encompassed operational research on the impact of HIV on a child's response to therapeutic treatment of severe malnutrition, assessing the impact of stigma, implementation of HIV counseling and testing, and community based approaches for education and screening.



**HIV: A CONVENIENT SHIELD FOR POOR
STANDARDS OF CARE?**

HIV: A CONVENIENT SHIELD FOR POOR STANDARDS OF CARE

In 2002 when the ACF International Network arrived in Malawi to respond to the Southern African food crisis, it was noted that there were an unusually high proportion of deaths amongst the children being admitted for severe acute malnutrition in comparison to the severity of the crisis. Initially it was felt that this may be related to the new approach taken by the ACF International Network of capacity building government structures to treat severe malnutrition rather than bringing in specially trained staff to run the therapeutic feeding units. Government staff were seriously overworked and resources were low with overcrowding a common occurrence in the nutrition units. At this time Malawi was suffering the consequences of the 'brain drain' as many qualified medical staff left the country for greener pastures and promises of more pay overseas. Indeed, with 25% of the global burden of disease, Africa now has approximately only 1-3% of the world's total number of health workers²⁷.

Large numbers of children with complicated malnutrition were being admitted to therapeutic feeding centres and a different pattern of recovery was noted to that usually seen in ACF International Network's therapeutic feeding centres used for the treatment of severe malnutrition. Cure rates were failing to meet the expected international standards including the benchmark of less than 10% mortality²⁸, children were taking longer to recover and mortality was occurring at unexpected stages of treatment. Once discharged, the same children and their siblings were returning with repeated episodes of malnutrition suggesting a reduced household capacity to meet familial nutrition requirements.

Initially, when the ACF International Network staff raised the concern of HIV affecting cure rates - a concern which was of no surprise to Malawian health workers - donor response was to imply that HIV may be a convenient shield for poor standards of care. It was therefore decided to collect countrywide data to gain valuable supporting evidence on HIV infection patterns in severely malnourished children and to guide the development of integrated nutrition and HIV care in a resource-limited setting. The aim was to quantify the extent and geographical distribution of childhood HIV infection in a representative range of NRU in Malawi. It also enabled the ACF International Network to assess the acceptability of HIV testing to carers of severely malnourished children in both urban and rural settings

✿ Collecting the evidence and establishing the impact

Data was collected in twelve NRU across the country, representative of each region, and within each region, representative of rural and urban centres. A team of fourteen nurses received specialist training on HIV counseling and testing and were responsible for collecting the data. This skill and knowledge capacity building was planned as a long-term benefit to study staff for use in their regular workplaces.

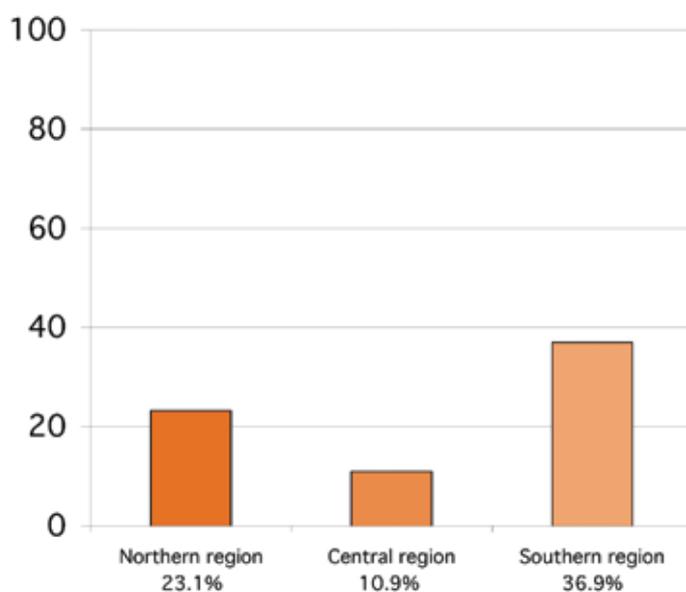
All children and their carers admitted to each of the twelve NRU over a two-week period in the dry season and a two-week period in the rainy season were offered HIV counseling and testing. Children under 15 months were excluded, to avoid difficulties with interpretation of false positive rapid test results, as more sophisticated tests were not available at this time. The two separate periods of testing were conducted due to the hypotheses that there would be a higher concentration of HIV-infected children with complicated malnutrition in the dry season than in the rainy season, when uncomplicated seasonal malnutrition related to food shortages would be prominent.

When a child was found to be HIV positive, the carer was counseled, and referrals for ongoing care were made. This included referrals to treatment centres providing ART and opportunistic infection treatment; community home based care groups; prevention of mother to child transmission initiatives; voluntary counseling and testing centres; orphan care centres; and palliative care services.

🌟 Results

570 carers and their children were offered HIV counseling and testing. Acceptability and uptake was high with 91.7% of carers consenting for their children to be tested and 70% of carers accepting testing for themselves. Overall HIV prevalence amongst children tested was 21.6% and there was wide variation between individual NRU. Geographical prevalence variations were significant between the three regions with the highest prevalence being in the south (36.9%). HIV prevalence was also significantly higher in urban areas than in rural areas.

Figure 1 Geographical distribution of HIV prevalence



A child in a Southern region NRU has almost five times the likelihood of being HIV positive than a child in a Central region NRU.

HIV prevalence is higher by a factor of 2.5 in urban areas (32.9%), than in rural areas (13.2%).

Children in urban NRU are three times more likely to be HIV positive than children in rural NRU. This difference is partly due to the fact that the hospitals in urban settings are usually larger referral centres, which take children who have been transferred from other units with complications. Such referred patients are more likely to be the children with HIV.

As expected, NRU HIV prevalence rates were lower in the rainy/hungry season (18.4%) than in the dry/post-harvest season (30.9%) when malnutrition would not normally be commonplace in the population.

For those who did not consent to testing, the main reasons given included the need to consult husbands or feeling that they were not sick and therefore did not want to be tested. Where children were positive but the mother had refused testing, the implications of the child's results were clearly explained.

Regional and seasonal variation

The geographical prevalence patterns of HIV in the NRU, not surprisingly, reflect the adult regional and urban/rural variations recorded in the 2004 Malawi Demographic and Health Survey. However, these findings have important practical implications.

Firstly there is a need for efficient resource utilization. Knowledge of underlying clinical infections contributing to SAM means that agencies can target and allocate food supplies and medication more accurately. NRU with high HIV prevalence are likely to need larger food allocations as infected children are likely to stay longer in the programme. Similarly they will need greater access to antiretrovirals, cotrimoxazole and medications for opportunistic infections than areas of low prevalence.

Secondly the wide variation in HIV prevalence rates is likely to explain, at least in part, the wide variation in NRU outcomes. It has been noted by the ACF International Network during support of the NRU that rural units have generally had lower mortality rates and higher cure rates than the urban NRU²⁹. Whilst to date this has been attributed to overcrowding and poor staff to patient ratio in the urban centres, the contribution made by coexisting HIV in SAM to high mortality and morbidity rates cannot be overlooked. Since HIV infection directly affects all of the principal NRU outcomes (nutritional cures; deaths; rates of weight gain)³⁰, the background rates of HIV prevalence in children being treated for SAM need to be taken into account when assessing the performance of an individual NRU. Although SPHERE standards³¹ for therapeutic feeding programmes previously stated that mortality rates should not be above 10%, there has been recognition by many working in the field that these standards may not be attainable in areas of high HIV prevalence, especially where there is poor access to paediatric HIV treatment programmes (personal communication Malawi Research Dissemination Meeting Blantyre, January 2007). This will be revisited later when looking at the clinical research.

Numerically there were more HIV positive children presenting in the rainy season, but proportionately more admitted in the dry season. As hypothesised, it can therefore be presumed that the NRU are treating children with complications from HIV infection throughout the year, but with a threefold increase in positive admissions (amongst the drastic increase in HIV negative admissions) during the rainy 'hungry' season when food insecurity becomes the major contributory factor.



INTEGRATING HIV COUNSELING AND TESTING INTO NUTRITIONAL CARE

INTEGRATING HIV COUNSELING AND TESTING INTO NUTRITIONAL CARE

Goal

The overall aim of the Malawi programme was to mainstream HIV into the care of severely malnourished children in order to improve care for children exposed or infected with HIV.

The initial point prevalence study demonstrated a high rate of uptake of HIV testing: >90% by carers for children with severe acute malnutrition, following counseling by specially trained nurses. The uptake rate by carers for personal testing, at >70%, was also higher than anticipated. Both findings counter earlier perceptions that families would be reluctant to participate in testing programmes. During the course of the point prevalence study, ART programmes for adults were beginning to roll out and were increasingly well established in regional centres by the second period of testing. Support services, including home-based care, nutrition supplements, PMTCT programmes and cotrimoxazole prophylaxis were becoming more widely available, along with community awareness that case identification was the key to programme access. It is likely that all these factors along with the opportunity to talk privately with trained counsellors who were not normally resident in the local community contributed to the high uptake rates.

Following the results of the study, the ACF International Network has promoted HIV counseling and testing (HCT) and referral to HIV care as an integral part of the NRU/SC care package, with the objective to improve care for HIV infected malnourished children. This has been done in conjunction with the NAC from 2004-2006.

Activities

To increase knowledge and awareness of HIV amongst NRU staff, training sessions were conducted on HIV-related topics to enable them to refer patients to the most appropriate facilities. The sessions covered the basics of HIV, transmission, the link between HIV and malnutrition, and treatment and services available such as prevention of mother to child transmission, home-based care, antiretroviral therapy and family planning services. The training stressed the importance of referral to these services and the benefits that could be provided. Staff members from each of the 48 NRU supported by the ACF International Network, attended the training. District health officers and district AIDS coordinators were also invited. Refresher trainings on HIV and nutrition were conducted.

For some NRU, even where HCT services are available, factors like distance, time and financial constraints can delay or hinder uptake. Even where HCT is available on the same site but not in the actual unit, referrals will be lost between people agreeing to be tested and actually attending for testing. Therefore, the ACF International Network facilitated full HCT training for staff members of selected NRU where access to testing was more limited, to develop their capacity to implement HCT in the NRU. Trainers of Malawi AIDS Care and Resource Organisation (MACRO) facilitated this training which, in accordance with MOH regulations, lasted 4-5 weeks. Some of the staff identified for training did not reach the level of education required by the MOH to be full counsellors and these participants were trained as HCT motivators.

Although several NRU now have staff members qualified to perform HCT, this has not resulted in HCT taking place within all NRU. This is due to several factors, including lack of provision of test kits and increasing availability of HCT services within the healthcare facility (external to the NRU). Although the trained counsellors do not actually perform HIV testing in these NRU, they still play a valuable role, acting as motivators for HIV testing.

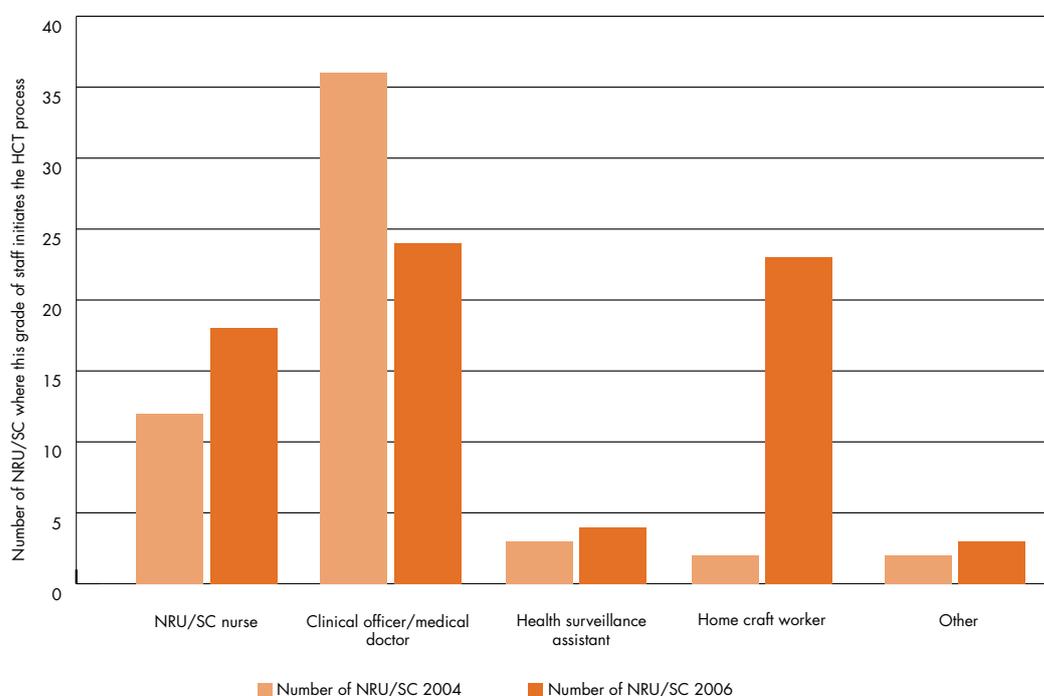
🌟 Uptake evaluation

Between September 2005 and February 2007 48 NRU and SC were evaluated to examine the uptake of counseling and testing as an integrated part of nutrition care.

The overall uptake of HCT amongst children admitted for inpatient care of SAM increased from around 30% to around 50% between 2005 and 2007, with considerable variations between NRU/SC. Those with specialised staff members trained in HCT, had the best uptake, offering and providing the service on admission. In those centres with a low uptake, HCT was not always easily available, for example when only offered by busy medical staff or in centres with particular staff shortage.

In many NRU/SC human resources are limited and more often than not, home craft workers (HCW), health surveillance assistants (HSA) and nurses have the most patient contact. Widening the range of health professionals able to initiate the offer of HCT is therefore important; this was previously felt to be a role for a clinical officer or medical doctor. Today in the NRU/SC, a higher number of nurses, HSAs, and HCWs are initiating the offer of HCT in comparison to 2004. This is shown in figure 2.

Figure 2 Staff initiating HCT in NRU and SCs 2004 & 2006



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The national HIV policy in Malawi aims at routine testing for all patients from high risk groups including malnourished children. Nevertheless, rates of HIV testing of the children admitted to NRU remain below 50%. Results of a follow up evaluation done by the ACF International Network in August 2006 show that HCT is routinely done in only 28 out of 48 NRU. This is encouraging, but there is still a large proportion of NRU where referral is done on the basis of the clinical condition or doctor's/carer's suspicions of HIV infection rather than as routine procedure. When we look at social research conducted to look at stigma and perceptions of care, it will be apparent why this is not appropriate and in fact adds to the continuing challenge of HIV-related stigma. Many staff said they would like more training on HCT, perhaps reflecting that staff members are still uncomfortable with referral for HCT and the skills required to discuss and offer testing. In general, there is also a high turnover of staff in the NRU, itself a possible consequence of the population impact of HIV. Ongoing training and support is therefore needed.

Service implications

HCT services are becoming more available and accessible to children admitted to NRU. In the near future, the increasing availability of ART for children, and access to infant HIV testing methods are likely to amplify this trend.

As HIV treatment services for children develop, routine access to HCT in all NRU, with adequate supplies of test materials and well-trained staff, would ensure that children receive timely and appropriate clinical interventions. There should be a strong move in international guidelines towards promotion of routine paediatric HIV testing, including that of infants, where it can result in access to effective HIV services. In each context, guidelines need to be adapted locally to address the complex social and holistic needs of affected children and their families with the provision of integrated clinical care programmes linking therapeutic feeding and community based therapeutic care programmes with HIV treatment programmes.



**RESPONSE TO THERAPEUTIC TREATMENT IN
HIV-INFECTED CHILDREN**

RESPONSE TO THERAPEUTIC TREATMENT IN HIV-INFECTED CHILDREN

There are a total of 92 Ministry of Health and CHAM (Christian Health Association of Malawi) NRU across Malawi, 70 of which are currently being supported by non governmental organisations (NGOs) in the implementation of the national protocols for the treatment of severe malnutrition; 48 of these are supported by the ACF International Network.

At the time the ACF International Network started supporting the NRU, the standard Malawi National protocols in place were adapted from the WHO guidelines which are inpatient based and use F75 and F100 therapeutic milk. These protocols are under review and the new national guidelines will have a community and outpatient focus, following a 'CTC' (Community Therapeutic Care) model³².

The current WHO treatment protocols for severe acute malnourished children have not been assessed on appropriateness for HIV positive children. In response to this gap in knowledge, the ACF International Network proposed clinical research, to address the question whether nutritional rehabilitation protocols need to be adapted for HIV infected children. The research looks at the response of malnourished HIV infected children to nutritional rehabilitation and the causes of mortality. The main research question asked was:

"To what extent does HIV/AIDS affect a severely malnourished child's response to nutrition therapy?"

This issue was addressed through a cohort study. As already highlighted, many children do not get tested for HIV during admission in the NRU. One of the things thought to play a role in refusal of HCT is existing stigma around HIV. To be able to better address this problem, it was designed, as part of the research, to include a cross sectional study looking at the stigma around HIV in the context of the NRU to assess the subsidiary research question:

"How does HIV/AIDS affect the reported attitudes and behaviours of staff towards children and their carers in the NRU?"

🌟 Study design

Many children do not get tested for HIV during admission in the NRU. One of the things thought to play a role in refusal of HCT is existing stigma around HIV. To be able to better address this problem, it was designed, as part of the research, to include a study looking at the stigma around HIV in the context of the NRU.

The recruitment of a cohort of children started in May 2005 in three NRU in the central region of Malawi: Kamuzu Central Hospital, Mitundu Community Hospital and St Gabriel's Hospital.

Out of 507 children recruited to the study, data from 454 children was analysed. Baseline characteristics collected included age, sex, HIV status and CD4%, haemoglobin level, presence of oedema, malaria status, maternal health factors and location of residence.

Inclusion criteria:

- Admitted to NRU with <70% weight/height or bilateral oedema
- Agreement by carer to stay for full length of treatment until 85% weight/height
- Age 6 months – 5 years
- Agreement by mother or guardian for HIV testing for self and child

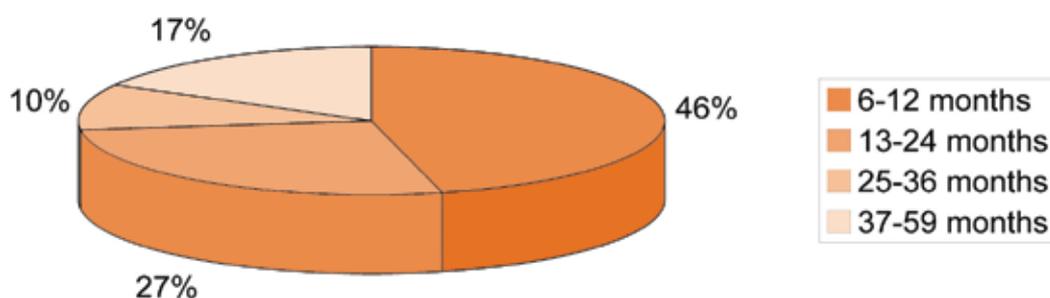
🌟 Results

HIV infected severely malnourished children in Malawian NRU were 3.4 times more likely to die than comparable uninfected children.

Of the 454 children, HIV prevalence was 17.4% and there was 14.8% mortality overall. 35.4% of the HIV infected children died, compared with 10.4% of the HIV uninfected children; this gap was statistically significant. HIV infected children were also significantly more likely to have low haemoglobin and to live in an urban household. They were less likely to be oedematous or to have malaria.

Mortality in the HIV negative children varied by NRU, and was less than 10% in two NRU complying with acceptable international standards³³. Mortality among the HIV infected children was considerably higher than acceptable international standards in all three NRU, ranging from 20-38.5%. Younger children were more likely to die, with those aged between 6-12 months having the highest prevalence of mortality, as shown in figure 3.

Figure 3 Mortality among HIV positive children enrolled in NRU



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HIV infected children were not more likely than HIV uninfected children to die within the first 48 hours or at home during the four month follow-up period after nutritional recovery and discharge. More than 50% of deaths within the hospital occurred by day 10. Of the 83.6% (56/67) mortality that occurred in hospital, 75% of them had been transferred from the NRU to the paediatric ward. 16.4% of deaths occurred at home during the follow up period after discharge from nutrition rehabilitation. Figure 4 gives a summary of all mortality.

Figure 4 HIV prevalence and mortality by site

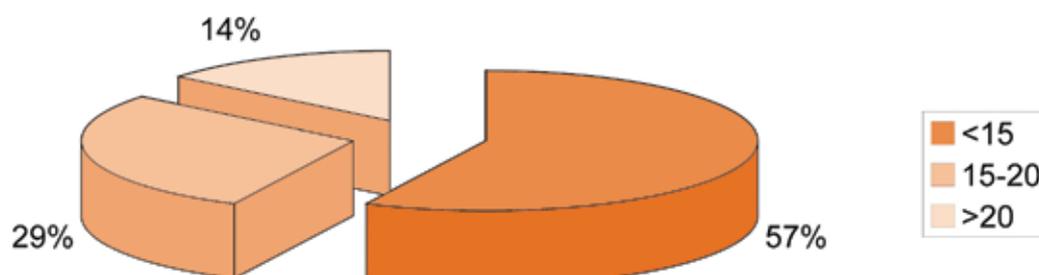
| NRU | HIV prevalence | Mortality in hospital HIV uninfected | Mortality in hospital HIV infected | Mortality in hospital overall | Mortality during home follow-up | Mortality overall (including follow-up) |
|--------------|-------------------|--------------------------------------|------------------------------------|-------------------------------|---------------------------------|---|
| KCH | 36.3% (61/168) | 6.5% (7/107) | 29.5% (18/61) | 14.8% (25/168) | 1.8% (3/168) | 16.7% (28/168) |
| Mitundu | 4.5% (5/110) | 2.9% (3/105) | 20% (1/5) | 3.6% (4/110) | 3.6% (4/110) | 7.3% (8/110) |
| St Gabriel's | 7.4% (13/176) | 13.5% (22/163) | 38.5% (5/13) | 15.3% (27/176) | 2.3% (4/176) | 17.6% (31/176) |
| Total | 17.4% (79/454) | 8.5% (32/375) | 30.4% (24/79) | 12.3% (56/454) | 2.4% (11/454) | 14.8% (67/454) |

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✦ Levels of immune status

CD4% results were available for 374 children. 53.8% (35/65) of HIV infected children had a CD4% of less than 15%, as compared to only 0.97% (3/309) in HIV uninfected children. 85.7% of deaths in HIV infected children occurred in children with CD4 below 20%.

Figure 5 Mortality by CD4%



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HIV infected children with a CD4% below 20% were significantly more likely to die than HIV infected children with CD4% above 20%.

40% (18/45) of HIV infected children with a CD4% under 20 died, in contrast to 15% (3/20) of HIV infected children with a CD4% over 20.

Using the 2006 WHO recommendations for paediatric ART by CD4%³⁴, 69.2% (45/65) of the HIV infected children in our study with SAM required ART. None of these children were receiving ART upon admission to the NRU. One third of the children requiring ART died while still in the NRU.

Discussion

This study shows clearly that mortality was markedly increased in HIV infected children compared with HIV uninfected children, and this occurred despite 24 hour medical and nutritional care. Internationally accepted minimum standards for treatment of SAM state that mortality should be within 10% in a therapeutic feeding programme³⁵. While the overall mortality of 12.3% (within the hospital) or 14.8% (including follow-up) does not meet this standard, it is valuable to further break down the cohort by facility and HIV status. Both KCH and St. Gabriel's hospitals are referral hospitals that receive transfers of complicated cases from across the region. At KCH, over one third of the children with SAM were HIV infected. The mortality among HIV uninfected children is within SPHERE minimum standards at 8.5% demonstrating acceptable quality of care, but the overall mortality at the centre is elevated above this benchmark by the high rates of mortality in complicated malnutrition amongst the HIV infected children. The high incidence of mortality among the HIV infected children in this cohort cannot be explained by poor quality of nutritional care but rather indicates the high rate of medical complications in the HIV infected children. Indeed, this rate of mortality in the HIV infected children suggests that minimum standards, devised for the emergency context, need to be revised for use with children with complicated SAM in the context of HIV.

One of the limitations of the study is that HIV results were not known for 13% (67/507) of the patients, either because they died before having an HIV test, or because their blood sample was clotted or their result missing from the lab. Data from some of the most vulnerable children will therefore have been lost during this early period. As there was one-third mortality in this group, more than double that of the hospital mortality within children recruited to the study, it is also probable that a higher proportion of these children were HIV-infected.

While 75% of hospital deaths occurred on the paediatric ward, this is not an indictment of quality of care on the wards, but rather a demonstration of the complications seen by hospitals in HIV related SAM. We were not able to assess precise cause of death in these children, but this finding highlights the need for continuity of nutrition therapy and medical care though collaboration between medical paediatric care and nutrition rehabilitation programmes where the two systems are separate.

CD4% criteria for commencing ART in children with SAM need to be urgently examined and clearly defined. More than half of all HIV infected children with SAM had a CD4% below 15%, and low CD4% was a high risk factor for mortality. While the majority of deaths occurred in children with a CD4% <15, an important proportion of mortality also occurred in children with CD4% between 15 - 20%. Overall, nearly 70% of HIV infected children with SAM in the cohort required ART according to WHO criteria supporting the inclusion of SAM as a staging criterion for ART initiation.

HIV infection greatly increases mortality in children with SAM even in nutrition rehabilitation programmes with good quality of nutritional and medical care. While improvement in care practices and adherence to guidelines for the treatment of SAM have been shown to decrease mortality^{36,37}, this data shows that the complexity of case presentation also affects mortality rates.

The 2004 WHO literature review of current practice in the treatment of severe malnutrition identified several priority areas for further research; including effectiveness of ART in children with SAM, and the level of immunosuppression and phase of malnutrition treatment to begin ART³⁸. The 2006 paediatric WHO ART guidelines for resource limited settings state that expert opinion suggests children with SAM should be stabilised on nutritional treatment with return of appetite before ART is initiated³⁹ (WHO 2006). The question remains as to what extent ART initiated in children with complicated cases of SAM will be effective in preventing mortality, due to the concentration of advanced cases with late presentation.

🌿 **Lessons for community based management**

Over 50% of mortality occurred within the first 10 days after hospital admission. This highlights the complexity of the medical management of complicated malnutrition and emphasises the standards of care and optimal medical treatment that have been striven for over the last decades⁴⁰. It is essential that this is not forgotten in the 'public health approach' of the community-based model and that the correct management of clinical care is still given the importance and training that is warranted for the stabilisation centres. Another point to note is the similarity in the incidence of mortality between the HIV infected and uninfected in the early stages of treatment when complications still preside, and then again after recovery during follow up. Overall, the HIV infected children had a three times higher risk of dying. If the risk was not higher in the early stages, and similar after nutritional recovery, it suggests that the higher risk lies in the treatment phase, after stabilisation and before recovery. Several possible explanations could be proposed: inappropriate management of HIV related complications in the stabilisation phase; risk of hospital acquired infections in children with poor immunity; and finally, it perhaps questions the suitability of milk-based protocols on a chronically HIV-affected gut. Further analysis on morbidity will be needed to answer such questions. However, comparisons with HIV infected children in community-based models would certainly be valuable.

37.7% of HIV infected children requiring ART within this study died before achieving nutritional recovery and therefore before the chance to start ART post HIV diagnosis. This emphasises the urgent need for HIV screening services to be more widely accessible to all potentially exposed children. PMTCT programmes, which are scaling up in Malawi, provide an ideal opportunity for this. HIV exposed children should be followed up, and tested for HIV through specialised infant tests or antibody testing. Timely and adequate care and treatment can then be offered to those children found to be HIV infected, which can prevent development of irreversible damage to their health and development. Also, in those children with signs of malnutrition and faltering growth, detection and treatment of HIV should be a priority, the earlier the better. This must involve all health care workers who see children, and the integration of HIV detection and care into the Malawi IMCI guidelines is a good step towards this. Waiting until children develop SAM puts them at unnecessary high risk of mortality. We urgently recommend that all inpatient and community based programmes for the treatment of both moderate and severe malnutrition in high HIV prevalence areas include testing and counseling for HIV.



HIV/AIDS, MALNUTRITION, STIGMA AND DISCRIMINATION

HIV/AIDS, MALNUTRITION, STIGMA AND DISCRIMINATION

This chapter is a summary of a study done in collaboration with REACH Trust Malawi

Background

In a pilot study conducted by the Panos Institute in Zambia, care providers claimed they found patients with HIV/AIDS more difficult because of their multiple infections; their “hysteria”, their “attention seeking”, and their “many thoughts”⁴¹ (i.e. the need for psychological as well as medical support). They also admitted that HIV/AIDS patients were often not given the same services because doctors knew they are going to die and, therefore spent less time on them. Stigma was also evident in mothers taking care of their children with HIV in hospitals. They tended to abscond from treatment because they believed that their child was going to die and their few resources should be used on those who would live.

As a part of the clinical research carried out in the nutrition rehabilitation units, an observational study was conducted to explore the impact of stigma on the quality of care for HIV infected and uninfected severely malnourished children. Like many PLWHA in resource poor contexts, HIV positive children are vulnerable to stigmatisation and discrimination. This stigma and discrimination can be experienced both in hospitals and in the communities in which they live. HIV/AIDS-related stigma seriously impedes effective care and support programmes. Stigma towards the affected family or individual often poses one of the greatest challenges for those living with HIV/AIDS and one that is extremely hard to address.

It is against this background that the study aimed to explore how stigma and discrimination on the basis of perceived HIV status affects the interactions between health staff, carers and children in the nutrition rehabilitation units in Lilongwe. The study elicited important information with regards to health workers’ attitudes towards HIV positive malnourished children and their carers. Such attitudes can negatively affect the treatment and feeding outcomes of malnourished children and the caring experiences of their carers.

The study, conducted between November 2005 and March 2006, looked at the dimension of experiences and relationships in the NRU to help shed light on differences in response to therapeutic feeding amongst severely malnourished children who are either HIV positive or HIV negative. Global literature suggests that health providers may discriminate against or act differently with PLWHA in the health care setting, but few of these studies to date specifically focus on children⁴².

Objectives of the Study

1. To document the challenges carers and health workers face in supporting malnourished children in the NRU setting.
2. To explore how the health workers and caregivers perceive the children’s HIV status.
3. To assess the extent of perceived and enacted stigma by health workers and carers and explore how this relates to perceived HIV status.
4. To explore whether gender, age, cultural norms and work experience shape staff’s and carers’ perceptions and behaviour towards malnourished children perceived as HIV positive.
5. To investigate hospital staff’s knowledge on nutrient and dietary requirements for HIV positive and negative malnourished children.
6. To make recommendations to hospital personnel and other stakeholders in order to reduce stigma in NRU and provide in-depth contextual information to help interpret the observation trial.

The study focused on exploring and understanding the in-depth context of the behavioural attitudes that affect the response of malnourished children to therapeutic feeding, alongside the clinical issues. This is critical in order to enable positive outcomes for children who are both malnourished and HIV positive. It was conducted on two sites: Kamuzu Central Hospital (KCH) and St. Gabriel's Hospital in Lilongwe district. The respondents included staff involved in care of the malnourished children and the children's primary carers who resided with them during treatment. The study was conducted during the assessment and treatment for severe malnutrition. Staff included nurses, ward attendants, home craft workers and doctors. In addition to selection of staff of different cadres, we purposively selected staff to include staff of different demographic groups such as age, sex and length of working experience at the study site in order to explore whether gender, age, cultural norms and working experience shape staff's perceptions and behaviours towards malnourished children who are HIV positive. Carers were also sampled to capture differences by age, whether the carer was a biological parent or another relative, and duration of stay in the hospital. The study used three complementary qualitative research methods: in-depth interviews, participant observation and focus group discussions. Many aspects of the findings highlight general challenges faced in the NRU by both carers and staff. This chapter will summarise the main findings of the study related specifically to HIV. The full report is available on request.

🌟 Findings

A complex interplay of findings emerged on the factors that contribute to the response of therapeutic feeding by the children in the NRU. These ranged from different challenges carers and health workers face, understanding of HIV/AIDS and malnutrition among the carers, knowledge of HIV status amongst health workers and carers, the extent of perceived and enacted stigma, and health workers' knowledge on nutrient and dietary requirements for HIV positive and negative malnourished children. The main themes that came out were "The milk is not enough" referring to resources available in the NRU such as milk, medicine, space, hygiene; "We have different blood" and "My other children back home" referring to the carer's multiple responsibilities and challenges.

🌟 Gender aspects

Over 90% of the children in the NRU were accompanied by their mothers. Fathers are mostly uninvolved with the children's care in the NRU. This often puts the mother in the position of making care, testing and treatment decisions without their husband's participation or consent. These types of family decisions are usually made by men in Malawian society. A woman returning home to inform her husband of HIV infection may be vulnerable. The lack of participation of fathers in the nutrition programme also means that the NRU is not acting as an entry point for HIV services for men who may be in need of HIV testing, education and treatment.

"...my husband doesn't know about this. If I stay here I will ruin my marriage because the husband will ask where I have been or why I accepted to stay in the NRU without his consent..."

🌟 Challenges: the milk is not enough

The theme of inadequate resources came out continuously and whilst this to a certain extent is the case throughout health structures in under resourced countries, it is sometimes felt that in particular, the resources dedicated to the treatment of malnutrition reflect the socio-economic status of those usually affected. Both carers and staff mentioned the lack of resources available and how this impacted on care. This included shortages of milk and medicine for the children, as well as lack of food, soap and blankets for the carers. Many of the carers travelled long distances to the NRU, and came without adequate food, money and supplies for their stay; leaving some of the carers hungry with a lack of

facilities and supplies for personal sanitation. Research staff observing in the wards reported that carers and children were often sleeping on the floor due to overcrowding. Not all carers and children had blankets for sleeping, although the ward was sometimes cold at night, and the guidelines for nutrition rehabilitation of severely malnourished children state that children must be kept warm to prevent hypothermia⁴³. Although the NRU has sinks with running water for the carers' use, soap is often not available. Children are playing and sleeping close to one another in unsanitary conditions, risking cross-infection. The researchers noted there were sometimes over 50 children on the ward with just one or two nurses on duty.

For the carers, it can make them question the suitability of coming for care. The health staff themselves mention understaffing, lack of training, lack of space, shortage of equipment, lack of coordination amongst themselves, and lacking understanding or being less cooperative as the challenges they face on their day to day operations mount. It is perhaps then, not so surprising that carers feel the stress and demotivation of the staff. Carers also reported that the care provided within the NRU was not holistic; that they had to move up and downwards to gain care for themselves and their children.

"In fact it pains because as my colleagues have pointed out we are made to wait for the doctor for almost the whole day. When you go there, they say 'I am busy so you have to wait'. When you go there next time, you are told the same thing. So as a person who is also in confinement together with the child you really feel like going home is the best you can do because even if you stay here there is nothing that is happening". (Focus Group Discussions with women, KCH)

Many carers reported ill treatment by staff whilst others see it as negligence and underperformance by some health workers:

"...we find most of them just sitting on a chair and claim they are busy and just two days ago a certain nurse literally shouted saying, 'I am fed up with pinching your children's feet'". (Focus group discussion with women, KCH)

Carers complained about lack of support in terms of material and financial resources and this is a big challenge for them to cope both before and during their time in the NRU. Some have done what they can to prevent malnutrition but resources are just too limited. Once their children are admitted with malnutrition there is always the feeling that they are somehow to blame.

"Then I went to a clinic with her where I was told to buy maize, beans, groundnuts to prepare porridge for her three times a day. The doctor assured me that she will be OK. However, because of financial constraints and the hunger crisis which was roaming then, I could not manage". (In-depth interview with male carer, St. Gabriel)

The carers were also seen to become psychologically affected by the way the health workers treat them. Health workers engage in practices that can demean or discourage the carers from adhering to treatment of their children. For instance they are reported to shout at the carers, abusing and mocking them when they are in the NRU. This was found through the study to greatly contribute to cases of absconding by the carers as they feel they cannot continue staying at a place where they are being disregarded or ill-treated. Through reports from observation, group education sessions appear to be quite hierarchical. Generally the health care worker stands at the front of the carers, who are sitting on the ground. The carers are often then asked to sing, clap and repeat back what the health care worker has said. While this may be a time-efficient and culturally familiar method of education, it is not patient-centred care and does not allow for an exchange of ideas.

🌟 The impact of stigma: “We have different blood”

The perceived or enacted stigma by health workers and carers relating to perceived HIV status of the children was reported in two strong themes from carers: “We have different blood” referring to staff attitudes and underperformance, and “What wrong did I do to God?” referring to stigma and malnutrition.

Differences between the staff and the carers are evident from the reports from researcher observation. Most hospital staff have higher socio economic status than the carers. This is evidenced by differences in dress, appearance and possessions; for example staff tend to be educated, have mobile phones, wear hair weaves and shoes, while carers have less education, wear chitenjes (fabric wrapped skirt) and are barefoot. The relationship in the NRU between carers and staff appears to be hierarchical. Carers often come and bow before nursing staff, or avert their eyes downward when they are requesting care.

Carers report that some of the staff are warm and welcoming with them, but that others are unkind. Illustrative quotes include:

“Some are good while others are harsh. Some they do their work as nurses, very friendly and humble while others instead of helping you they say bad things to you.”

“You can not interact with all of them nicely, some are good but others, we have different blood.”

Some of the carers reported being made to feel stupid in their interactions with staff:

“Because if the doctors are not considerate we feel underrated as if we are just stupid to be here, as if we asked God to be in the hospital.”

“There are some nurses who do not treat us with dignity. However there are others who treat us as human beings”. (In–depth interview with female carer, St. Gabriel’s).

This disparity is echoed in the interviews with staff. One ward attendant said:

“...so we can’t be the same because of our different backgrounds and upbringing. On the part of carers, I would say a carer is a carer, we can’t be the same.”

Staff expressed some frustration at lack of understanding and compliance in carers:

“As a health worker I can say that the relationship with carers is always good. As long as they agree and do whatever we tell them to do, we stay together without any problem.”

One staff member likened the relationship between staff and carers to the relationship between parent and child. Some of the language used by staff when referring to the carers seems to indicate a lack respect for the carer’s situation. Carers are said to complain about ‘trivial matters’, to offer ‘lame excuses’, to be ‘cunning’, to ‘lie’, and to ‘ignore responsibility’.

When asked, all staff members reported that they do not treat HIV infected and uninfected children differently:

“Actually there is no difference because all of them are our patients to seek care, and we treat them all as our patients. We don’t treat them differently”.

“Love is the fundamental tool for health workers in order to comfort them and make them forget their worries.”

Other statements however, reveal some differences in staff attitudes towards mothers of HIV infected and uninfected children:

“The difference in relationship is that as I have already said carers whose children are HIV positive become stubborn and cunning due to lack of hope.”

“... carers whose children are HIV negative are not that difficult to handle. They are always understanding and fast learners willing to implement whatever they are being told to practice, unlike their friends.”

✿ **What did I do wrong?**

There were different perceptions between the carers and health workers towards how each group regards the other when it comes to reaction upon knowledge of children’s HIV status. Some health workers perceive carers as people who become troublesome and non-compliant when they know that their children are HIV positive. They tend to lose confidence and hope in the therapeutic feeding and may abscond from treatment.

Carers associate their children’s illnesses with spirituality and divine punishment and report experiencing stigma in their interaction with other carers. One carer said:

“Ah I don’t know because I just say it is the making of Satan why others are OK like his twin brother is OK walking and good health and they are saying this one is malnourished. So I just say it is the work of the Satan.”

Some carers seemed to accept their illness and want “to live positively” while other participants revealed a sense of hopelessness about HIV. This theme of hopelessness was also explored in the interviews with staff members. One nurse told a story of a grandfather who refused treatment for his grandchild.

“He vehemently shouted at us, saying: ‘what’s the use of drugs even if he dies I thought this disease once you catch it you never recover, the end is death’. The grandfather left the hospital with the child, however the father later brought the child back for treatment.”

Carers manifested their disturbance upon hearing their HIV status, often becoming overwhelmed, concerned, fearful and desperate upon learning that they are HIV positive. These reactions may be attributed to the common concept that HIV is incurable and means a death sentence for most people. Carers need to be counseled about the availability of ART both for themselves and for their children. Not knowing about how to break the news of their HIV status to husbands has been another major cause of anxiety amongst carers. It is therefore important that the issue of disclosing to the spouse is highlighted during counseling sessions, and that the health systems should be flexible enough to allow the carers to refer their husbands to counseling.

Some of the positive responses captured on the part of carers were that some husbands support and encourage their wives to go for HCT. Those who receive support go to the extent of telling their fellow carers and health workers about their HIV status and counseling each other. This is encouraging and is an important step to fighting stigma and providing psychosocial support to people living with HIV/AIDS. However, there remains a need to encourage carers to be more open and to accept positive

living after being diagnosed HIV positive.

The issue of stigmatization and discrimination came not only from the health workers but also the communities where the carers live. The study shows that due to ignorance or misinformation, some relatives of the families whose children are in the NRU, spread news in the villages that the carers and their children have AIDS. As a result, carers are mocked and feel rejected by their relatives when they come to visit them and feel that they are being rejected on the grounds of being HIV positive.

✿ **Denial or multiple responsibilities? “My other children at home”**

Some carers also stigmatize and discriminate against their own children. Information elicited from the health workers indicated that once the carers know that their children are HIV positive, they abscond from treatment saying they cannot go on caring for a child who will inevitably die despite being in the NRU. They still think that once a child is HIV positive s/he can never be cured of other diseases, even malnutrition. According to health workers once a carer knows a child is infected with HIV/AIDS the immediate thing that comes to their minds is death. Then they categorise all that are critically ill as those with HIV/AIDS. The consequent denial of access to treatment for children by some carers is a true indicator of how discrimination towards people perceived to be HIV positive takes root in a society and is illustrative of the dilemmas and challenges faced by the mothers/carers of HIV positive children.

“...carers whose children are HIV positive become wild...they are always reluctant to accept or feed the child...”

(In-depth interview with an auxiliary nurse, KCH)

There were contradictory responses from the two sets of respondents that researchers interviewed. From the health workers' perspective carers are likely to abscond when they know their children are HIV positive. The carers themselves cited things like the need to take care of other children at home, and farming, as the reasons that force them to abscond from treatment rather than the HIV status of their children.

✿ **How health workers and carers perceive HIV**

Some factors were observed that shape health workers' and carers' perceptions and behaviours towards malnourished children perceived as HIV positive. In this particular study, discrimination was observed through tactics applied by the nurses when carrying out their duties. They were observed to be touching some children but not touching those they perceive to be HIV positive. Equally, they seemed to have no interest at all in those children who seemed to be both severely malnourished and HIV positive. This was observed during assessments on admitted children or receiving new patients. Children that were not touched by nurses were those who looked to be severely malnourished. One nurse wondered why a mother had to come back to the NRU with a child who she said was HIV positive. This signifies stigmatisation in some relationships within the health care setting to children perceived to be HIV positive.

Others, however, correctly expressed concern that children were arriving in the NRU with already advanced malnutrition, and that the best opportunity to intervene and prevent mortality has passed:

“The moment they come to NRU it's already too late. They should have had food at their home, they should have started ARVs earlier, they should have been detected to have TB earlier, so you are always lagging behind, and for some children it's too late.”

✦ Understanding of HIV/AIDS and malnutrition among carers

Most of the respondents interviewed showed that they have little knowledge about issues of HIV/AIDS and malnutrition. This might be due to carers' low levels of education combined with lack of proper orientation by the health workers to the carers upon admission in the NRU. Carers were not properly told why they should be giving children milk only and not other foods when they are in the NRU; the health workers just tell the carers about it as a regulation they need to follow and not necessarily taking time to explain to them why they need to adhere to it.

However, some respondents showed that, to some extent, they do know something about HIV/AIDS, as well as the relationship existing between malnutrition and other chronic illnesses, as they were able to cite information such as modes of HIV transmission and the link between malnutrition and chronic illnesses. There remain however, many misconceptions as regards to how they can identify a person who is HIV positive.

"On AIDS a person is known to have the disease after giving birth because she suffers from malaria quite often and develops cough that is persistent. She also complains of pneumonia always whether the weather is hot or cold."

(In-depth interview with a carer, KCH)

"We can know that someone is HIV positive through the appearance of the hair. No matter how old a person can be, but with this disease the hair looks curlish and with stunted growth like that of a newly born baby or an infected cat"

(In-depth interview with female carer St. Gabriel's)

Some respondents equated HIV/AIDS to TB thus regarding any TB patient as HIV positive and vice-versa. In the community, malnutrition is often viewed the same way. Some carers and staff know or think they know the HIV status of the children and/ or carers in various ways. Many just suspect or guess, and this can be the basis for the start of stigmatisation.

✦ Conclusions

While it was clear that HIV stigma is present in the NRU, some of the most important findings coming out of the stigma study was that it was access to and quality and availability of HIV services integrated into nutrition care that made the biggest difference in terms of service uptake. Stigma was not the most important reasons for caretakers not to go for VCT. In fact, many carers are very willing to go for an HIV test provided they understand its importance and access to it is practical. HIV stigma needs to be considered in the design of services within the NRU, and education and counseling should be made available for staff and carers. The central recommendation from the stigma study is that HIV testing and treatment services should be better integrated into severe malnutrition. This should be done in a holistic way; addressing the issues of stigma through improving quality of care, and providing staff training on promoting positive living with HIV. Maternal and family care needs to be incorporated. An HIV integration study is planned to follow on from the stigma study looking at how HIV and nutrition services are integrated, how they are perceived and used, and their impact.



**LIFE AFTER NUTRITION REHABILITATION:
FOLLOW-UP OF CHILDREN DISCHARGED**

LIFE AFTER NUTRITION REHABILITATION: FOLLOW-UP OF CHILDREN DISCHARGED

All children identified as HIV positive during the research were referred into services to be monitored for HIV progression and assessed for suitability to start anti-retroviral therapy (ART), medication which helps slow the replication of the HIV virus and the damage it consequently causes to the immune system.

Due to funding difficulties it was not possible to continue with long term follow up of the children from the research study as planned. Most children were followed for approximately four months on average. In 2007 as a part of the Hunger Watch series on HIV/AIDS it was decided to revisit some of the households of the children and carers involved in the research to see how they were managing having received their HIV diagnosis and appropriate referral. Previously in the nutrition units it had been noted that the same children and their siblings were returning with repeated episodes of severe malnutrition indicating an inability to cope at household level. The aim was to see how the positive households were faring in comparison to the HIV negative households, to look at the impact that HIV has on a household after diagnosis and linkage into referral services. Thirty eight households from the Lilongwe area were visited individually to see their current nutrition status and the food security of the household. Questions were also asked about what services each family were using with regards to nutrition and HIV care. Fifteen of the households had an HIV positive status, while 23 had no member known to be infected with HIV.

✦ Nutrition status

Children were checked for weight, height, and mid-upper arm circumference (MUAC). Family members also received MUAC screening. When measurements were taken, the average time since discharge from nutrition therapy and diagnosis was 13 months. In this time none of the children had relapsed, although one HIV negative child had died of causes unrelated to malnutrition or HIV.

Of the children who were diagnosed with HIV whilst receiving therapeutic feeding, 85% of them are now receiving ART. None of these children showed even moderate signs of acute malnutrition and all reported less illness since discharge. Stunting, a recognised sign of chronic malnutrition, remains prominent, and is more pronounced in the HIV infected group, though on a downward trend in both the negative and positive children. There is an extremely high proportion of stunting in Malawi, linked to long term food insecurity.

Figure 6 Stunting data 13 months post-discharge of HIV- and HIV+ children



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The fact that the children were all doing so well may be largely due to the response to ART. ART will help the immune system to recover, leaving less room for infections that cause acute loss of weight and help increase appetite with the general feeling of well being. It is normal that ART cannot turn around stunting at this stage, and that MUAC will also take longer to improve. After an average of 13 months since discharge, it is a promising step that the children have maintained their weight for height and are experiencing less infection that would increase their risk of malnutrition.

Family health

According to MUAC screening, with the exception of two households, all of the positive families are apparently in good nutritional health. This is in line with the negative families who share the same essential influencing environmental factors; the HIV affected families are no worse off at this stage.

Psychosocial health however is a different matter, and it was clear from the households interviewed that there were issues of stigma and depression affecting maternal and child health. One mother was clearly depressed; she said she would not access services even if they were there, and consequently she puts the health of both herself and her child at risk. Depression and isolation affects not only the adult but also has an impact upon quality of maternal care and interaction with child practices influencing the child's health and development. A young mother explained how stigma and discrimination was a problem for her child, as other mothers did not allow their children to play with her, affecting her child's natural development through absence of interaction with other children. A grandmother told of the abrupt removal of a child from his mother by the extended family as they felt she was incapable of caring for him due to her psychological health.

Maternal and child access to health care were reportedly seldom adequate as the demands on female labour in the household did not allow the time for long queues at health centres except for serious illness. Whilst it was good that none of the children fell into the 'really sick' category, this is not a good indication for the proportion of under fives accessing primary health care and growth monitoring clinics which is where early health and nutrition problems would ideally be identified and treated.

Whilst the number of children accessing HIV services was extremely encouraging there was a major concern highlighted. In the process of HIV counseling and testing, it is made clear to the mother that a positive HIV result for the child is a strong indication of her own positive status. What has become clear is that although mothers/carers are willing to acknowledge HIV status in their children in order to access treatment there is still a reluctance to attend to their own health needs and face up to their own HIV status. There is a huge gap in adults accessing services for parental health once the child has been diagnosed through the nutrition units. One of the main factors for child health and well being is the physical and psychological well being of the mother, affecting childcare practices, childhood nutrition status and childhood psychosocial development and education. Out of 15 positive households only 2 reported that the adults were accessing services and treatment. These mothers may be in good health but there was no indication that any services or monitoring of their HIV status had taken place since diagnosis. If a mother is ill or passes away, the chance of her young child's survival is significantly reduced regardless of their HIV status⁴⁴.

So, whilst those children on ART may be doing well now, if the remaining thirteen households are not able to address the mother's HIV status and access the relevant treatment and care for her, this advantage will not be long lived. Family ART clinics are starting to become more widespread and may help significantly to address this issue.

🌿 Access to services - limitations

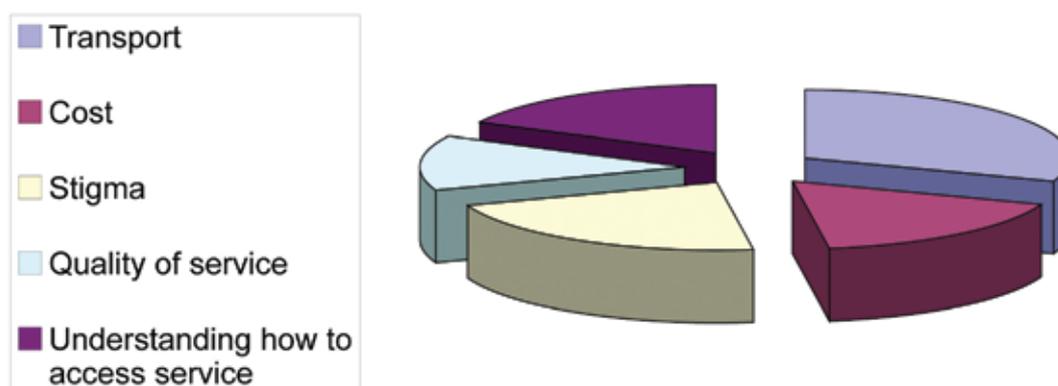
Despite children being on ART, this remains in many cases the only service that the family are accessing. Despite functioning referral systems in place from the original point of contact with these households in an area of multiple HIV services, few were accessing other support services such as home based care, nutrition benefits or peer support groups offered by many of the CBOs in the area. One family was accessing a loan facility from CARE. Two possible explanations for limited take-up could be proposed; either information is not digested at time of hospitalisation (those who say they are not aware) and needs follow up by way of a community liaison person after discharge, or stigma and transport issues (the main barriers reported by mothers) are preventing families from following referral recommendations.

None of the households mentioned distance as a barrier (all are urban) but transport is still required as children may be too young and possibly too weak to walk long distances. Positive households reported worse access to health services than negative households and costs of transport were reported by both groups as the primary reasons for difficulty of access. Cost of services was also a significant problem for 33% of positive households. Positive households however, were more likely to say that access is improving, perhaps due to increasing services linked to the widening coverage of ART.

Stigma and a lack of understanding about how services are accessed and how they can help are other main barriers. For some the quality of the service is not worth the risk of increased stigma and discrimination in the community, or the time that it takes to access the benefits offered.

The main problem is being given advice that is not practical. There are many national guidelines in place now for nutrition needs in HIV infection, but many are completely impractical, as they do not consider at all what the average family earn and can afford to eat. There is a need to look at locally available and affordable foods and suggest diets accordingly. If food is not affordable then there is a place for nutrition supplements, either where there is a gap in nutrients available locally or a gap in household resources to source an adequate diet. Families report barriers which obstruct access to health care services, as summarised in figure 7.

Figure 7 Multiple factors reducing access to health care for PLWHA



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Income as a key factor

When these households were questioned in more detail it appears that the loss or maintenance of income is the main factor on the household ability to cope with the impact of HIV. For those who have lost an income earner, every other aspect of household life becomes affected; access to healthcare, access to water and adequate nutrition intake. Those who manage to maintain income report few other effects on the household although they may have to make some intra-household adjustments to maintain the level of income. Most of the adaptation is done within the household unit, changing responsibilities, with fitter family members covering for those who cannot manage, even if this involves extra labour for children and elderly. On a positive note, nearly all the HIV infected carers interviewed are working in some capacity.

Increase in petty trade and casual labour, including those members of the household who were not previously working, is the main line of coping strategies. The tradition of the extended family, which offers support to all its members in times of hardship, provides a safety net for many families. However, this support network is often strained due to the HIV epidemic, both financially and emotionally. One household reported the excessive psychological strain on the grandmother as she watched her family suffer.

Some have been helped in the past by NGO loan facilities, which have proved successful in managing to balance a precarious household situation. Stigma as well as physical health affects the ability to earn income and this is certainly still a massive battle to be waged despite the gains in HIV awareness and sensitisation. Although those who maintain income appear to be doing well, they still report an increase in spending mainly due to healthcare and hired help in the household. This raises the question as to when spending needs will outweigh income and raises the argument of how to effectively target those with HIV, a practice that is most commonly done on traditional vulnerability criteria. This may prove however, not to be timely enough to curb economic downfall, with interventions arriving too late.

The most reported need is for money to cover everyday needs, and for nutritious diet. Those who had financial assistance (one family assisted by CARE) and others who were financially stable, clearly had less impact from HIV in all other areas of their lives. However, stigma remained an issue for the financially secure, as some say they would not access services even if they were there and one interestingly said they did not require any services. This was a household with their own car and a stable income from self employment, tap water and a flush toilet, but there was an underlying feeling of either lack of acceptance about the family illness or else some discrimination from a 'well off' family who feel they are not in the same category as the majority affected by HIV. It is true that their current financial needs are met, but services such as psychological, peer support and even medical services will be required at some stage. This illustrates how stigma can infiltrate at all levels to block access to services.

As already stated, the main additional expenses are for health care and access to health care by public transport. Many reported the need to hire help for looking after other family members when attending health care facilities for the sick child or when out earning income. Also hiring help for heavy or traditionally 'male' tasks in the absence of a male head of household was reported, as found in a study by the ACF International Network on HIV and water⁴⁵, where the building of latrines and wells proved significantly more problematic if there was no man in the household. The message for better quality food is getting through but there are few who can follow the advice to the maximum. Those who are able, whether by home gardening or through income generating activities, are doing so.

🌿 **Water, sanitation and hygiene**

All the study respondents were in an urban location where water is easily available, so the majority were not affected by inability to access water. Most (66%) report needing more water for health and hygiene needs particularly related to washing and cleaning of clothes in sickness and diarrhoea.

Households in both groups struggle with water acquisition in the dry season, but even more so for positive households. In the three months before the rains, over three-quarters of positive households report sometimes lacking water to meet their 'nonessential' needs (agriculture, etc.), compared to approximately half of the negative households. Primary water sources stayed more or less the same for negative and positive households in wet and dry seasons – unprotected wells/springs and taps are the most important – but 72% of positive households reported depending on rainwater as one of their primary water sources during the wet season compared with only 9% of negative households. Distance and time were listed by positive households as the most important factors limiting water access, a factor in why they prefer to depend on rainwater during the wet season.

Types of accommodation and sanitation facilities were similar for both groups, with an average of 65% having access to a covered latrine. Interestingly, the use of soap before feeding, after baby hygiene, personal toilet, and before food preparation seems to be higher among positive than negative households (27% compared to 4%). This could possibly be due to greater exposure to hygiene promotion.

🌿 **Food, HIV and morbidity**

Whilst lack of water and other issues were reported as important causes of illness, lack of food was stated as the main factor in 32% of the households despite the good harvest. This may relate to income generating capacity and it is important to point out that although there may have been a better harvest and people reported having more food, it may still be insufficient, especially for households affected by HIV.

The main sources of food consumed at household level were similar in affected and non-affected households. Most purchased goods from the market or through ganyu exchange (casual wage labour) but there was a higher mention of 'gifts' received in the HIV affected households (27% of households compared to 9% of negative households).

There was no strong variation reported in length of the hunger gap last year between positive and negative households – the countrywide good harvests of the past year led to relatively lower food prices, and nearly all households reported that their food situation was improved compared to the year before. However, the improvement does not necessarily signify food sufficiency; 73% (11/15) of positive households and 65% (15/23) of negative households reported problems in obtaining food last year.

On average, the HIV positive households own less land (0.48 acres) than negative households (0.88 acres) which may affect their safety net of locally grown produce if market prices or ganyu become inaccessible. It could also be a consequence of earlier survival strategies.





ADULT ART AND NUTRITIONAL SUPPORT

ADULT ART AND NUTRITIONAL SUPPORT

The scale up of ART in Malawi is being successfully implemented. By the end of June 2007, there were 109 facilities in Malawi in the public health sector delivering ART free of charge to HIV-positive eligible patients, plus 37 facilities in the private sector delivering ART at a subsidised rate. Of those who died, 66% died in the first three months of initiating therapy. It is unknown whether this is due to poor nutritional status, or opportunistic infections that are difficult to diagnose in resource limited settings.

In Malawi, most patients who start ART, both children and adults, do so when they have reached an advanced stage of HIV. A substantial number of these patients have poor nutritional status, which has shown to be correlated to high mortality in patients starting ART, but until recently there was no nutritional treatment for malnourished adolescents and adults available in Malawi. Integration of nutrition care, aiming both at the prevention and treatment of malnutrition, into HIV services is needed and can have a synergetic positive effect on the lives of HIV infected people.

Programmes addressing malnutrition in Malawi have mainly targeted children under 5 years of age. Despite the reduction in the incidence of malnutrition in developed countries with the introduction of ART, most research conducted on ART has involved well nourished food secure population groups, and recommendations are based on these findings. More information is needed about the efficacy and effects of antiretroviral drugs on malnourished populations.

As evidence has previously shown, patients starting ART often experience weight gain, an increase in appetite, and a reduction in the incidence of diarrhoea and other infections. Many physicians have anecdotal evidence of weight recovery in severely malnourished patients starting ART, but observational studies of groups of patients with wasting who initiate ART have shown inconsistent weight recovery⁴⁶. In many patients, however, wasting and weight loss do continue to occur.

With funding from a UN consortium led by the World Food Programme, the ACF International Network conducted a pilot project in six ART sites between June and December 2005. The project looked at the implementation of therapeutic feeding at ART sites and the effects this had on the outcomes for patients.

🌿 Implementation

Patients starting ART were assessed for height, weight, and presence of bilateral pitting oedema. Pregnant women were assessed using MUAC.

Admission Criteria

| Severe malnutrition | | | | |
|------------------------------|----------------|-----------|------------|------------------------------|
| Adults | | | BMI < 16 | Presence of bilateral oedema |
| Children and adolescents | MUAC < 11cm | W/H < 70% | | Presence of bilateral oedema |
| Pregnant and lactating women | MUAC < 19cm | | | |
| Moderate malnutrition | | | | |
| Adults | | | BMI < 17.5 | |
| Children and adolescents | MUAC 11-11.9cm | W/H < 70% | | |
| Pregnant and lactating women | MUAC 19-21.9cm | | | |

All patients were starting an ART regime of the fixed dose combination tablet of Lamivudine (3TC), Stavudine (D4T), and Nevirapine. Information was also collected on treatment adherence, ability to work, WHO stage of clinical disease, and quality of life.

WHO Clinical Staging of HIV in Adults and Adolescents

The WHO clinical staging system for HIV/AIDS uses clinical parameters to guide clinical decisions in the care and treatment of PLWHA. It was developed in 1990 and designed for use in resource-limited settings where access to sufficient laboratory facilities is not often available. It has proved its worth both at primary care level and in referral facilities.

| | |
|-----------------------|---|
| Primary HIV infection | Asymptomatic Acute retroviral syndrome |
| Clinical stage 1 | Asymptomatic Persistent generalized lymphadenopathy |
| Clinical stage 2 | Moderate unexplained weight loss of less than 10% of total body weight Recurrent respiratory tract infections Herpes zoster Angular cheilitis Recurrent oral ulcerations Papular pruritic eruptions Seborrhoeic dermatitis Fungal nail infections of fingers |
| Clinical stage 3 | Severe weight loss >10% of body weight Unexplained chronic diarrhoea for longer than one month Unexplained persistent fever Oral candidiasis or oral hairy leukoplakia Pulmonary tuberculosis diagnosed in the last two years Severe presumed bacterial infections Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis |
| Clinical stage 4 | HIV wasting syndrome Pneumocystis pneumonia Recurrent severe bacterial pneumonia Chronic herpes simplex infection Oesophageal candidiasis Extrapulmonary TB Kaposi's sarcoma Central nervous system toxoplasmosis HIV encephalopathy |

Adapted from WHO, 2005⁴⁷

Initiation of ART is done according to the Malawi national guidelines. In adults and adolescents the following eligibility criteria are used:

HIV positive patients that understand the implications of ARV therapy plus one of the following:

- WHO clinical stage 3 or 4
- CD4-lymphocyte count <200
- WHO clinical stage 2 with TLC <1200

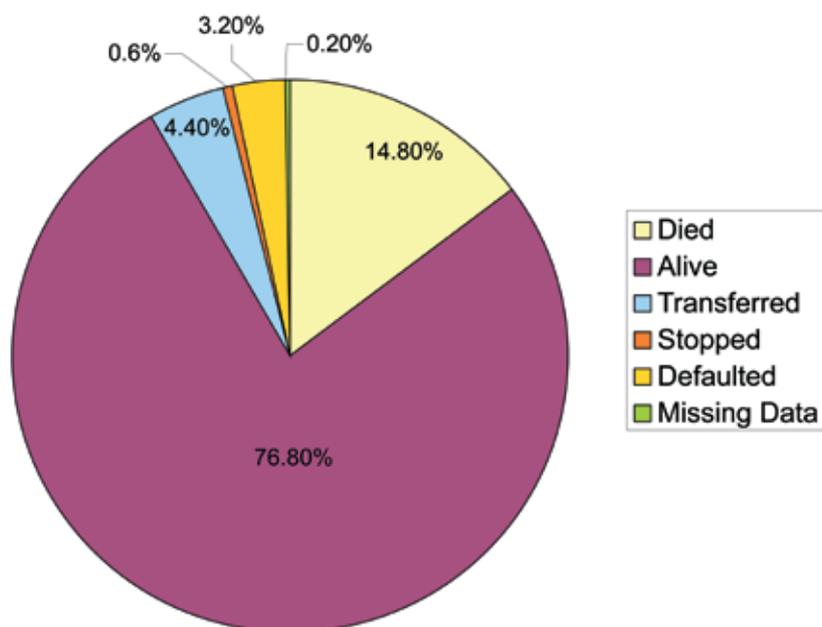
Patients with severe malnutrition were given a therapeutic ration of locally produced ready-to-use therapeutic food (RUTF) of 2600 kcal/day, and patients with moderate malnutrition were given a supplementary ration of corn soya blend (CSB) and oil of 1500 kcal/day. All patients were given nutrition counseling. Counseling was performed on a group and individual basis. Patients received counseling on different visits to provide continuity and not overload them, and to evaluate effectiveness of previous counseling sessions.

Data on quality of life was collected in two sites using the MOS, HIV and health questionnaire was used, with some additional questions. This consists of 35 questions which assess ten dimensions of health-related quality of life including general health perceptions, physical functioning, role functioning, pain, social functioning, mental health, energy, health distress, cognitive functioning and quality of life.

✦ Results

A total of 1,244 patients started ART between the period July to December 2005. The mean age was 35.8 years. Patients responded well to ART, with few patients experiencing side effects, and adherence to the medication very high (above 95%). From the total cohort, 76.8% of patients were alive and on ART by month four, and 14.8% of patients died. 4.4% of patients were transferred, 0.6% stopped, 3.3% defaulted and 0.2% of data was missing. From the 14.8% of patients that died, 68% of patients died within the first two months.

Figure 8 Results from ART treatment

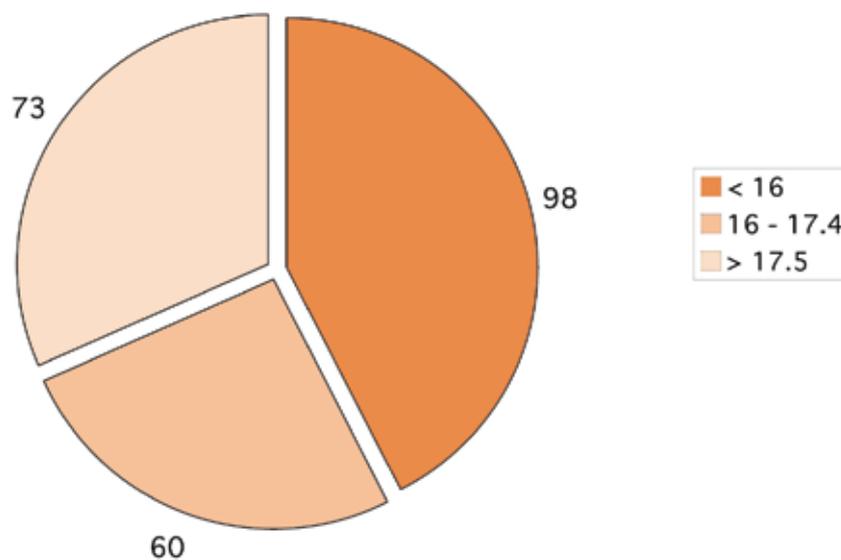


Copyright: Malawi MOH HIV Unit ⁴⁸

BMI data was available for 231 patients. 98 patients were recorded as having a BMI <16 indicating that they were eligible for therapeutic rations. 60 patients were recorded as having a BMI of 16 – 17.4 and therefore eligible for supplementary feeding rations and 73 patients were recorded as having a BMI over 17.5. Within this group 34 patients presented with bilateral oedema.

Of those with a BMI >17.5, 27% of patients actually had a BMI <18.5, indicating they are at risk of malnutrition.

Figure 9 Number of Patients per BMI range from ART sites Malawi June-September 2005



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The mean weight gain was higher in those patients with a BMI higher than 16 who were significantly more likely to gain more than 5kg by the fourth month than patients with a BMI below 16. A significant number of patients in the at risk group actually experienced weight loss. 50% of patients classified as severely malnourished with a BMI <16 died.

Approximately one third of patients from both severely malnourished and moderately malnourished patients died. In total, 34 patients were recorded as having oedema and therefore under this pilot programmes protocols were classified as being severely malnourished. Those patients with oedema had a significantly increased mortality, as did patients with clinical stage 4 disease.

From the quality of life questionnaires, under general health perceptions, patients receiving food support were more likely to view their personal health as poor. They reported more pain and low physical functioning with more problems in continuing work and other daily activities.

Patients who were not malnourished were more likely to have more energy and less problems with cognitive functioning in terms of concentration, reasoning and remembering than patients receiving food support; however they were also likely to feel more nervous and depressed and have a sense of despair and discouragement due to ill health than those receiving food support. This could possibly be related to the food crisis in existence at the time this programme was implemented.

Discussion

There are many limitations to this study. The programme was designed as a pilot project not as a research project, so the staff implementing the project had multiple responsibilities affecting the level of time and commitment that they had for the programme. As a result of this, not all information was recorded consistently, and it was not always of the highest quality. Due to more time spent on malnourished patients, height data is not available for the majority of patients that did not receive any food supplementation. There may also be limitations to the quality of life component of the programme due to translation and variable intervals between starting ART and conducting the questionnaires. However, there are many useful lessons that can be learned from the study.

One of the objectives of the pilot programme was to make recommendations on the guidelines and appropriate indicators to be used in the scale up of such a programme. Previous to this pilot there has been very little published on the use of appropriate indicators to use for a programme such as this one. A paper by C-SAFE⁴⁹ suggests the use of the following indicators for ART programmes: BMI, percentage of weight change, treatment adherence, risky coping strategies, quality of life, and need for caregivers. They point out that anthropometric indicators are useful components to measure the impact of food assistance, but used in isolation would not provide the level of understanding needed to assess a targeted food aid programme and could be potentially misleading. They can provide information on nutritional status and be helpful in assessing disease progression, but need to be interpreted in context⁵⁰.

Lipodystrophy is a condition in some people on ART that causes changes in the metabolism and body fat distribution, often presenting in wasted limbs and centralised body fat. MUAC was used in pregnant and lactating women in this programme but may be an indicator of limited use for future monitoring in light of issues of lipodystrophy. This pilot has not collected enough data, to make recommendations on MUAC but it is important to recognise the need for future studies looking at the use of MUAC as an indicator of malnutrition in a population group prone to lipodystrophy. Further research will need to be conducted on this, incorporating examination of skin fold thickness and handgrip dynamometry which is a tool used to assess a patient's muscle strength.

During implementation, nurses and clinicians and the HSAs implementing the programme expressed concerns about the at-risk groups not receiving treatment. This is evident in the number of patients in the at-risk group (BMI 17.5-18.5) that actually lost weight. Nutrition interventions at late stages of disease may not be as effective as those in the early stages. Research by the University of Carolina (UNC) in Malawi supports this as it showed that a BMI <16 was predictive of high mortality (50% of patients died within 6 months of starting on ART⁵¹). In terms of mortality and BMI there was little in the way of statistical significance in this pilot programme although the number of malnourished patients who died was high. The incidence of oedema however was significantly associated with mortality. It is necessary to further examine the appropriateness of oedema as an indicator of severe malnutrition in this patient group. It is likely that oedema in this patient group could be more indicative of a medical complication and requires more detailed assessment by a clinician to try and determine the cause.

Mortality in the cohort was higher in the first two months. This is consistent with national statistics and previous research findings. Patients starting ART in resource poor settings have shown increased mortality rates in the first months on therapy, compared with those in developed countries⁵².

Concern was raised in many of the sites regarding the need for the use of clinical condition as an entry criterion to include patients who are very sick but do not meet the anthropometrical entry criteria.

Lessons learned

Following the implementation of this programme, some recommendations can be made. It is worth noting once again that this pilot programme was implemented by MOH staff in MOH centres with some external support from the ACF International Network. Implementing staff had high work loads already; monitoring and evaluation indicators for a programme such as this on a large scale need to be simple, efficient and kept to a minimum. While it is true on the larger scale that indicators should be restricted to the most essential and effective measures such as anthropometric and outcome indicators, this pilot programme and other literature highlights the need to investigate further the role of oedema and medical complications, lipid levels, and skin fold thickness to determine the true effects of nutrition supplementation.

In terms of the counseling tools and supporting materials, feedback received from staff using the tools provided for nutrition education and counseling sessions indicated the need for specialised materials for IEC. The main points emerging were the need for less text and more illustration. The nutrition education component of the programme was highlighted as essential to sustain long term nutrition status. It is neither practical nor possible in a resource limited setting such as this one, to neglect to provide long term solutions to maintain good nutrition. Increased focus could be placed on the nutrition counseling within the programme in order to improve the long term sustainability of the programme. Supportive materials such as meal planners could be included in the kit, and the kit itself reviewed to include less text, more illustrations and translation to Chichewa. Cookery demonstrations and methodology similar to that used in the hearth model should be adopted, or linkages made to initiatives using this model.

With the experience and lessons learned gathered during this pilot, the ACF International Network is supporting the MOH on the scale-up of the nutritional care programme to 60 ART sites. At their request, the ACF International Network will continue to give technical support concerning the implementation of the nutrition care and monitoring at ART sites.

Practical methodology to treat inpatients needs to be developed and implemented alongside the national scale-up, with all inpatient treatment linked with outpatient services for effective follow up care. Towards the end of the pilot the guidelines underwent a review based on some of the findings from this programme and including inpatients. This revision was urgently needed to provide clarity and consistency in the guidelines, but it still remains an interim version needing further review. The guidelines now include inpatient treatment using F75 and F100 as well as RUTF as the programme extends to treating inpatients. Some of the admission and discharge criteria have also been changed. The use of kwashiorkor as an independent indicator of severe malnutrition has been removed and now needs to be assessed by a clinician and combined with a low MUAC. Within these guidelines, monitoring and evaluation and reporting formats have been adapted from the pilot programme. These will need to be implemented at a national level and assessed for their appropriateness.

There are many challenges to the effective implementation of a programme such as this one. Human resources have been the main constraint to the programme. Heavy work load, high turnover of staff, and a lack of confidence amongst staff all have a negative impact. With regard to supervision, the pilot has demonstrated that effective supervision and monitoring of the programme is imperative for the successful implementation and early identification of misunderstanding of the protocols and effective treatment of patients. Lack of clinic and storage space is also a problem for quality of services and motivation of staff.

Participation from the start of district health officers and district nutritionists is essential to understanding and supporting the programme. Where possible clinic staff responsible for consultations should also be provided with a short training on the protocols in order for them to be able to provide support and advice where needed.

There is a need, where structures exist, to make links with community home based care (CHBC) in order to follow up on defaulters and to extend the programme to the community. It is likely that despite decentralisation, the most vulnerable do not present at ART clinics. Transport has been identified as a challenge in many of the sites and links with CHBC may prove to reduce this burden. The prevention of nutrition deterioration and promotion of positive living through innovative community programmes such as food diversification, low labour technologies and income generating activities can be integrated within community HIV programming and linked to facility based care, in order to try to reduce the incidence of malnutrition.

Conclusion

There are still many challenges when looking at early mortality in patients associated with low BMI. A high number of patients are wasted at the point of presenting at ART clinics. Interventions are needed to identify patients at an earlier stage of malnutrition to prevent wasting, delay the need for treatment or improve treatment outcomes. This may include providing nutrition support interventions to the at-risk group or in earlier clinical staging. In terms of research there are many areas which require further investigation including the impact of nutrition supplementation at the earlier stages, and the effects of nutrition supplementation on lean body mass and lipid levels. Further clinical evidence such as urine sampling and haemoglobin levels may help in determining nutrition and HIV associated oedema.



**LINKING SERVICES:
REACHING THE COMMUNITY AND SERVICE PROVIDERS**

LINKING SERVICES: REACHING THE COMMUNITY AND SERVICE PROVIDERS

As outlined throughout this report, there is a binding link between HIV and nutrition. It is for this reason that it is imperative that organisations working in the domains of HIV and nutrition assist and support each other to address HIV and nutrition together in order to ensure optimal treatment and care for people affected by HIV. Programmes focusing on nutrition should take into account that a proportion of their malnourished target population is HIV positive and vice versa; HIV service providers will always find a proportion of their clients having nutritional problems. Integration of HIV/AIDS and nutrition care is of utmost importance and can help decrease morbidity and mortality.

✦ HIV services in Malawi

HIV services are becoming more widely available in Malawi as outlined in the previous section on adults and ART. However, it still remains that only 8% of those accessing ART are children (Annexe 5) and the MOH has now set a 10% minimum goal to improve paediatric access. The number of HIV counseling and testing sites has greatly increased and reports showed an exponential increase in the number of HIV tests performed.⁵³ With the revision of the national ART guidelines (April 2006), ART for children has been included. Also, by decentralising services for children to district level, more HIV positive children will have access. A new paediatric HIV clinic has recently been set up in the grounds of Lilongwe Central Hospital which will undoubtedly increase access for children in urban Lilongwe.

✦ HIV awareness in the NRU

Given the high prevalence of HIV amongst malnourished children, it is pertinent that health education in the NRU should also cover HIV prevention and awareness topics. As most malnourished children spend on average 3 weeks in the NRU, the NRU is an ideal setting to build up a relationship with mothers and give health education.

Discussion of HIV-related topics in group sessions can help to decrease stigma amongst caregivers and communities. The ACF International Network has developed, through a collaborative process between different partners including the MOH, the Nutrition Education Resource Kit for Malawi. This kit is a manual for health care workers to prepare and conduct health education. The ACF International Network prepared the layout for the English version, and also translated this manual into Chichewa. The manual, funded by the EU and UNICEF, includes topics on HIV, nutrition for PLWHA and HIV testing. MOH now has ownership of this manual, which was distributed to all NRU and is also being used by CBOs.

✦ Positive Living

Positive living consists of healthy lifestyles aiming at physical, social, mental and spiritual wellbeing. Positive living has shown to have a potential to delay the onset of HIV related illnesses in people infected with HIV. The ACF International Network worked in collaboration with Save the Children (UMOYO network), Catholic Relief Services (CRS) and other organisations on a Positive Living manual. This was based on a manual entitled Positive Health from South Africa and adapted to suit the needs of Malawi. It contains a specific module on nutrition and HIV.

A training of trainers in positive living was facilitated in partnership with CRS and Save the Children. Following this training, CBO's in the various regions were trained and copies of the manual have been printed and distributed during trainings and to partners⁵⁴. There were three training sessions held by the ACF International Network, one in each region, and a total of eighteen CBOs were trained by the ACF International Network in the skills required to educate and inform HIV infected clients about

the importance of nutrition. We believe that this will result in many more people in the communities having access to direct nutritional and educational counseling adapted to the Malawian context. This is a crucial step for people living with HIV and AIDS to obtain a healthy diet. Follow up visits to the CBOs trained in positive living has taken place and assistance has been provided in organising and facilitating their own trainings.

✦ **Linking services: developing a Referral Manual**

A Referral Manual was compiled from information from a survey conducted by the ACF International Network at the end of 2004 to gather detailed information about HIV care providers. This manual contains details of approximately 554 HIV organisations working around the NRU that the ACF International Network is supporting and others that responded to a request to participate in the gathering of information. A number of essential services have been listed in the document, including HCT, PMTCT, and home based care services. Services have been grouped per district, to enable NRU to look up services in their catchment areas. Information includes address, contact details and type of services. The manual was revised and updated with accurate information in 2005. Future updating will be needed, and is the responsibility of the MOH, as the owner of the manual. The Referral Manual has been distributed to the NRU across the country. HCT sites in the vicinity of each NRU, have also received a copy. To sustain the use of the manual, monthly visits of the integrated nutrition and HIV team have been made to support on the management of malnutrition, care for children affected by HIV and appropriate referral. As many NRU have a high staff turnover, continuing information and training on HIV issues and the use of the referral network is a necessity.

✦ **Community level**

Community Based Organisations (CBO) and national NGOs are doing an enormous job by giving information and education and by providing a wide range of care and support services to people living with and affected by HIV. The ACF International Network is implementing a food security, health and nutrition programme in three Traditional Authorities in Kasungu district. Recognising the importance of integrated programming, the ACF International Network has been working since February 2007 in collaboration with the Malawi AIDS Counseling and Resource Organization (MACRO). MACRO joins the ACF International Network team when going into the field for public health and nutrition talks, to offer HIV testing and counseling to the communities. The ACF International Network provided transport and organised public health and nutrition talks, while MACRO provided HCT. Coordination between the organisations proved to be crucial in order to collaborate effectively and to make optimal use of limited resources, including manpower, time and transport.

✦ **Clinic level**

A tool kit developed by the Ministry of Health, the ACF International Network and other stakeholders for Nutrition support and counseling for PLWHA and taking ART has been printed and distributed for piloting. The kit consists of a set of flip charts and a manual (nutrition counseling for people living with HIV and AIDS taking ART). After piloting the kit, it was found it needs revision; the ACF International Network continues to give input on this.

✦ **Cotrimoxazole**

Cotrimoxazole preventive therapy (CPT) has proven an effective intervention to decrease morbidity and mortality in HIV-infected individuals. Although CPT is available at the majority of the ART sites, the ACF International Network feels it is pertinent that CPT becomes available in all NRU. In this way initiation of CPT does not have to be delayed until the time of referral to an ART clinic, and children can benefit from CPT immediately after an HIV test shows they are HIV-infected or exposed if they meet other criteria for its use.

The ACF International Network contributed to the development of a national policy on CPT and advocated for CPT to become available to malnourished children in the NRU. The ACF International Network continued to play, as a member of the national CPT Taskforce, a role in the development of a national policy on CPT and the systems to roll out the service, which have recently been approved by the MOH. MOH is currently in the process of procuring cotrimoxazole for CPT and it is hoped that CPT will soon be available to all HIV affected patients who can benefit, including malnourished children.



LESSONS LEARNED AND WAY FORWARD

LESSONS LEARNED AND WAY FORWARD

A great deal has been achieved in Malawi, largely through investigation and development of tools and by the collaboration of many international and national partnerships. Some of the key lessons and recommendations for the future are set out below.

✦ **Advocacy and policy**

It is important to use advocacy to ensure that at the national and international level, treatment guidelines are written integrating HIV and malnutrition services for hospital and community based treatment. Advocacy is an important issue in nutrition and HIV, and some examples of good practice have been demonstrated in Malawi with motivation from national government and collaboration with a multitude of partners.

✦ **Programmes**

It is essential that policies developed at national level are implemented as programmes. Many African countries now boast National Guidelines for HIV and Nutrition but the challenge is how to implement these guidelines into programmes. Malawi is developing integrated programmes for malnutrition and HIV/AIDS but scaling up these programmes nationally remains a challenge. Bottlenecks include resource mobilisation, human resources and training as well as commodities for service delivery. By far the biggest proportion of cost for rolling out ART is not the drugs, but these support costs for service delivery.

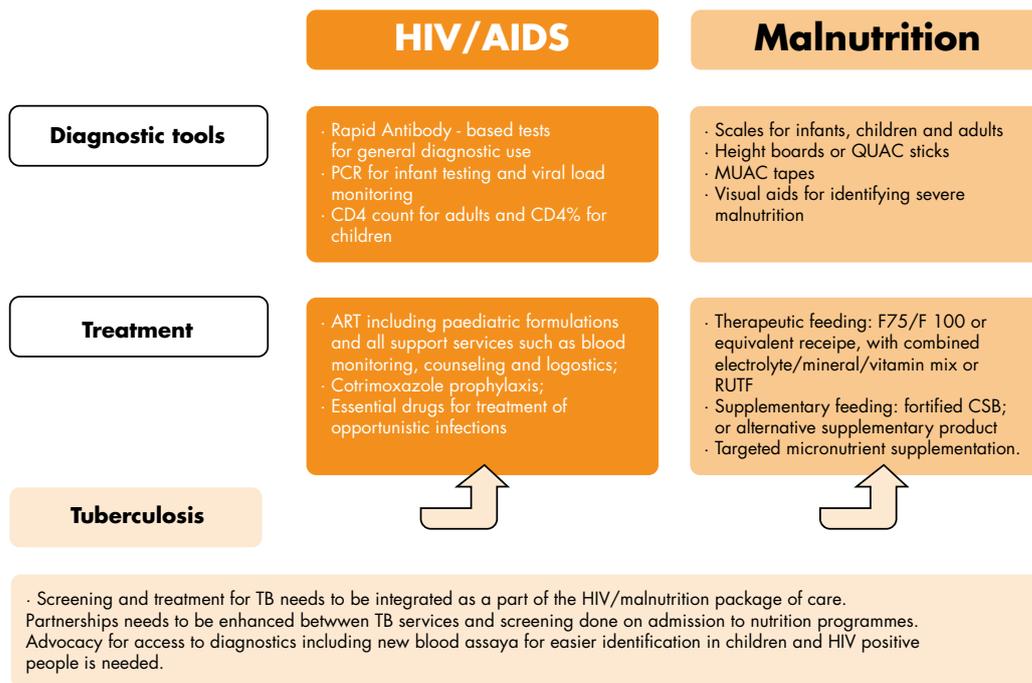
It is important to link family testing and care to malnutrition services to enable full benefits of screening for all family members. Psychosocial care should also be integrated into family treatment, particularly at time of diagnosis, pregnancy and illness.

HIV testing should be integrated into all nutrition programmes, at the moderate malnutrition as well as severe malnutrition level, to facilitate earlier diagnosis and treatment and be incorporated into community based approaches of nutrition care. At best this should be integrated with PMTCT referral and IMCI.

✦ **Commodities for service delivery**

Without the availability of commodities to respond to identified needs, programmes are limited in their capacity to achieve improved health outcomes. Essential commodities to ensure the package of care in HIV and malnutrition, must include: the whole range care, starting by raising awareness to diagnostic services to clinical treatment, including the full integration of TB screening and treatment. See figure 10.

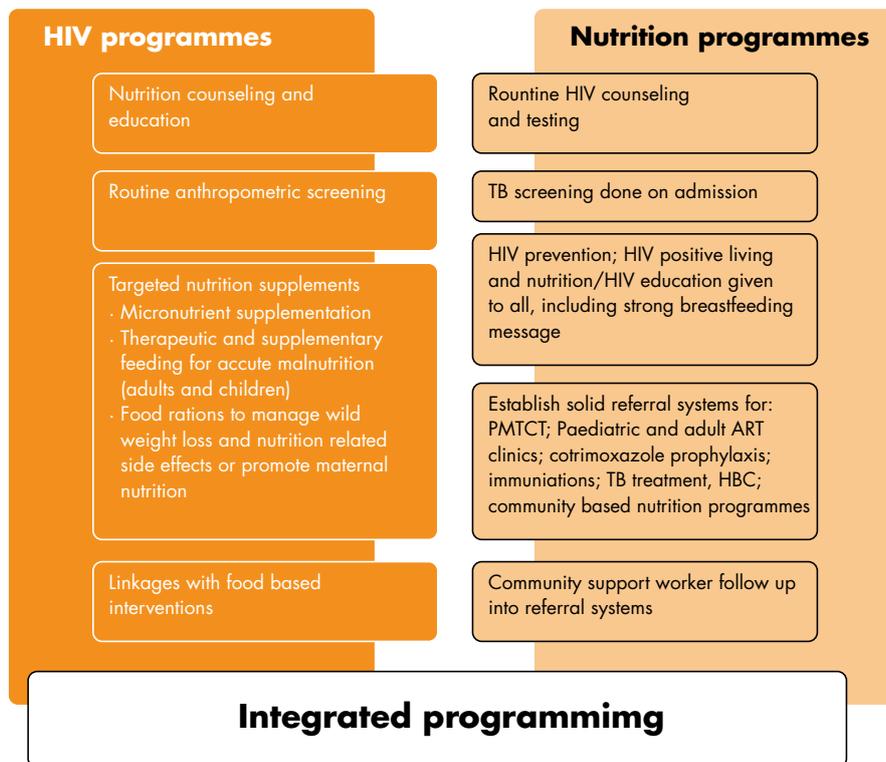
Figure 10 Commodities for service delivery



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The figure below demonstrates how HIV and nutrition can both be mainstreamed to produce integrated programming. On both sides, there will be a process of awareness raising, training, development of tools, system organisation and supply logistics in order to set up the referral systems and treatment services.

Figure 11 Minimum package of mainstreaming HIV and nutrition



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Malawi has demonstrated good practice through an unbroken supply chain for commodities for the treatment of severe and moderate malnutrition. The Clinton Foundation is working with the Ministry of Health to scale up paediatric ART, CD4% testing and PCR for infant testing.

Human capacity development

It is important to recognise that capacity development goes beyond staff recruitment and training. While staff are at the centre of service delivery they cannot function without a strong infrastructure of policy, systems and well defined roles to guide and support their work. When well-trained staff work in a well resourced and structured environment they are able to develop and utilise their skills and available tools to best meet objectives. With both the high turnover of staff in HIV/AIDS affected countries and the constantly evolving field of knowledge around the virus, refresher training and staff updates must be integrated into all programme budgets.

Adequate numbers of and training for staff in malnutrition programmes remains a challenge in Malawi, and the government plan to train 8,000 community HIV and nutrition workers which may ease some of this burden. This should assist in the essential aspects of follow up care in the community for those referred to services and discharged from nutrition programmes.

Monitoring and evaluation

Monitoring and evaluation should be linked to policy and strategy and integrated into programmes. Where possible HIV, malnutrition and TB should be screened for and treated together. National reporting should also be integrated for best informational use. Paediatric indicators for monitoring programmes should be routinely included as services become more and more accessible. Analysis and response to monitoring and evaluation data is important, at the facility, district, provincial and national level to track progress and give valuable insight into which aspects of programmes can be improved or further developed. Updating of materials should also be monitored as key technical recommendations change. Guides such as the Referral Manual, also need to be monitored and updated to ensure usefulness to service providers who are caring for HIV affected clients.

Operational research

Operational research, and research-informed practice and policy, are essential to improving care in malnutrition and HIV. Forums must be developed where researchers and policy makers can meet and discuss issues, develop a research agenda and research-informed policy. Locally relevant research should be made available and accessible in paper and online formats. One such example of this was the Blantyre research dissemination meeting held in January of this year, which gathered a regional selection of experts working in the field to identify key challenges and possible solutions.





CONCLUSIONS

CONCLUSIONS

This report highlights how the ACF International Network has adapted some of its programme approaches in Malawi to address the impact of HIV on malnutrition, and some of the challenges this presents. While HIV/AIDS remains a global problem, its effects are being hardest felt in sub-Saharan Africa where evidence has demonstrated a significantly high percentage of children and adults feeling the combined burden of HIV/AIDS and malnutrition. This extends to more than health systems but also poses challenges to social and economic development. Significant advances have been made in the integration of HIV and nutrition, leading to an international acceptance that HIV and malnutrition should be addressed together. As HIV prevention and treatment services scale up globally, it is now evident more than ever that vertical programming is an obstacle to addressing the inextricable and mutually reinforcing link between HIV and nutrition. Some of the initiatives from Malawi support this and demonstrate how steps can be taken to integrate HIV and nutrition.

The studies conducted in Malawi have demonstrated a high prevalence of HIV in severely malnourished children in a country where poverty, HIV/AIDS and malnutrition levels remain consistently high. One of the first steps to accessing effective treatment for HIV/AIDS is through HIV counseling and testing. Whilst challenges to implementation of this still exist the studies in this report challenge the previously commonly held beliefs that HIV testing in children would not be well accepted. Lessons for programming and policy can be learnt from contexts with a high uptake of HCT. NRU staff need to be empowered to be comfortable with discussing HIV with caretakers of children admitted to their units. As HIV treatment services continue to scale up, routine access to HIV counseling and testing, supported by adequate supplies of materials and well trained staff would ensure that both children admitted into therapeutic feeding programmes and their carers receive timely and appropriate clinical interventions along with psychological support. International guidelines able to be adapted on a local level to support this are urgently called for. Training and supply resources need to be improved for both HIV and nutrition programmes for identification and management of severe malnutrition and HIV, prevention of malnutrition including nutrition counseling for PLWHA and their caretakers, targeted food or food supplement supplies. Human resources and facilities need to be provided to support maximum screening and testing opportunities with regular training planned as rotational to prevent a loss of knowledge due to the high staff turnover regularly seen in high HIV prevalent populations.

Evidence from clinical research shows increased mortality in HIV infected children despite 24 hour medical and nutritional care. Mortality rates in HIV positive children were not within international standards compared to acceptable rates in HIV negative children indicating a high prevalence of medical complications rather than poor quality of care. This suggests that minimum clinical standards, devised for emergency contexts, require revision for the treatment of children with complicated severe malnutrition in the context of HIV. With the high level of mortality occurring within the first ten days of hospital admission, the complexity of medical management is highlighted and must be considered as community based therapeutic feeding initiatives scale up. This also raises questions as to whether the higher risk of mortality lies in the treatment phase and the suitability of milk based products. Further analysis on morbidity is urgently needed. Results from this study are also suggestive of the need for urgent revision of CD4% criteria for commencing ART in children with SAM. This should include when is the most appropriate time to start ART in SAM, and the pharmacokinetic implications.

Stigma and discrimination still remain one of the biggest barriers to effectively addressing the HIV pandemic, though reports continue to support that adequate health education messages, and access to quality treatment and care services all contribute to the reduction of stigma and discrimination. The stigma component of the research shows that access to quality and easily available HIV services integrated within nutrition services made the biggest difference in terms of service uptake. Integration of services should take place in a holistic manner addressing stigma through quality of care and staff training on promoting positive living with HIV. The follow up data however still suggests the existence

of stigma in the communities, which can negatively impact the household, further emphasising the need to address stigma at both health centre and community level.

During the research programme, follow up of children was limited to four months due to funding constraints. The Hunger Watch follow up of these children provided an opportunity to further follow the progress of the families of severely malnourished children. Many positive outcomes are apparent from this follow up in terms of no relapses of acute malnutrition. A more severe level of stunting was however noted in the HIV positive children. The high level of access to ART is likely to account in some part to the HIV positive children doing so well. While these outcomes in the children are very promising, equally important is the health status of the mothers. It was evident from the follow up that for various reasons mothers may pursue health care for their children but may not be accessing adequate care for themselves. This highlights the need for maternal and family centred healthcare approaches, linked to HIV and/or nutrition care education and counseling on infant and young child feeding that not only prevents HIV transmission but also prevents or reduces malnutrition. These programmes should incorporate suitable infant feeding options that take into account individual counseling and appropriate support; support of exclusive breastfeeding to reduce breastfeeding complications and increase successful feeding, and the screening and treatment of opportunistic infections and sexually transmitted infections and access to ART.

Throughout the mainstreaming of HIV into nutrition services in Malawi, the gap in nutrition services being integrated into HIV services was apparent. This was addressed through the adult and adolescent therapeutic and supplementary feeding programme and provision of training in communities on positive living. The results of the pilot programme highlight the need for improvement of the implementation of the guidelines for the management of acute malnutrition in adolescents and adults. This includes training of staff, distribution of materials (including guidelines) and supervision. It also reinforces the need for interventions to identify patients at an earlier stage of malnutrition considering the significant relation between low BMI and mortality. HIV and nutrition service capacity building are equally important and need to be done both separately and together: if we want to integrate nutrition and HIV systems together to produce good practice, we must integrate two strong and healthy systems. Integrating a strong HIV system into a weak nutrition system (or vice versa) cannot produce best practice; although solid structures from one system can be used to improve the other: for example a good system of community based screening for malnutrition, if combined with HIV testing could increase coverage in both areas.

A recurring theme throughout this report is the need for integration whereby HIV and nutrition forms part of a comprehensive care package. Equal importance should be given to the mainstreaming of HIV in nutrition services and nutrition into HIV services.

The programmes conducted by the ACF International Network in Malawi have been done in collaboration with many partners (see list below). Regular communication is invaluable to maintaining quality control and inputs to the project and it has been apparent that clear roles and flow of command and information are important to ensuring all responsibilities are followed-through. Information sharing must be frequent and transparent.

Considerable developments have been made in the integration of HIV and nutrition in previous years and Malawi should be recognised as one of the leading examples of this. HIV and nutrition now have an acknowledged importance on the international agenda. This momentum must be maintained and developed in order to make further advances in both fields. HIV and malnutrition are for the first and foremost preventable diseases and efforts must continue to prevent further incidence whilst mitigating the unacceptable burden of those already affected in order to ultimately save lives.

Partners of the ACF International Network in Malawi

- OPC: Coordination, information-dissemination of the project
- MOH nutrition unit: development of referral manual, health education kit, guidelines for Adolescents and adults, nutrition counseling tools for people living with HIV/Aids, implementation of nutrition care program at ART sites
- MOH HIV unit: development of CPT policy
- MOH, education unit: development of counseling tools
- Reach trust: conduction of stigma study
- Unicef: development of guidelines, counseling tools, laboratory tests, provision of forms and anthropometric tools
- College of medicine, Family Health International, Medecins Sans Frontieres and other members: development of guidelines, counseling tools
- CRS: development of Positive Living Manual
- Save the Children: development of Positive Living Manual
- EU: co-funding of health education kit
- Institute of Child Health London: technical support to research
- University of Chester: technical support to research
- Liverpool School of Tropical Medicine: technical support to research
- MACRO: HIV screening and counseling

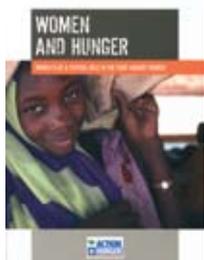
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- ⁵¹ Egge and Strasser (2005) measuring the impact of targeted food assistance on HIV/AIDS related beneficiary groups with a specific focus on TB, ART, CI and PMTCT beneficiaries, C-SAFE
- ⁵² Dabis F, Egger M, Schechter M, Brinkof M, May M, Sterne J (2006) Mortality of HIV-1 infected patients in the first year of antiretroviral therapy: comparison between low-income and high-income countries. www.thelancet.com Vol 367. March 11
- ⁵³ 6-monthly Report from the HIV Unit, Ministry of Health, Malawi: January – June, 2007
- ⁵⁴ Positive living training of trainers manual, September 2005, AAH, CRS, Save the Children with financial support from NAC
- ⁵⁴ Rainer J. The QUAC Stick: a field measure used by the Quaker Service Team in Nigeria. *Trop Pediatr.* 1969; 15: 243-247

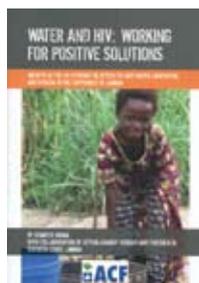
OTHER PUBLICATIONS



Women and Hunger: Women play a Central Role in the Fight Against Hunger

Written by Samuel Hauenstein Swan
Published 2006, by ACF International Network

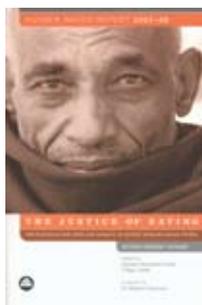
84 pages dual language French and English
This publication examines the different roles women and men play in times of hunger, both of which are exposed to specific vulnerabilities and individual responsibilities. It shows how gender is key to the understanding of and solution to hunger. Women's capacities and knowledge need to take central stage in the programming and strategy of humanitarian aid. Far of being a sole theoretical text, this report provides a practical insight into how aid agencies can mainstream gender into their programmes and activities.



Water and HIV: Working for Positive Solutions

Impacts of the HIV Epidemic on Access to Safe Water, Sanitation and Hygiene in the Copperbelt of Zambia
Written by Jennifer Organ
Foreword Ben Fawcett
Published 2007, by ACF International Network

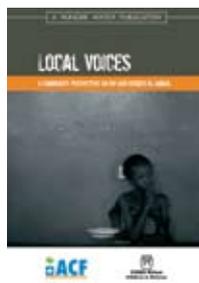
33 pages, English
This report looks at the close relationships between the HIV pandemic and access to water and sanitation. The focus is on the Copperbelt region of Zambia, where nearly one of every five adults is afflicted with the virus, and where many families struggle to have regular access to clean water and safe sanitation systems. It outlines how, for those living with HIV, the risks are even greater. These risks are related to the generally weakened status of the immune system among HIV-positive people, which means that poor water, sanitation or hygiene can lead more quickly to serious illness and hunger.



Hunger Watch Report 2007-08, The Justice of Eating: The Struggle for Food and Dignity in Recent Humanitarian Crisis

Edited by Samuel Hauenstein Swan & Bapu Vaitla
Foreword by Dr Stephen Devereux
Published 2007, by Pluto Press

108 pages, English
Copies are also available also in French and Spanish (published by Icaria Editorial) ISBN: 978-0-7453-2746-4
The first annual Hunger Watch report presents an accessible, jargon-free account of the causes and consequences of acute malnutrition worldwide. Through case studies, the report examines the impact of various forces on malnutrition, focusing on conflict and the destruction of livelihoods in the case of the Darfur region of Sudan, unstable markets in Niger, the HIV/AIDS pandemic in Malawi and Zambia and the daily struggle of families fighting for food and dignity in the coffee lands of Ethiopia. The report observes that malnutrition is largely an invisible violation of human dignity and social justices. The authors urge for a shift in traditional emergency thinking based on the comprehension of hunger beyond starvation.
The report is the most up to date account of the struggle for food and dignity which will be valuable to journalists, policy makers and anyone working in international development.



Local Voices: A Community Perspective on HIV and Hunger in Zambia

Edited by Natalie Duck and Samuel Hauenstein Swan
Photos by David Gillanders
Foreword by Kevin Ryan
Published 2007, by ACF International Network and CINDI

82 pages, English, French and Spanish
This report documents the first six months of the Local Voices Project, a participatory initiative that aims to add a community perspective to the existing body of technical knowledge on the social and economic impact of HIV/AIDS. Using household testimonies and photographic material, this report provides a detailed and bottom up portrait of HIV/AIDS and livelihoods in Kitwe, Zambia. The report suggests that when tackling HIV/AIDS, family and community coping mechanisms need to be underpinned with nutritional and livelihood interventions alongside access to health services. This report is the start of a joint advocacy strategy to support communities in raising their voices and viewpoints within their communities and with local and national institutions.

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