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 **BASICS**

IMPROVING CHILD HEALTH IN RWANDA

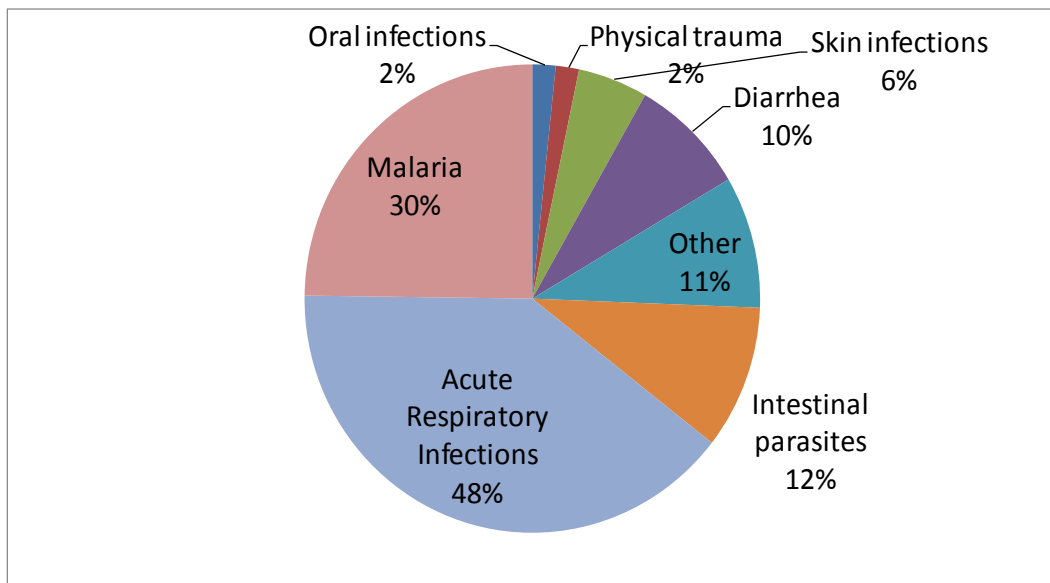
BASICS III

Introduction

Background

When BASICS began working in Rwanda in 2006, the under-five mortality rate was 152 deaths per 1000 live births, and a newborn mortality rate of 37 deaths per 1000 live births. Less than one third of women delivered at a health facility.¹ The primary causes of child mortality in Rwanda are: ARI (40%), Malaria (28%), Diarrhea (24%), Malnutrition (5%), and AIDS (3%). Newborn deaths were not included in this data from the national health system.²

FIGURE 1
Reasons for care-seeking at health facilities among children under five years in Rwanda in 2007 (SIS)



BASICS' role in Child Health in Rwanda

After BASICS participated in a Maternal, Neonatal and Child Health Assessment (MNCHA) in June 2005 USAID/Rwanda requested technical assistance to address some of the gaps described in the report. The most significant problem was that child health did not have a designated 'home' within the MOH and national policy. Another concern was that IMCI (the WHO algorithm for case management of the sick child) which has been instrumental in improving treatment of child illnesses and reducing mortality in many countries, was not yet functioning

¹ Institut National de la Statistique du Rwanda (INSR) and ORC Macro. 2006. *Rwanda Demographic and Health Survey 2005*. Calverton, Maryland, U.S.A.: INSR and ORC Macro.

² Rwanda HIMS 2007

in Rwanda. In Rwanda, the IMCI strategy was officially adopted by the MOH in 2000 as a priority intervention to reduce child mortality, but the IMCI Working Group was not well established, and implementation lagged for several years. The MNCH assessment and the restructuring of the MOH to include MCH services stimulated interest in IMCI, and efforts to restart it began in August 2005. BASICS' mandate was to provide technical support to a newly appointed MOH Child Health Desk (including sharing office space at the MOH) and to increase the visibility of the child within health policies and practices. This included assisting the MOH and partners at the central level to develop and update policies, strategies and tools to improve child health, and supporting the operationalization of IMCI.

As BASICS became more involved with child health partners in Rwanda, the demands for technical support increased. Gradually BASICS became involved not only in child health policy generally but was requested to review and advise specific programs that included child health, for example the PNILP's Home Based Management of Malaria program. By 2007, Rwanda was seeking BASICS assistance with every technical area of the project:

- Acute Respiratory Illness (ARI),
- Diarrhea, Malaria,
- Pediatric HIV and AIDS,
- Newborn health,
- Nutrition, and
- Health Timing and Spacing of Pregnancy (HTSP).

In addition to providing support to specific programs and activities, all technical areas were fully integrated into the cross-cutting activities of the project, which focused on building institutional capacity at the MOH, scaling up Facility IMNCI, and introducing Community IMCI.

BASICS' approach to this broad mandate was to:

- Build institutional capacity by providing technical assistance based at the MOH / MCH unit
- Coordinate the activities of child health partners by leading the child survival working group
- Conduct high level advocacy using up-to-date information and BASICS' experience in other countries
- Provide technical assistance to implementing partners

BASICS worked closely with the Ministry of Health and its key units: the MCH Unit, the Community Health Desk, the National Malaria Control Program (PNILP), and Treatment and Referral Center (TRAC). The implementing partners played a critical role transferring policy to practice through their reach into facilities and communities. The key partners included: USAID bilateral projects (Twubakane, HIV-PBF, and Capacity), UNICEF, WHO, the Expanded Impact Project (EIP), MSH/Strengthening Pharmaceutical Systems (SPS), Save the Children, Family Health International, GTZ, Catholic Relief Services (CRS), Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) and Cooperation Suisse.

Click [here](#) to download *Politique Nationale de Sante de L'Enfant (National Child Health Policy)*. French only.

Click [here](#) to download *Plan Strategique d'Acceleration de la Survie de l'Enfant (2008 -2012) (Child Survival Acceleration Strategy 2008 - 2012)*. French only.

Facility IMCI

Children under five often present at health facilities with more than one disease state. The Integrated Management of Child Illness (IMCI) strategy is an algorithm developed by the WHO to observe the child's whole health and provide simultaneous treatment or advice for a number of conditions. Where implemented effectively, IMCI programs can lower child mortality. The training, however, is long and costly, and it requires skilled trainers and supervisors to support the program, as well as effective support systems such a pharmaceutical supply chain. To introduce and run an IMCI program is a major commitment for a government.

WHO had introduced IMCI in Rwanda in 2000 but it was never implemented. In 2006, the MOH was ready to begin but needed technical support to design and coordinate the program. BASICS took on the task of adapting the generic IMCI algorithm for Rwanda. This provided an opportunity to include other areas that were not included in IMCI – Newborn Health, Pediatric HIV and HTSP. In the earlier version of IMCI, newborns are covered only from seven days of age and older.. In the process of integrating the newer elements into the IMCI strategy, the Rwanda MOH decided to develop a separate module for early newborn period of 0-6 days (or 1-7 days).

After the IMCI algorithms and tools were adapted for Rwanda, BASICS supported the MOH to develop a plan to roll out trainings nationwide. BASICS conducted a Training of Trainers (TOT) at the central level. This cadre of trainers then trained at least 2 providers in each health facility in every district in the country. The implementing partners provided the funding for trainings conducted in their districts. BASICS, the MOH and implementing partners conducted routine supervision visits to ensure that provider skills remained strong after trainings.

In 2009, in collaboration with MOH and the University of Laval/Canada, BASICS conducted an assessment of the IMNCI-HIV-BS implementation in Rwanda. To demonstrate the added value of implementing this strategy, the quality of care in an intervention zone (Kirehe District) and a non-intervention control zone (Bugesera District) was assessed according to the WHO model. The assessment concluded that children are receiving significantly better quality care, including more attention on the newborn, HIV and birth spacing, in the IMNCI district. (See Table 1)

TABLE 1
Quality of IMNCI compared to traditional care in children 2 months - 5 years,
Rwanda, 2009

Key Indicators	IMNCI Intervention Zone (Kirehe District) % and CI at 95%	Control Zone (Bugesera District) % and CI at 5%	P Value
Increase liquid and continue feeding	70% (61-79) N=90	7% (2-12) N=99	<0.0001
How to give treatment at home	62% (52-73) N=82	37% (29-48) N=101	0.0015
Danger signs recognition	71% (62-80) N=94	8% (2-15) N=100	<0.0001
How to feed < 2 years child	69% (57-81) N=55	0% N= 66	<0.0001
Low weight management	75% N=12	0% N=6	<0.0001
Birth spacing	16% (8-24) N=88	16% (9-24) N=97	0.91
Complete assessment	51% (43-63) N=100	0% N=103	
Check for mother HIV status	78% (70-86)N=100	0% N=103	<0.0001
Correct management of pneumonia cases	90% (77-100) N=20	20% (2-37) N=20	<0.0001
Correct management of diarrhea cases	N=35	N=39	< 0.0001
- ORS	89% (67-93)	38%(23-54)	
- ORS + zinc sulfate	69% (53-84)	0%	
Correct treatment of anemia	70% N=10	0% N=4	<0.0001
Oral antibiotic prescription indicated and prescribed	93% (83-100) N=27	17% (19-33) N=23	<0.0001
Abusive oral antibiotic prescription	5%	80%	<0.0001
HIV exposed children receiving cotrimoxazol prophylaxis	85% N=144	58% N= 220	<0.05

Overall, implementation of IMNCI has been very successful in Rwanda. In three and a half years, the MOH not only began implementing IMNCI but took it to scale. The MOH and implementing partners, with BASICS technical assistance, trained 60 national trainers and supervisors and more than 1,000 providers in 100% of the 30 districts. At least 2 skilled providers in each of the 433 health centers in 30 districts have now been trained on IMNCI. Approximately 1,600,000 children under five years now benefit from this program.

BASICS supported regular quarterly supervision in collaboration with MCH Task force and TRAC to ensure quality implementation of IMNCI-HIV-HTSP activities at the field level. These supervision visits are essential to maintaining provider skills and quality of care. It will be important for the MOH and its other partners to maintain the effort of conducting the supervision visits.

After USAID partners supported the IMNCI training course in 28 districts, BASICS successfully advocated for the MOH to allocate funds to support facility IMCI roll out in 2 districts, Rulindo and Gakenke. This advocacy brought three new partners to the IMCI working group – the Intrahealth/HIV project, GTZ and Save the Children.

Although the district coverage looks high, the actual percentage of health care providers trained is still low because only two health professionals from each health facility (where there are on average six providers) have received IMNCI training. This means there can still be days when a child presents at the health facility and does not receive treatment under IMCI. Training should continue to cascade until all providers are trained and regularly supervised.

Rwanda's IMNCI program integrated the early newborn period, Pediatric HIV and HTSP into the generic IMCI material. This ensures that children less than seven days old can now be effectively treated, and HIV-exposed children can be identified and treated early, potentially preventing them from becoming infected. This is one of the first countries to include those components, and the evidence shows it has been useful, but the numbers of newborns being brought to the peripheral health centers is low.

There remain several challenges to address in the national IMNCI program. There is no regular supervision by district teams, and not all the health centers are implementing IMNCI after receiving the training course. The course itself is long (12 days) and expensive (\$1,000 per participant); both those factors will limit the number of providers that can be trained in the future. The training course is still centralized, organized in the capital, and should be decentralized to the district level for better efficiency in the future. Technically, the low number of early newborns presenting at the facility and an unclear added value of HTSP integration need to be addressed further. The former also highlights the need for improved community based interventions.

Click [here](#) to download *IMNCI Facility Algorithms*. French only.

Click [here](#) to download the *Evaluation Report of the Integrated Management of Childhood Illness (IMCI) strategy in the District of Kirehe, Eastern Province in Rwanda*.

C-IMCI

According to the 2005 DHS findings, among all children under five in Rwanda, 17% had symptoms of acute respiratory illness (ARI) and 26% had symptoms of fever in the two weeks before the survey. Treatment from a health facility/provider was sought for only 51% of these children. Among children who had diarrhea, 26% were taken to a health provider, 12% were given an oral rehydration packet and 32% received some form of oral rehydration treatment. Since ARI and Diarrhea were among the top three most prevalent causes of mortality for children under five, along with malaria, introducing correct treatment of these cases in the community for all children was an urgent priority in Rwanda. One common way to comprehensively address these problems at the household and village level is through Community IMCI (C-IMCI), and Community Case Management (CCM). Use of simple interventions, such as Oral Rehydration Therapy and Zinc for diarrhea and antibiotics for pneumonia, at the community level could avert many under 5 deaths in Rwanda.

TABLE 2
The Rationale (adapted from the Lancet 2003 series on CCM)

Child survival intervention	% global preventable U5 deaths	Estimated Rwandan preventable U5 deaths	Estimated coverage in Rwanda (2007)	Increase needed to reach 99% target coverage
ORT	15%	8,100	31%	68%
Use of ITN	7%	3,780	60% (MICS 2007)	39%
Complementary feeding	6%	3,240	69%	30%
Antibiotics for pneumonia	6%	3,240	28%	71%
Antimalarial treatment	5%	2,700	35%	64%
Clean delivery- Skilled birth attendance	4%	2,160	52%	47%
Newborn temperature management	2%	1,080	n/a	n/a

In 2006, BASICS organized an advocacy meeting with the MOH and its child survival partners that resulted in consensus on integrating community-based treatment of pneumonia into C-IMCI in pilot districts. Building upon the successful Home-based Management of Malaria program, USAID/BASICS helped develop material for the introduction of integrated Community Cases Management (CCM) of malaria, diarrhea, pneumonia and malnutrition. Subsequently, in collaboration with EIP and Twubakane, BASICS trained 72 district-level trainers in two districts on C-IMCI and community case management of pneumonia, diarrhea, and malaria.

Early in implementation, the MOH decided that the integrated platform was working well and should support further interventions, such as hygiene promotion, family planning, etc.). They pushed for a rapid expansion of both the scope of the program and the scale to more districts.

In May 2009, BASICS assisted the MOH Community Health Desk to conduct an early follow up of the CHWs trained in C-IMCI to use the early lessons learned to inform expansion. Ninety-five CHWs from the districts of Nyamagabe, Kirehe, Ruhango and Gisagara were visited. Results show that they are generally performing well, but some areas need improvement, specifically pneumonia and nutrition assessment, and drug management. The assessment results were shared with partners and the Permanent Secretary at the MOH, who plans to monitor the implementation of the recommendations.

There are two systems-level concerns that need improvement. Frequent stockouts of essential drugs were recorded by most CHWs. The supply chain from the district pharmacy does not seem to be working well and should be improved. Linking the C-IMCI program with Performance Based Financing (PBF) may provide better incentive for the district pharmacy to provide routine drug supply. Secondly, there is a lack of data on the different conditions treated by CHWs, which makes monitoring the program difficult. This will only become a more serious concern as C-IMCI is expanded. There is an urgent need to set up a regular monitoring system, including key indicators.

BASICS contributed to several achievements in community-based treatment of child illness. The first major accomplishment was successfully advocating with the MOH to integrate pneumonia management at community level into the C-IMCI package. BASICS also assisted with developing the CCM strategy and implementation material. BASICS assisted the community health desk to train 580 trainers from 218 health centers in 18 districts according to the MOH plan. A total of 9,502 community health workers have been trained with financial support from EIP, Twubakane and UNICEF.

Click [here](#) to download the presentation of results, *Communication pour le changement de comportement (CCC): Evaluation Rapide - Recherche Formative (Behavior Change Communication: Rapid Evaluation – Formative Research)*. French only.

Malaria

In 2005, malaria was the first cause of death and the first cause of consultation for both adults and children under five. In 2004, Rwanda's Integrated National Malaria Control Program (INMCP) developed a strategy for home-based management of fever, primarily to increase the percentage of children under the age of five who receive correct treatment within 24 hours of the onset of malaria symptoms, including through the participation of private drug sellers. After two years of implementation in six districts, the program requested technical assistance from USAID/BASICS and USAID/RPM Plus to conduct an evaluation of the program to gauge its impact on case management, care seeking, and overall malaria control, and to inform program scale-up. The contribution of private drug sellers to malaria treatment was also analyzed during the assessment. The final report, published in February 2007, found that the program was very effective in reaching children within the first 24 hours of onset, and in general CHWs gave correct diagnoses and treatment.

Based on the most recent DHS, malaria parasitemia prevalence is 2.6% in Rwanda. This indicates that using presumptive diagnoses based on the presence of fever would result in significant over-treatment of malaria. To minimize this, the MOH introduced a strategy to

confirm malaria diagnoses at the Health Center level through microscopy and at the community level with rapid diagnostic tests (RDTs). In 2008, CHWs were trained to use RDTs in two districts where malaria is not endemic. Additionally, the MOH had adopted a new malaria treatment protocol for the community level using the ACT drug, Coartem, known as PRIMO in Rwanda. In July 2008, BASICS and the USAID/SPS project conducted another assessment, to examine use of both RDTs and Coartem at the community level. The results indicated that these CHWs could correctly use RDTs when provided quality support, particularly through supervision. Current norms for home-based malaria treatment state that CHWs must refer patients with a negative RDT result to the Health Center. The results also indicated that PRIMO could be used successfully at the community level to assist the GOR to further control malaria in Rwanda. However, for this strategy to provide sustainable and high quality care, issues of PRIMO availability and supervision need to be tackled and resolved.

Rwanda's HBM program, which according to USAID/BASICS three assessments has significantly improved treatment of malaria and reduced it to the third most common cause of child mortality from the first, is a model for other countries interested in community-based interventions and possibly in using malaria as the driving force for introducing an integrated package at community level.

Click [here](#) to download the *Home Based Management of Malaria in Rwanda: 2007 Assessment Report*.

Click [here](#) to download the *Home Based Management of Malaria in Rwanda: 2008 Assessment Report*.

Nutrition

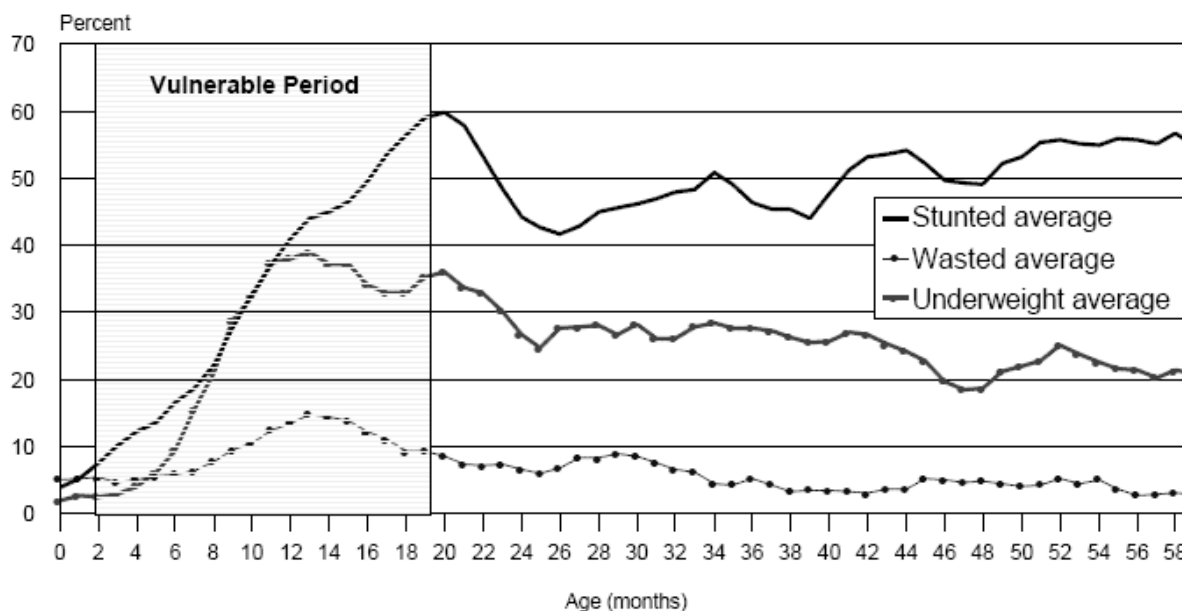
Malnutrition is a serious problem among children under five in Rwanda. Height-for-age measurements show that 45% of children under five are chronically malnourished (stunted, or too short for their age), with 19% exhibiting its severe form. This figure is about 20 times more than would be expected in well-nourished population. 19% percent are severely stunted. Acute malnutrition, or wasting, affects 4% of children under 5. These children are too thin for their height. This rate is about twice what is expected in the reference population. 22% of the children are underweight or have low weight for their age, which is 10 times more than would be expected in the reference population.

Global evidence has demonstrated that the most critical period for children in terms of nutritional benefit is the first two years of their life (see Figure 2). Damage caused by undernutrition in the first two years is irreversible, so focusing nutritional interventions on the two-and-unders will have the most long-term impact. Additionally, contrary to commonly held perceptions, chronic malnutrition (protracted periods of poor nutritional intake which leads to small height for age, or stunting) affects more children than severe acute malnutrition (a serious episode of poor nutritional intake, which leads to wasting). Therefore the BASICS approach is to focus nutrition interventions on children under 2 with chronic malnutrition.

One key activity to promote nutrition interventions for children was to update child health or other policies and strategies with nutritional components. Through its technical assistance to MOH and implementing partners, USAID/BASICS incorporated nutritional care into facility based IMCI materials (including feeding assessment and nutrition counseling protocols) and assisted the MOH to finalize the CCM nutrition components. Essential Nutrition Actions (ENA) was introduced as a part of PMTCT and Newborn strategies. Community-based nutrition programs were supported, primarily through the GOR-affiliated network of associations of PLWHA, with emphasis on management of HIV and infant feeding issues and nutritional support for HIV-infected infants and children. As a partner to the MOH, BASICS contributed in the development of the National malnutrition protocol with technical inputs to its finalization. This national malnutrition protocol will address the common malnutrition problems among the under fives focusing on service provision and community levels.

FIGURE 2
Why Focus Nutrition Efforts on Children Under 2 Years?

Stunting, Wasting, and Underweight by Age, Rwanda



BASICS developed a feeding guide to enhance the energy value of complementary foods for infants and young children infected with HIV/AIDS. This included details on methods of food preparation to enhance the energy value of food supplements for feeding infants and young children infected with HIV/AIDS (these methods must be of lower cost and easy to handle) in the Rwandan context. The feeding guide is an annex to the National Guidelines for Food and Nutritional Support and Care for Children Living with HIV/AIDS in Rwanda.

Following the Ministry of Health request for assistance to create nutrition and education counseling tools to support community young child growth promotion activities, BASICS conducted a Trials of Improved Practice (TIPs) for infant/child feeding practices in the 5 provinces of the country. TIPs is a qualitative, formative research methodology used to develop and test locally appropriate practices to determine which are feasible and effective.

After the consultation with the MOH, the sample of households was selected and was based on the factors known or presumed to influence infant and young child feeding practices and nutritional status. A site from each of the five provinces was selected based on the following considerations: The Western province (Karongi) located on Lake Kivu, where fish is a significant part of the diet, the North (Musanze) considered the breadbasket of the nation but with the highest rate of chronic malnutrition in children under five years, the Eastern province (Nyagatare) where cattle keeping families consume a lot of cow milk, and the South

(Nyamagabe) with limited access to food, and Kigali city, the urban capital city area with the lowest but still high rate of malnutrition in children under five years.³

The TIPs study showed the following gaps:

- The heavy use and continuing reliance on thin, simple sorghum porridge from 6 – 23 months is detrimental. Children are basically on a liquid diet until sometime after 12 months HOWEVER mothers seem very willing to improve porridge—thicken and enrich with pounded groundnuts.
- Diets are extremely low in animal source foods. It was difficult to improve much: only that among the animal source foods, mothers were mainly using small fish, milk and yogurt.
- Diets consumed by children are low in vitamin A-rich foods.
- The weaning of children occurs frequently during their second year of life because of new pregnancies, especially among the children between 12 – 24 months.
- Feeding of sick children happens in poor frequency and insufficient quantity, and there is some evidence of withholding food. Herbs and a liquid diet are used as remedies.

The study results were presented to the Ministry of Health and partners through the Nutrition Technical Working group (NTWG), and a workshop was organized to present the results and formulate strategies for using the results in nutrition counseling materials. Based on the information gathered from the TIPs, counseling tools were developed and submitted to UNICEF who will do the multiplication and printing.

The key achievements during BASICS in nutrition were:

- National guidelines for food and nutritional support and care for children living with HIV/AIDS developed including methods of enhancing local food energy value
- Rolled out a Trial of Improved child feeding Practices (TIPs) in order to develop nutrition and education counseling tools to support community young child growth promotion activities focused on under 2 years
- TIPs results shared with MOH and nutrition partners
- Currently finalizing education material

Click [here](#) to download the *Methods Of Enhancing The Energy Value Of Complementary Foods For Infants And Young Children Infected With Hiv/Aids In Rwandat.*

Click [here](#) to download the *Trials of Improved Practice for Infant and Young Child Feeding in Rwanda.*

³ RDHS – 2005

Pediatric HIV/AIDS

Rwanda's HIV prevalence in 2005 was 3.0% (3.6% for women and 2.3% for men). It is estimated that 7700 new pediatric HIV infections will occur each year in Rwanda. While there are intense efforts at scaling up treatment, many HIV infected children die of common childhood illnesses without being diagnosed as having HIV. There are many missed opportunities to identify and treat HIV infected children. For example, children of HIV positive mothers who have participated in PMTCT programs are not always seen for follow-up after delivery to ensure that they are protected by receiving a preventive care package and cotrimoxazole to protect them from opportunistic infections.

USAID/BASICS assisted the MOH and its partners to increase early identification, management and referral of HIV infected infants through the integration of pediatric HIV at all entry points to care. USAID/BASICS piloted an orientation module for facility and community health workers to broaden awareness of pediatric HIV and early identification and referral of HIV exposed and infected infants. USAID/BASICS also reviewed the pediatric HIV content of the pre-service nursing curriculum. USAID/BASICS worked closely with the national office on HIV/AIDS, TRAC, to support the development of referral systems, policies and guidelines for pediatric HIV, and participated in the USG Technical Working Groups on PMTCT and pediatric HIV. In addition, USAID/BASICS worked with World Vision and the CHAMP project in Rwanda on community counseling of children under five and integration of pediatric HIV content into World Vision curricula.

After identifying opportunities to find and treat HIV-exposed children under five, BASICS developed several technical tools to assist providers. The nine tools include seven pediatric HIV algorithms, a cotrimoxazole algorithm and a data collection tool that were all given to the responsible government institutions for multiplication and roll out at the health facilities. The tools that have been finalized and handed over to TRAC Plus and MCH desk include:

- Pediatric HIV algorithms: These algorithms to identify HIV-exposed children are designed for use at all entry points to care including non-HIV specific services such as immunization services, antenatal care, and general maternal and child health consultations. Some of the tools that are most useful at the community level have been translated into Kinyarwanda to facilitate their use by the community health workers. CHWs use the tools to identify HIV exposed and infected children, provide helpful information to their parents/guardians, and refer and link affected children to available care and support at the health centers and in the community. The process of developing these tools has promoted national ownership and effective transition of the tools to the MOH/MCH, TRAC and partners for use at the district level in health facilities and the community, thereby ensuring sustainability of the tools.

- Cotrimoxazole algorithm: Children exposed and infected by HIV, and those who need treatment for opportunistic infections, should be treated with cotrimoxazole. The cotrimoxazole prophylaxis algorithm was designed to assist health care workers to know whether a child needs cotrimoxazole prophylaxis, and when and in what doses they should be treated, based on the recommendations from the national pediatric HIV treatment guidelines. This algorithm will be distributed to health facilities by TRAC Plus.
- Data collection tool: The data collection tool integrates all the IMCI, HIV and HTSP activities and is used as a report form of monthly activities for the under fives and their mothers at the health facility level.

Seventeen World Vision Rwanda staff were trained on the early identification of HIV exposed and infected children. These trainers trained 3525 OVC care providers and the community health workers on the use of the same tools in their districts. Subsequent trainings and supervision visits will be implemented through community based partner organizations like CHAMP and World Vision. This will ensure on-going utilization of the pediatric HIV job aids and tools after BASICS.

Key achievements by USAID/BASICS in pediatric HIV in Rwanda include:

- HIV incorporated into IMCI material to increase the early identification and care/referral of HIV exposed or infected children
- Under five years exposed to or infected with HIV are 1.5 times more likely to receive cotrimoxazol prophylaxis in IMNCI district (Chi-square = 30.02 ; p<0.05)
- Algorithms developed for providers utilization at all entry points at health facilities to increase the early identification and care of children including systematic cotrimoxazol prophylaxis
- T.A to CHAMP and World Vision to improve OVCs HIV exposed children identification and care

Click [here](#) to download the *Pediatric HIV Identification and Case Management Algorithm*.

Newborn Health

In Rwanda, one in three of under 5 deaths is a newborn. Unfortunately, many of these babies are dying at home, as few sick newborns are brought to health centers. USAID/BASICS provided technical assistance to the MOH and implementing partners to strengthen or expand activities to promote newborn health. USAID/BASICS advocated for the integration of essential newborn care (ENC) into the national maternal and child health norms and protocols, and contributed to writing new standards that reflected the global state-of-the-art in ENC.

Figure 3
Newborn and infant contribution to < 5 years death in Rwanda (2007)

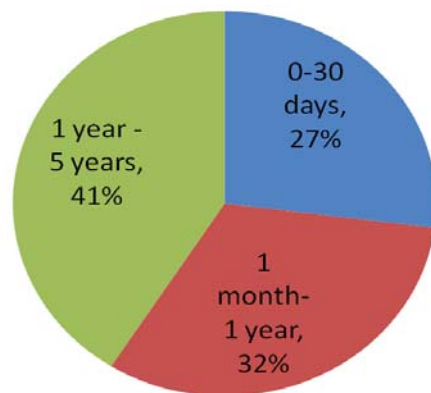
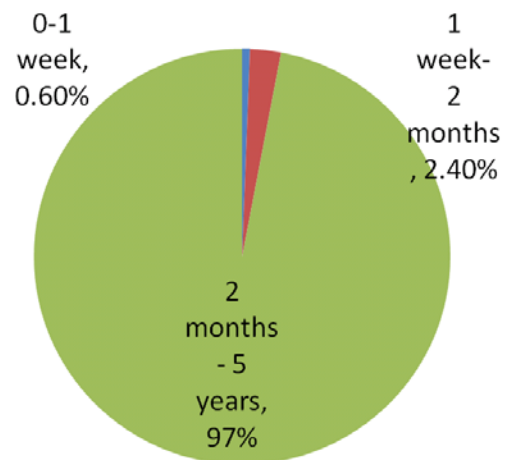


Figure 4
Sick children treated at health center in 2 districts in 2008



To increase mothers' and newborns' access to quality care, BASICS began by refining WHO's generic IMCI material to integrate early newborn care (0-7 days) where newborns were usually covered only after the first week. The MOH decided to develop a separate algorithm for the period from 0-7 days. An initial training of trainers was conducted for 50 trainers and supervisors. 950 providers were trained from September 2006 to May 2009 in a competency-based training approach that includes classroom sessions, exercises, role play, video sessions, demonstrations, and clinical practice. Every district in the country now has at least 2 providers trained on newborn care through IMNCI in each health center.

During the IMNCI evaluation conducted in 2009, quality of care for newborns was assessed in both control and intervention districts. Case management of newborns and provider performance were both significantly improved over the control district (see Table 3).

TABLE 3
Quality of sick children management at health center
(1 week-2 months)

Indicators	IMNCI district	Control district
<i>Child assessment</i>		
Bacterial infection	78% (7/9)	0% (0/6)
Diarrhea	89% (8/9)	0% (0/6)
Weight interpretation	78% (7/9)	17% (1/6)
Feeding problem	100% (9/9)	33% (2/6)
Breastfeeding	100% (6/6)	0% (0/5)
Possible HIV transmission	89% (8/9)	17% (1/6)
Vaccination status	100% (9/9)	33% (2/6)
Other	78% (7/9)	33% (2/6)
Complete assessment	78% (7/9)	0% (0/6)
<i>Child treatment</i>		
Correct Referral decision	80% (4/5)	0% (0/3)
Appropriate pre-referral treatment	80% (4/5)	0% (0/3)
Appropriate local bacterial infection treatment	100% (2/2)	0% (0/3)
Appropriate management of possible HIV transmission	100% (2/2)	0% (0/1)

The evaluation results showed that IMNCI provides better quality care . If implemented effectively at scale, IMNCI could be an efficient strategy to significantly reduce newborn mortality. Combined with quality assisted delivery and a strong community component to promote healthy behaviours, identification of danger signs and appropriate care seeking, the IMNCI platform provides a very promising approach to address newborn health.

Integration of early newborn care within IMCI offers several advantages. IMNCI helps improve quality care for newborn and HIV exposed children. . Children exposed to HIV are more likely to be identified and treated, and components (like newborn care) that are not as well-funded as others (HIV/AIDS) leverage more support by being linked together.

Table 4
Quality of sick newborn management through IMNCI in the Early Newborn Period (0-6 days)/Results from supervision

Newborn Assessment for:	# cases	# correct assessment	Providers performance
Severe bacterial infection	10	10	10/10
Local bacterial infection	10	8	8/10
Hypothermia	10	6	6/10
Low weight	10	9	9/10
Eye infection	10	7	7/10
HIV exposure	10	8	8/10
Feeding problem	10	10	10/10
Vaccination status	10	8	8/10

During the evaluation of the updated IMNCI, it was found that few sick newborns present for care at the health center level. One reason for this, according to formative research conducted by the IMCI Technical Working Group, communities think that newborn illness is caused by mystic events then cannot be treated by the modern health system. Therefore many caregivers do not seek care for a sick newborn, and many babies remain sick and die at home. Although the IMCI evaluation showed a significant improvement in care of the newborn when seen at the facility, neonatal mortality cannot be adequately improved until more babies are treated at the facility level. Subsequently, behavior change communication messages to promote care seeking for newborns have been developed by the IMCI Technical Working Group with the leadership of the MOH Community Health Desk, and are currently being finalized for dissemination.

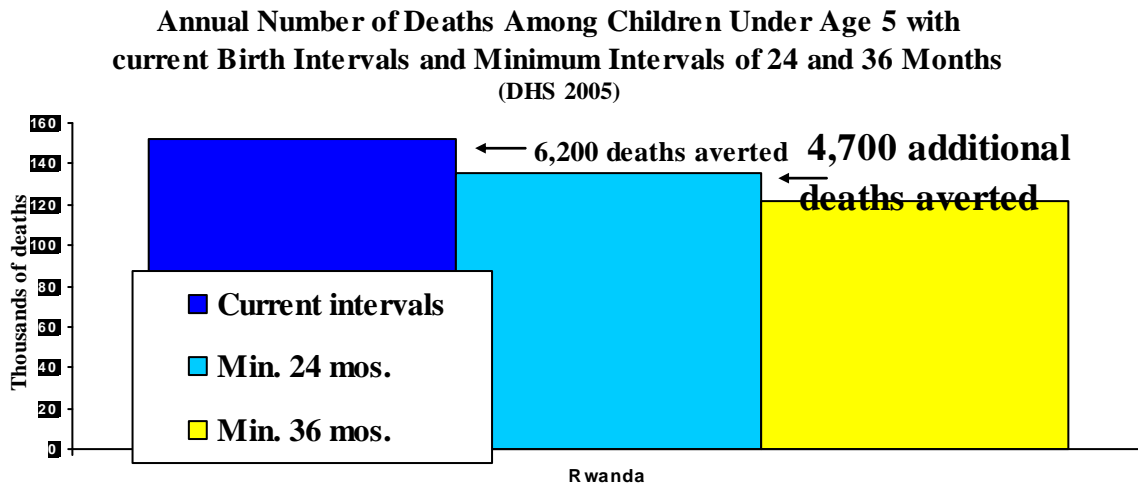
Although newborns are served through the IMNCI program, there remain important tasks to do that will provide better care to more newborns. Integrating an early newborn component with IMNCI is a promising approach but a strong community communication program should support the facility IMNCI implementation in order to bring sick newborn for care. The BCC messages developed to promote key family practices (including newborn care, pediatric HIV and birth spacing) should be finalized and distributed, which should increase awareness of

danger signs in the newborn and direct more babies to facilities. IMNCI indicators should be integrated with the national HMIS and the Performance Based Financing approach so that key newborn indicators are being routinely measured.

Healthy Timing and Spacing of Pregnancy

Recent research has shown that there is a strong link between birth intervals in developing countries and child mortality. The shorter the birth interval between children, the higher the under five mortality rate. This is also true in Rwanda, where the fertility rate is high (about 6 children per woman) and birth intervals are short. Using the concepts from the research with Rwanda-specific data, BASICS showed that thousands of child deaths in Rwanda could be averted annually if births occurred after longer intervals. BASICS decided to use the child health platform to increase awareness on adequate birth spacing at maternal and child health and community to the benefit of child and maternal health.

FIGURE 5



BASICS’ program objective for HTSP in Rwanda was to introduce HTSP within routine newborn and child health activities. The steps for achieving this goal included:

- Incorporate HTSP in newborn and child health policies and strategies, including the post-partum package of interventions
- Incorporate HTSP within IMCI guidelines
- Implement HTSP through IMCI-HIV strategy in trained districts
- Expand HTSP at facility level and community level.

BASICS worked closely with the MOH to integrate key messages into family planning and maternal and child health policies, then supported partners to implement the updated policies in the field.

First, an advocacy presentation was conducted with the MOH and other stakeholders to inform, sensitize and engage officials, decision makers and the implementing partners. The purpose of sharing the presentation was to increase awareness of the benefits of birth spacing, and to encourage participants to introduce and replicate the messages and skills within their programs. Participants were very receptive to the information and especially impressed by the use of local data to demonstrate the potential deaths averted by using ideal birth spacing. The Minister of Health, convinced of the added value to family planning, encouraged BASICS and partners to move forward with the integration and implementation immediately.

With permission from the Minister of Health, BASICS began to integrate the HTSP concept and key messages into all national policies and strategies that related to child health. The technical information about HTSP and messages to be delivered to clients was integrated into policies and implementation tools. Some documents, such as the Child Health Policy, Child Survival Strategy, and National Norms and Protocol for Service Delivery were not yet developed at the time HTSP was introduced, so HTSP was incorporated into those documents from their conception. Some policies or documents that were already in draft form (for example, IMCI guidelines) were integrated with HTSP guidelines, and then printed as final. The Family Planning Curriculum was updated to integrate HTSP.

BASICS also collaborated with the Immunization program of the MOH to integrate HTSP messages into the national immunization program. The immunization program in Rwanda is very successful, with 97% of children completely immunized before reaching 2 years of age.⁴ Support to the EPI/MOH of Rwanda was provided to develop integrated messages on immunization and HTSP together for dissemination to clients on immunization days.

At the community level, child health partners conducted formative research to analyze behaviors on key family practices for child survival. From that research, appropriate integrated messages were developed to promote child health, including messages on HTSP, HIV and nutrition which were used to create counseling cards. The cards, including HTSP messages, are currently being produced and will be disseminated for use by community health workers in the field.

As HTSP was integrated within IMCI, Family Planning and Immunization programs, Twubakane, EGPAF, UNICEF and Capacity began implementing HTSP through their capacity building, supervision and monitoring activities. Facility IMCI is currently operating in 30 of 30

⁴ Ministère de la Santé (MINISANTÉ), Institut National de la Statistique du Rwanda (INSR) et ICF Macro. 2009. *Enquête Intermédiaire sur les indicateurs Démographiques et de Santé, Rwanda 2007-2008*. Calverton, Maryland, U.S.A. : MINISANTÉ, INSR et ICF Macro.

districts in Rwanda, so every district in the country now has staff trained in HTSP functioning in health facilities. The Family Planning training was conducted by the Twubakane and Capacity projects, and has covered 7 of 30 districts. Finally, immunization activities are standardized and conducted nationwide. Embedding HTSP messages within these national programs ensured the program would naturally be carried to scale in Rwanda.

By March 2009, the first four steps in the HTSP promotion process (Advocacy, Integration, Partnerships and Implementation) had been completed. The final step, expansion, was reached quickly in Rwanda's case, due to the rapid scaling up of IMCI that included HTSP. There was no need to conduct pilot implementation because the HTSP message was extremely acceptable to the MOH as part of their focus on family planning. Once the information was included in policy, it was taken to scale with other programs, such as IMCI, which was successfully taken to scale (30 out of 30 districts) in June 2009.

The HTSP activities were evaluated qualitatively in an internal review and quantitatively in the IMNCI evaluation. Both reviews showed that there was significant room for improvement in the implementation of HTSP practices. The Rapid Analysis of the Integration of HTSP within Child Health showed that although the policy integration was successful, and HTSP was included in most materials that touched child health, providers had a poor understanding of the messages they should be promoting. The concept of birth spacing was lost in the very strong messages about birth limitation through family planning. The IMNCI Evaluation data showed that there was little to no difference between the IMNCI intervention area and the control district on knowledge and practice of birth spacing. One reason for this could have been that HTSP was included in the Family Planning training in Rwanda, and the control district had 39 providers trained in Family Planning compared to 12 trained in IMNCI in the intervention district. However we still know that the implementation of longer birth intervals between children is a concept that should be better taught and better practiced to and by providers in Rwanda.

Click [here](#) to download the advocacy presentation: *Incorporating Healthy Pregnancy Spacing Into Newborn, Infant & Child Health Programs*.

Click [here](#) to download *Framework for Integrating Birth Spacing Messages into Child Health Services*.

Click [here](#) to download *Integrating IEC Messages on Vaccination, Birth Spacing, and HIV in Rwanda*

Click [here](#) to download *Integration of Healthy Timing and Spacing of Pregnancy within Child Health Services in Rwanda: A Rapid Analysis*.

Lessons Learned, Successes and the future of Child Health in Rwanda

Four years ago when USAID/BASICS starting working in Rwanda, IMCI was not functional and CCM was happening only for malaria. As we leave, IMNCI (including Pediatric HIV, early Newborn Care and HTSP) has been introduced and scaled up nationally, to all of the 30 districts, and community case management now includes not only malaria but also ARI and Diarrhea (among others). The best of what is known in addressing nutrition, Pediatric HIV and HTSP has been incorporated into national policy documents and implemented through partner programs. The MOH has been very appreciative of the technical knowledge and support that BASICS shared with them. Together, the MOH and its partners have achieved a 32% reduction in child mortality from the 2005 DHS to the interim DHS conducted summer of 2008.

While much has been achieved, there are critical areas that continue to need work. Specifically, IMNCI needs ongoing support. Although the coverage of facility IMNCI looks high, only 2 of the average 6 nurses in a health center are trained: IMNCI is not offered daily. Not all the health centers are implementing IMNCI because there is not enough “interest” from district management team and providers at HC level. The long duration of the IMNCI training course (12 days) and high cost (\$1,000 per participant) remain obstacles.

Another area that needs attention is community health. The MOH has moved quickly to take a broad community health program to scale, but there are significant gaps that need to be addressed. These include focusing the technical package of interventions, improving quality of training at the lowest levels, addressing the drug logistics to reduce the frequent stockouts, and improving data management. There is a very large cadre of CHWs that have been trained, but technical mentoring and supervision need improvement. Also, many of the CHWs are located close to health centers. To address issues of equity and access, more CHWs need to be trained in remote areas that cannot easily access health centers.

Both IMNCI and C-IMCI need to be included in the national Performance Based Financing program, where providers are not currently incentivized to provide care. IMCI has recently been integrated but will need some attention to make sure it is working well.

Newborn health remains a challenge in Rwanda. It is commonly believed that newborn illnesses are not treatable at modern health facilities, and so the smallest sick babies are often never seen or treated. Many newborns continue to be born and die at home. If the MDGs are to be met, the newborn mortality rate that has remained stable must be reduced. This should be accomplished by both increasing the number of sick newborns seen at the facility level and reaching those who remain sick in the community. There is also a need for resuscitation equipment and training at both levels. Post natal care (with special focus on the early post natal period) should be institutionalized.

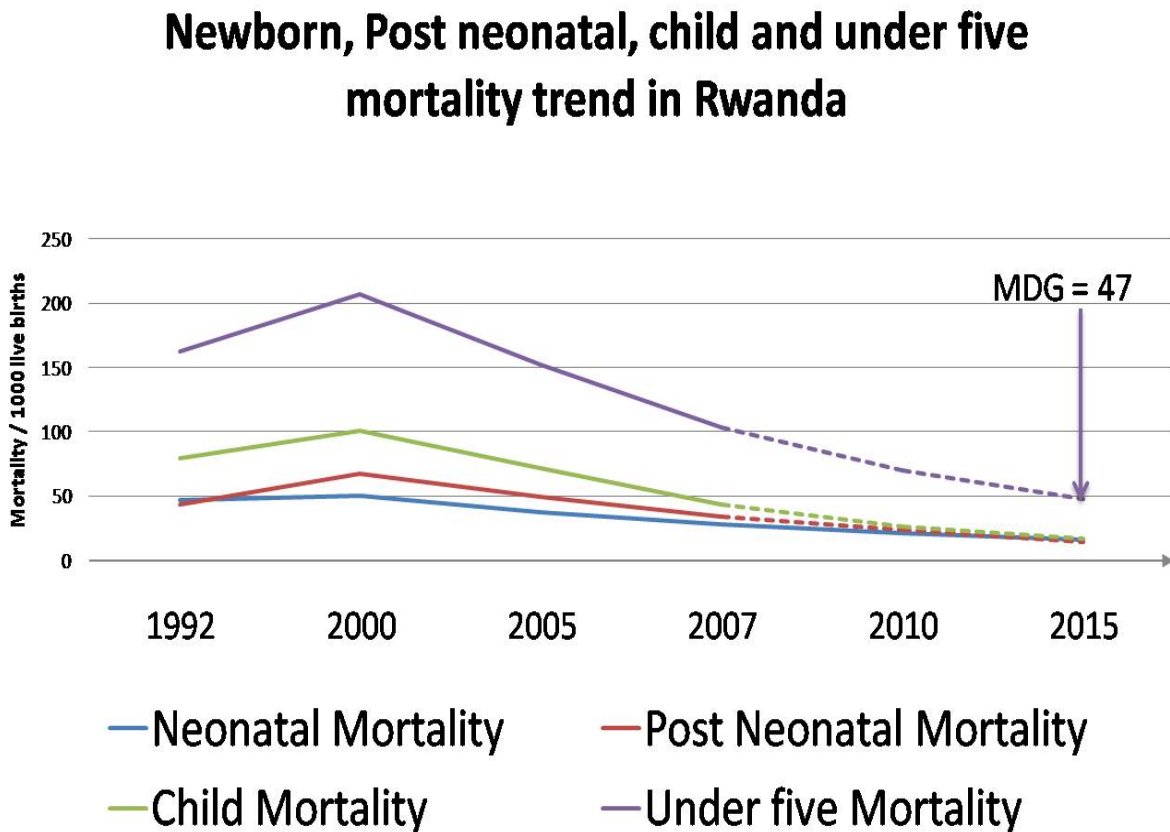
The BCC messages for community level that have been developed by partners should be finalized and disseminated at scale to support better preventative practices and home and promote care seeking.

The Growth Monitoring and Promotion strategy should be refocused to children under 2 years of age, when they will reap the most benefit.

Emergency care for children not standardized at referral level. Standards for emergency care for children should be developed and disseminated.

According to available data, Rwanda could actually meet the MDG goal for child health, and with a significant focus on the newborn and young child, could potentially meet the goal before 2015! Now is the opportune moment to take advantage of the momentum in child health in Rwanda. High level technical support to the MOH could provide encouragement and guidance that will help the country meet the MDG 4 ahead of time, and save the lives of many young children.

Figure 6
Rwandan Trends in Newborn, Post neonatal, and under 5 Child Mortality



Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Child Health Policy in Rwanda / Politique Nationale de Santé de L'Enfant	Policy document	Policy document that lays down the main guidelines as regards child health and addresses significant issues like child rights to health, the nature of the services which must be available and the general rules of service. The document is reference guide to national decision makers and partners for planning and implementing relevant interventions for child survival. French only.	<ul style="list-style-type: none"> ▪ Mother health including antenatal care, delivery and post partum care ▪ Newborn health ▪ Child health ▪ Birth spacing ▪ Pediatric HIV ▪ IMNCI ▪ Nutrition 	<ul style="list-style-type: none"> ▪ Key newborn and child indicators trend in Rwanda (pg.11) ▪ Vision, mission en objectives of the child health policy in Rwanda (pg.17) ▪ Main stages in the life cycle (pg.18)
Child Survival Strategy 2008-2012 in Rwanda / Plan Stratégique d'Accélération de la Survie de l'Enfant (2008 -2012)	Planning document	Planning guide that describe the priority interventions to accelerate child survival and the achievement of MDG 4 in Rwanda using the life cycle and continuum of care approach. French only.	<ul style="list-style-type: none"> ▪ Newborn health ▪ Child health ▪ Birth spacing ▪ Pediatric HIV ▪ IMNCI ▪ Nutrition 	<ul style="list-style-type: none"> ▪ Under five years mortality trends in Rwanda (pg.12) ▪ Birth spacing contribution to child death in Rwanda (pg.17) ▪ Proven interventions for the prevention of under five years death (pg 30)

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
IMNCI algorithms	Service delivery guidelines	Algorithm describing how to assess, classify, treat the child and counsel the mother during facility IMNCI.	<ul style="list-style-type: none"> ▪ IMNCI 	<ul style="list-style-type: none"> ▪ 2 months to 5 years guidelines (pg.4) ▪ 1 week to 2 months guidelines (pg.30) ▪ 0-7 days (pg.44)
Evaluation report of the Integrated Management of Childhood Illness (IMCI) strategy in the District of Kirehe, Eastern Province in Rwanda	Assessment report	Assessment report describing and analyzing results of the IMNCI strategy implementation at facility level in Rwanda	<ul style="list-style-type: none"> ▪ IMNCI 	<ul style="list-style-type: none"> ▪ IMNCI logical framework (pg.21) ▪ Assessment methodology (pg.23) ▪ Conclusion and recommendations (pg.59) ▪ Data collection tools (pg.63)
Evaluation of Community Health Worker Performance	Assessment Report	An early evaluation of CHW performance in the integrated CCM program	<ul style="list-style-type: none"> ▪ IMNCI ▪ Community Case Management of Childhood Illnesses 	

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Evaluation of the Home Based Management of Malaria Strategy in Rwanda, 2007	Assessment report	Assessment report describing and analyzing the key results of the HMM strategy implementation in Rwanda	<ul style="list-style-type: none"> ▪ Malaria 	<ul style="list-style-type: none"> ▪ Assessment methods (pg.6) ▪ Summary of finding (pg.39) ▪ Conclusion (pg.43) ▪ Recommendations (pg.47)
Evaluation of the Home Based Management of Malaria Strategy in Rwanda, 2008	Assessment report	Assessment report describing and analyzing the key results of the HMM strategy implementation in Rwanda	<ul style="list-style-type: none"> ▪ Malaria 	<ul style="list-style-type: none"> ▪ Assessment methods (pg.5) ▪ Summary of finding and conclusion (pg.31)

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Incorporating Healthy Pregnancy Spacing into Newborn, Infant & Child Health Programs	Powerpoint Presentation	<p>An evidence based advocacy material to create awareness and commitment for HTSP among target decision makers</p> <p>A PowerPoint presentation developed using the key findings from USAID sponsored studies and the most recent Rwanda DHS report that highlight the huge health benefits of longer birth intervals and the health risks associated with short birth intervals</p>	<ul style="list-style-type: none"> ▪ Healthy Timing and Spacing of Pregnancy 	<ul style="list-style-type: none"> ▪ Birth interval definition (slide 3) ▪ Optimal birth interval (slide 4) ▪ Health benefits of longer birth intervals (slide 5) ▪ the relationship between shorter birth intervals and mother and children mortality (slide 5) ▪ WHO optimal birth interval recommendation ▪ Framework template for birth spacing integration into child health services (slide 22)

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Guide méthodologique pour une intégration efficace de l'espacement des naissances dans les activités de sante du nouveau-né et de	Programmatic document	<p>A French-language methodological guide for the effective integration of the HTSP educational messages and services into each and every child health services.</p> <p>Provide guidance and technical support to program managers and newborn and child health service providers to effectively integrate the key HTSP messages into newborn and child health programs.</p> <p>A practical and operational guide for successful and efficient integration. It contains the list of all newborn and child health activities; preventive, curative as well as promotional.</p>	<ul style="list-style-type: none"> ▪ Healthy Timing and Spacing of Pregnancy 	<ul style="list-style-type: none"> ▪ List of all newborn and child health services; preventive, curative as well as promotional and subsequent birth spacing educational message to deliver
Integrating IEC Messages on Vaccination, Birth Spacing, and HIV in Rwanda	Assessment Report	Report detailing the development and integration of HTSP messages (along with HIV-related messages) for delivery at vaccination service delivery points.	<ul style="list-style-type: none"> ▪ Healthy Timing and Spacing of Pregnancy 	

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Integration of Healthy Timing and Spacing of Pregnancy within Child Health Services in Rwanda: A Rapid Analysis	Assessment Report	A qualitative analysis of the integration of birth spacing messages into child health policy and its implementation in Rwanda.	<ul style="list-style-type: none"> ▪ Healthy Timing and Spacing of Pregnancy 	<ul style="list-style-type: none"> ▪ Challenges and successes in integrating birth spacing messages into child health policy and implementation
Pediatric HIV Identification and Case Management Algorithm	Service delivery guidelines	Guidelines describing the process of identifying and managing HIV exposed or infected children	<ul style="list-style-type: none"> ▪ Pediatric HIV 	<ul style="list-style-type: none"> ▪ Children from 0-5 years where no HIV test is available ▪ Rapid test and PCR-DBS algorithm 0-9 months ▪ Rapid test algorithm 9 months- 15 years
Methods of Enhancing the Energy Value of Complementary Foods for Infants and Young Children Infected With HIV/AIDS In Rwanda	Feeding guide		<ul style="list-style-type: none"> ▪ Pediatric HIV 	

Title	Type	Description	Technical Focus Area(s)	Key items of importance in this document include...
Engaging Rwandan Families to Ensure Feasible and Effective Infant and Young Child Feeding Recommendations	TIPS Assessment	The TIPs report describes the information produced by and conclusions resulting from qualitative research to identify the most acceptable and feasible improved feeding practices to be incorporated in counseling and education tools.	<ul style="list-style-type: none"> ▪ Nutrition 	<ul style="list-style-type: none"> ▪