PLAN International USA

with

Helen Keller International

and

Population Services International

CAMEROON EXPANDED IMPACT CHILD SURVIVAL PROJECT (EIP)
MID-TERM EVALUATION

Center, East and Northwest Provinces

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Acronym List

ADEFKA	Association pour le Development des femmes de la Kadeye
ACT	Artemesinin Combination Therapy
AFAARA	Association for the Fight Against AIDS in Rural Areas
ACMS	Association Camerounaise pour le Marketing Social (local PSI)
ANC	Ante Natal Care
ARI	Acute Respiratory Infection
BCC	Behavior Change Communication
CBO	Community Based Organizations
CBS	Capacity Building Supervisors
CCM	Community Case Management
CDD	Control of Diarrheal Disease
CS	Child Survival
CSHGP	Child Survival and Health Grants Program
CSSA	Child Survival Sustainability Assessment
DIP	Detailed Implementation Plan
DMO	District Medical Officer
EIP	Expanded Impact Program
EPC	EIP Planning Committee
EPI	Expanded Program on Immunization
HA	Health Area
HAC	Health Area Committee
HAHC	Health Area Health Committee
HIS	Health Information Systems
HKI	Helen Keller International
IEC	Information, Education and Communication
IFA	Iron and Folic Acid
IHFA	Integrated Health Facility Assessments
IHC	Integrated Health Center
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Presumptive Treatment
ITN	Insecticide Treated Net
KPC	Knowledge, Practice and Coverage Survey
LNGO	Local NGO
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MOST	Mobile Ongoing Sustainable Training
MTE	Midterm Evaluation
NAFI	Ngoketunjia AIDS Fighters
NID	National Immunization Day
NGOs	Non Governmental Organizations
NMCP	National Malaria Control Program
NNWG	National Nutrition Working Group
OR	Operations Research
ORS	Oral Re-hydration Salts
ORT	Oral Re-hydration Therapy
PD	Positive Deviance
PHC	Provincial Health Coordinator
ProFam	ACMS-affiliated network of private clinics
PSI	Population Services International
PVO	Private Voluntary Organizations
RBM	Roll Back Malaria
SWIM	World Swim against Malaria
TOT	Training of Trainers
TT	Tetanus Toxoid
U5	Children under five years of age
USAID	United States Agency for International Development
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VAS	Vitamin A Supplementation
WARO	West Africa Regional Office
WRA	Women of Reproductive Age

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CHAPTER ONE: EXECUTIVE SUMMARY

The Expanded Impact Project (EIP) is a five year (2005 – 2010) initiative being implemented by PLAN, Helen Keller International (HKI) and Population Services International (known in Cameroon as ACMS) in collaboration with the Ministry of Health/Cameroon, 7 local NGOs and hundreds of community based organizations (CBOs). Activities in the five intervention areas – Malaria (40%), Nutrition (30%), Diarrhea Disease Control (10%), Pneumonia (10%) and Immunizations (10%) – are being carried out in 11 health districts in three Provinces – East, Central and Northwest. The beneficiary population includes: 481,441 WRA, and 199,721 children under age five living in approximately 1000 communities. The EIP seeks to accelerate the scale-up of IMCI and RBM in Cameroon, and to disseminate successful program interventions, through the concerted effort of organized communities and public, private and international institutions. The EIP DIP also identified the following three results: 1) improved family behaviors and home care, 2) increased access to quality maternal and child health services and 3) improved capacity for public and private partners' systems and structures to sustain Child Survival (CS) activities.

Accomplishments

Scale-up

The EIP has significantly contributed to scale-up in the areas of IMCI, Roll Back Malaria and Nutrition through its work on these national working groups, training and operations research.

C-IMCI

The Expanded Impact Project has increased access to maternal and child health information by training 22,000+ community-based organization members who promote key C-IMCI behaviors among pregnant women and mothers of children under age 5. Several types of health education materials have been provided to each CBO to facilitate their behavior change efforts.

Changes in key MCH behaviors have been recorded as follows:

- ITN used by U5 increased from 11.8% to 60.7%
- ITN use by pregnant women increased from 15.7% to 43.2%
- Pregnant women's completion of IPT increased from 18.5% to 51.4%
- Exclusive breastfeeding among target children increased from 50.8% to 63.1%
- Vitamin A supplementation by new mothers increased from 21.6% to 30%
- Timely hand washing increased from 7.7% to 15.5%
- Timely care seeking among children with signs of ARI increased from 37.4% to 51%

IMCI

The EIP has supported the scale up of IMCI by training a pool of National IMCI trainers who have not only trained 260 health care providers in the EIP project area, but nearly 50 providers in other Provinces. The staffs at one hundred and thirty-three (133) health facilities in three provinces are now practicing IMCI.

Through support to the IMCI working group, steps have been taken to ensure that IMCI training is provided during the pre-service training of all health care providers in Cameroon; thus ensuring the scale up of the approach throughout the country and sustaining the initiative into the future.

Roll Back Malaria
Access to ITNs has been increased through the project's provision of 39,000 ITNs in the project area, increasing ITN use among children U5 from 11.8% to 60.7% and among pregnant women from 15.7% to 43.2%.

Access to treatment has been increased through the community case management of malaria approach supported by the project. Two-thousand (2,000) community-based Malaria Relays have been trained increasing access to malaria treatment significantly.

Nutrition
With significant assistance from the EIP, the National Nutrition Working Group has been established which has developed a national nutrition strategic plan to guide the efforts of the country's nutrition initiatives. More specifically the working group has developed a detailed protocol for the administration of Vitamin A. The project is helping to inform the MOH's decisions about the use of zinc in the treatment of diarrhea by conducting a operations research study.

The project has not experienced any major obstacles apart from poor leadership in the East Province which has resulted in poorer health outcomes when compared to the other two provinces.

Conclusions and Recommendations

1. The behavior change strategy is not as effective at the community level as it could be.

To address this, the EIP needs to review the doer/non-doer surveys and in consultation with the LNGOs and CBOs develop community based activities that will more effectively promote behavior change, especially in the area of nutrition.

2. Local partner strengthening efforts are not as strong as they could be.

The Organizational Capacity Assessment needs to be redone using the new tool and an organizational capacity strengthening plan developed for each LNGO partner organization with great involvement of the PU staff (financial et al). As part of this, a standard reporting format for LNGOs needs to be developed along with a supervision checklist for use by CBSs.

3. The training on C-IMCI for CBO members needs to be strengthened.

The current set of C-IMCI technical notes needs to be developed into a modular curriculum that is appropriate for semi literate populations. This should be used to train the remaining CBOs. For trained CBOs, the focus should be on training them to effectively use the visual aids provided to them.

See Chapters Two and Five and Annex 3 for additional recommendations

Summary of Impact Model Elements for Project

Table 1. Project Impact Summary

Inputs	Activities	Outputs	Outcomes	Goal
Staff training Training curricula development Provision of equipment and supplies (scales, motorbikes, etc. procured with PVO match funds) IEC and BCC materials development Supervision tools, protocols On the job training Staff/Tech. Assistance Financial resources	▪ Train CBOs in C-IMCI ▪ Train health care providers in IMCI ▪ Train community-based Malaria Relays ▪ Develop and distribute health education leaflets; ▪ Distribute health education materials for use by CBOs and IHC staff; ▪ CBOs promoting ITN use and prompt care seeking ▪ Conduct mass media campaigns (radio, caravans) ▪ Plan and conduct supervision ▪ Distribute ITNs ▪ Establish sale points for ITN retreatment kits ▪ Participate on Malaria Working Group	▪ 6 types of health education materials developed ▪ 16,121 health education materials distributed ▪ health care providers trained in IMCI ▪ 22,860 CBO members from 762 villages trained in C-IMCI ▪ 10 LNGOs strengthened ▪ 47 Local NGO Promoters trained ▪ Increased access to ITNs (39,000) ▪ Increased access to health information (762 villages, 11 Districts, 3 Provinces) ▪ Increased access to malaria treatment (3444 Malaria Relays trained) ▪ Strategy for Pre-service IMCI training developed	Mothers of children U5 and pregnant women practicing healthy behaviors to prevent and treat malaria (see list of all outcome indicators in Table 2 below)	To reduce morbidity and mortality among children U5 months living in the project intervention area
See above, plus:	See above, plus:	See above, plus: ▪ Increased access to	Mothers of children U5	

Inputs	Activities	Outputs	Outcomes	Goal
TA to develop ops research protocol Provision of scales to 762 CBOs	Develop protocol and implement Ops Research on how to include zinc Train PD/Hearth trainers; Implement PD/Hearth in 3 villages CBOs conducting monthly Com-based growth monitoring and education on EBF, complementary feeding and feeding during illness; Train 74 providers in Essen. Nutrition Actions	nutrition information through CBOs and health care providers ▪ National Nutrition Working Group formed and informing nutrition-related policies, including Vit. A administration; ▪ Policies ready to include zinc in the treatment of diarrhea; ▪ Increased access to recuperation services for moderately malnourished children from communities with 30%+ malnutrition rates	practicing healthy behaviors to prevent and treat malnutrition including micronutrient deficiencies;	
See above	See first box, plus: Develop protocol and implement Ops Research on zinc; Establishment of sale points for water guard and Orasel; Hand washing promotion by CBO members;	See first box, plus: ▪ Increased access to water treatment products; ▪ Increased access to Orasel ▪ Increased access to health education and rehydration services	Mothers children U5 practicing healthy behaviors to prevent and treat diarrhea;	
See first box	See first box, plus	See first box; plus:	Mother of children U5	

Inputs	Activities	Outputs	Outcomes	Goal
	Support to visit of MOH officials to Senegal to observe CCM in practice Ops Research on CCM being developed; CBOs referring sick children to health center	Increased access to health information promoting timely care seeking for ARI; MOH considering CCM for ARI;	practicing healthy behaviors to prevent and treat pneumonia;	
See first box	See first box, plus Health and Nutrition Action Week organization and implementation CBOs maintaining the community register	See first box, plus: Com.-based childhood immunization tracking system maintained by CBOs Increased access to immunization services (through support to Health week)	Increased immunization coverage for pregnant women and children U5	

CHAPTER TWO: ASSESSMENT OF RESULTS AND IMPACT OF THE PROJECT

A. Results: Technical Approach

Overview of the project

The Expanded Impact Project (EIP) is a five year (2005 – 2010) initiative being implemented by PLAN, Helen Keller International (HKI) and Population Services International (known in Cameroon as ACMS) in collaboration with the Ministry of Health/Cameroon, 7 local NGOs and hundreds of community based organizations (CBOs). Activities in the five intervention areas – Malaria (40%), Nutrition (30%), Diarrhea Disease Control (10%), Pneumonia (10%) and Immunizations (10%) – are being carried out in 11 health districts in three Provinces – East, Central and Northwest. The beneficiary population includes: 481,441 WRA, and 211,473 children under age five living in approximately 1000 communities. To reach all of these communities in a rational manner, the EIP is being implemented in phases. During phase one, activities were initiated in the most remote communities with the worst health indicators identified through the baseline KPC survey. Currently the project has operations in 762 communities, in all 11 districts.

The EIP seeks to accelerate the scale-up of IMCI/RBM in Cameroon, and to disseminate successful program interventions, through the concerted effort of organized communities and public, private and international institutions. The EIP DIP also identified the following three results: improved family behaviors and home care, increased access to quality maternal and child health services and improved capacity for public and private partners' systems and structures to sustain Child Survival (CS) activities. To achieve these, the project partners implement the activities cited in Table 1 at three levels: National, Provincial/District and Community. The activities that take place at the National level contribute almost immediately to scale while those as the Provincial, District and local levels serve as a model for implementers outside the project area.

Table 2. Summary M&E Table

	Objectives	Indicators	BLD %	Targets %	MT %	Explanation
	MALARIA					
1	Increase from 11.8% to 60% children age 0-23 months who slept under an ITN the previous night	% of children age 0-23 months who slept under an insecticide-treated net the previous night.	11.8	60	60.7	Due primarily to large ITN distribution supported by matching funds and MOH-accessed Global Funds. Also supported by project training of critical masses of CBOs Recommend that the indicator be increased to 80%

	Objectives	Indicators	BLD %	Targets %	MT %	Explanation
3	Increase from 11.7% 60% children age 0-59 months who received a full course of recommended anti-malarial within the 24 hours of onset of fever	% of children age 0-59 months who received a full-course of recommended anti-malarial (according to the MOH's recently approved home-management protocols) within the 24 hours of the onset of fever	11.7	60	36.6	Increase in care seeking due to training, higher recognition of signs of malaria and IMCI training and regular supply of anti-malarials.
4	Increase from 2.8% to 75% women who completed IPT during their current or last pregnancy	% of women who completed Intermittent Presumptive Treatment (IPT) during their current or last pregnancy.	18.5	75	51.4	Due to regular supply of meds and reasonably high PNC attendance. Also to increased knowledge among women about IPT

	NUTRITION					
6	Decrease from 15.9% to 10 % children age 0-23 months who are under-weight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population).	% of children age 0-23 months who are under-weight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population).	15.9	10	9.4	This decrease is less likely due to any feeding habit changes (aside from EBF) achieved through project efforts, but could be attributed to reduced cases of malaria and diarrhea, as reported by many health center chiefs and supported by KPC results.
7	Increase from 50.8% to 75.8% children age 0-5 months who were exclusively breast-feeding during the last 24 hours.	% of children age 0-5 months who were exclusively breast-feeding during the last 24 hours	50.8[1]	75.8	63.1	This behavior is being promoted by the trained CBOs and providers trained in IMCI. In the second half of the project, the ENA training will also help support this behavior.
10	Increase to 90% children age 6-59 months who received vitamin A supplementation in the prior 6 months.	% of children age 6-59 month who received a Vitamin A supplement in the prior 6 months	80.9	90	76.6	Not clear why this indicator seems to have decreased in the face of substantial training on Vit. A, access to Vit. A and outreach activities. Needs to be studied. Could be a mother's recall issue.

[1] The baseline is already significantly higher than the national average ( ) because two of the three target provinces already had higher than average EBF rates and the project is not being implemented in the provinces with extremely low EBF rates.

11	Increase to 80% mothers giving birth in the last 12 months who received two vitamin A supplements within 8 weeks post partum.	% of mothers of children age 0-32 who received two Vitamin A supplements within 8 weeks post partum	21.6	80	30	Mothers give birth at home and do not frequent the health center soon after delivery. Nurses neglect to administer Vit. A during BCG administration. Needs a reminder. Rec. CBOs be given supply of Vit.
12	Increase from 9.2% to 40% sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	% of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks.	9.2	40	14.6	Focus remains on medical interventions and curative care. Need to reinforce this message at community level and during points of contact with health care providers. Home visits to sick children by CBOs should focus on this.
	DIARRHEA					
15	Increase from 7.7% to 30% mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after attending a child who has defecated.	% of mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after a attending a child who has defecated.	7.7	30	15.5	Good progress, but CBOs need to focus more on this behavior to achieve the final objective.

	PNEUMONIA					
16	Increase from 65.9% to 80% mothers of children age 0-23 months who know at least 2 signs of childhood illness (fast breathing and chest in-drawing) that indicate the need for treatment.	% of mothers of children age 0-23 months who know at least two signs of childhood illness (fast breathing and chest in-drawing) that indicate the need for treatment.	65.9	80	70.4	Good progress; CBOs need continue to educate mother about the signs and symptoms of pneumonia; When CCM for pneumonia goes into effect this will also help this objective.
17	Increase from 37.4% to 67.7% children with signs of severe childhood illness who were seen by a qualified public or private provider in the past 2 weeks.	% of children with signs of severe childhood illness who were seen by a qualified public or private provider in the past two weeks.	37.4	67.7	51	Due to increased referrals by CBOs, increased recognition of signs and IMCI training

	IMMUNIZATION					
18	Increase from 70.5% to 80% children age 0-23 months who received vaccination coverage for all the antigens	% of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	70.5	80	73	Limited progress given the focus on Health and Nutrition week; could be due to not recording the polio vaccines given door to door; or mothers not remembering the vaccinations provided as special Health Week services
19	Increase from 58.9% to 80% mothers of children age 0-23 months who received 2TT during their last pregnancy	% of mothers of children age 0-23 months who received 2TT during their last pregnancy	58.9	80	56.8	The MOH has a 5 TT policy so many women may have NOT received a TT vaccination during their last pregnancy, but will have been completely vaccinated. Quite a lot of attention has been focused on TT vaccinations.

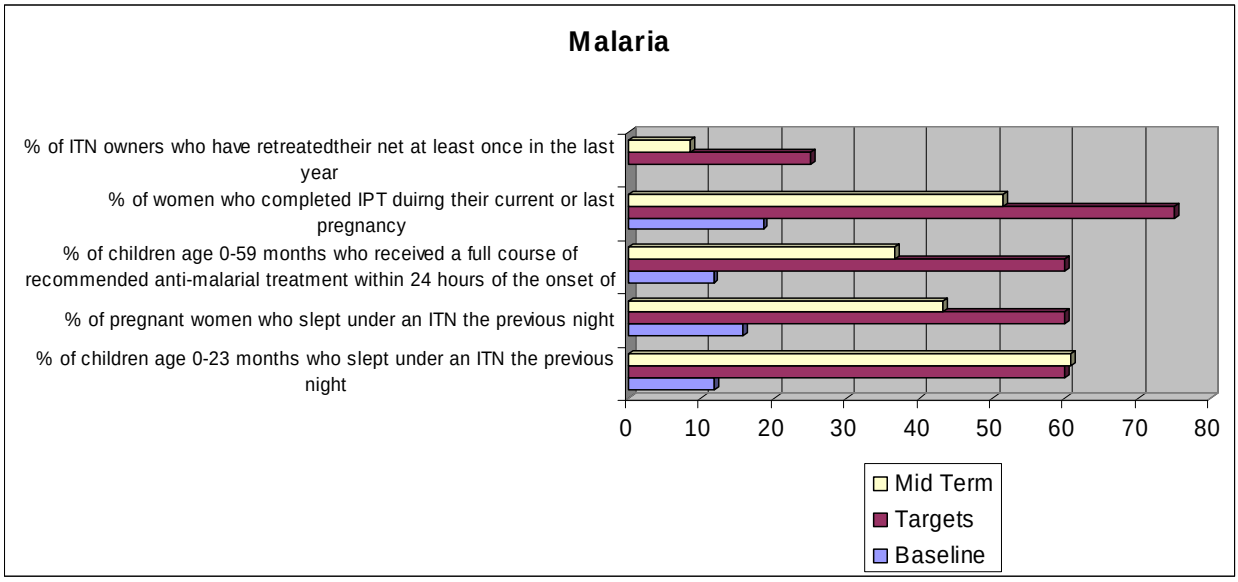
Table 3. Work plan Activity Status Table

Objectives/Activities	Objectives Met	Activity Status
Prevent and treat malaria		
Activity 1. Train community-based health workers in CCM/Malaria	Yes	Completed – 1300 CHWs trained; a delay in providing treatment was encountered b/c MOH could not provide the ACTs immediately
Activity 2. IMCI training	Yes	305 MOH/Profam providers trained in IMCI; 133 of 175 facilities in the project area and 25 Profam clinics using IMCI
Activity 3. ITN distribution	Yes	Complete - 39,000 ITNs distributed by EIP - this was complemented by MOH distribution of ITNs
Activity 4. health education materials developed and distributed; mass media campaign	Yes	Completed – 16,000 materials distributed
Activity 5. Continue to support work of LNGOs and CBOs implementing C-IMCI approach	Yes	Completed - 7 LNGOs provide monthly support to 762 CBOs; some slow down occurred in 2008 when LNGO contracts were not renewed pending feedback from the MTE
Activity 6. Support to Malaria Working Group	yes	CCM/Malaria CHW training curriculum design
Prevent and treat malnutrition including micronutrient deficiencies		
Activity 1. Continue to support work of LNGOs and CBOs implementing C-IMCI approach	Yes	See activity 4 above
Activity 2.		
Activity 2. Zinc Ops Research conducted	yes	completed
Activity 3. Essential Nutrition Action training	yes	74 trainers trained
Activity 4. National Nutrition Working Group formed, supported and MOH approval received	yes	MOH approval received in August. 2008
Activity 5. PD/Hearth Training conducted	yes	3 MOH trainers trained
Prevent and treat diarrhea		
Activity 1. Continue to support work of LNGOs and CBOs implementing C-IMCI approach	Yes	See activity 1 above
Activity 2. IMCI training	Yes	See above
Activity 3. Zinc Ops Research conducted	yes	See activity 2 above

Activity 4. Establish Sale points for Water guard and orasel	yes	628/391 sales points established
Prevent and treat pneumonia		
Activity 1. Continue to support work of LNGOs and CBOs implementing C-IMCI approach	Yes	See activity 4 above
Activity 2. CCM Ops Research protocol	No	Being written
Activity 3. IMCI training	Yes	See above
Increased immunization coverage		
Activity 1. Continue to support work of LNGOs and CBOs implementing C-IMCI approach	Yes	See activity 4 above
Activity 2. IMCI training	Yes	See above
Activity 3. Bi Annual Health and Nutrition Week	yes	Adopted by the MOH and now supported by MOH and other partners

Discussion of Technical Intervention Areas

Malaria (40%)



The malaria component of the EIP seeks to reduce the number of malaria cases among children and pregnant women through ITN use and IPT and to increase access to quality treatment through symptom recognition, timely care seeking, and quality of care improvement and community case management of malaria (CCM/M). A full list of activities is shown in Tables 1 and 3.

As the chart above shows, significant progress has been made on all five of the Malaria indicators and the indicator related to ITN use among children has already been achieved. If activities continue as programmed, it is likely that all malaria indicators will be achieved by the end of the project.

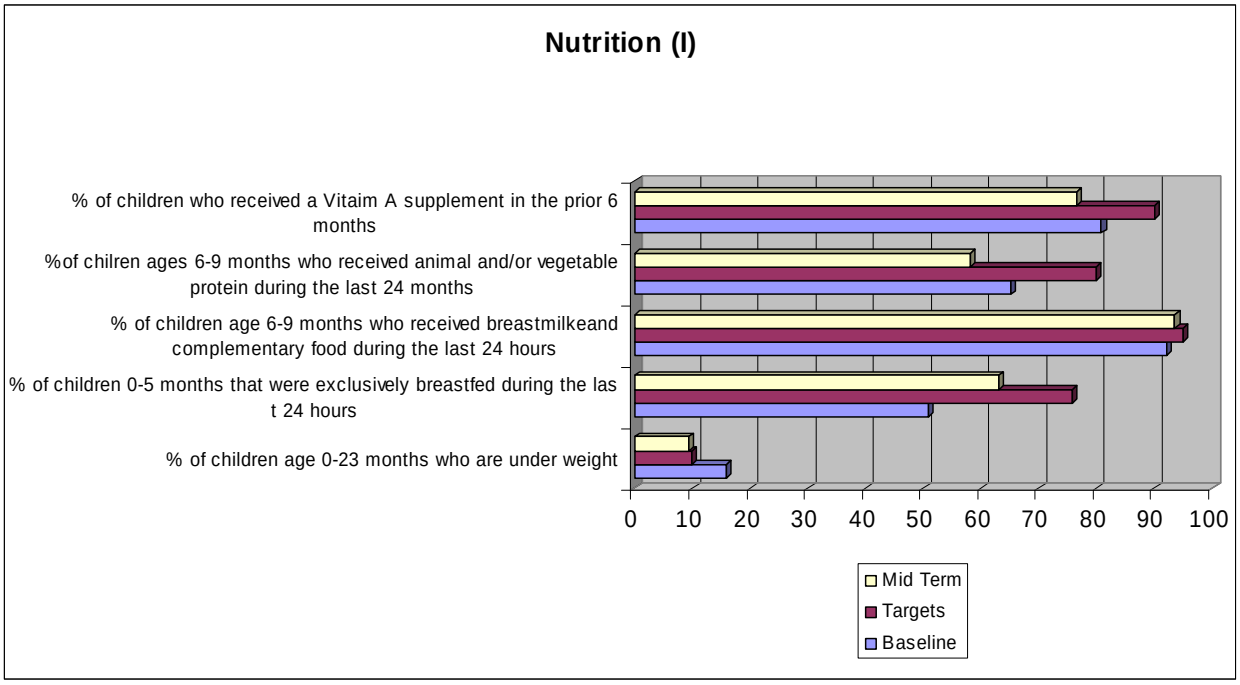
The progress related to malaria prevention and treatment is due to the project's initiatives on many fronts – national, provincial/district and community and to the partners' combined efforts. At the national level, the EIP is represented on the Malaria Working Group and was instrumental in designing the Community Relay/Malaria (a CHW who is trained in CCM for Malaria only) training curriculum and supporting the training of 15,000 Community Relay/Malaria nationwide; 3,444 of whom are based in the project area. The project's support of these activities contributed to the scale up of the Community Case Management of Malaria (CCM/M) approach throughout the country, greatly improving access to curative services. One glitch in this initiative, however, was the failure of the MOH to make ACTs available to the CCM/Ms once they were trained. The kits were only distributed 9 months following the training. The Mid Term Evaluation team was not able to interview any of the CCM/Ms to assess their level of knowledge or the rate people have been accessing their services.

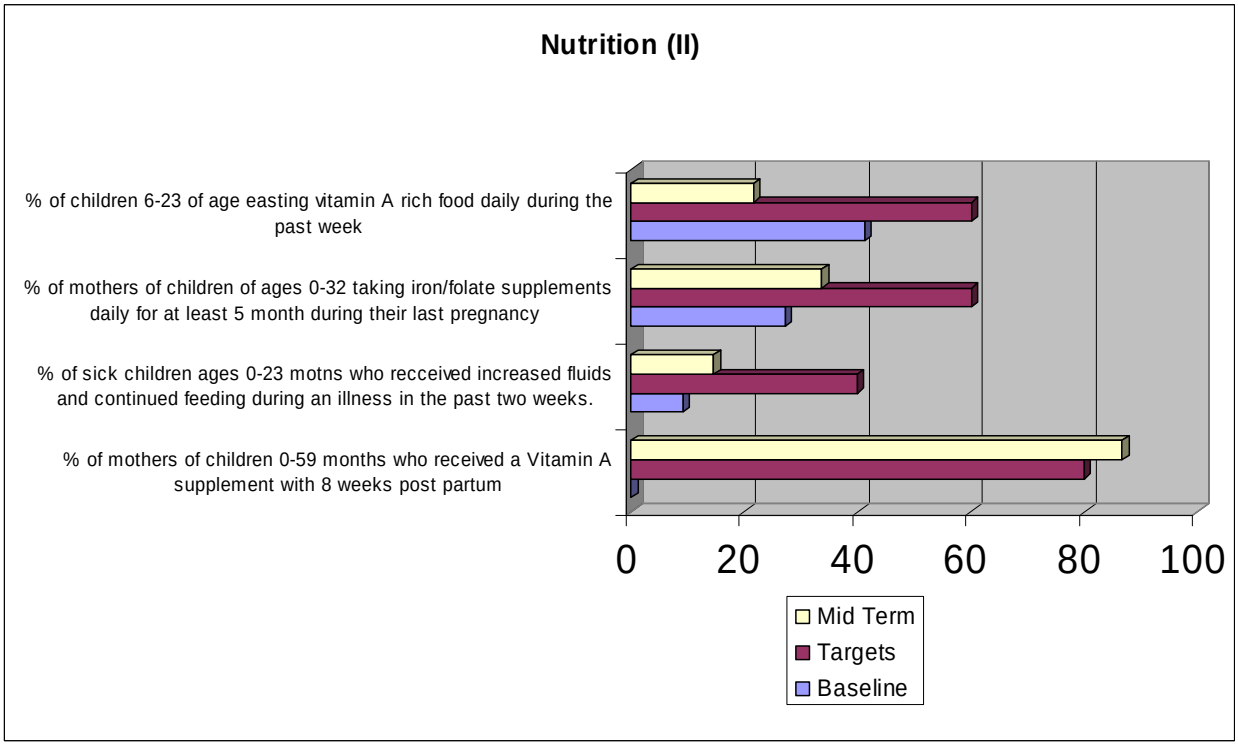
At the Provincial and District levels the EIP's training of 308 health care providers working in 133 out of 175 facilities in IMCI ensures the accurate diagnosis and treatment of malaria cases, including the severe cases. Furthermore, Plan and ACMS's contribution of 39,000 ITNs using matching funds helped to increase ITN use especially among children. Also, at the regional/provincial level ACMS's production of radio spots and visual aids on ACTs and ITN use helped to promote the desired behaviors.

At the community level, the project's training of some 22,000+ CBO members in more than 750 communities in C-IMCI significantly increased access to information about how to prevent malaria and when and where to seek care. More importantly however, the most active members of the CBOs, usually 4 – 7 per community, conduct home visits to each family with children U5 each month to see if they have a mosquito net hung over the bed and if the child sleeps under it. The same is done for pregnant women. This very personal and proactive measure goes one crucial step beyond ITN ownership, to ensure ITN use. And lastly, to increase the degree of protection, the project also facilitates the treatment of ITNs by establishing sale points for treatment kits and promoting the practice during bi-annual Health and Nutrition Weeks.

The malaria component in the Central Province has been greatly assisted by a Malaria Project that is funded by PLAN/ Netherlands and PLAN/ France. This five-year project, which began in 2004, has the same objectives as the EIP malaria component and has contributed mosquito nets and funds to support activities similar to those of the EIP.

Nutrition (30%)





The nutrition component of the EIP focuses on improved general nutrition of children U5 and on improved micronutrient intake – especially Vitamin A, zinc and iron and folic acid. The target

audiences for this component's activities are children under age five and pregnant women. The strategies used are cited in Tables 1 and 3 above.

As the above chart and Table 2 show, out of the 9 nutrition indicators, progress has been made on 5 of them, and the target for reduced malnutrition has already been reached. Regarding this latter achievement, given the other nutrition indicators, the evaluation team concluded that the reduction in malnutrition is more likely attributable to reduced morbidity (malaria and diarrhea) than to significant improvements in feeding habits. This conclusion is also supported by anecdotal evidence provided by Health Center staff who report reduced incidences of diarrhea and malaria.

While progress was recorded among five of the nutrition indicators, given the slow rate of change, it is not certain that the EOP targets will be met if the pace of change is not accelerated during the second half of the project. This is true for nutrition indicators, 7, 11, 12 and 13, (and perhaps 14) all of which saw only small improvements; and indicators 9 and 10 which seem to have regressed according to the KPC survey. A review of the doer/non-doer survey results and consideration of more targeted activities by CBO members may be all that is needed to boost these indicators.

Of the nine nutrition indicators, five of them do not require access to outside resources and therefore are susceptible to change through community level promotion alone. These include indicators 7, 8, 9, 12, and 14 having to do with child feeding practices. The other behaviors require access to a resource such as Vitamin A or Iron/folate. The indicator related to reduced malnutrition is associated with many factors.

Child feeding behaviors are being promoted by the CBO members trained by the project in C-IMCI. While thousands were trained, only a handful of CBO members in each village actively promote the key behaviors in their community. These include the CBO President, the secretary, who helps with growth monitoring and maintains the community register and block chiefs (neighborhood leaders), who identify the households in their neighborhoods who have children U5 or pregnant women and promote behavior change through growth monitoring, home visits and group talks. Behavior change promotion skills were introduced to the CBO members through a three-day training on C-IMCI conducted by Local NGO promoters who were trained by project staff during a five-day course. Given the length of the training and the complexity of the course content it is not likely that the trainees were able to grasp all of the key messages AND learn how to promote behavior change among their neighbors. It is also very challenging to learn to conduct community growth monitoring and advise mothers in such a short amount of time. To ensure achievement of the nutrition indicators therefore, the CBO members will need to focus more attention on counseling mothers on nutrition as part of the monthly growth monitoring program and to conduct cooking demonstrations on a more frequent basis. This effort will be supported by the development of visual aids on nutrition which is planned by HKI during the second half of the project.

Regarding community-based growth monitoring and promotion, in most villages it appears that children are weighed monthly on a house-to-house basis with the Block Chief carrying the scale and a small notebook from door to door. She, and perhaps the secretary, weigh the child, mark

the weight in the notebook and then later record this information in the community register since register is too large to carry around. Done in this way, the activity is more a data collection exercise than a counseling opportunity. Block chiefs can not know at the time of the weighing if the weight has increased or decreased or if the weight is normal for the age of the child. Although many mothers possess health/vaccination cards which have the Road to Health in it, the EIP staff mistakenly thought that the CBO members were not allowed to fill this in. Inquiries of MOH officials into this during the mid term evaluation suggest this is not the case. If the Block Chiefs and Secretaries were taught to accurately weigh the child (some villages round up to the nearest 500 grams), plot the weight on the Road to Health Chart, and explain the meaning of the chart to the mothers, this would make the activity far more meaningful and open the door to effective counseling.

The project has also supported nutrition activities at the National and Regional levels. These include support for the establishment of a National Nutrition Working Group, an operations research study on the introduction of zinc, Essential Nutrition Action (ENA) training for 74 health care providers and PD/Hearth training for 22 EIP and MOH staff, 3 LNGO staff members and 2 CBO members.

The National Nutrition Working Group brings together stakeholders from around the country to develop a strategic plan, set nutrition policy and consider means to improve nutritional status among various target audiences. The EIP not only supported member's participation on the working group, but EIP staff attended the meetings and influenced decisions. The working group was recently officially sanctioned by the government, an important milestone which will help to improve the working relationship between the members of the group, and support the scale up and coordination of nutrition actions to be put in place by MOH and its partners. Furthermore, the project also supported the MOH to organize a workshop on the development of nutrition IEC materials that brought together participants from MOH, EIP, LNGOs, UNICEF, and WHO staff members.

The Zinc Operations Research, conducted by HKI, was a pilot research intervention carried out in the Bertoua Health District of the East province conducted between August 2007 and February 2008. The purpose of the research was to study how best to introduce the use of zinc in the country. The study found that: a) the ORS/zinc combination is affordable, b) compliance is acceptable; c) zinc treatment for diarrhea increased the use of ORS/ORT but did not influence the correct use of antibiotics by health personnel; and d) information about zinc is primarily communicated by health care providers and community relays (CHWs). The report recommends that in addition to treatment being provided at the health centers, "diarrhea treatment kits" made up of ORS and zinc be made available to the population through the trained CBO members and local pharmacies;

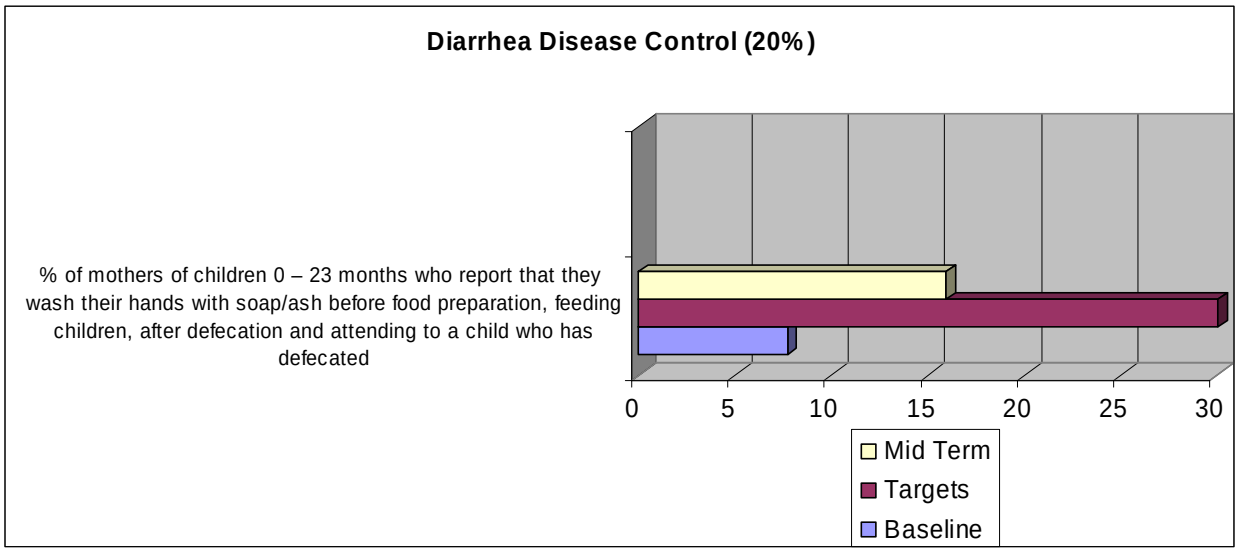
As a result of the study zinc has been included on the list of essential drugs in Cameroon (though it is not yet available through the official drug procurement channels) and steps are being taken to include the administration of zinc in the IMCI protocols for treatment of diarrhea.

The EIP supported the training of 74 health care providers as trainers in the Essential Nutrition Actions. This training will allow the MOH to train other providers to more effectively and proactively promote the key nutrition behaviors that CBO members are promoting as a part of C-

IMCI. Along with more concerted efforts by the CBOs this too will help the project to achieve its nutrition objectives during the second half of the project. The training of trainers will also help scale up this approach throughout the country.

Positive Deviance/Hearth (PD/Hearth) is the approach being used by the project to recuperate moderately and severely malnourished children living in villages with malnutrition rates in excess of 30% (found only in the East Province). Although some MOH staff had already been trained in PD/Hearth, the EIP trained 3 additional MOH staff, thereby increasing the pool of potential users, while at the same time addressing malnutrition in a sustainable manner. To date, four PD/Hearths have been implemented in 3 villages involving 25 children, with a recuperation rate of 92%.

Control of Diarrheal Disease (10%)



The project's efforts to prevent diarrhea and reduce its negative consequences focus on hand washing, water treatment, and ORS/T administration. The Operations Research study described above will also eventually contribute to reduced incidence of diarrhea once zinc is made available in the entire project area and all health care providers are trained in its use. Two strategies are used to address diarrhea. Through the C-IMCI training CBO members learn to promote hand washing and ORS/T use and through the establishment of water guard[2] sales points, a way to purify water is made available to community members. To date 628 points of sale for water guard have been established by ACMS, with 3,791 bottles of water guard sold in the project area. Likewise, 391 ORASEL sales points have been established and 11,653 sachets sold.

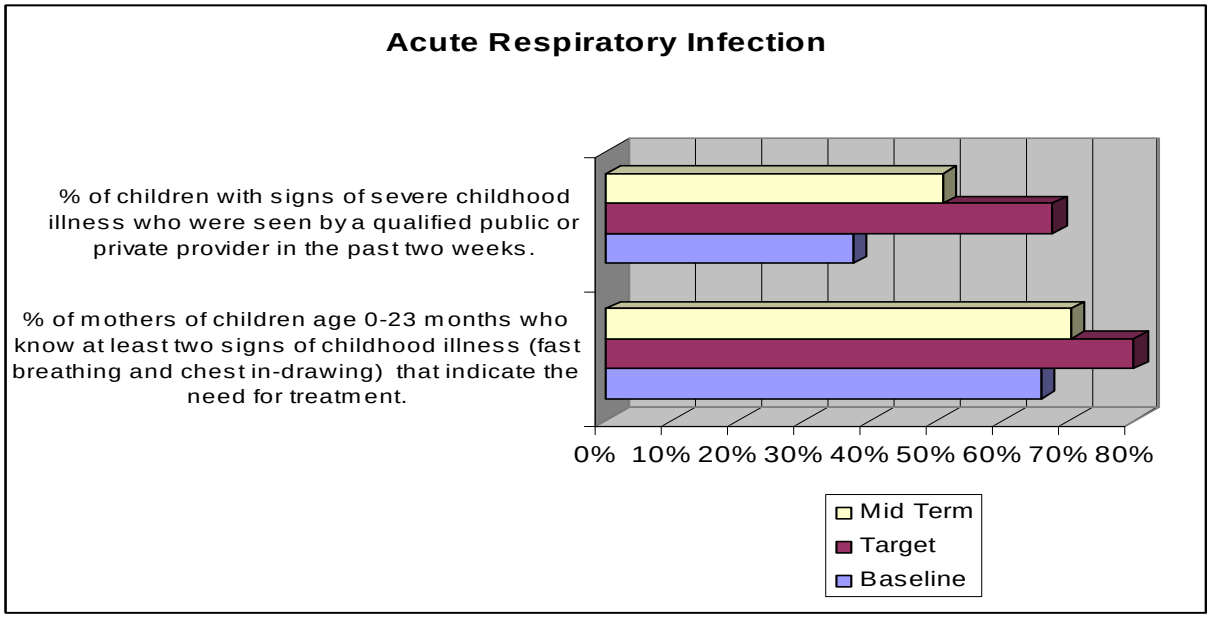
As the above chart shows, reasonable progress has been made toward achieving the hand washing objective. However, to achieve this objective by the EOP, stronger efforts will need to be made during the second half of the project. Since access to water in the project area is not a

[2] Water guard, or sur eau, is a produce used to treat water so it becomes potable.

barrier to this behavior, achievement of this objective is within reach if CBO members focus more attention on this message. Combining the hand washing message with the nutrition messages (wash hands before preparing the babies meal; wash hands before feeding the baby) should make this easier.

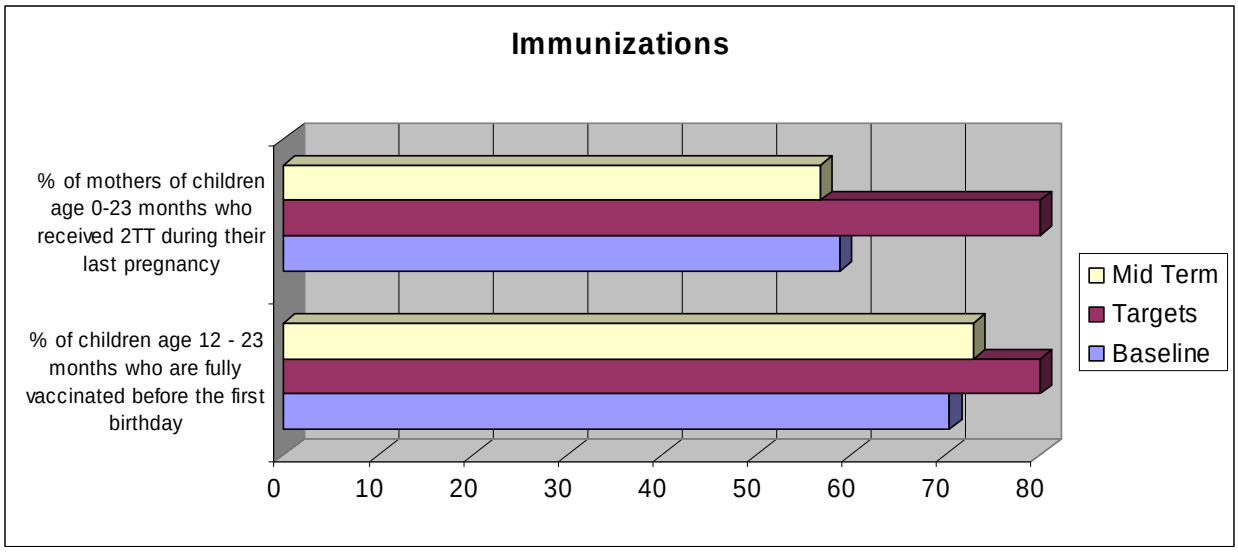
It should be noted that during the MT evaluation evaluators consistently heard about community members' efforts to clean the village and build latrines and this is an indicator that is collected on the Community Maps. Latrine construction is an activity that is being promoted and supported strongly by another project also active in the same area as the EIP. Obviously, the construction and use of latrine would have a major impact on the reduction of diarrhea in the project area.

Pneumonia (10%)



In addition to the recognition of signs of acute respiratory infection (ARI) and timely care seeking promoted by trained CBO members, and the improved quality of ARI treatment by IMCI-practicing health care providers, the EIP had hoped that the government would adopt the Community Case Management (CCM) of ARI approach following a visit to Senegal and the review of case studies from neighboring countries where CCM has proved effective. This would have increased access to ARI treatment significantly. Instead, the MOH has decided that another operations research study is needed, the protocol for which is currently being developed. In light of the controversy of the approach, in developing the research protocol it is critical that the study investigate the issues with which the dissenting physicians took issue. In the meantime, progress has been made on the two indicators, as evidenced in the above chart, through the training of 20,000+ CBO members and their subsequent community-based health education sessions.

Immunization (10%)



As with the other intervention areas, the IMCI strategy is also meant to improve vaccination coverage rates. The role that IMCI is suppose to play in ensuring that every child is completely immunized through well baby or sick child consultations is thwarted, however, by an MOH policy which prohibits providers from opening a vial to immunize only one or a few children since only vials with multiple doses are currently available. Consequently, the IMCI strategy is not likely to have a major impact on improving immunization coverage. When single dose vials are made available, which the team was told was planned to take place, the effectiveness of the IMCI approach on immunization coverage will be restored.

To compensate for this, and to improve coverage of other services, the health care providers usually inform mothers about the next vaccination day being held at the clinic. Furthermore, the EIP developed a strategy called the Health and Nutrition Week. Twice per year during one week the entire health system in each health area mobilizes to offer a set of services (which varies from health district to health district depending on the need) in every village. During this period vaccination services are provided in each village; injections being administered from a fixed site and oral doses of polio and Vitamin A being provided during home visits. After only two Health Weeks conducted by the EIP, the MOH adopted this strategy on the national level and two additional health weeks have now been conducted nationwide with support from many different partners – INGOs, bilateral and UN agencies.

While EIP reports show great improvement in coverage in some districts and not very good coverage in other districts; to date, no cost/benefit analysis has been conducted to determine whether or not it is worth the cost (time and money- all of which is supported by donors) to conduct the health week. In addition to this concern, the evaluation team identified two additional concerns: one is that this approach may encourage the population to wait for health services to come to them rather than seeking them out on their own (which is the major message of the C-IMCI strategy), and the other relates to sustainability. Unlike the “strategie avancé”, which is budgeted for by the MOH and conducted on a routine basis, the Health and Nutrition week depends on partners to mobilize the resources necessary to make it happen. It would seem

that such a massive mobilization would not be necessary if the IMCI and C-IMCI strategies were really working.

At the community level, trained CBO members are suppose to track immunization coverage using two tools: the behavior map and the community register. The evaluation team attempted to assess the quality of the community health information system and found that while most villages had behavior maps which appeared to be kept up to date (including immunization status of U5), the registers were not as well maintained. More importantly, however, it is not clear that CBO members are using the register to identify children whose immunization status is not up to date to refer them to the health center. In other words, the community health information system is not being used to make some crucial decisions regarding child health.

Technical Results: Recommendations

1. The anticipated level of achievement for the indicator related to ITN use by children should be increased to 70%, in line with MOH national objective.
2. The project staff should review the results of the doer/non-doer surveys and based on the identified determinants of change, develop specific activities at the community level that CBO members should implement to more effectively promote the desired behaviors.
3. The EIP should retrain the LNGO promoters on how to effectively conduct a community growth monitoring and promotion program. This should include how to accurately weigh a child (and why accuracy is important), how to plot the weight on the Road to Health graph, how to interpret the weight, and what questions to ask to begin the counseling process. Once LNGO promoters are trained, they should in turn train the active CBO members in each village.
4. LNGO promoters need to review with CBO members 'what is a home visit' (to distinguish it from the behavior map data collection visit) and how it should be done. This might require a review with the LNGO promoters by CBSs.
5. More specific guidelines for when to do home visits should be developed and discussed with the CBOs. (ex. Visit all sick children to promote feeding during illness, visits all U6 month olds to promote exclusive breast feeding, visit all new mothers to promote post partum Vit. A consumption etc). The Community HIS should be modified to track home visits.
6. The most responsible CBOs or Malaria Relays should be given Vitamin A for distribution post partum.
7. During Health Week and all other mass out-reach activities; health care providers should record the administration of Vitamin A on the vaccination card as well as the tally sheet.
8. CBO members need to emphasize post partum Vitamin. A consumption during home visits to pregnant women;
9. CBO members need to focus attention on nutrition of sick children (Vitamin A rich foods, and increased liquid and food consumption) during home visits.
10. As soon as possible HKI should develop a flip chart – similar to the one developed by ACMS on malaria, diarrhea, immunization and pneumonia – and provide several copies to each community.

11. EIP staff should develop a training course for CBO members on how to use the two flip charts most effectively during home visits to promote behavior change especially in the area of nutrition.
12. Train L-NGO promoters to conduct the CBO training (use of the two flip charts)
13. The project should consider adding an indicator on zinc use
14. EIP staff (Health Coordinators and Capacity Building Supervisors) should review with the LNGO promoters the decisions that CBOs are expected to make based on the Community Health Information System so that these promoters are better able to reinforce this practice at the community level. (Ex. Promote attendance at *strategie avancé* or Health Week by children whose vaccinations are not up to date.)
15. The CCM Ops Research protocol should be reviewed before implementation to make sure that it will respond to the concerns of those who had doubts about the approach.

B. Results: Cross-cutting approaches

Community Mobilization

The EIP has made efforts to mobilize the target communities around maternal and child health by training 30 (mostly) women in each of 750+ villages. The majority of these 22,860 trained women are members of Community-Based Organizations which were originally formed around an income generating theme and whose work in that regard continues along side their health promotion work. Working through already established groups has proven to be a best practice, as difficulties were encountered in some villages where no CBO existed and the EIP attempted to create a special group just focused on MCH promotion. While a critical mass of community members from each village were trained in each village this has not translated into community mobilization, since only a handful of CBO members are actively involved in health promotion activities. Most activities are conducted on an individual basis (house-to-house), the only group activities being attendance at infrequent health talks and bi-annual Health Weeks when vaccination services are provided at a fixed location. The exception to this might be village cleaning activities which the evaluation team heard about quite often, but which falls outside the purview of the EIP project.

Behavior Change Communication (BCC)

The EIP has focused much attention on their behavior change strategy. In January 2006, the PLAN backstop officer, Laban Tsuma, attended a Designing for Behavior Change (DBC) training course sponsored by CORE and later that year he replicated that same training course for 12 EIP project staff, 10 LNGO partners and 3 MOH employees. After having conducted a Doer/Non-doer survey on several of the key behaviors, DBC frameworks were developed which were to guide the BCC strategy. Unfortunately, the vast majority of the community-based activities are limited to increasing awareness through health talks only. The key messages used in the training of CBOs and contained in the IEC materials do not reflect the determinants and key factors brought out by the survey results. Thus, for example, survey respondents identified concerns that the ITNs are hot (little air circulation) and yet none of the project's messages appear to address this. Likewise, few mothers interviewed for the doer/non-doer survey were

able to identify the advantages of exclusive breast feeding, yet even after being trained, only 24% of active CBO members interviewed during the MTE could name five advantages. If the active CBO members do not know these advantages, then they are not able to effectively promote exclusive breast feeding among the mothers. Husbands and grandmothers were identified as gatekeepers for some behaviors, yet no specific activities to influence them have been developed (beyond including them during home visits).

At the community level, the trained CBO members are the focal point for the BCC efforts. As mentioned previously, while 30 community members (28 CBO members and 2 COSA members) were trained in each of 762 villages, only a handful of these are really active in promoting health in their communities on a regular basis. Given this, it is quite possible that the behavior changes measured by the KPC survey are more attributable to the training of CBO members by the LNGO promoters than to the health education activities of the few active Community Relays.

According to the performance indicators listed in the C-IMCI training manual, the CBO members (Community Relays) are expected to: conduct at least 3 health talks per month, conduct at least 4 home visits per month, make referrals to the health center and sell certain products each month. This list makes no reference to the many other activities they are expected to do each month, such as growth monitoring, behavior mapping and register maintenance and review. It is not clear if these performance indicators are for the entire CBO or for each individual trained member. Without an accurate set of clearly understood performance indicators it is difficult to design an effective training curriculum or a performance monitoring system.

Plan has adopted a tool, the Behavior Map, which they found in Nepal, for use by trained CBO members. This tool illustrates in pictorial fashion which houses have children U5 and pregnant women practicing some of the most important key behaviors – exclusive breast feeding, ITN use, vaccination, etc. It is developed for each block (or neighborhood) and up-dated each month after the Block Chiefs (neighbor leaders) visit each household and ask a set of questions to determine the practice of the behavior. While some of these questions are leading and may result in the appearance of compliance, the trained CBO members interviewed for the MTE usually know how many children U5 are in their neighborhood and seemed to take the activity seriously. It does not appear, however, that most CBOs use the Behavior Maps to assess the health status *of the community* or for decision making, and this is an aspect that needs to be strengthened during the second half of the project with assistance from the L-NGO promoters.

Another tool that the project has introduced at the community level is the Community Health Register. This is a data collection tool in which the CBOs (usually the secretary, who has the best hand writing skills in the village) record various aspects of maternal and child health (vaccination status, weight, ITN use etc). While there is some overlap between the Behavior Map, the Register covers the entire community, is not pictorial, and is far more comprehensive and complex. In fact is it more complex than is necessary or desirable, and as a result, quite a number of communities experience difficulty in maintaining the register accurately and keeping it up to date. More worrisome, however, is the fact that it is not serving as a decision-making tool for the community. In a separate file provided to the Project Manager, Dr. Shu, the consultant has provided guidance as to how to simplify and reformat the register to make it more user-friendly.

Both of the EIP partners, ACMS and HKI, have been key in promoting behavior change by developing and producing health education materials for use in Health Centers and at the community level, by developing radio spots and conducting health education Caravans. ACMS has also helped promote behavior change by establishing sale points for various health-promoting products, such as Water Guard (household water treatment) and Orasel (ORS packets). In total the project has produced six types of visual aids (leaflets, flip charts, guides, and posters) covering most of the key IMCI behaviors. Although several areas in need of improvement were identified by the lead consultant (see annex 12) because of its format, the most useful of the visual aids is the flip chart meant for use by CBO members when conducting home visits. This portable and sturdy mini-flip chart covers malaria, diarrhea, immunizations and pneumonia. It appears however, that not enough copies have been made for each Block Chief to have one.

ACMS has also produced and broadcast 6 radio spots (3 in French and 3 in English) on key behaviors. Unfortunately no listening survey was conducted prior to or after their development and from the results of the MTE, it appears that few women actually listen to the radio on a regular basis; as a result it is not clear how effective these radio spots have been in reaching the target audience. This oversight and the flaws encountered in the flip chart developed by ACMS, suggest that the PSI Cameroon affiliate (ACMS) may not be as strong in behavior change communication as previously anticipated.

In addition to the radio spots and IEC materials, ACMS's own promoters who work part time on the project, also plan and carry out what they call Caravans. These are theater-type acts which play to large crowds of people in communities, raising awareness about certain health issues (ITN use, Orasel use, importance of clean water etc). They are also linked to the establishment and replenishment of sales points for health products, which is one element of the approach which makes it much more effective. To date, 97 shows have been performed to an estimated audience of 4,600 spectators. This calculates to about 47 spectators for each performance, which causes one to question the cost-effectiveness of this approach.

Increasing access to commodities and services related to the key behaviors is another aspect of the EIP behavior change strategy. The project has distributed 39,000 ITNs in the three provinces through the trained CBOs and has established 1,019 sales points where such things as Orasel, ITN re-treatment kits, and water guard are sold (along with condoms and other products). In an effort to increase the number of sales points, ACMS provided an initial supply of some products free of charge to LNGOs which they then sold at a small profit to replenish the supply in collaboration with ACMS. Increasing access to products in this way helps to meet the demand created by health promotion efforts.

Capacity Building Approach

- Local Partner Organizations

The EIP partnered with 10 local NGOs (LNGO) during the first half of the project and seeks to improve both their organizational capacity as well as their MCH programming abilities. To this

end the project conducted an Organizational Capacity Assessment (OCA) in order to assess each organization's strengths and weaknesses. Unfortunately the OCA tool used was not sensitive enough to do more than place the NGOs into one of three categories: beginner, intermediate and advanced. What specific strengths and weaknesses they had to merit this placement was not clear, nor was a specific plan developed to help guide the efforts of the Capacity Building Supervisors (CBS) to improve the LNGOs organizationally. PLAN now has a more sophisticated OCA tool which it can reapply to the NGOs.

Although no specific OD plan was devised following the OCA, at least one LNGO was observed to be too weak to continue working with. In this case, EIP program activities were suspended for some months while better organizational systems were put in place and the capacity of the promoters was strengthened. Thereafter, the EIP activities were resumed.

In the case of 3 partner LNGOs, mismanagement of project funds detected through an audit led to the definitive non-renewal of their contracts. PLAN is now considering directly contracting the promoters who worked for these LNGOs to continue working on the project. These promoters would work out of PLAN's Provincial Unit offices which are shared with the MOH.

The financial mismanagement revelation as well as dissatisfaction with the quality of the work by some LNGOs, also caused PLAN to reconsider the type of contracts maintained with the remaining 7 local partners. As a result, in March 2008 when all of the LNGO contracts expired, they were not immediately renewed. Rather, their renewal is pending recommendations from the MTE. The thought is to link the contracts with performance indicators. If this approach is to work, however, the performance indicators need to be very specific and also contain some measure of quality. Since the CBSs will be instrumental in strengthening the LNGOs, tools to help CBSs to monitor their efforts will need to be developed, and the CBS performance indicators will need to be modified.

- Private Sector Strengthening

The ACMS runs 25 private health centers in Yaoundé, the staff of which has been trained in IMCI by the EIP. This not only improves the quality of care being provided but it is planned that when IMCI is incorporated into the pre-service training of doctors and nurses, that these clinics will provide opportunities for students do their IMCI practicum. This very smart plan will help sustain the IMCI long beyond the life of the project.

- Training

One of the most important achievements of the EIP is the number of people trained, as shown in Table 4 below. At the community level, the EIP has trained approximately 30 people in each of 762 villages for a total (without double-counting) of nearly 23,000 community members (mostly women) trained in C-IMCI. This 3-day training was conducted by LNGO promoters who were previously trained by EIP staff. Forty-seven promoters from 10 LNGOs have been trained in both C-IMCI and the community health information system.

Table 4. Training

Training Dates	# Days	Training Topic	Type of Participants	# of Participants	# of Trainers	Trainers
Community Level Training						
Between March 2007 – June 2008	3	C-IMCI	CBO members and COSADI members Average # per course 30	**22,860**	2 per course	LNGO promoters , EIP staff
Oct. 2007	2	Community Malaria case Management	Community Members Malaria Community Relays	3,444	2	MOH, ACMS, PLAN
Local NGO Staff						
Feb. 2007	5	C-IMCI	LNGO staff (health promoters)	47	8	EIP team + Plan staff (back stopper)
Oct. 2006	3	C-HIS	LNGO staff, Plan staff, Nurse, OBC members	51	2	Plan staff
Ministry of Health Staff (trainers, health care providers, administrators; Provincial, District and Local levels) some EIP staff						
Nov-Dec '06	3	IMCI Trainers	MOH Doctors and Nurses	10	3	MOH
Various	11	IMCI	MOH Nurses 24 participants per course	305	6	MOH
	5	EPI - Info	MOH staff (28), LNGO staff (3)	31	3	MOH and PLAN staff
October 2007	6	IMCI supervision	MOH doctors	30	3	MOH
October 2007	6	TOT - Essential Nutrition Actions (Senegal)	Program officers	1 participant from Cameroon		Africa 2010, AED, HKI, WAHO

Training Dates	# Days	Training Topic	Type of Participants	# of Participants	# of Trainers	Trainers
March – August 2008 (3 courses)	4	Essential Nutrition Actions	Chief Medical officers, District Medical Officers; Nurses, NGOs, Teachers of paramedical schools, Plan staff	75	4 (each course)	MOH, PLAN,HKI
April 2008	6	BCC on Essential Nutrition Actions	Program officers	1 participant from Cameroon		Africa 2010, AED, HKI, WAHO
Nov - Dec '05	11	LQAS	MOH , PLAN, HKI, ACMS	30	2	Outside consultant and Plan International Headquarters staff
March 06	4	CSSA	MOH staff, LNGO staff, EIP staff, HAHC members	41	4	PLAN US backstops
March 2006	2	Malaria Competence	Same as above	37	1	Health advisor from PLAN Sierra Leone
August 2006	5	BEHAVE	Same as above	36	2	PLAN US backstops
May 2007	5	TOT on EPI Info	EIP staff	11	2	Outside consultant and Plan staff
Aug 28 – Sept 10, 07	13	PD/Hearth	MOH staff, LNGOs staff, EIP staff, HAHC members	24	3	MOH, Plan, HKI

Promoters from 10 LNGOs have been trained in both C-IMCI and the community health information system.

The C-IMCI training curriculum contains chapters on each of the IMCI health issues (nutrition, diarrhea, malaria, pneumonia, communicable diseases) and information on growth monitoring, communication for behavior change, counseling and home visits. Because project staff was feeling pressed to start the C-IMCI training (considering the number of people to be trained) the curriculum may not have received the scrutiny it needed. Knowing this, plans are already underway to improve it.

A review of the C-IMCI training document by the lead evaluator (who is a master trainer) revealed that it is not so much a curriculum, as a set of technical notes accompanied (though not contained in the same document) by a training schedule. The technical aspects of the document appear to be quite complete and accurate, but since the document is not formatted into training modules, with detailed lesson plans, learning objectives, a list of training materials etc, it does not guide the user regarding how the technical material should be covered. While the schedule does layout a proposed timeframe for the different topics and identifies the types of training methodologies that could be used, these are not detailed enough to ensure quality. Without a detailed training curriculum anyone who has not already been trained in C-IMCI would not know how to proceed. Also it is difficult to assess the quality of the training. More importantly however, it is almost impossible for project staff to ensure the constant high quality of the course; a course that is the mainstay of the project being offered to thousands of people. Without a detailed guide which described creative, participatory training methods, the LNGO promoters, who are not experienced trainers, are likely to use didactic training methods, which they are used to from their own education, and to relay on written words. Reliance on literacy skills to convey information is not appropriate for this population since literacy skills are very limited, especially among women. LNGO promoters were never provided a course on how to be a good (adult) trainer, despite the fact that the project relied on them to train nearly 23,000 people.

EIP project staff assured the evaluation team that pre and post tests were conducted before and after each C-IMCI course, but the results of these completed tests could not be found (nor summaries of them in training reports) to share with the evaluation team. Further discussions revealed that the project considers 50% on the post test as demonstrating acceptable knowledge. This is not an acceptable measure of effectiveness. And finally the C-IMCI pre/post test does not adequately measure the effectiveness of the course since the questions are too simple (8 of 12 are multiple-choice), some topics are not covered by the 12 questions and none of the questions assess skills. Before training the remaining 250+/- CBOs, it is imperative that these weaknesses be addressed.

When modifying the C-IMCI training curriculum, EIP staff need to recognize that one training course does not fit all audiences and a course that is appropriate for literate and educated LNGO promoters can not be used to train illiterate community members. More than slight modifications are needed. Furthermore the time requirements will be different for different audiences. Trainees who can not easily read and write will require many more participatory learning opportunities and these typically take longer. And finally, learning how to conduct community-based growth monitoring and promotion is difficult even for formally educated people. This activity probably requires a separate and multi-day course in order to have the desired results. PLAN should consider accessing outside technical assistance in the modification of this training course.

Health Systems Strengthening

As Table 4 indicates, the EIP has invested considerable time and resources in training MOH staff at the Provincial, District and local levels. In addition to supporting the MOH's endeavor to expand IMCI by training 308 nurses and doctors in 133 Integrated Health Centers and the 25 Profam clinics, the project has provided training in a myriad of other non-technical areas as shown above. For the most part, however, the EIP's involvement is limited to training (and sometimes just financial support of the training), and thus the somewhat disappointing results of the Health Facility Assessment (HFA) conducted at baseline and then repeated at mid term (using the Rapid HFA) can not be attributed to the project. It is, rather, reflective of the MOH's and ACMS' (in the case of the ProFam clinics) seeming inability to provide the inputs necessary (personnel, supervision, drugs, supplies, equipment, infrastructure) to result in satisfactory provision of health care.

There are a number of questions in the RHFA that provide insights into the practice of IMCI and the MOH's Roll Back Malaria initiative, both of which are supported by the EIP. Data from the survey that are particularly informative are shown in Table 5.

Table 5. Rapid Health Facility Assessment Data

Indicator	Range[3] %	EIP %
Child Health - IMCI		
% Health Facility (HF) that had all first line medications for child health present on day of the survey (ORS, oral antibiotic for pneumonia, first line oral antibiotic for dysentery, first line antimalarial, vitamin A)	36-87	62
% HF where key assessment tasks are routinely performed (check presence of general danger signs, assess feeding practices, assess nutritional status, check vaccination status)	21-56	38
% HF where treatment is routinely appropriate to diagnosis (for encounters in which at least one of the presenting problems was fever, breathing problem, or diarrhea)	30-62	54
Proportion of pneumonia cases who received an appropriate antibiotic	55-73	68
Proportion of children with simple diarrhea cases who received ORS/RHF	40-84	59
% HF where caretakers whose child was prescribed an antibiotic, antimalarial, or ORS, correctly describe how to administer **all** prescribed drugs	18-59	40
Malaria		
Proportion of malaria cases who received an appropriate antimalarial	36-84	55
% HF with all essential ANC medications present on day of survey (iron, folic acid, *antimalarial for IPT*)	4 – 24	16

[3] Lowest to highest scoring health facilities

Figure 1. Screening in EIP Zone

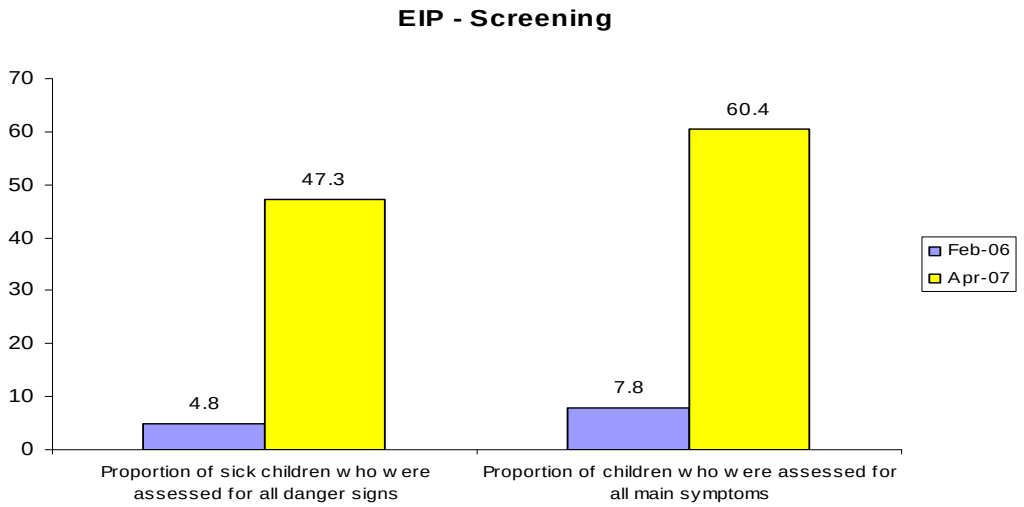


Figure 1 compares performance of health care providers in all three provinces with regard to assessment of all dangers signs and main symptoms. As the chart shows, overall there has been major improvement between February 2006 and April 2007 due to the training in IMCI provided by the project.

It should be noted here that the project always disaggregates data by district and province and this has enabled the project to note that health indicators in the East Province are almost always much worse than in the other two Provinces; effectively bringing down the overall EIP average score. This is due to many factors, but primarily to prolonged very weak – almost non-existent – MOH leadership in the East Province. This is evidenced by the lack of bi-annual coordination meetings called by the Provincial Delegate, the insufficient number of monthly meetings convened by the DMOs and the fact that the President himself has never visited the East Province.

While the project has helped the MOH to expand its IMCI program by training clinicians, and it has promoted C-IMCI through its work with CBOs, the evaluation team noted that the coordination and collaboration between these two IMCI components is lacking. Health Center Chiefs do not always know who the trained and active Community Relays are and CBO members are not always aware of the services being provided at the health center. There is little contact between the LNGO promoters and the IHC head.

Policy and Advocacy

The EIP, particularly the senior staff, has influenced policies through its support of and participation on the various National Working Groups – IMCI, Nutrition and Malaria. Through its work on the IMCI working group, the project has promoted and helped plan for pre-service training for medical students and nurses in IMCI and nursing students will do their IMCI

practicum in the ACMS ProFam clinics in Yaoundé. The project is also in the process of advocating for Community Care Management of Pneumonia by financing an operations research study on the process.

The EIP was instrumental in establishing the National Nutrition Working Group whose purpose is to inform themselves about issues related to nutrition and to set nutrition policies in nine different areas of nutrition. The project has supported this effort through the Zinc Operations Research which has resulted in the MOH including zinc on the list of essential medicines and the administration of zinc for diarrhea treatment and prevention in the official IMCI protocols (which are being amended).

As members of the Malaria working group, the EIP helped to train 3, 444 Community Relays for Malaria so that similar to CCM for pneumonia community members will have access to malaria treatment at the community level. In addition to financing the training, EIP staff members helped to develop and approve the training manual.

Contribution to Scale/Scaling Up

Many of the initiatives already mentioned, especially those related to policy and advocacy and training, are also connected to scale up. For example, the EIP's training of MOH trainers in IMCI and Essential Nutrition Actions, has enabled the ministry to scale up these initiatives in parts of the country outside the project's area of intervention. The project also trained trainers in PD/Hearth in areas where there had not been MOH trainers previously. The project's implementation of the Zinc Operational Research and it's plan to conduct research on CCM (pneumonia) has also supported initiatives which will be implemented by the MOH on a national scale. The same is true for the project's support of CCM/Malaria Community Relays. Support provided by the EIP for the three working groups – IMCI, Malaria and Nutrition – also ensures that the project will continue to influence policies and decisions that will impact the entire country.

A specific example of an activities initiated by the project that has already gone to scale, it the National Health and Nutrition Week. This endeavor, described in detail previously, was first implemented by the project only in the EIP intervention area. After noting its success, the MOH adopted it and now the Health Week is conducted nationally with support from numerous NGOs, UN and bi-lateral organizations.

Equity

The project is addressing equity issues in a variety of ways. First and foremost, the inclusion of the East Province, one the most neglected and underserved provinces in the country, in the EIP intervention area is an effort to improve equity in health care. Secondly, when phasing in the project, activities were initiated in communities with the least favorable health indicators as revealed by the baseline KPC. And lastly, the activities of the Community Relays: registering all children and mapping the neighborhoods, ensure that all children and pregnant women are being reached irrespective of their location, ethnicity, or social-economic standing.

Since the vast majority of the CBO members trained as Community Relays are women, and the target audience is predominately women (mothers and pregnant women), the EIP is now making efforts to make sure that men, particularly fathers of young children, and husbands of pregnant women, are reached by the project's messages. This is particularly important for behaviors that require support from fathers and/or husbands. The same is true for grandmothers. In this regard, the project could identify more specific ways to involve men, beyond including them during home visits.

Sustainability

The EIP has taken sustainability seriously, as evidenced by the organization of a 4-day Child Survival Sustainability Assessment workshop conducted by the PLAN CS backstop officer in March 2006. Forty-one people attended this workshop including MOH representatives from each of the eleven (11) districts. According to the CSSA report the purpose of the workshop was to: 1) Further the understanding of the Child Survival Sustainability Assessment (CSSA) Framework among the PVO and NGO community; 2) Share lessons learned from regional and international partners who have applied the CSSA framework. For the development of the CSSA dashboards, PLAN worked with the district teams to determine the score for each of the six categories of sustainability. The KPC survey results were used to measure Component 1 (Health Outcomes); the Health Facility Assessment data helped measure Component 2 (Health System Capacity); for Components 3 and 4 (Local System Viability and Organizational Capacity) the Organizational Capacity Assessment on local NGOs was used; and the Community Malaria Competence helped measure Community Capacity, Component 5. Secondary Data was used to measure, Component 6, Enabling Environment.

As discussed in the section on local partner strengthening, the OCA was not very effective in measuring specific local NGOs' capacities partly because the LNGO roles at the beginning of the project had not been very well defined. The revised OCA tool is more sensitive to the required capacities of the LNGOs in implementing the project. The EIP was planning to redo that assessment with the new tool. When this information is available it will be fed into the dashboards.

Further to this, another more comprehensive means of measuring community capacity needs to be devised than just focusing on malaria competence. There needs to be a means to objectively assess the capacities (not just the knowledge) of the active members of the CBOs (block chiefs). Once the dashboards are brought up to date, then EIP staff should help each entity (MOH, LNGOs, and CBOs) to develop plans to address the sustainability weaknesses and means to measure increased capacity should be identified.

Linked to the CSSA dashboards, the project is doing many things to favor the sustainability of specific activities and potentially their outcomes. For example, the project's support of pre-service IMCI training and its plan to use ProFam clinics for student practicum will enable the IMCI approach to be sustained by the MOH far into the future. The training of a pool of IMCI trainers has made it possible for the MOH to continue to provide in-service IMCI and the same is true for Essential Nutrition Action training. Likewise, the support of the project for

CCM/Malaria Community Relays will reach beyond the project area and be sustained through support from the MOH.

At the local level, the EIP has decided to work through local NGOs to increase their abilities to support the work of the trained CBO members, the Community Relays. The EIP's efforts to strengthen the LNGOs as organizations as well as to improve their technical abilities will go a long way to sustaining support for the community-based activities. These efforts need to be strengthened and formalized, however, to get the full effect. The EIP's work to strengthen the capacities of the local NGOs, including support to strengthen their financial management skills, will make them more attractive to other donors and increase their chances of getting additional financial support to continue their health activities.

At the community level, aside from monthly supervision, the trained CBO members have not been encouraged to overly rely on either the LNGO promoters or project staff for support. The activities that have been developed are ones that they themselves can continue to implement even when the project ends.

Results – Cross Cutting Issues: Recommendations

1. The project staff should review the results of the doer/non-doer surveys and based on the identified determinants of change, develop specific activities at the community level that CBO members should implement to more effectively promote the desired behaviors.
2. HKI should review the results of the doer/non-doer survey when developing the flip chart on nutrition to make sure that it reflects the most powerful determinants of behavior change.
3. Project Staff should review the performance indicators for the Community Relays and through a discussion with each CBO; bring them into conformity with actual expectations (expectations of the CBO of itself). "What to CBO members need to do each month in order to prevent our children from falling ill and dieing?"
4. During monthly supervisory visits, the LNGO promoters should work with the trained CBO members (block chiefs, President and Secretary) to compile the data from the Behavior Maps, and help the CBO members to better understand what the data means in terms of health status of the community. This information should be included in the monthly reports that the LNGOs send to EIP HQ (total number of children, total number of children weighed, total number of children underweight, lost weight, children sleeping under ITNs, <6 month olds exclusively breast fed, etc.) This information should also be used to decide what activities the CBO members need to undertake the following month to help change behaviors or to maintain certain behaviors.
5. Following the guidance provided in a separate e-file sent to Dr. Shu on September 1 (with example hard copy provided the same day), redesign the Community Health Registers in current villages, and introduce the new format in all future villages. Through monthly supervision, help CBO members understand how to assess the health status of the community by analyzing the register and how to make decisions and plans based on the information.
6. PLAN should reassess the organizational capacities of its partner LNGOs using the more sophisticated tool and use these results to design a capacity building plan to be implemented by the three CBSs.

7. Future contracts with LNGOs should not only be tied to quantitative performance indicators (numbers of training events or supervisory visits), but also quality measures (number of trainees who score 75% or higher on their post test) and timeframes (monthly one-day supervisory visits to each community). The performance indicators should not only relate to the MCH program but also to the LNGO's development as an organization (quality of monthly reports, organization and use of project documents). The performance indicators need to be very specific and clear.
8. Tools to help CBSs to monitor their OD efforts need to be developed, and the CBS performance indicators will need to be modified accordingly.
9. For the remaining communities in need of C-IMCI training: The EIP should consider hiring a consultant familiar with the learner-centered adult education methodology to develop a C-IMCI curriculum. This curriculum would be based on the C-IMCI technical notes and an analysis of the training needs of the CBOs and would be appropriate for marginally literate populations.
10. For the communities already trained: Develop a training course (set of modules) for CBOs/Community Relays that teach them how to effectively use the ACMS and (to be developed) HKI flip charts (boite a image). CBSs should train LNGO promoters in their use and the promoters will train the active CBO members /Community Relays during supervisory visits.
11. The C-IMCI pre and post test should be revised to more accurately reflect the content of the course. It needs to be appropriate for marginally literate people. 70% should be considered reflective of adequate learning on the post test. Results of the pre/post tests should always be included in the reports of training provided by LNGOs to PLAN. The new contracts being drawn up with LNGOs should reflect training results.
12. Consider providing a course to LNGO promoters (and perhaps EIP staff) on Learner-centered Adult Education.
13. RHFA results should be shared with the respective Provincial Delegates and their teams and with the ProFam clinic supervisor. An analysis of the results should produce a plan to address the causes for the lower-than-expected performance in the East Province.
14. If, by March 2009, there has not been a noticeable improvement in the MOH leadership in the East Province, PLAN and its partners should consider whether further investment in this area is the best use of project funds.
15. LNGO promoters, CBSs and Health Coordinators should provide a formal orientation on C-IMCI and the specific activities of the trained Community Relays to the IHC heads. Lists of the active CBO members in the health area should be provided to the IHC heads, introductions between the IHC head and active CBO members made, and ways to promote better collaboration between the two entities should be identified. LNGO promoters should provide copies of their monthly reports to the IHC heads.
16. The teams who developed the district level CSSA dashboards should be encouraged to up date them and then based on those to develop concrete sustainability plans with objectives and activities that can be monitored and evaluated at the end of the project.

CHAPTER THREE : MISSION COLLABORATION

The EIP Project is being implemented in Cameroon where there is no USAID Mission. USAID-funded activities for the region which includes Cameroon are managed out of the West Africa Regional Office (WARO) based in Accra, Ghana. Given this situation direct collaboration with the Mission has been more of a challenge than is usually the case primarily because visits to Cameroon by headquarters staff can not include visits to the USAID Mission and likewise access to USAID/Mission staff is not easy for the in-country EIP staff. To compensate for this, PLAN and EIP staff maintains contact with Daniel Agoonz, the Program Officer at the US Embassy in Yaounde who attends Yaounde-based project meetings when possible. Furthermore, all key project documents such as the proposal, DIP and annual reports have been shared with the Regional USAID office as well as with Mr. Agoonz.

USAID/WARO only has one project in Cameroon: the AWARE Project which focuses on reproductive health. In Bamenda Province, the EIP supported the efforts of the AWARE project to increase access to PMTCT services, by increasing women's attendance at health clinics for pre natal consultations. In this way, the EIP helped AWARE achieve their objectives.

CHAPTER FOUR: CONTEXTUAL FACTORS

As mentioned previously one of the factors that has challenged the project is the exceptionally weak leadership in the MOH in the East Province. This is evidenced by consistently weak health indicators when compared to the other Provinces. The Provincial Delegate's lack of leadership and positive role model has negatively influenced the leadership in the target districts.

Another factor that has challenged the EIP's work in the East province is the influx of refugees from the Central African Republic (CAR) and other border countries, which strains the health system. The fact that these refugees do not live in camps, but rather seek lodging in Cameroonian villages, also makes it more difficult for the trained CBOs to influence their health behaviors as part of the project's activities.

The malaria project being implemented in the Central Province with funds from PLAN/Netherland and France has greatly supported the malaria activities of EIP in that province. Further to this, PLAN's prior support to and relationships with the local NGOs have made it possible for PLAN and its partners to work in 3 Provinces. Without this prior support, especially logistical and material support, it is possible that the project would not have had enough funds to work at this scale.

CHAPTER FIVE: ACHIEVEMENTS, CONCLUSIONS AND RECOMMENDATIONS

Achievements

C-IMCI

The Expanded Impact Project has increased access to maternal and child health information by training 22,000+ community-based organization members who promote key C-IMCI behaviors among pregnant women and mothers of children under age 5. Several types of health education materials have been provided to each CBO to facilitate their behavior change efforts.

Changes in key MCH behaviors have been recorded as follows:

- ITN used by U5 increased from 11.8% to 60.7%
- ITN use by pregnant women increased from 15.7% to 43.2%
- Pregnant women's completion of IPT increased from 18.5% to 51.4%
- Exclusive breastfeeding among target children increased from 50.8% to 63.1%
- Vitamin A supplementation by new mothers increased from 21.6% to 30%
- Timely hand washing increased from 7.7% to 15.5%
- Timely care seeking among children with signs of ARI increased from 37.4% to 51%

The EIP taught CBO members to use an appropriate tool – the behavior map –to promote and monitor the practice of key MCH behaviors by each target family. They have put in place a community-health information system that has the potential to help community members to target their health promotion activities and to monitor the health status of their community.

Clinical IMCI

The EIP has supported the scale up of IMCI by training a pool of National IMCI trainers who have not only trained 308 health care providers in the EIP project area and the 25 Profam clinics, but nearly 120 providers in other provinces (Adamawa, Centre, North, South, and West). The staff at one hundred and thirty-three (133) health facilities in three provinces is now practicing IMCI.

Through support to the IMCI working group, steps have been taken to ensure that IMCI training is provided during the pre-service training of all health care providers in Cameroon; thus ensuring the scale up of the approach throughout the country and sustaining the initiative into the future.

Roll Back Malaria
Access to ITNs has been increased through the project's provision of 39,000 ITNs in the project area, increasing ITN use among children U5 from 11.8% to 60.7% and among pregnant women from 15.7% to 43.2%.

Access to treatment has been increased through the community case management of malaria approach supported by the project. Three thousand four hundred and forty-four (3,444) community-based Malaria Relay's have been trained increasing access to malaria treatment significantly.

Nutrition
With significant assistance from the EIP, the National Nutrition Working Group has been established which has developed a national nutrition strategic plan to guide the efforts of the country's nutrition initiatives. More specifically the working group has developed a detailed protocol for the administration of Vitamin A.

The project is helping to inform the MOH's decisions about the use of zinc in the treatment of diarrhea by conducting a operations research study.

Sustainability
By working to strengthen both MOH systems and the abilities of ten local NGOs, the chances that both activities and outcomes will be sustained beyond the life of the project are high.

Primary Conclusions and Recommendations

1.
Conclusion
CBO members are not influencing behavior change in their communities as well as possible. Opportunities to promote behavior change are being missed. The doer/non-doer survey results are not being used to their full potential.

Recommendation

Project staff should review the results of the doer/non-doer survey and identify activities that could be undertaken by CBO members to further promote the adoption of healthy behaviors by target groups.

2.

Conclusion

By examining the C-IMCI training curriculum it is not possible to assess the quality of the training provided to LNGOs and CBOs. It is not possible to determine the consistency of the training from LNGO to CBO. The Training Curriculum can not be effectively used to implement a training course by people who have not already been trained in C-IMCI. Some key messages and skills can not be adequately learned during the training.

Recommendation

A C-IMCI training curriculum with individual training modules, learning objectives and detailed descriptions of methodologies should be developed by the project based on the current document. This curriculum should employ the learner-centered adult education method and the 8 steps to designing a learning opportunity.

3.

Conclusion

Opportunities for coordination between the IHC, the LNGOs and the CBOs are being missed. Opportunities for IHC staff to support CBOs are being missed. Opportunities for CBOs to support the work of the IHC are being missed in some locations. The MOH is privy to the information gathered by the CBO's information system.

Recommendation

Each LNGO should provide a list of the villages with C-IMCI-trained CBOs in the intervention area of each IHC. The list should contain the names of the CBO President, Secretary and the Bloc leaders.

LNGOs should provide monthly reports of their work to the IHC heads and to the DMO.

The project should provide an orientation to C-IMCI and the activities of the project to the IHC heads and DMTs.

4.

Conclusion

The project is not able to effectively assess the work being done at the community level by LNGOs or by CBOs. Important data and narrative information is not being reported regularly or in a way that permits compilation or comparison between provinces, districts or LNGOs. The work of the CBSs lacks direction and their impact can not easily be measured. Increased capacity of the LNGOs is not easily measured.

Recommendation

The project should develop a standard reporting format for the LNGO's monthly reports. This should include a compilation of information from the CBOs which focuses not only on activity implementation, but also progress toward objectives.

Likewise a supervision form should be developed for use by the CBS. This form should guide the CBSs' efforts not only to track project activities at the community level, but also improvements in institutional capacity building.

5.

Conclusion

The KPC survey does not adequately measure a project's progress/influence on scale up.

Recommendation

If scale continues to be a priority for CSHGP, then another set of indicators and a means to measure scale-up will need to be developed by CSTS.

CHAPTER SIX : ACTION PLAN

EXPANDED IMPACT CHILD SURVIVAL PROJECT (EIP)
POST MTE ACTION PLAN

Technical Results: Recommendations	**Activities**	**Responsibilities**	**Timeframe**
1. Increase the indicator related to ITN use by children to 80% (MOH national objective haven been increased from 60% to 80%).	• Inform all stakeholders (EPC, MOH, USAID) of change of Indicator	• Project Coordinator	October 2008
2.Review the Community Health Information System (HIS) for LNGOs and CBOs	• Review project objectives and indicators at the community level across technical/cross-cutting/capacity areas • Review the performance indicators for the Community Relays and LNGOs (promoters). o Strategy ▪ Discussion with each CBO and LNGO; bring them into conformity with actual expectations (expectations of itself). "What do CBO members (and LNGO promoters) need to do each month in order to prevent our children from falling ill and dying?" "What decisions are CBOs expected to make based on the Community Health Information System" • Re-draw the community registers so that they can track home visits • Train the LNGOs on the content of the register (simplified format) and how to trace it out and use it at community level • Develop quality supervision checklist for LNGOs and CBOs to include minimum performance indicators. • Development of quality supervision checklist for CBS to	• EIP staff	October-December 2008

	include minimum performance indicators for LNGOs. • Supervise the CBOs on a monthly basis and monitor implementation of the minimum activities o <u>Strategy</u> ▪ During monthly supervisory visits, the LNGO promoters should work with the trained CBO members (block chiefs, President and Secretary) to compile the data from the Behavior Maps, and help the CBO members to better understand what the data means in terms of health status of the community. This information should be included in the monthly reports that the LNGOs send to EIP HQ (total number of children, total number of children weighed, total number of children underweight, lost weight, children sleeping under ITNs, <6 month olds exclusively breast fed, etc.) This information should also be used to decide what activities the CBO members need to undertake the following month to help change behaviors or to maintain certain behaviors.		
3.PLAN should reassess the organizational capacities of its partner LNGOs using the more sophisticated OCA tool and use these results to design a capacity building plan to be implemented by the three CBSs.	• Define indicators for LNGO technical development that need to be tracked • Apply technical capacity assessment • CBS to follow up LNGO Promoters monthly	• EIP Staff	October 2008
4.Expand and improve the C-IMCI Curricula used for LNGO and CBO training	1. Identify the key determinants of all studied behaviors from the doer/non doer report 2. Develop specific activities at the community level that CBO members should implement based out of key determinants to	• MOH/EIP staff • Consulta	October-December 2008

	more effectively promote the desired behaviors. 3. Develop Guidelines for when to do home visits should with the CBOs. (E.g. Visit all sick children to promote feeding during illness, visit all U6 month olds to promote exclusive breast feeding, visit all new mothers to promote post partum Vit. A consumption etc). 4. Create role-plays for these specific behaviors and include in C-IMCI course content 5. Utilize the IMCI case management Curriculum and the ENA Curriculum as resources for improving the existing C-IMCI Curriculum	nt	
5.Produce a new flip-chart with key nutritional messages and practices (HKI)	• Development of Flip chart with the benefit of the Behave Framework findings • Distribution of flip charts to CBOs (block chiefs); 4-5 per CBO	• EIP (HKI) • ENA TOFs • CBS/LNGO	October-November 2008
6.Conduct Refresher trainings for LNGOs and CBOs	• Train LNGOs and CBOs on C-IMCI and C-HIS o <u>Strategy</u> ▪ Review with CBO members 'what is a home visit' (to distinguish it from the behavior map data collection visit) and how it should be done; and 'when to do a home visit'. ▪ Review how to effectively conduct a community growth monitoring and promotion program. (This should include how to accurately weigh a child (and why accuracy is important), how to plot the weight on the Road to Health graph, how to interpret the weight, and what questions to ask to begin the counseling process.) ▪ Review how to use the 2 flipcharts with	• LNGO Promoters • EIP staff (HKI/Plan/ACMS)	November2008 Continuous

	mothers		
7. The most responsible CBOs or Malaria Relays should be given Vitamin A for distribution post partum.	• Advocate with the MOH to include in the National Vit A supplementation strategy the possibility of CBOs keeping and dispensing Vit. A to postpartum mothers	• EIP (HKI)	Ongoing from month of October
8. The CCM Ops Research protocol should be reviewed before implementation to make sure that it will respond to the concerns of those who had doubts about the approach.	• Development of the OR protocol for CCM of pneumonia • Carry out OR	• MOH • MOH/EIP	November December 2008 March 2009
9. Future contracts with LNGOs should be tied to clear and specific quantitative performance indicators (numbers of training events or supervisory visits), quality measures (number of trainees who score 75% or higher on their post test) and timeframes (monthly one-day supervisory visits to each community).	• Develop very specific performance based contracts with LNGOs or health promoters for performance based financing o <u>Strategy</u> ▪ The performance indicators should relate to the MCH program and to the LNGO's development as an organization (quality of monthly reports, organization and use of project documents). • CBS to follow up LNGOs monthly	• EIP	December 2008
10. Formal orientation to District Medical Teams and Integrated Health Center staff on C-IMCI and EIP community activities with CBOs.	• Organize C-IMC/ C-HIS trainings for the DMT and IHC staff o <u>Strategy</u> ▪ This orientation should explain in some detail the work of the CBOs and the C-HIS so that when opportunities arise (and after the project ends), these MOH staff can support the community-based activities.	• EIP	February 2009
11. Update the district level CSSA dashboards and develop concrete sustainability plans with objectives and activities that can be monitored and evaluated at the end of the project.	• Develop District CSSA Dashboards with Health District Coordination Committees and the newly formed district councils • Health District Coordination Committee/district councils discussions to develop CS Sustainability Plan	• EIP/DMOs • EIP	November 2008 November 2008

Annexes

1. Results Highlight
2. Publications and/or Presentations
3. Project Management Evaluation
4. Full M&E Table
5. Rapid CATCH table
6. Midterm KPC Report
7. Evaluation Team Members and their titles
8. Evaluation Assessment Methodology
9. List of persons interviewed and contacted
10. Special reports (if any)
11. Project Data Form
12. Suggestions for Flip Chart Improvement.

Annex 1. Results Highlight

EXPANDED IMPACT CHILD SURVIVAL PROJECT

Plan Cameroon

with

Helen Keller International Cameroon (HKI)

and

Association Camerounaise pour le Marketing Social (ACMS)

DISTRICT HEALTH AND NUTRITION ACTION WEEK

INTRODUCTION

The DHNAW is a bi-annual event organised to deliver an integrated package of preventive services known to be highly cost-effective for improving child health and survival. They are run in communities and at health facilities and are intended to augment routine health services. DHNAW aims to reach all children under the age of 5 years at least every six months during a limited time period of a few days.

This integrated package of activities is made up of three categories of services mainly:

- Bi-annual services: Vitamin A supplementation to children 6-59 months, de-worming for children 12-59 months and mosquito net re-treatment.
- Routine activities: supports those activities already part of the health facility outreach package and includes: vaccination, growth monitoring, nutrition demonstration and distribution of vaccination/growth monitoring card.
- Promotional activities: includes delivery of key messages accompanied by demonstrations of exclusive breastfeeding, hand washing, use of ORS in Diarrhea and IPT and iron intake during pregnancy.

It also provides regular outreach services, supportive supervision and on-site training. It boosts community linkages with service delivery. It depends on effective targeting and monitoring and the use of data for action to better manage human and financial resources.

PROBLEMS ADDRESSED

This was mainly to boost the vaccination indicators that had remained low within the context of the routine activities as well as provide biannual interventions.

PROJECT INPUT IN ORGANISING THE DHNAW

In 2007, the EIP supported the MOH in the organization of two sessions of DHNAW (June 2007 and December 2007).

The project gave technical, financial and material support to the MOH through:

- The organization of planning meetings at all levels, provincial, district and health area
- The organization of training meetings at the different levels,
- Provision of fuel for deployment of material and teams and supervision,
- Provision of basic material for demonstrations (ORS, water treatment kits, vaccination cards,
- Direct field supervision and reporting

The MOH input in to the whole process was:

- staff
- vaccines
- worm medicines
- cold chain
- Vitamin A capsules
- transport

ACHIEVEMENTS

Significant achievements of the DHNAW include its ability to boost coverage of important health indicators in a relatively short period of time as well as to provide opportunity for health provider-community contact for health communication and information. So thrilled was the

central MOH with the 2 cycles of DHNAW that EIP conducted in the 11 project districts that they invited EIP(Plan Cameroon and HKI) to make a presentation to MOH, WHO and UNICEF about DHNAW. As a consequence of this exchange the organization of third DHNAW cycle (July 2008) was overseen by the MOH with support from a multitude of partners including WHO, UNICEF, the EIP and many others and covered areas beyond the project area.

The results of the DHNAW 2 in December 2007 for immunization of infants 0-11 months show an attainment in excess of 100% of the monthly target across all antigens, for Batouri District.

Health District	**Total Population**	**Target populations**		**Quantity administered**			**Coverage rates**		
		0 – 11 months	**Monthly target**	**BCG**	**DTC/Hép B 3**	**VAR / VAA**	**BCG**	**DTC / Hép B 3**	**VAR / VAA**
Batouri	129 025	5 161	430	881	1 395	1159	**205%**	**324%**	**269%**

Similarly the IPT coverage for pregnant women in 3 health districts surpassed monthly targets as did the TT2 coverage in Batouri as shown below.

Health District	**Total Population**	**Pregnant women**	**Monthly target**	**IPT Dec. 2007**	**% IPT Dec. 2007**	**VAT 2+ Dec. 2007**	**% VAT 2+ Dec. 2007**
Batouri	129 025	6 451	538	838	**156%**	745	**139%**
Bertoua	150 703	7 535	628	1157	**184%**	503	**80%**
Doumé	57 989	2 899	242	271	**112%**	121	**50%**

As to the ability of the DHNAW to engage communities and to bring health providers and communities together for information exchange, a total of 926 promotional activities were carried out of which 469 were nutritional demonstrations. For all these activities a total of 16 601 persons participated in the 4 districts in the East, with an average participation rate per activity of 18 persons. It should be noted that Bertoua HD has the highest participation rate (30 persons / activity). During these activities a lot of other health demonstrations like preparing ORS, setting up bednets and retreating bednets was also done.

Health District	**Total Population**	**Number of nutritional demonstrations**	**Number of promotional activities**	**Number of persons participating in promotional activities**	**Average number of persons per promotional activities**
Batouri	129 025	219	317	4 666	15
Bertoua	150 703	108	224	6 778	30

Doumé	57 989	93	244	2 811	12
Nguélémendouka	39 234	49	141	2 346	17
TOTAL	**376 951**	**469**	**926**	**16 601**	**18**

On the downside the results for Vitamin A supplementation for children under 5 years shows an attainment in excess of 100% for infants 6-11 months old suggesting that there is a problem of age reporting in this health district.

Health District	**Total Population**	**Target populations**			**Vitamin A administered**			**Coverage rates**		
		6 – 11 mnth	**12 – 59 mnth**	**6 – 59 mnth**	**6 – 11 mnth**	**12 – 59 mnth**	**6 – 59 mnth**	**6 – 11 mnth**	**12 – 59 mnth**	**6 – 59 mnth**
Bertoua	150703	3014	21098	24112	6343	7997	13 288	210%	38%	55%

CONCLUSIONS

Despite the fact that a cost-benefit analysis has not yet been done for DHNAW, it holds as a very promising approach for achieving quick-wins and for promoting interactions between the health services and communities that lead to wider utilization of health services by communities.

Annex 2. Publications and/or Presentations

Outline for Roundtable Discussion at the Global Health Council Conference in June 2008 with CSTS and CSHGP

***Partnership Model**:* Strategic Partnership for the Scale-up of IMCI in Cameroon

***Overview of the model**:*

- *Important evidence-based results that have been generated through this partnership model presented in the context of their relevance to national policy/national strategy.* Proliferation of provincial based TOT for IMCI case management who train (and supervise) health workers in 44 health districts in 3 provinces; Inclusion of IMCI case management curriculum into the curriculum of medical and nursing students at the University of Yaoundé; Adoption of a national community health worker training guide for community IMCI; Community based treatment of malaria with ACTs; Attracting donations of ITNs e.g. from SWIM, Institutionalization of district health and nutrition action week; Some behavior indicators improved in last 2 years (ITN use 11.8% to 32.1%, EBF rate 50.8% to 75.8%, frontline health worker IMCI compliance 11.2% to 63.7%.
- *Discussion of why partnership is needed in this setting/country?* To effectively engage with Ministry of Health and the University of Yaoundé; To obtain greater coverage for effective community health services (reaching 17% of the national population); *Does the partnership address a specific gap or issue that could not be addressed by one single organization?* Jointly the partnership represents a bigger voice in the national IMCI and Nutrition Working groups *Does the partnership offer certain economies of scale?* This partnership brings partners with different complementary capacities and geographical coverage
- *A description of the major actors in the partnership,* (Plan, PSI, HKI) *and how the model functions in practical terms.* The partners work together at the national level by jointly engaging MOH, and the NMCP (National Malaria Control Program), and the University including participation in biannual district health and nutrition days; PSI supports media messaging and equipping of community sale points for health commodities, Plan manages the community health program
- *A description of how this partnership connects into the national strategy and to other Global partnerships that may be operating in country. (e.g., what is the strength and nature of ties to the national MOH?* The partnership has direct access to the Division of Family health of MOH *What is the relationship between the partnership and Global Fund CCM?* While there is no direct relationship with CCM the partnership is a part of the community coalition against malaria which is articulating civil society proposals through the CCM. The civil society is putting a proposal for Round 9 where it will distribute ITNs *The Catalytic Initiative?* The partnership works closely with UNICEF however UNICEF supported programs are being implemented in Adamawa which is a separate province, *etc.) To the extent possible, note the relative maturity of these other partnership models in country—are they in more nascent stages or more robust?* The Cameroon Coalition against Malaria is a fairly young partnership
- *What are the anticipated areas of future growth for this partnership,* Is actively engaging with the Global Fund *and to what degree is this partnership model replicable to other settings?* Being a very complementary partnership it provides both expertise and reach *(and if it is, which settings?)*

***Key Point of Contact**:*

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Annex 3. Project Management Evaluation

Planning

The 5-day start-up workshop to plan the EIP was facilitated by the two PLAN backstop people and was attended by representatives from the three partners (PLAN, HKI and ACMS), all levels of the MOH (National, Provincial, District, local levels), the potential LNGO partners and all of the EIP staff. A representative set of this large group was in charge of writing the DIP which was key to securing buy-in from all parties. Through this process everyone understood their roles and responsibilities and it facilitated project implementation.

To plan project implementation the three main partners (PLAN, HKI and ACMS) get together each quarter to plan their respective activities at the national level. At the provincial level this is also done between the PLAN field staff and the province-base staff of ACMS.

Supervision of Project Staff

Supervision is undertaken in a cascade fashion with each of the partners supervising their own staff and reporting back to the Project Manager who is a PLAN employee. To this end the ACMS partner supervises his three field Promoters and send a quarterly report to the EIP project manager.

PLAN's field-based employees (3 Health Coordinators (HC) and 3 Capacity Building Supervisors (CBS) are supervised by both the PLAN Program Unit Manager (PUM) who is based in the Province, and the EIP Project Manager who is based in Yaoundé. This causes some stress at times as the PUMs have divided allegiances (other projects) and less in-depth knowledge of the EIP; where as the EIP Project Manager has only one allegiance and knows the project extremely well. The EIP Project Manager's well-honed interpersonal skills help to make this arrangement work; though frequent consultation and field visits are required.

According to the DIP, at the Provincial level Health Coordinators (HC) supervise the Capacity Building Supervisors who in turn supervise the LNGO promoters. LNGO promoters supervise the work of the CBOs in their catchment area. The HC and CBSs write monthly reports of their work which are provided to both the EIP Project Manager and the PUM. The format of this report is inappropriate (see annex 13), overly-burdensome and requires a substantial amount of time to write. Some of the reports reviewed for this evaluation are as along as 35 pages and include such unnecessary things as pictures, acronym list and standard introductory blurb about the project. Other sections that would be useful, such as sustainability, are not guided by clear objectives, and as a result they are not informative at all. While unnecessary details are included in some (list of objectives of the ENA training), important details are uniformly omitted (% of CBOs supervised that month by LNGO promoters, quality of supervision, explanation for not supervising all CBOs during the month, issues faced by LNGOs an CBOs, per and post test results after training). If the format for the monthly report were simplified and made more relevant, the HCs and CBSs could spend more time in the field working with LNGOs and CBOs and the PUM and EIP Manager could more effectively track the work of this field staff.

The CBSs are responsible for supervising the LNGO promoters but there are no tools to guide this process or to track progress against organizational development objectives. This needs to be rectified during the second half of the project. A standard means to evaluate the "growth' (in terms of skills acquisition) and performance of each of the LNGOs needs to be developed as part of the sustainability plan.

The LNGOs do not have a standard reporting format for their monthly reports to the CBSs, and the supervision tool used by the LNGO promoters to supervise CBOs is not well designed. It is too long, too vague in some places (one or more health education sessions), and not specific enough in other areas 9 does not correspond to the performance indicators, The former needs to be developed; and the latter needs to be redesigned so that critical information (data in some cases) is collected on a regular basis. For example, the supervision form asks about the presence and condition of a baby weighing scale, but does not ask if any children were weighed that month.

Another area in need of improvement is the supervision provided by LNGO promoters of CBOs. While there is a standard expectation that LNGOs will ensure that each community is visited once per month and that the visit will last at least a half day, this is rarely done in some LNGOs. It is also rare that during the supervisory visit all of the active members (block chiefs) will be present. As a result many months can pass without there being any contact between the promoter and all of the block chiefs of some of the CBOs. Efforts to strengthen this level of supervision need to be identified during the second half of the project.

Human Resources Management

Each of the three EIP international partners are experienced PVOs and each has appropriate personnel policies and procedures in place to manage their staff. PLAN conducts bi-annual personnel appraisals of its staff. It is not clear, however, if each of the local partner NGOs have personnel policies and this should be part of the organizational development strengthening efforts of the project.

The morale of the staff has been quite good since the beginning and this was evidenced during the mid-term evaluation where 24 people from all levels of the project participated on the evaluation team. Positive relations between the key partners have been facilitated by the fact that the senior staffs from each of the organization – PLAN, HKI and ACMS - have been personal friends for a very long time.

The EIP has experienced average turn-over, with all three HCs having been replaced (two departed for training and one was let go). The ProFam clinic supervisor – a key position related to the IMCI pre-service initiative – has been replaced twice.

The staffing plan developed for the project as illustrated in Annex 3 Table 1 shows an imbalance between the number of LNGO promoters in the Northwest province for the number of EIP employees (2) and between the number of LNGO promoters (7) for the number of CBOs (401) in the Center Province. This imbalance likely makes it difficult for EIP staff and LNGO promoters to ensure project implementation quality and this should be considered by the EIP senior staff as a part of their Action Plan for the second half of the project.

Annex 3. Table 1. Field Level Staffing

Province	# Districts	# of IHC	# LNGOs	#LNGO Promoters	# CBOs	# EIP HC	# EIP CBS	# EIP Sales Promoters (ACMS)
Northwest	4	51	5	25	182	1	1	1
East	4	41	1 (1)*	8	174	1	1	1
Center	3	24	1 (2)	7	401	1	1	1
	11	**116**	**7 (3)**	**40**	**757**	**3**	**3**	**3**

***** The parenthesis indicates the number of LNGOs whose contract is not being renewed**.**

Financial Management

Once again the experience of all three international partner organizations has facilitated financial management. The three lead organizations develop annual budget projections which are based on the operational plans they each develop. They track expenditures on a monthly basis and as of June 2008 Plan had spent 58% of their field budget, ACMS had spent 57% (minus one quarter reimbursement, which is pending) and HKI had consumed 38% of its budget (reimbursement for 2 quarters is pending).

As part of the Organizational Development Assessment of the LNGOs, the EIP assessed the LNGOs' financial management capacity. As a pre-requisite to getting an annual sub grant (which range between $16,000 –$20,000 paid in two installments) each LNGO had to have a bank account, and an acceptably qualified accountant. The PLAN Program Unit financial accountant then provided a 5-day training to the LNGO financial person as well as on-going technical assistance. Among the 10 LNGOs which were initially provided sub grants three have had their contract discontinued following an audit which reveal financial mismanagement of project funds. Project work in the areas covered by these LNGOs will be continued through contracts with individual promoters, no longer employees of the LNGOs who once employed them. This appears to be a reasonable solution, since the fraud was not linked to the promoters.

Logistics

The logistical needs of a project this size are enormous and yet the 4 million dollars provided by CSHGP would normally not cover the entire need. PLAN was able to address this issue by selecting an intervention area where prior projects implemented by PLAN had already provided logistical support to the Local NGOs (motorcycles, office supplies and equipment). Furthermore, the PLAN Program Units which house EIP field staff were already established and logistically equipped and the other partners, HKI and ACMS, have managed to cover their own logistical needs. As a result, with regard to transport, the EIP only had to purchase 2 vehicles and 3 motorcycles.

Logistical support to at the community level has been limited to the provision of scales in each of the 700+ villages. Some of these scales, which are employed in the community-based growth monitoring and promotion program, were not designed to weigh babies, and as a result they are not appropriate (not easily portable, require weighing mother and baby , then mother and subtracting the weight, are not easily read etc) and make growth monitoring more difficult and less accurate.

Information Management

The EIP Assistant Project Manager is responsible for monitoring and evaluation, which includes the development of data collection tools, compilation of data, reporting, organization of the annual KPC and HFA surveys. The EIP collects data on an annual basis via a project-wide KPC survey using the LQAS approach. All of the stakeholders are involved in the collection and review of the results. Analysis of the results could be strengthened. Reviewers tend not to have high expectations and accept lower-than-expected results without much investigation or analysis. They also too easily attribute progress to project activities when little evidence to support this link exists (example: reduced malnutrition rates). The project uses results of the KPC to inform the messages and services offered during the bi-annual health weeks. .

The routine collection of data by LNGOs and CBOs is weak. Trained Community Relays are expected to collect data on a monthly basis and LNGO promoters are expected to collect this data and report back to the EIP CBSs. The data collection tools are not designed to fulfill this function, however, and need to be revised. Generally speaking neither the LNGOs nor the CBOs use the data to make programmatic decisions and when the data is used, the activities identified are not always appropriate. (For example: 3 malnourished children are identified in a community and the response is to give a health talk on better nutrition.) This is not the fault of the Community Relays, since such an analysis requires a more sophisticated thought process and training than they have received. Never the less great support from CBS and LNGOs will over time strengthen the capacity of community members and local partners to collect data and use it effectively.

The project has conducted several special studies including the doer/non-doer study to inform the BC strategy, the Zinc Operations Research study, the Rapid Health Facility Assessment and the annual KPC survey. Another operations research protocol is being developed by the MOH to study the implementation of CCM of pneumonia. The results of the zinc ops research were used to inform the policy related to diarrhea management and will be incorporated into the IMCI protocols. The results of the RHFA have shed light on the results of the IMCI training provided. The results of the doer/non-doer survey need to be reviewed again and used to more effectively inform community-based activities. It does not appear that ACMS used the results of the doer/non-doer survey to inform the key messages communicated by the visual aids they developed.

Technical and Administrative Support

The EIP has benefited from substantial outside technical assistance. This included TA related to planning and conducting the baseline data KPC survey and to conduct the mid term evaluation. Two EIP staff attended a one-week workshop in Ghana related to USAID project management. Further to this, the PLAN CS backstop staff (there were two initially) both visited the project three times during the first half of the project to provide technical assistance. The PLAN financial manager from HQ also provided technical assistance.

In hindsight, technical assistance would have been beneficial in the development of the C-IMCI curriculum, in developing training materials for that and to design effective supervision tools and community health information systems.

Strengthening the Grantee Organization

Plan Cameroon has benefited from the EIP project during the last 3 years because the experience of leading a partnership of peers has been new. This has stretched beyond contractual partnership and demanded flexibility and negotiation by Plan. Plan Cameroon has had to open the door to HKI and ACMS and work to accommodate their reporting systems and different styles. Secondly through the EIP Plan has been able to leverage a louder voice at the national level. This is in keeping with Plan's approach to community development that seeks to form partnerships, encourage participation, engage civil society but ultimately take child centered programs to scale. Thirdly Cameroon has become a center for learning for Plan in the West Africa region and also in the world for its sustainable child survival programming through women groups and monitoring using LQAS.

Management Recommendations and Lessons Learned

1. The format of the HC and CBS monthly report needs to be simplified so that it focused on the key indicators of their work. A table format what compares objectives for the month with what was achieved would make review of the reports and comparison between reports, much easier for the PUM and EIP Manager.
2. The supervision tool used by CBSs needs to be revised so that it can monitor progress with regard to organizational development (of the LNGOs) and programmatic work (supervision of CBOs etc).
3. The tool used by Health Coordinators to supervise CBSs needs to be modified to better assess the CBSs work in strengthening the LNGOs organizationally and programmatically.
4. The format for the LNGOs monthly report needs to be standardized and should gather and compile data from all of the communities supervised by the LNGO promoters.
5. Salter scales should be purchased for the remaining villages.
6. CBSs need to review the protocol and expectations with regards to CBO supervision. This should also be reviewed with CBOs so as to ensure greater participation on a monthly basis.
7. HKI should review the results of the doer/non-doer survey when developing the flip chart on nutrition to make sure that it reflects the most powerful determinants of behavior change.

Annex 4. Full M&E Table

	Objectives	Indicators	BLD	Targets	MT	Explanation
	MALARIA					
1	Increase from 11.8% to 60% children age 0-23 months who slept under an ITN the previous night	% of children age 0-23 months who slept under an insecticide-treated net the previous night.	11.8%	60%	60.7%	Due primarily to large ITN distribution supported by matching funds and MOH-accessed Global Funds. Also supported by project training of critical masses of CBOs Recommend that the indicator be increased to 80%
2	Increase from 15.7% to 60% pregnant women who slept under an ITN the previous night.	% of pregnant women who slept under an insecticide-treated net the previous night.	15.7%	60%	43.2%	Also due primarily to wide ITN distribution. Less than for children due to no specific policy of MOH to distribute ITNs to pregnant women.
3	Increase from 11.7% 60% children age 0-59 months who received a full course of recommended anti-malarial within the 24 hours of onset of fever	% of children age 0-59 months who received a full-course of recommended anti-malarial (according to the MOH's recently approved home-management protocols) within the 24 hours of the onset of fever	11.7%	60%	36.6%	Increase in care seeking due to training, higher recognition of signs of malaria and IMCI training and regular supply of anti-malarials.
4	Increase from 2.8% to 75% women who completed IPT during their current or last pregnancy	% of women who completed Intermittent Presumptive Treatment (IPT) during their current or last pregnancy.	18.5%	75%	51.4%	Due to regular supply of meds and reasonably high PNC attendance. Also to increased knowledge among women about IPT
5	Increase by 25% the number of net owners who have retreated net at least once in the last year	% of net owners who have retreated net at least once in the last year	No baseline	25% increase over baseline	8%	
	NUTRITION					

	Objectives	Indicators	BLD	Targets	MT	Explanation
6	Decrease from 15.9% to 10 % children age 0-23 months who are under-weight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population).	% of children age 0-23 months who are under-weight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population).	15.9%	10%	9.4%	This decrease is less likely due to any feeding habit changes (aside from EBF) achieved through project efforts, but could be attributed to reduced cases of malaria and diarrhea, as reported by many health center chiefs and supported by KPC results.
7	Increase from 50.8% to 75.8% children age 0-5 months who were exclusively breast-feeding during the last 24 hours.	% of children age 0-5 months who were exclusively breast-feeding during the last 24 hours	50.8%[4]	75.8%	63.1%	This behavior is being promoted by the trained CBOs and providers trained in IMCI. In the second half of the project, the ENA training will also help support this behavior.
8	Increase from 92.1% to 95% children age 6-9 months who received breast-milk and complementary foods during the last 24 hours.	% of children age 6-9 months who received breast-milk and complementary foods during the last 24 hours	92.1%	95%	93.6%	This indicator was already so high at the beginning of the project that it probably should have been drop at the time of the DIP
9	Increase from 65.3% to 80% children age 6-9 months who received animal and/or vegetable protein during the last 24 hours	% of children age 6-9 months who received animal and/or vegetable protein during the last 24 hours	65.3%	80%	58.2%	The KPC Survey was conducted at the time of year when access to vegetable sources of protein is particularly scarce. Furthermore, in many part of the project area there are very few sources of protein apart from groundnuts.
10	Increase to 90% children age 6-59 months who received vitamin A supplementation in the prior 6 months.	% of children age 6-59 month who received a Vitamin A supplement in the prior 6 months	80.9%	90%	76.6%	Not clear why this indicator seems to have decreased in the face of substantial training on Vit. A, access to Vit. A and outreach activities. Needs to be studied. Could be a mother's recall issue.
11	Increase to 80% mothers giving birth in the last 12 months who received two vitamin A supplements within 8 weeks post partum.	% of mothers of children age 0-32 who received two Vitamin A supplements within 8 weeks post partum	21.6%	80%	30%	Mothers give birth at home and do not frequent the health center soon after delivery. Doctors neglect to administer Vit. A during BCG administration. Needs a reminder. Rec. CBOs be given supply of Vit.

[4] The baseline is already significantly higher than the national average ( ) because two of the three target provinces already had higher than average EBF rates and the project is not being implemented in the provinces with extremely low EBF rates.

	Objectives	Indicators	BLD	Targets	MT	Explanation
12	Increase from 9.2% to 40% sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	% of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks.	9.2%	40%	14.6%	Focus remains on medical interventions and curative care. Need to reinforce this message at community level and during points of contact with health care providers. Home visits to sick children by CBO members should focus on this.
13	Increase in 30% points (from baseline) of pregnant women taking Iron/ Folic Acid supplements daily for at least 6 months during their last pregnancy.	% of mothers of children age 0-32 taking iron/folate supplements daily for at least 5 months during their last pregnancy	27.2%	60%	33.7%	Hard to maintain this behavior over such a long period. Also influenced by side effects of iron. Rec. CBOs promote iron tablet consumption by women during meals.
14	Increase in 25% points (from baseline) of children 6-59 months of age eating vitamin A rich foods daily during the past week.	% of children 6-59 months of age eating vitamin A rich foods daily during the past week.	41.3%	60%	86.7%	
	DIARRHEA					
15	Increase from 7.7% to 30% mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after attending a child who has defecated.	% of mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after a attending a child who has defecated.	7.7%	30%	15.5%	Good progress, but CBOs need to focus more on this behavior to achieve the final objective.
	PNEUMONIA					
16	Increase from 65.9% to 80% mothers of children age 0-23 months who know at least 2 signs of childhood illness (fast breathing and chest in-drawing) that indicate the need for treatment.	% of mothers of children age 0-23 months who know at least two signs of childhood illness (fast breathing and chest in-drawing) that indicate the need for treatment.	65.9%	80%	70.4%	Good progress; CBOs need continue to educate mother about the signs and symptoms of pneumonia; When CCM for pneumonia goes into effect this will also help this objective.

	Objectives	Indicators	BLD	Targets	MT	Explanation
17	Increase from 37.4% to 67.7% children with signs of severe childhood illness who were seen by a qualified public or private provider in the past 2 weeks.	% of children with signs of severe childhood illness who were seen by a qualified public or private provider in the past two weeks.	37.4%	67.7%	51%	Due to increased referrals by CBOs, increased recognition of signs and IMCI training
	IMMUNIZATION					
18	Increase from 70.5% to 80% children age 0-23 months who received vaccination coverage for all the antigens	% of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	70.5%	80%	73%	Limited progress given the focus on Health and Nutrition week; could be due to not recording the polio vaccines given door to door; or mothers not remembering the vaccinations provided as special Health Week services
19	Increase from 58.9% to 80% mothers of children age 0-23 months who received 2TT during their last pregnancy	% of mothers of children age 0-23 months who received 2TT during their last pregnancy	58.9%	80%	56.8%	The MOH has a 5 TT policy so many women may have NOT received a TT vaccination during their last pregnancy, but will have been completely vaccinated. Quite a lot of attention has been focused on TT vaccinations.

5. Rapid CATCH Table

	Indicator	Baseline	MTE
	Sentinel Measure Child Health and Well-being		
1.	Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NHS reference population)	**15.9%** (13.8 – 18.1)	**9.4%** (8.2-10.7)
	Prevention of Illness/Death		
2.	Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	**52.3%** (48.0 – 56.5)	**61.7%** (58.9-64.3)
3.	Percentage of children age 0–23 months whose births were attended by skilled health personnel	**59.9%** (57 – 62.8)	**74.1%** (72.2-75.9)
4.	Percentage of mothers with children age 0–23 months who received at least two tetanus toxoid injections before the birth of their youngest child	**58.9%** (55.9 – 61.7)	**58.6%** (56.5-60.7)
5.	Percentage of children age 0-5 months who were exclusively breast-feeding during the last 24 hours.	**50.8%** (47.9 – 53.8)	**63.1%** (61.2-65.1)
6.	Percentage of children age 6-9 months who received breast-milk and complementary foods during the last 24 hours.	**92.0%** (90.2 – 93.7)	**93.6%** (92.5-94.5)
7.	Percentage of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	**70.5%** (67.1-73.6)	**83.4%** (81.3-85.4)
8.	Percentage of children age 12–23 months who have received measles vaccination before the first birthday	**80.9%** (77.9-83.6)	**91.1%** (89.4-92.6)
9.	Percentage of children age 0-23 months who slept under an insecticide-treated net the previous night.	**11.8%** (10.0-13.9)	**60.7%** (58.7-62.7)
10.	Percentage of mothers with children age 0–23 months who cite at least two known ways of reducing the risk of HIV infection	**65.9%** (63.0-68.7)	**66.1%** (64.2-68.0)
11.	Percentage of mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after a attending a child who has defecated.	**7.7%** (6.2-9.4)	**15.0%** (13.7-16.5)
	Management/Treatment		
12.	Percentage of mothers of children age 0-23 months who know at least two signs of childhood illness that indicate the need for treatment.	**65.9%** (63.0-68.7)	**70.4%** (68.5-72.2)
13.	of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks.	**9.2%** (7.4-11.4)	**14.6%** (13.1-16.4)

EXPANDED IMPACT CHILD SURVIVAL PROJECT (EIP) CAMEROON

CHILD SURVIVAL PROJECT XXI

COOPERATIVE AGREEMENT NO.: GHS-A-00-05-00015-00

SECOND PROJECT MONITORING REPORT

Knowledge Practice and Coverage (KPC)

July 2008

LOCATION: CAMEROON (CMR)

(11 HEALTH DISTRICTS)

START DATE: SEPTEMBER 30, 2005

END DATE: SEPTEMBER 29, 2010

Report prepared by

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I LIST OF ACRONYMS

ACMS	Association Camerounaise pour le Marketing Social
AIDS	Acquired Immuno-Deficiency Syndrome
ANC:	Ante Natal Care
BCC	Behaviour Change Communication
BCG:	Bacillus Calmette-Guerin
CATCH	Core Assessment Tool for Child Health
CBO	Community Based Organizations
CDD	Control of Diarrhoeal Disease
CHRP	Community Health Resource Persons
COGE	Health Area Management Committee
CORE	Child Survival and Collaborations and Resources Group
COSA	Health Area Committee Members
CS	Child Survival
CSHGP	Child Survival and Health Grants Program
CSP	Child Survival Project
CSTS	Child Survival Technical Support Contract
CSXXI	USAID-funded Child Survival Programme GHS-A-00-05-00015-00 (2005-2010)
DIP	Detailed Implementation Plan
DMO	District Medical Officer
DMT	District Medical Team
DPTHepB:	Diphtheria Pertussis & Tetanus
EIP	Expanded Impact Child Survival Project
EPC	EIP Planning Committee
EPI Info	Epidemiological Information
EPI	Expanded Programme of Immunisation
EU	European Union
FGDs	Focus Group Discussions
FP:	Family Planning
Initiative	
DHNAW	District Health and Nutrition Action Week
HISA	Health Information System Assistant
HIS	Health Information Systems
HIV	Human Immuno-deficiency Virus
HKI	Helen Keller International
IFA	Iron and Folic Acid
IHC	Integrated Health Centre
IHFA	Integrated Health Facility Assessments
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Preventive Treatment
ITN	Insecticide Treated Net
KPC	Knowledge, Practice and Coverage Survey
LOE	Level of Effort
LQAS:	Lot Quality Assurance Sampling or Local Quality And Supervision
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MCM	Malaria Case Management
MoH:	Ministry of Health
MTE	Midterm Evaluation
NGO:	Non-governmental Organization
NID	National Immunization Day
NNWG	National Nutrition Working Group
OR	Operations Research
PP	Percentage Points
PSI	Population Services International
PSI:	Population Services International
PU	Programme Unit

PVC/PVO	Private Voluntary Corporation/Organisation
RBM	Roll Back Malaria
Rouvax	Measles Vaccine
SA:	Supervision Area
TT:	Tetanus Toxoid
U5	Children under five years of age
UNICEF	United Nations Children's Fund
US NO	PLAN United States National Office
USAID	United States Agency for International Development
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VAS	Vitamin A Supplementation
WARP	West Africa Regional Program
WHO	World Health Organization
WRA	Women of Reproductive Age

II I. INTRODUCTION

The Bundled Expanded Impact Child Survival Project (EIP) implemented by Plan Cameroon, HKI and ACMS in collaboration with the MOH and LNGO partners with funding from USAID is in its third year of implementation.
The main goal of the project is to support the MOH to scale up IMCI in all its components and Roll back Malaria in Cameroon. Project interventions cover 11 health districts in three provinces (East, North West and Center) with spill over to 55 other health districts in these three provinces and the 177 HDs nationwide.
The project is implemented within five domains of intervention: Malaria (40% level of effort), malnutrition (30% level of effort), diarrhea (10% level of effort), ARI (10% level of effort), EPI (10% level of effort) with specific domain objectives.
Within the Detailed Implementation Plan (DIP) of the project, two bi-annual monitoring surveys have been scheduled to track the progress made in the implementation of the health facility and the community components of IMCI. The results of these surveys are intended to influence the planning of activities at the community, district, provincial and central levels, to foster and maintain the good performances, to carry out corrective activities for those indicators not yet meeting the expected results, and to influence MOH policy to boost the scaling up IMCI implementation within the country.
After the baseline survey was conducted in February 2006, the first monitoring exercise was conducted in April 2007 (year two of the project). This second monitoring exercise that took place in the months of May and June 2008 (year 3 of the project) coincides with and leads up to the Mid Term Evaluation (MTE) of the project.
The two main survey methodologies that were used at baseline and planned in the DIP for M&E are the Integrated Health Facility Assessment (I-HFA) later replaced by the Rapid Health Facility Assessment (R-HFA) and the Lots Quality Assurance Sampling (LQAS) for KPC.
This report presents the whole process of the second monitoring exercise of the KPC (Preparatory phase, Training of surveyors, Field data collection, Data entry and analysis, results) and a comparative analysis of the results against the baseline data using the LQAS methodology. Some conclusions and recommendations are equally drawn.

This KPC survey was a forum for Plan, ACMS, HKI, and MOH to assess the capacity of care takers of U5 children to adequately take care of their children at the level of the community through their understanding and practice of the 17 family key practices related to child and maternal health.
The objectives of the KPC survey were as follows:

- To determine the level of progress of project implementation 3 years after on set.
- To determine the level of progress of each indicator against baseline survey.
- To identify the poor and good performing HDs as per the EIP indicators.

- To bring all stakeholders together and propose best corrective measures in order to address poor performance and allocate resources towards the poorly performing Supervision Areas.

2) METHODOLOGY

DESCRIPTION OF STUDY INDICATORS

A total of 17 outcome indicators were retained for the KPC survey in the community. These comprised of 13 rapid CATCH indicators and 5 project specific indicators. In addition to these, Beneficiary satisfaction was also assessed. For convenience, the indicators are classified below under the following nine categories: anthropometry; child spacing; antenatal and immediate new-born care; breastfeeding and nutrition; Infant/childhood immunisation; malaria Prevention and control; Integrated Management of Childhood Illnesses (IMCI) case management; and hand washing.

Anthropometry

01) Underweight (low weight-for-age) prevalence: *Percentage of children aged 0-23 months who are below 2 standard deviations (-2SD) from the median weight-for-age, according to the WHO/NCHS reference population*

Child spacing

02) Less stringent adequate birth interval between two youngest surviving children: Percentage of children aged between 0-23 months that were born at least 24 months after the previous surviving child.

Antenatal and immediate new-born care

03) Tetanus toxoid coverage: *Percentage of mothers of children aged 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child*

04) Skilled delivery health personnel: Percentage of children aged 0-23 months whose delivery was attended to by skilled personnel

Breastfeeding and nutrition

05) Exclusive breastfeeding rate: *Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 months.*

06) Complementary feeding for children 6-9 months: *Percentage of infants aged 6-9 months receiving breast milk and complimentary (solid) foods in the last 24 hours*

07) Percentage of children aged 6-9 months who consumed food rich in protein in the 24 hours preceding the survey

Infant/childhood immunisation

08) EPI full immunisation coverage by first birth day: *Percentage of children aged 12-23 months who are fully immunised (i.e. receive BCG, POLIO 0, 1, 2, and 3, DTPHepb1, 2 and 3, yellow fever and measles) (Have vaccination records - cards or book and vaccinated according to the national vaccination calendar).*

Malaria Prevention and control

09) Insecticide Treated Bed Net Use in Children <5: *Percentage of children aged 0-23 months who slept under an insecticide-treated bed net the previous night.*

10) Insecticide Treated Bed Net Use in Pregnant women: *Percentage of pregnant women who slept under an insecticide-treated net the previous night.*

11) Malaria prophylaxis in pregnancy: *Percentage of women who completed Intermittent Preventive Treatment (IPT) during their current or last pregnancy*.

12) Malaria case management: *Percentage of children aged 0-59 months who received a full-course of recommended anti-malarial (according to the MOH recently approved protocols) within the 24 hours of the onset of fever*.

Integrated Management of Childhood Illnesses (IMCI) case management

13) Maternal Knowledge of child danger signs: *Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment*

14) Increased fluid and continued feeding during illness: *Percentage of children aged 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks.*

15) Percentage of children with signs of severe childhood illness who were seen by a qualified public or private provider in the past two weeks.

Hand washing

16) Maternal hand washing behaviour: *Percentage of mothers of children aged 0-23 months who wash their hands with soap before food preparation, before feeding children, and after attending to a child who has defecated.*

17) Beneficiary satisfaction on health care services.

The following aspects are used to determine beneficiary satisfaction:

- Waiting time in Health Facilities
- Explanation provided by health worker on child's illness
- Treatment received for child's illness
- Likely hood to return to the Health facility.

LQAS FOR KPC:

The LQAS Methodology

History of LQAS

LQAS stands for 'Lot Quality Assurance Sampling'. LQAS was developed in the 1920s for quality control of industrially produced goods. The fundamental principle consists the taking of a small random sample from a recent batch "or lot" of goods from a production unit (-- such as an assembly line). If the number of defective goods in the sample exceeds a predetermined number then the lot is rejected. Otherwise it is accepted. The allowable number is called the decision rule. This allowable number is based on a production standard and the sample size.

Purpose of LQAS

Recently the LQAS industrial monitoring experience has been applied for various purposes including the monitoring of the quality of defined health indicators and improvement of the supervision of the field areas/supervision areas (SA).

LQAS is mainly used for assessment of average coverage[5] of a particular indicator within the entire project area. This makes it especially useful for collecting quantitative baseline information.

Secondly LQAS can tell with close accuracy whether a project sub-area or supervision area (SA) is above or below the average coverage for a particular indicator. This allows for LQAS to guide management on how to allocate resources because we can thus determine:

- How a supervision area is faring for a particular indicator
- Which indicators within a supervision area are doing well and which are not
- How supervision areas within a programme area compare with one another.

The concept of the threshold and decision rule

The threshold and decision rule is the participatory agreement of the cut-off level for every indicator that would qualify it as acceptable or not out of a sample total of 19. It is based on the overall prevalence or area coverage for that indicator within the project area. It provides the benchmark against which SAs are compared for every indicator. For example in this LQAS exercise in the Ndop health District, the coverage for Exclusive breastfeeding (EBF) was assessed to be 60.9%. This corresponds to a decision rule (on the decision rules table) 13 (of 19) for the 14 supervision areas. Put in another way if 13

[5] Coverage is defined as the percentage of people in any catchment area who either (a) know a recommended health behaviour, (b) practice a recommended health behaviour; or who (c) receive a particular service.

or more of the eligible respondents out of a lot sample of 19 were exclusively breastfed then that SA is of good performance for the EBF indicator. If on the other hand the decision rule was less than 13 (of 19), then the SA is below the acceptable performance threshold.

Sampling and Sampling Size

The LQAS methodology uses small random samples of 19 from every lot to provide information about the prevalence of a particular indicator. The recent LQAS manual has recommended a minimum sample size of 95 to estimate a coverage proportion for the entire project area. This means that prevalence of a specific indicator in an area comprising a minimum of 5 lots from which a sample of 19 has been picked out randomly from every lot (giving a total of 19 X 5 = 95) is as accurate as that given through other methodologies with sample sizes greater than 95.

The reason why LQAS uses a sample of 19 for each lot is that any sample that is less than 19 will have alpha or beta errors, for assessment of lots, greater than 10%. By keeping the lot sample size no less than 19 we are keeping error less than 10% consistent with statistical convention. Also, by increasing the lot sample size we create more work but do not necessarily reduce the number of lots that would be incorrectly assessed by the methodology.

Alpha and beta errors tell you how often your judgment will be wrong about a lot or supervision area (SA) that has reached performance benchmark.

A specific questionnaire was developed for each client universe. Questionnaire I was the lengthiest. Questionnaires II to V were short as they included a few questions to provide information for a specific indicator.

Because of the relative overlap between these client universes some respondents responded to multiple questionnaires because they qualified for the multiple categories. For example a mother with a 7-month-old child qualified and was requested to respond to Questionnaire I, III and V.

Each of the fourteen (14) supervision areas in Ndop HD listed all their villages and population located within its service jurisdiction. An LQAS sample of 19 respondents, for each of the 5 modules, was sampled from each Supervision Area. Larger villages had greater probability of being chosen as sites where respondents would be randomly picked. Hand drawn maps were used within a specified village to randomly pick the appropriate respondent.

3) ORGANISATION OF THE SURVEY

The survey was carried out under the leadership of the various provincial delegates of Public Health (East Centre and North West provinces) and direct field operations by the District Health Teams of the 11 HDs and the EIP staff according to the following schedule:

Bafut Health District 22-27 May 2008

Mbengwi Health district 28th May -2nd June 2008
Ndop health District 2nd to 7th Of June 2008
Fundong Health District 2nd-7th of June 2008
Doumé Health District 21st to the 25th May 2008
Nguélémendouka HDs 21st to the 25th May 2008
Bertoua HD the 23rd to the 27th May 2008
Batouri HD 04th to the 08th June 2008.
Esse HD 2nd to 8th June 2008
AKONOLINGA HD 26th to 31st May 2008
AWAE HD 23rd to 27th May 2008

a) Preparations

The preparation of the survey commenced with the review, adoption and translation of the different modules (questionnaires) to have them available in both English and French. The 23 indicators assessed at baseline were captured in the 5 modules (questionnaires) (see annex 1for questionnaires):

Module 1: General module Children 0-23 months

- Anthropometry
- Maternal and new born care
- Integrated Management of Childhood illness(IMCI)
- Malaria case management
- Malaria prevention
- HIV/AIDS
- Prevention of Diarrhea

Module 2: Breastfeeding and Nutrition Children 0-5 months

- Breastfeeding and Nutrition
- Malaria prevention

Module 3: breastfeeding and Nutrition (complementary feeding)

- Breastfeeding and Nutrition (complementary feeding)

Module 4: Specific module Children 11-23 months

- Immunization

Module 5: Food frequency children 6-59 months

- Animal and plant sources of protein

In each HD, the EIP teams had working sessions with the various District Health teams during which demographic data of each area was used to carve out the communities into supervision areas and also determine the communities for the 19 lots of each supervision area.

As part of the district preparatory process, the District Health teams went ahead to recuit the surveys that were made up basically of non health staff (in some HDs a few health personnel were included). The main inclusion criterion as was to be able to read and write (O/L GCE).

b) Training of surveyors

Two days were set aside in all the Districts for the training of surveyors. The training program covered the following areas:

- Mastery of modules
- Identification of targets per module
- Selection of households
- Interview techniques

c) Field data collection

Data collection in the communities took three days in each Health District.
Three surveyors were assigned to each health area. Each surveyor administered averagely 2 lots of questionnaires per day.
A total number of 381 surveyors did data collection in the 127 health Areas of the 11 HDs in the three provinces covered by the EIP project.
The surveyors were deployed to the various health areas on the last day of training. This was to enable them meet the necessary community heads to get set for the Data collection process the following day. In the deployment process, no surveyor was sent to his or her health area of origin so as to avoid bias.
Supervision which was aimed at ensuring correct filling in of the questionnaires in all the Districts was done by the M& E point persons at the provincial Delegation, the DMOs, the Chiefs of Bureau Health and the EIP staff.

d) Health District Synthesis

District Synthesis was done on the last day of the survey in each HD. Prior to the synthesis by the surveyors, the supervisors cross checked and validated the questionnaires. The Synthesis was done manually using tabulated sheets pre-conceived by the EIP HIS Assistant. These initial and rapid results were used to determine the supervision areas of good and poor performance based on the decision rule with respect to the District coverage and EIP indicators. Based on these initial results the District Health teams could already start reflecting on possible strategic re-orientations pending the final results.

e) Data Entry and analysis.

The data entry mask was prepared by the EIP HIS Assistant using EPI INFO version EPI6 and installed in the computers of the various Program units and Health Districts.
Data entry teams were used in each Program Unit and an average of 7 days were used for the exercise. The EIP coordinator and the HIS Assistant supervised the data entry process in all the PUs. A total number of 127 lots of questionnaires (12,065 scripts) were encoded.
The entered data was cleaned and analyzed by the EIP HIS Assistant with tables and graphs generated from EPI INFO and Excel.

f) Report writing

The entire EIP team (Plan Cameroon, ACMS and HKI) went in to conclave from July 28 to August 1st for a comparative and in-depth analysis of the data with respect to the baseline data and EIP project targets and come out with the results presented below.

4) RESULTS

Table 1 below presents the consolidated results of the second monitoring exercise per PU as compared to the baseline results and the project targets for each indicator.
Detailed results of the11 health districts are equally presented per PU and the performances assessed.

Table 1: results per PU with respect to baseline and EIP targets

Indicators	EIP Target 2010	EIP baseline Feb 2006	EIP June 2008	Bamenda Feb 2006	Bamenda June 2008	Bertoua Feb 2006	Bertoua June 2008	Biteng Feb 2006	Biteng June 2008
% of children age 0-23 months who slept under an insecticide-treated net the previous night.	60.0%	11.8% 10 - 13.9% (133/1123)	60.7% 1481/2439	7.4% 5.3 - 10.3% (34/457)	78.9% 763/967	10.2% 7.5 - 13.9% (39/381)	39.2% 398/1016	21.1% 16.5 - 26.3% (60/285)	70.2% 320/456
% of pregnant women who slept under an insecticide-treated net the previous night.	60.0%	15.7% (13.2 - 17.9% (150/953)	42.3% 1032/2439	10.8% 4.7 - 9.6% (31/287)	51.8% 501/967	11.1% 9.5 - 16.5% (48/381)	24.8% 252/1016	24.9% 20 - 30.4% (71/285)	61.2% 279/456
% of children age 0-59 months who received a full-course of recommended anti-malarials (according to the MOH recently approved protocols) within the 24 hours of the onset of fever.	60.0%	11.7% 8.9 - 15.2% (51/436)	36.6% 332/907	4.8% 1.9 - 9.5% (7/146)	58.4% 171/293	14.9% 9.9 - 21.2% (25/168)	31.3% 104/430	16.0% 9.9 - 23.8% (19/119)	31.0% 57/184

% of women who completed Intermittent Presumptive Treatment (IPT) during their current or last pregnancy.	75.0%	18.5% 16.3 - 20.9% (208/1123)	51.4% 1253/2439	35.2% 30.9 - 39.8% (161/457)	70.8% 685/967	9.4% 6.8 - 13% (36/381)	33.6% 341/1016	3.9% 1.9 - 6.8% (11/285)	49.8% 227/256
% of children age 0-23 months who are under-weight (<-2 SD from the median weight-for-age, according to the WHO/NCHS reference population).	10.00%	15.9% 13.8 - 18.1% (178/1123)	9.40% (200/2127)	9.8% 7.3 - 13.0 (45/457)	5.00% (44/881)	25.7% 21.5 - 30.5% (98/381)	15.60% (129/827)	12.3% 8.7 - 16.7% (35/285)	6.40% 27/419
% of children age 0-5 months who were exclusively breast-fed during the last 24 hours.	57.8%	50.8% 47.9 - 53.8% (571/1123)	63.1% 1509/2390	53.0% 48.0 - 57.4% (3/457)	71.8% 694/966	59.2% 53.9% 64.0% (6/381)	56.6% 573/1013	36.8% 31.2 - 42.7% (105/285)	58.9% 242/411
% of children age 6-9 months who received breast-milk and complementary foods during the last 24 hours.	95.0%	92.0% 90.2 - 93.7% (877/953)	93.6% 2228/2381	94.4% 91.5 - 97% (271/287)	94.3% 912/967	91.1% 87.7 - 93.7% (347/381)	92.5% 937/1013	90.9% 86.9 - 94% (259/285)	94.5% 379/401
% of children age 6-9 months who consumed food rich in protein in the 24 hours preceding the survey	41.3% 38.4% 44.3% (464/1123)		86.7% 2215/2439	50.3% 45.7% 55.0% (230/457)	95.0% 919/967	40.4% 35.5% 45.6% (145/381)	82.2% 835/1016	28.1% 22.9% 33.7% (80/285)	79.2% 361/456
	41.3%		86.7%	50.3%	95.0%	40.4%	82.2%	28.1%	79.2%
% of children age 6-59 month who received a Vitamin A supplement in the prior 6 months	90.0%	80.9% 76.9% 85.5% (909/1123)	76.6% 1869/2439	84.2% 81.7% 8983% (385/457)	85.3% 825/967	78.7% 74.8% 83.1% (300/381)	68.7% 698/1016	77.5% 73.4% 82.8% (221/285)	75.9% 346/456
% of mothers of children age 0-23 months who received two Vit A	80.0%	21.6%	30.4%	28.9%	43.7%	20.5%	17.7%	15.4%	30.3%

supplements at 24 hours interval within 8 weeks post partum		19.1% 24.4%		23.9% 34.8%		16.6% 25.0%		11.4% 20.2%	
		(206/953)	741/2439	(83/287)	423/967	(78/381)	180/1016	(44/285)	138/456
% of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks.	40.0%	9.2% 7.4 - 11.4% (79/857)	14.6% 262/1789	10.7% 7.6 - 14.7% (34/318)	18.9% 128/676	9.2% 6.1 - 13.1% (27/286)	9.4% 75/801	7.5% 4.6 - 11.5% (19/253)	18.9% 59/312
% of mothers of children age 0-23 months who took iron/folate supplements daily for at least 5 months during their last pregnancy	60.0%	27.2% 24.6% 29.9%	33.7%	30.6% 26.5% 35.1%	47.6%	14.4% 12.1% 19.6%	16.1%	37.2% 31.6% 43.1%	43.2%
		(305/1123)	2439	(83/457)	460/967	(55/381)	164/1016	(106/285)	197/456
% of children 6-59 months of age who consumed vitamin A rich foods daily during the past week.	60.0%	41.3% 38.4% 44.3%		50.3% 45.7% 55.0%		40.4% 35.5% 45.6%		28.1% 22.9% 33.7%	
		(464/1123)		(230/457)		(145/381)		(80/285)	
% of mothers of children age 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation and after a attending a child who had defecated.	30.0%	7.7% 6.2 - 9.4% (86/1123)	15.5% 367/2439	10.5% 7.9 - 13.8% (48/457)	22.9% 221/967	5.8% 3.7 - 8.8% (22/381)	6.8% 69/1016	5.6% 3.2 - 9% (16/285)	16.9% 77/456
% of mothers of children age 0-23 months who know at least two signs of childhood illness that indicate the need for treatment.	80.0%	65.9% 63 - 68.7% (740/1123)	70.4% 1716	62.4% 57.7 - 66.8% (285/457)	76.3% 738/967	66.7% 61.6 - 71.3% (254/381)	61.9% 629/1016	70.5% 64.9 - 75.8% (201/285)	76.5% 349/456
% of children with signs of severe childhood illness who were seen by a qualified public or private provider in the past two weeks.	67.7%	37.4% 34.6 - 41.2%	51.0%	51.9% 46.1 - 57.3%	61.1%	37.3% 31.7 - 43.2%	40.6%	15.0% 16.1 - 26.5%	57.5%

		(324/867)	999/1957	(165/318)	443/725	(106/284)	365/900	(53/253)	191/332
Percentage of children age 12–23 months who are fully vaccinated (against the f 8 vaccine-preventable diseases) before the first birthday	80.0%	70.5% 67.1 - 73.6% (551/781)	73.0% 1109/1520	83.7% 79.7 - 87.2% (334/399)	86.0% 616/716	59.4% 52.5 - 65.9% (130/219)	54.0% 293/539	53.0% 45.1 - 60.9% (87/164)	75.0% 200/265
Percentage of mothers with children age 0–23 months who received at least two tetanus toxoid injections before the birth of their youngest child	80.0%	58.9% 55.9 - 61.7%	58.6% 1316/2245	61.5% 56.8 - 65.9%	63.5% 567/893	61.7% 56.7 - 66.7%	53.8% 498/926	50.9% 44.9 - 56.8%	58.9% 251/426
% of children age 6-9 months who consumed food rich in protein in the 24 hours preceding the survey		65.4% 62.5% 68.1% (734/1123)	58.2% 1419/2439	69.6% 65.1% 73.7% (318/457)	69.0% 667/967	56.4% 51.2% 61.3% (215/381)	49.1% 499/1016	70.5% 64.9% 75.8% (201/285)	55.5% 253/456

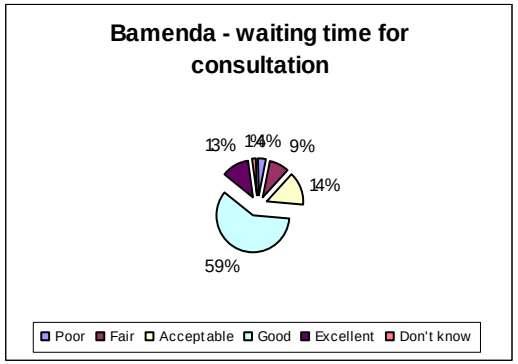
Beneficiary satisfaction on Health care services

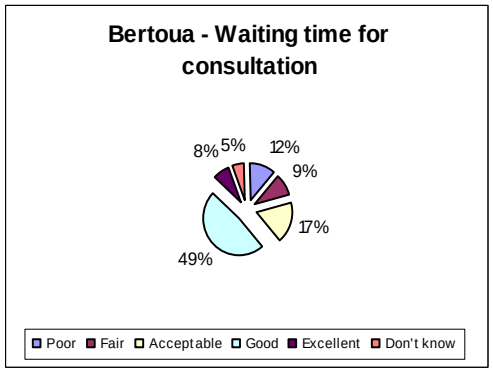
To determine the beneficiary satisfaction on the health care services from which they seek care, mothers of children 0 to 24 months were interviewed on the following aspects:

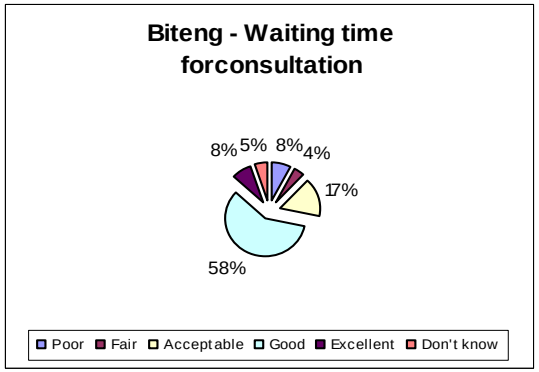
- Waiting time for medical consultation
- Provision of information to the mother on the illness of the sick child by the health care provider
- Treatment received by the mother for the sick child
- Likelihood to return to the health facility

Beneficiary satisfaction on each of the above aspects was evaluated in five categories: poor, fair, acceptable good, excellent and do not know. The results presented below demonstrated that the mothers were generally satisfied with the services of the nearest health facilities from which they sought health care (acceptable, good and excellent).

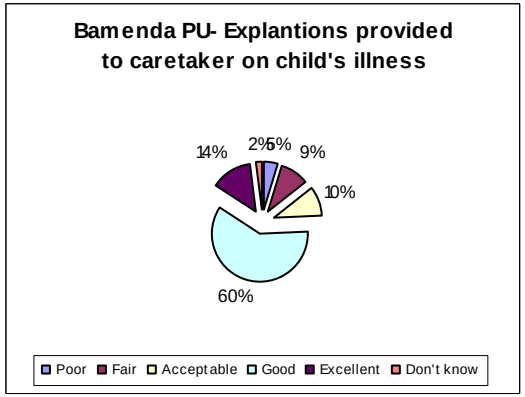
a) Waiting time for consultation

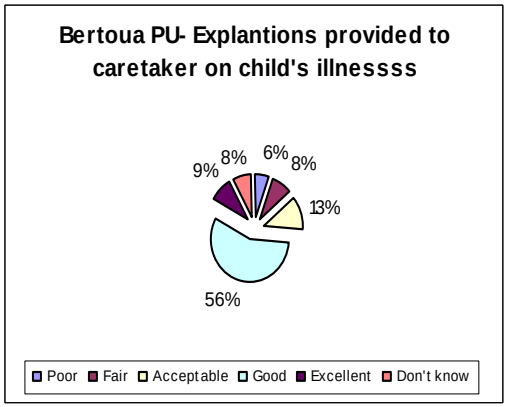


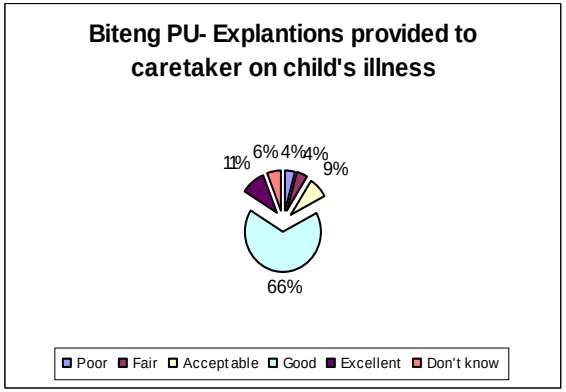




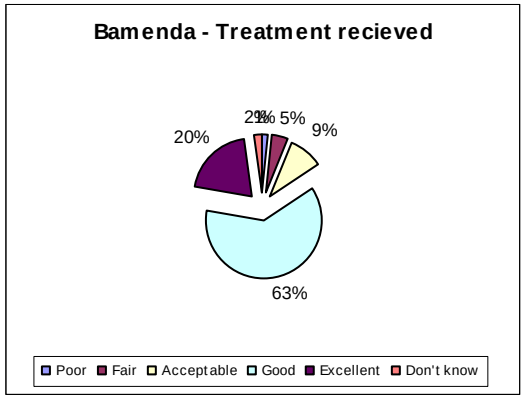
b) Provision of information on sick child to caretaker

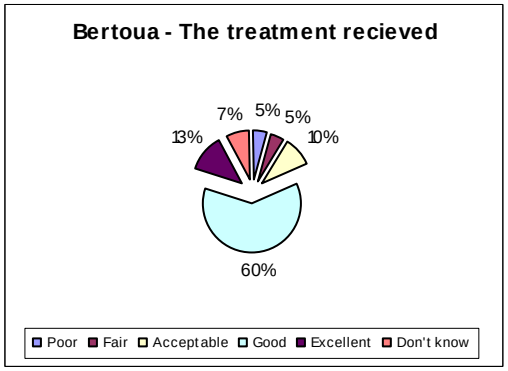


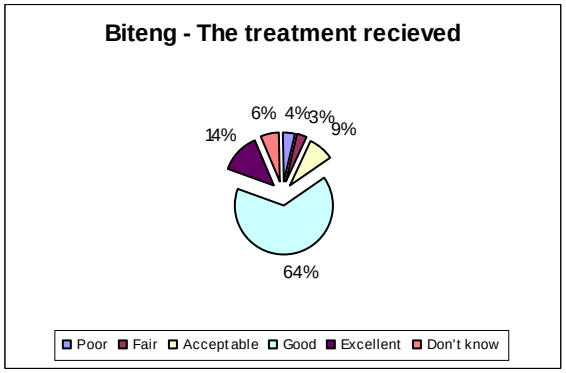




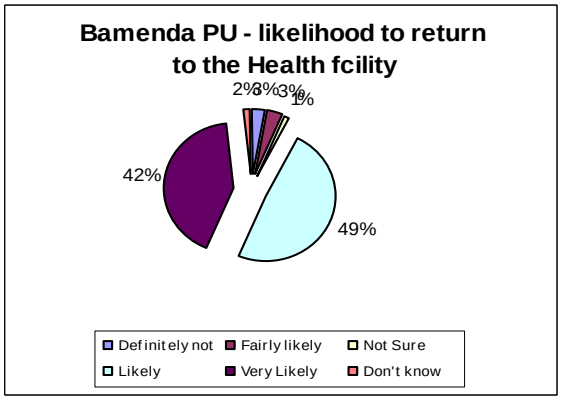
c) Treatment received for the sick child

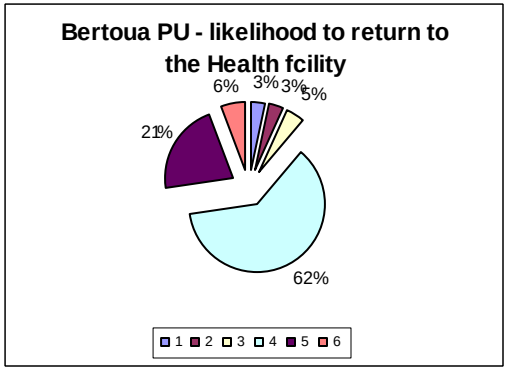


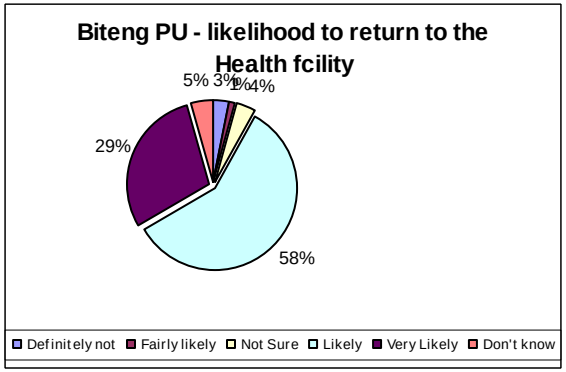




d) Likelihood to return to the health facility







A small proportion of the respondents who were not satisfied with services of the nearest health facilities had the following motives:

Motive		EIP	Bamenda PU	Biteng PU	Bertoua PU
The nearest health facility is too far	Num	146	40	27	79
	Denom	1026	351	175	500
	%	*14%*	*11%*	*15%*	*16%*
the health workers are never present	Num	35	1	7	27
	Denom	1026	351	175	500
	%	*3%*	*0%*	*4%*	*5%*
Non availability of drugs in the health facility	Num	58	6	12	40
	Denom	1026	351	175	500
	%	*6%*	*2%*	*7%*	*8%*
Poor reception from the health worker	Num	30	1	4	25
	Denom	1026	351	175	500
	%	*3%*	*0%*	*2%*	*5%*

5) DISCUSSION OF RESULTS

A. General

i) Anthropometry: Percentage of children aged 0-23 months who are underweight.

The EIP set as objective to decrease from 15.9% to 10% the proportion of children who are underweight for their age (<-2 SD from the median weight-for-age, according to the WHO/NCHS reference population). The Consolidated data of the three PUs, reveals that this indicator has exceeded the target (9.4 %) as presented in fig. 1 below.
The un-aggregated results show that all the three PUs have witnessed a remarkable progress with Bamenda and Biteng already exceeding the end-line target (5% and 6.4 % respectively).
It is hoped that with the same efforts put in so far in project implementation, this trend will be maintained right up to the end of the project.

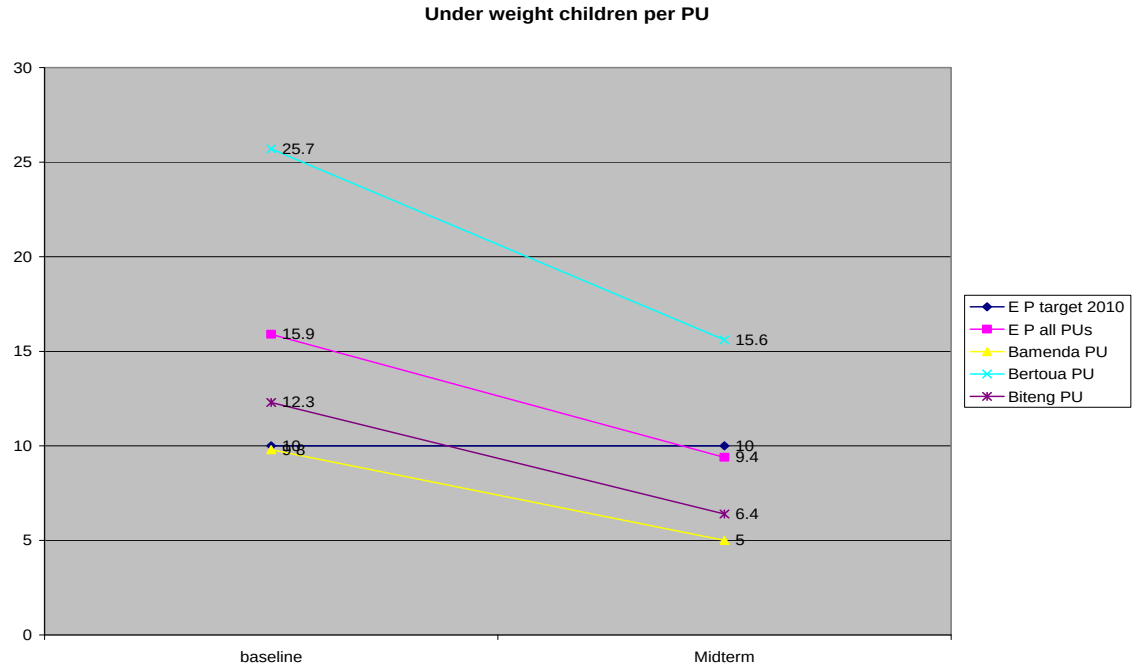


Fig 1 Children with weight <-2 SD from the median weight-for-age, according to the WHO/NCHS reference population

ii) ITN Use in children <5: *Percentage of children aged 0-23 months who slept under an insecticide-treated bed net the previous night.*

The project target (2010) for this indicator at the time of the DIP development was to increase from 11.8% to 60% of children who sleep under insecticide treated nets. The

60% target tied with the Abuja (and MOH) target. After the approval of the DIP, the Abuja target was revised to 80%.

The consolidated results of the 3 PUS show that the ITN use moved from 11.3% at baseline to 60.7% (above the 60% target) fig 2. Even though all the PUs made good progress, the Bamenda PU witnessed the best performance (7.4% at baseline to 78.9%). This positive performance has definitely been as a result of the 20 thousand free LLITN provided by the World SWIM against malaria to the project through ACMS for 2 health Districts and the free LLITN distribution by the MOH of late. The project target will probably have to be modified to tie to the MOH objective. The major challenge of the EIP will be to maintain this performance to attain the 80% target by 2010.

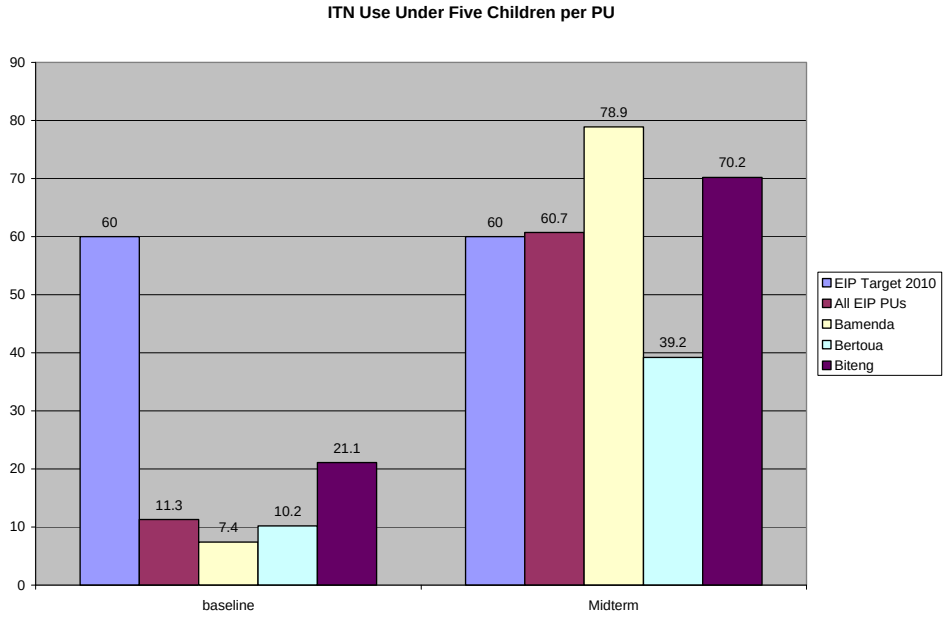


Fig. 2 ITN Use for Children <5 in the three PUs from baseline to Midterm of the project against project target

iii) Pregnant women insecticide treated bednet use: ***Percentage of pregnant women who slept under an insecticide-treated net the previous night***.

The Project objective for this indicator is to increase from 15.7% to 60% the number of pregnant women who sleep under Insecticide treated nets. The results from the 3 pus show that this indicator is progressing well. At mid term the target is already at 42.3% for all the PUS (fig.3). It is expected that with continuous hard work the objective will be met by the end of the project.

The Biteng PU has already exceeded the target (61.2%) while Bamenda has a striking progress from 10.8% to 51.8%. Hopefully the target will be met by the end of the project and maintained for both Biteng and Bamenda. Bertoua is still lagging behind,(24.8%) and will need an extra effort from all the stakeholders in the half of the project.

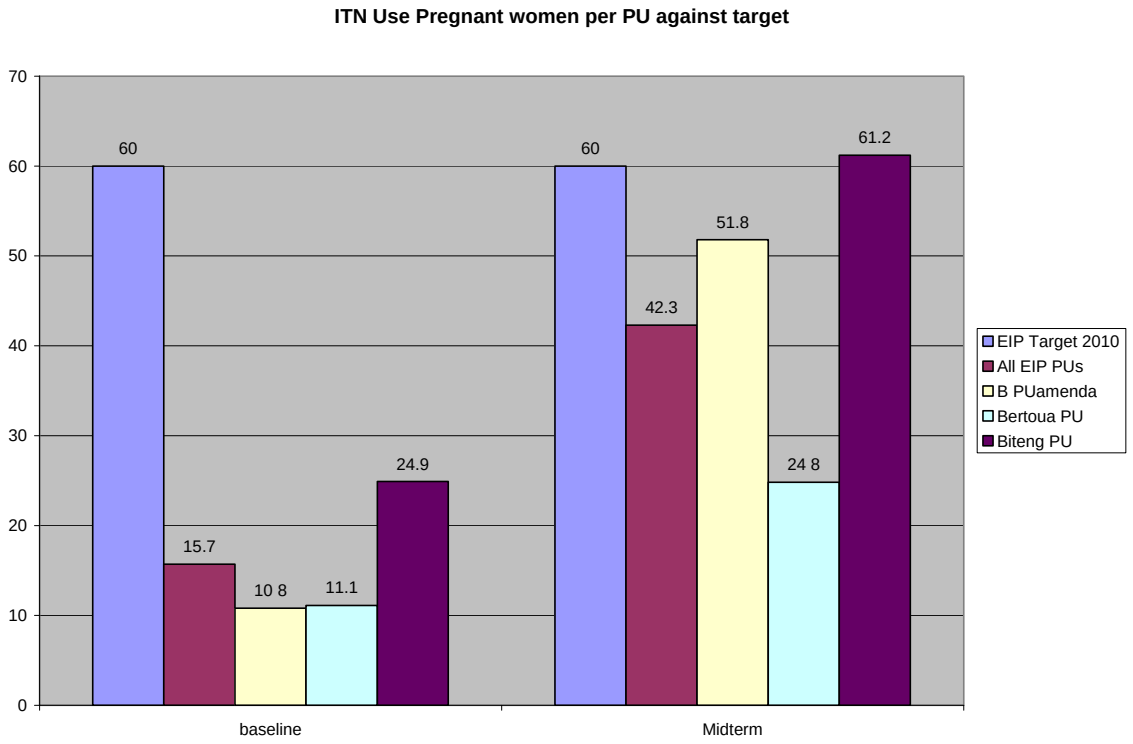


Fig. 3 ITN Use in Pregnant women in the PUs from baseline and Midterm of the project against the project target

iv)Malaria case management: ***Percentage of children age 0-59 months who received a full-course of recommended anti-malarial (according to the MOH's recently approved protocols) within the 24 hours of the onset of fever.***

The project objective is to increase form 11.7% to 60% of children who receive the recommended antimalaria within 24 hours after the onset of fever. At midterm the 3 Pus have had a steady positive progress with the consolidated data moving from 11.7% at baseline to 36.6 % at midterm (fig 4). The Bamenda PU made a remarkable progress (4.8% to 58.4% at baseline and midterm respectively). This progress can be attributed to all the aspects of project interventions on RBM for case management (staff training, IMCI trainings, training of Community Relays on Home management of Malaria, CBO trainings on C-IMCI, availability of essential drugs etc.)

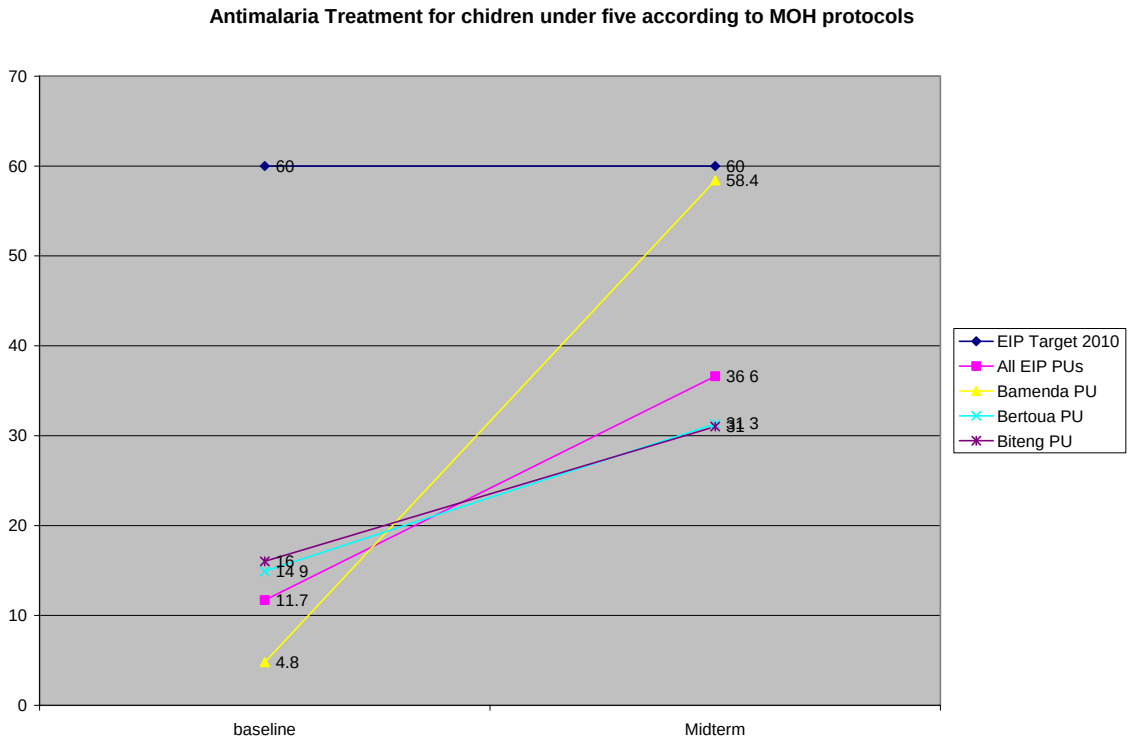


Fig 4. Malaria case management of children 0-24 months with recommended antimalaria drugs within 24 hours of onset of fever according to MOH protocols in the three PUs at baseline and Midterm of the project.

v) Malaria prophylaxis during pregnancy: ***Percentage of women who completed Intermittent Presumptive Treatment (IPT) during their current or last pregnancy***.

Project objective is to increase from 18.5% to 75% the number of pregnant women who completed IPT. The consolidated data of the three PUs show that the indicator moved from 18.5% to 51.4%. It will equally be realised that the individual PU performance has witnessed a steady rise with the Biteng PU demonstrating the best improvement (3.9% at baseline to 49.8% at midterm respectively). However, the Bamenda PU witnessed the highest score at midterm (70.8%) fig 5.

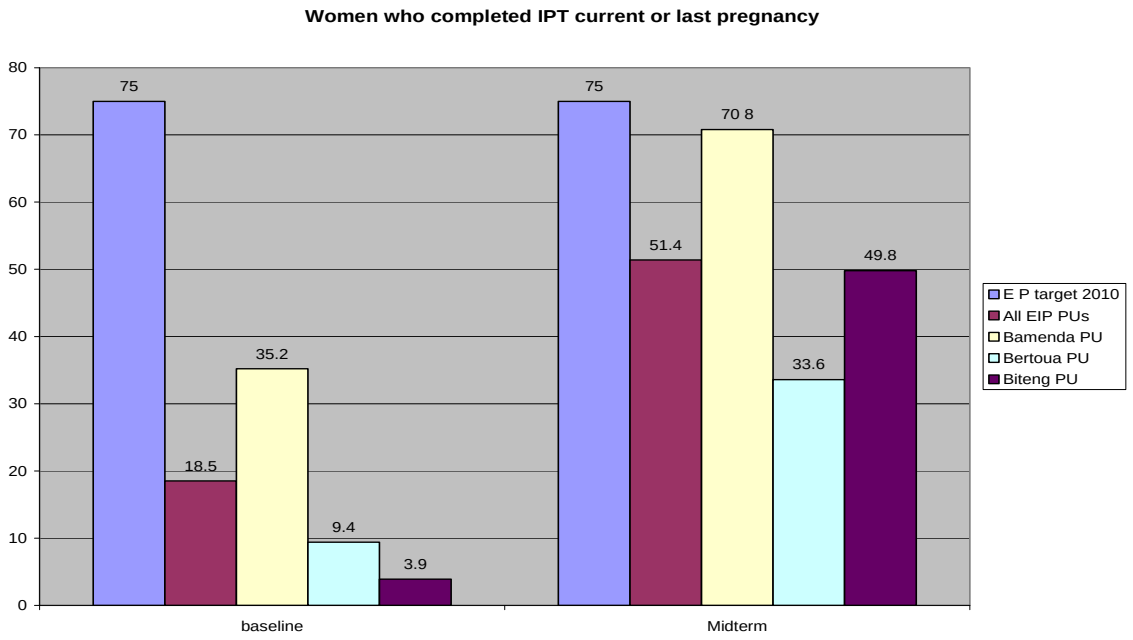


Fig 5 IPT completion for pregnant women in the three PUs at baseline and midterm of the project

vi) Exclusive breastfeeding for children 0-6 months: ***Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 months***.

EIP has as objective to increase from 50.8% to 57.8% the number of children 0-5 months who are exclusively breastfed. At mid term of the project, the consolidated results for the three PUs present a rate of 63.1% (well above the project objective) fig 6. The excellent performance of the three PUs can certainly be attributed to the C-IMCI BCC interventions through the CBOs.

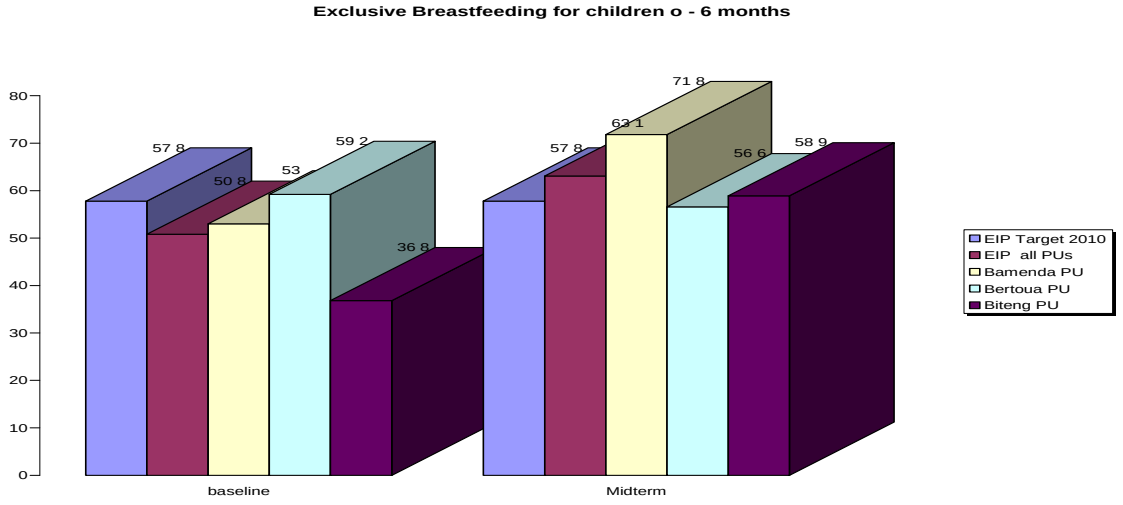


Fig 6 Exclusive Breastfeeding in children 0-6 months in the three PUs at baseline and Midterm against project target.

vii) Complementary feeding rate: ***Percentage of infants aged 6-9 months receiving breast milk and complimentary (solid) foods in the last 24 hours***

The objective was to increase from 92% to 95% the number of children 6-9 months receiving complementary feeding. One can observe in fig 7 that all the PUs have recorded a good performance (aggregated PU data showing 93.6%).

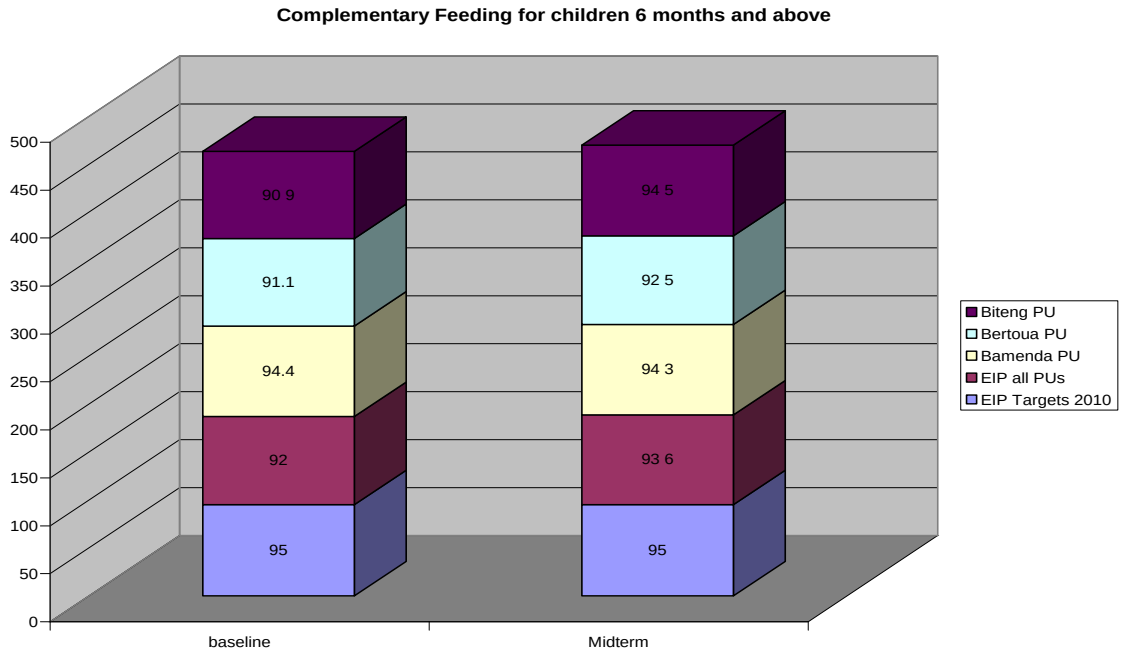


Fig 7 Complementary feeding for Children 6-9 months in the three PUs of the project at baseline and Midterm of the project

viii) Vitamin A supplementation: Percentage of children 6-59 months who received Vitamin A in the prior 6 months.

Based on the project target, which is to increase from 80.9% to 90% the number of children 6-59 months who received vitamin A supplement and taking the general trend of the consolidated data of the three PUs, it will be realised that there has been a drop in performance as compared to baseline (from 80.95 to 76.6%) fig 8. Nevertheless, the Bamenda PU fared well with 85.3%.

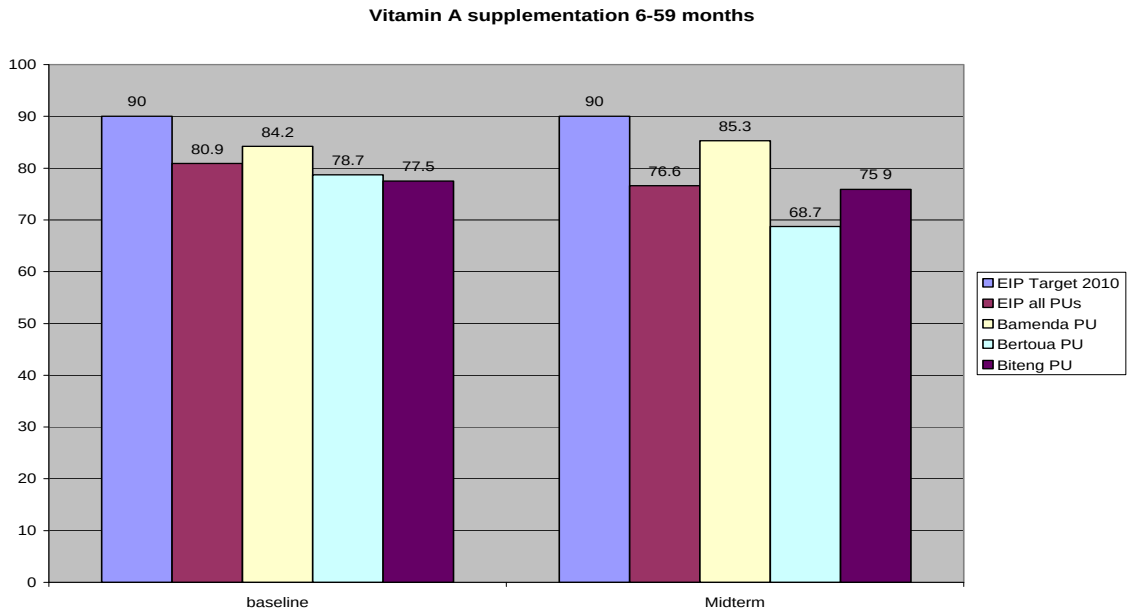


Fig 8 Vitamin A supplementation for children 6-59 months in the three PUs at baseline and Midterm

ix) Vitamin A supplementation Post-partum: Percentage of mothers of children 0-23 months who received two vitamin A doses at 24 hours interval within 08 weeks post-partum

The objective is to increase from 21.6% to 80% the number of mothers of children 0-23 months who received two vitamin A doses within 08 weeks post partum. The consolidated results for all the three PUs show a mediocre increase of this indicator fig 9. There will be need for a special strategy to be put in place to ameliorate this indicator.

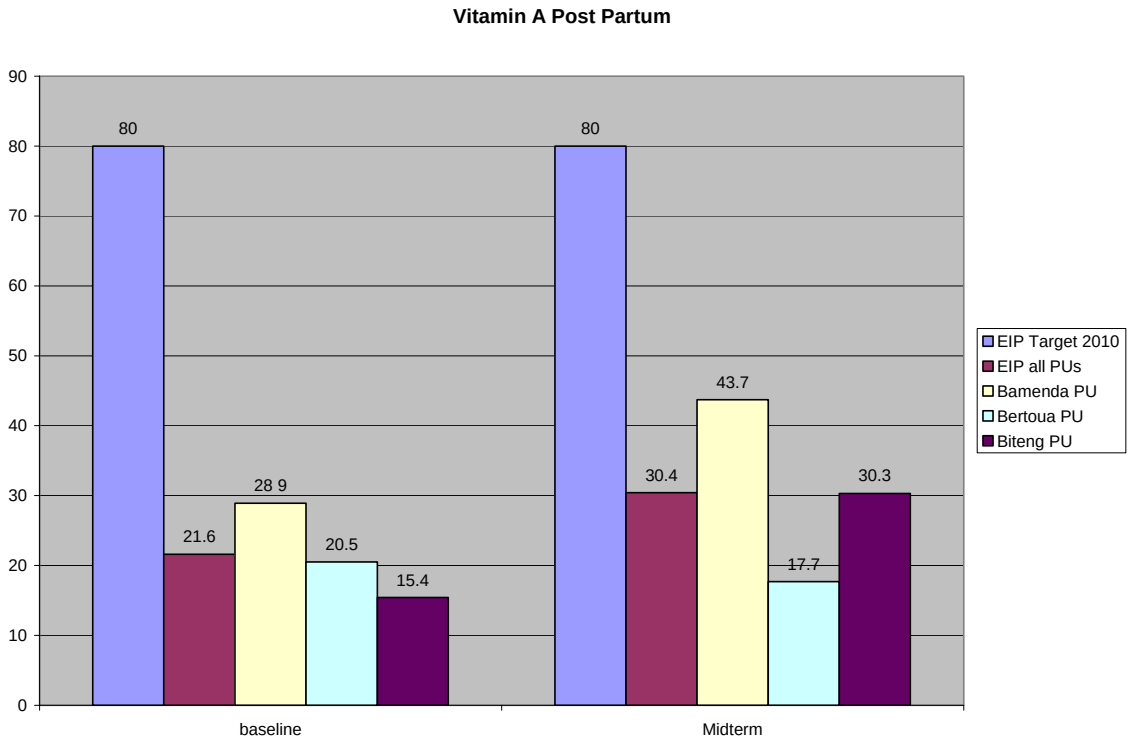


Fig 9 Post partum Vit A supplementation in the three PUs at baseline and Midterm against project target

x) Increase fluid intake: percentage of sick children aged 0-23 months who received increased fluids and continuous feeding during an illness in the past two weeks.

This indicator aims to achieve an increase from 9.2% to 40% of the number of sick children aged 0-23 months who receive increase fluids and continuous feeding during an illness in the past two weeks. Fig 10 below shows that the three PUs demonstrated very slow progress for this indicator.

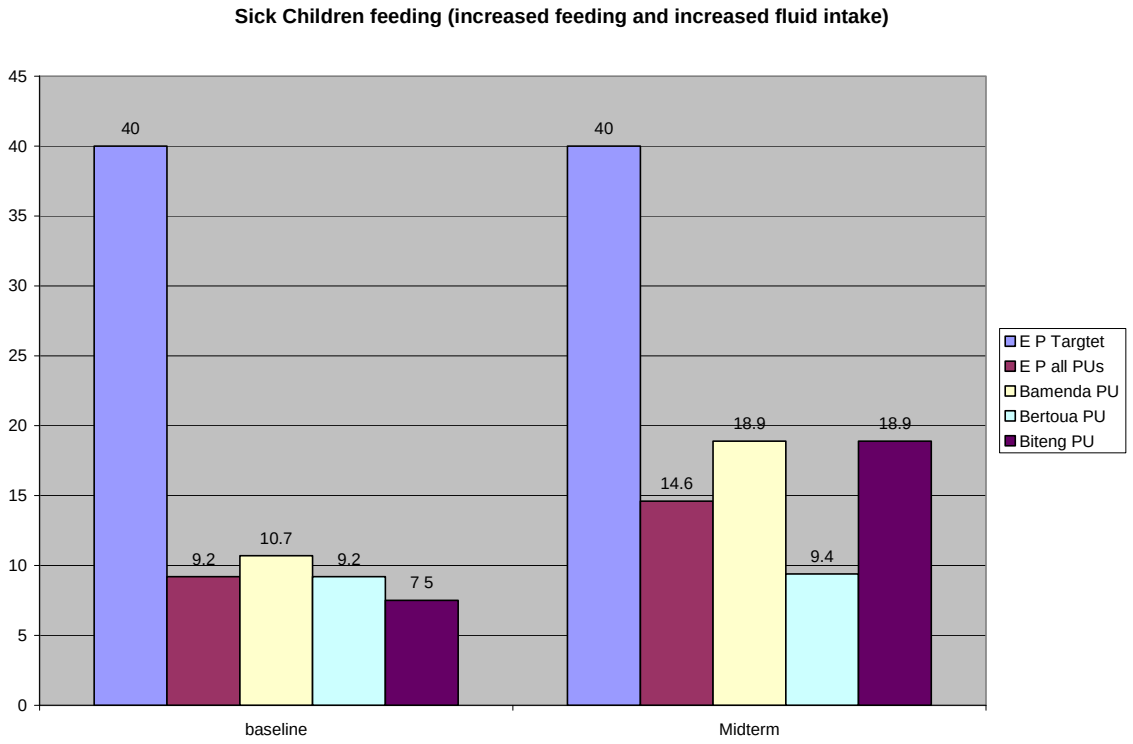


Fig 10 Sick child feeding (increased food and fluid intake) in the three PUs at baseline and midterm of the project

xi) Iron and Folic supplementation: percentage of mothers of children aged 0-23 months taking iron/folic supplement daily at least five months during their last pregnancy

In relation to the objective of the project which is to increase from 27.2% to 60% the number of mothers of children aged 0-23 months who take iron/folic supplement at least five months during their last pregnancy, the results of mid term show that all the PUs had improved as compared to the baseline. The best performance was produced by the Bamenda PU (30.6% to 47.6%) fig 11.

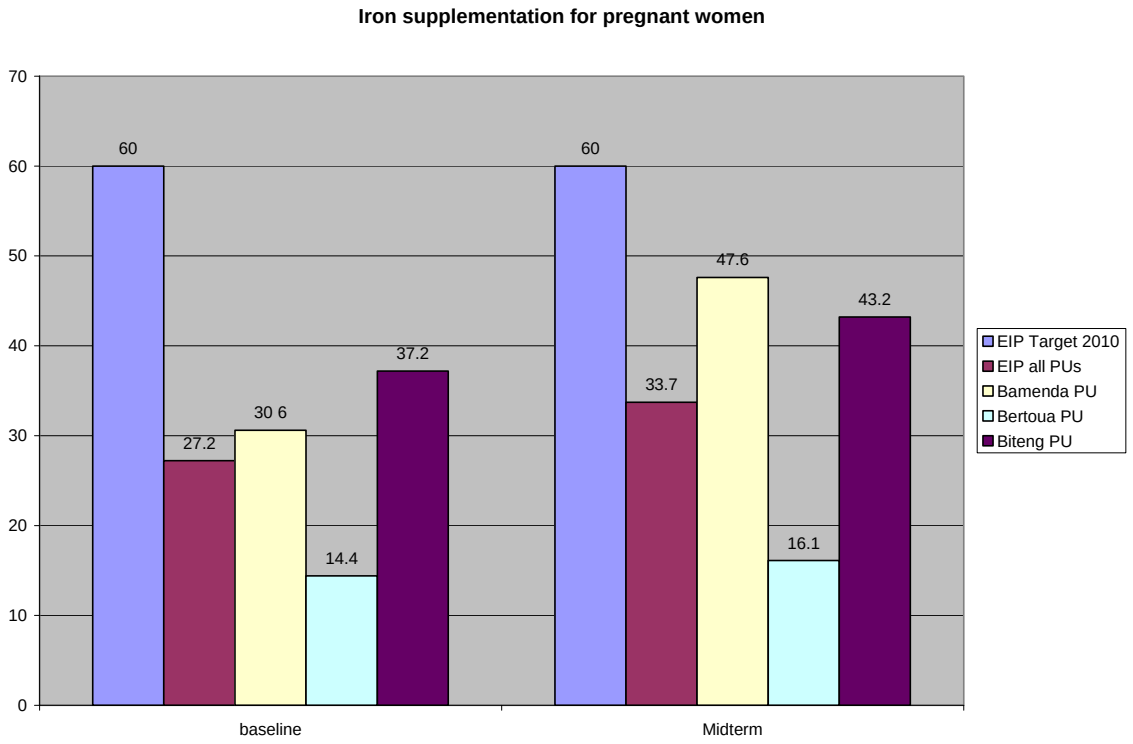


Fig 11 Iron/Folate intake supplementation by pregnant mothers in the three PUs at baseline and midterm

x) Hand washing: ***Percentage of mothers of children age 0-23 months who report that they wash their hands with soap before feeding children, after defecation and after attending a child who has defecated***.

The objective of this indicator was to increase from 7.7% to 30%. The results reveal that the three PUs have a positive trend from the baseline with the Bamenda PU once more presenting the best results (10.5% to 22.9%) fig 12. The Bertoua PU will have to work extra hard to catch up with the general trend.

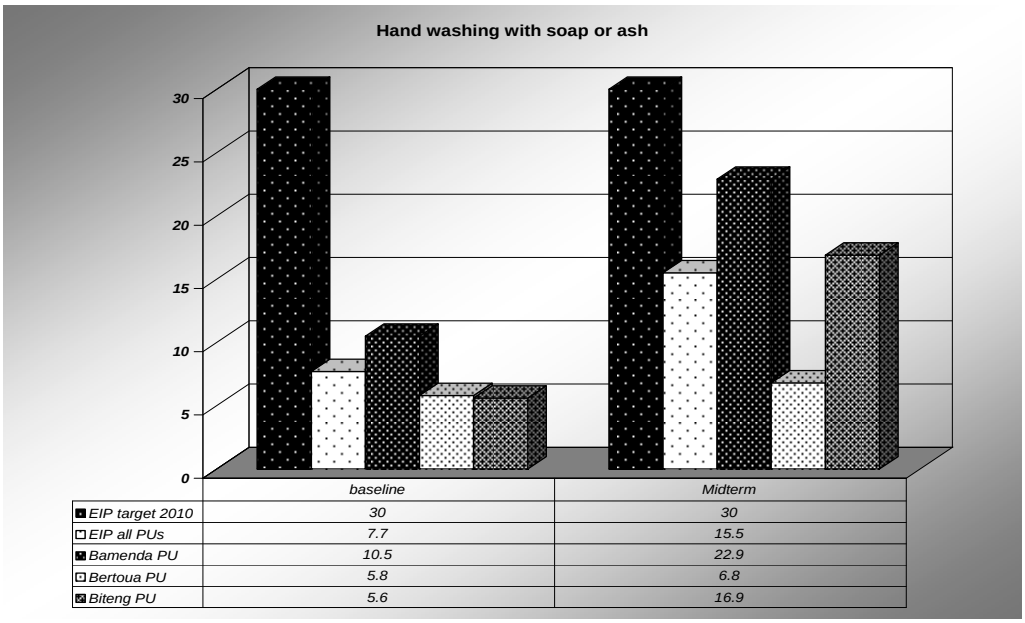


Fig 12. Hand washing for mothers of children 0-23 months in the three PUs at baseline and midterm.

xi) Caretaker knowledge on the signs of childhood illness for which to seek for medical care: Percentage of mothers of children age 0-23 months who know at least two signs of childhood illness that indicate the need for treatment

With regards to the objective which is to increase from 65.9 % to 80% the number of mothers of children age 0-23 months who know at least two signs of childhood illness that indicate the need for treatment, one can see that in the PUs there is mild amelioration(70.4%) fig 13. Nevertheless, it should be mentioned that Bertoua has rather dropped from 66.7% to 61.9%.

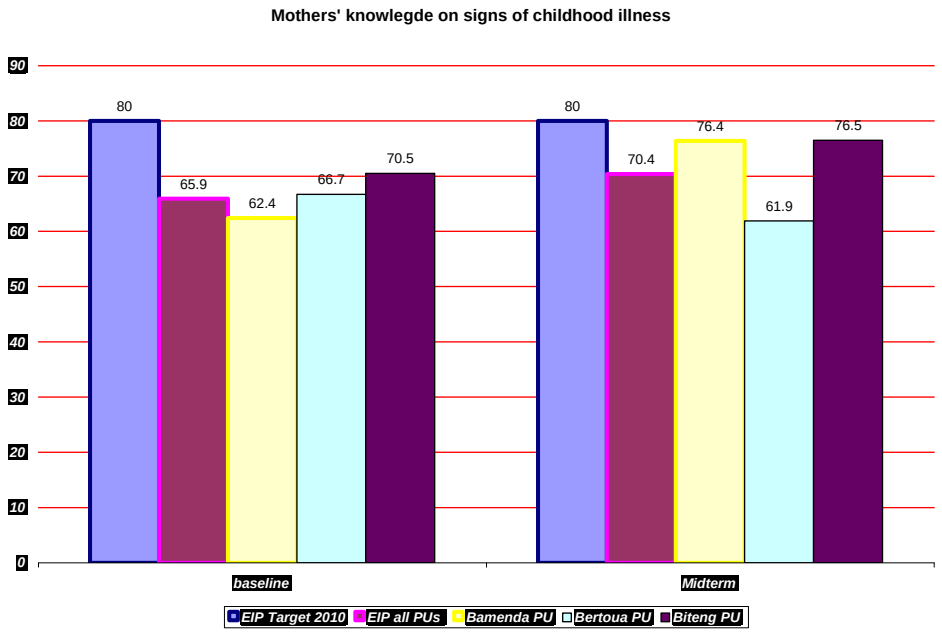
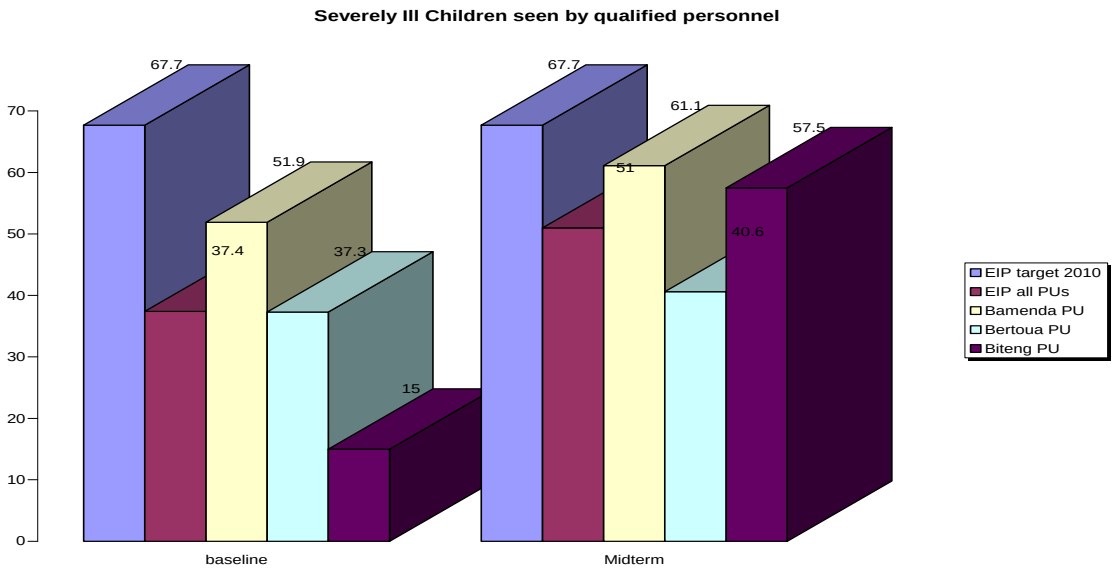


Fig 13 Mother knowledge on the signs of childhood illness for which there is need for medical care in the three PU at baseline and midterm

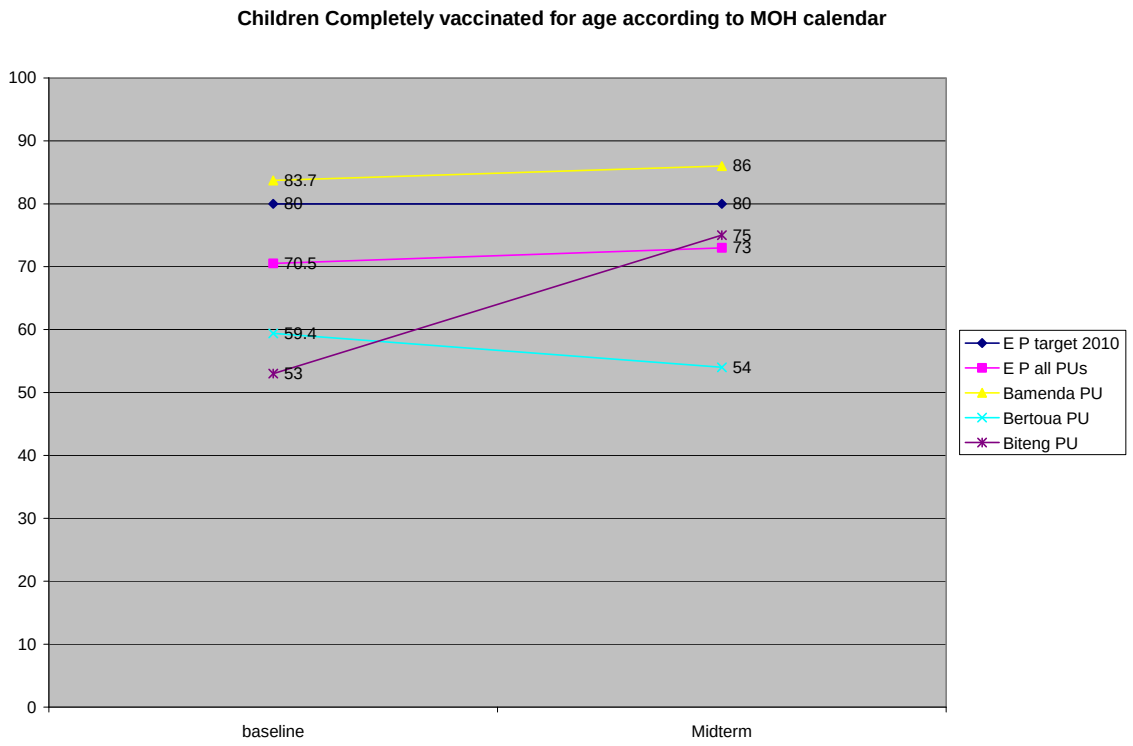
xii) Children seen by qualified health personnel: Percentage of children with severe childhood illness who were seen by qualified public or private provider in the past two weeks

Generally, performance for this indicator is on the increase as compared to baseline (37.4% to 51%), with Biteng registering a remarkable increase from 15% to 57.5%.



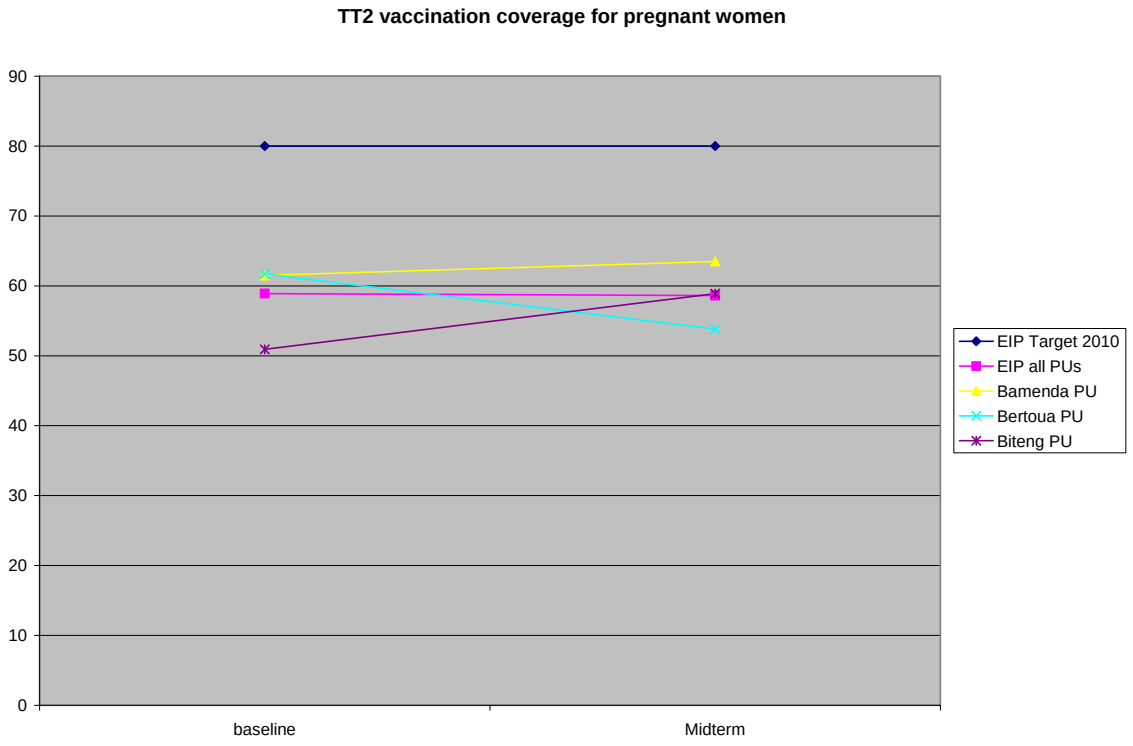
xiii) EPI full immunisation coverage by first birth day: ***Percentage of children aged 12-23 months who are fully immunised against the five vaccine preventable diseases before the first birth day***.

At mid term results show that all the PUs are at 73% up from 70.5% at baseline. This indicates that they are performing well. It is hoped that the project target of 80% will be attained by the end of the project. However, Bertoua PU is regressing (from 59.4% to 54%).



xiv) Tetanus toxoid coverage: ***Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child***

This indicator is stagnant (58.6%) with regards to the objective of the project which was to be increased from 58.9% to 80%, and worse still, Bertoua has registered a remarkable drop of about 10 points (61.7% to 53.8%).



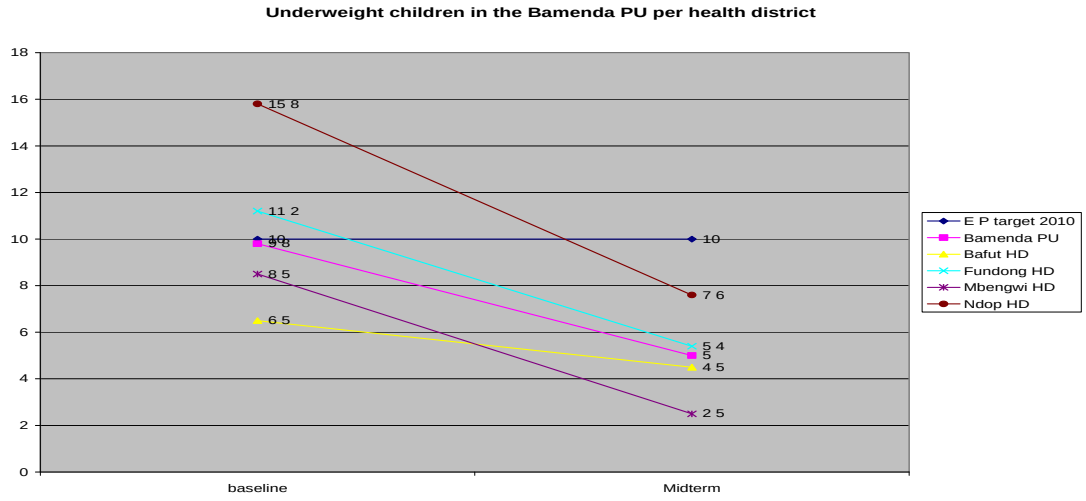
xv) Protein intake: Percentage of children 6-9 months who consumed food rich in protein in the 24 hours preceding the survey

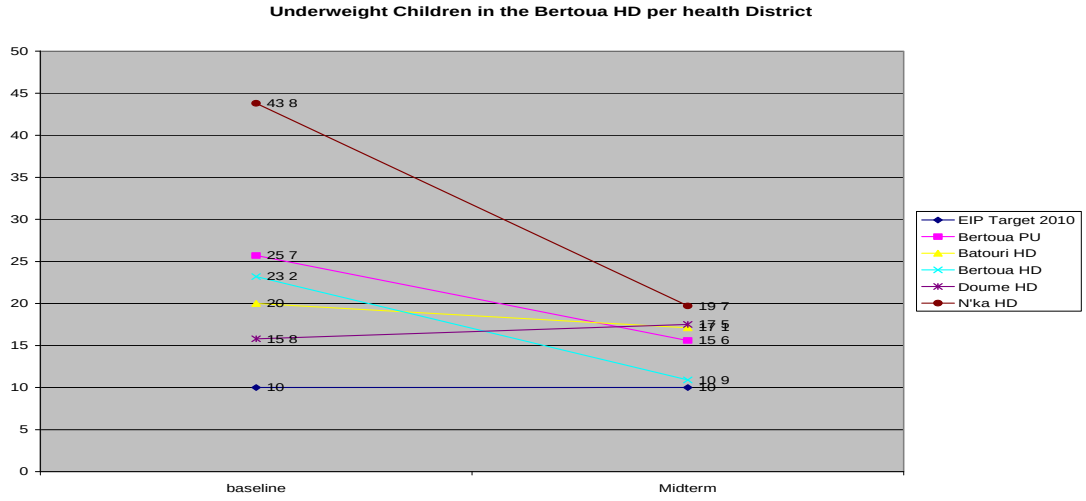
There is a general drop in this indicator for all the PUs(from 65.4% at baseline to 58.2% at mid term), with Biteng registering the most significant drop from 70.5% to 55.5%.

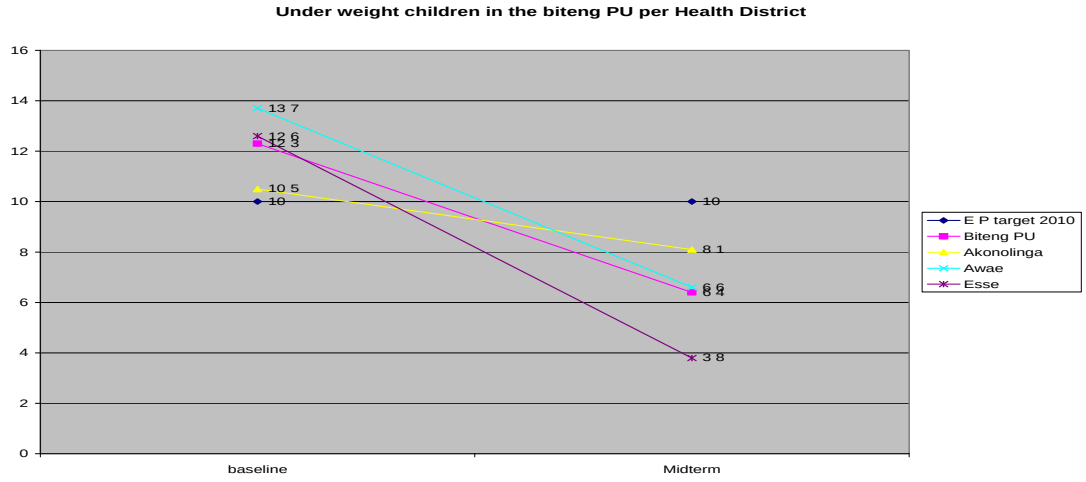
B) IN DEPTH HEALTH DISTRICT ANNALYSIS OF THE DIFFERENT INDICATORS.

i) Anthropometry: Percentage of children who 0-23 months who are underweight.

With the exception of the Doume HD which has worsened for this indicator (16.8% -17.5%), all the other 10 HDs have witnessed a positive trend. All the HDs of the Bamenda and Biteng PU have already exceeded the EIP target of 10%. It is also worth noting that the N'ka HD where the PD Hearth TOT training and implementation took place has witnessed the best performance (43.8% - 19.7%).

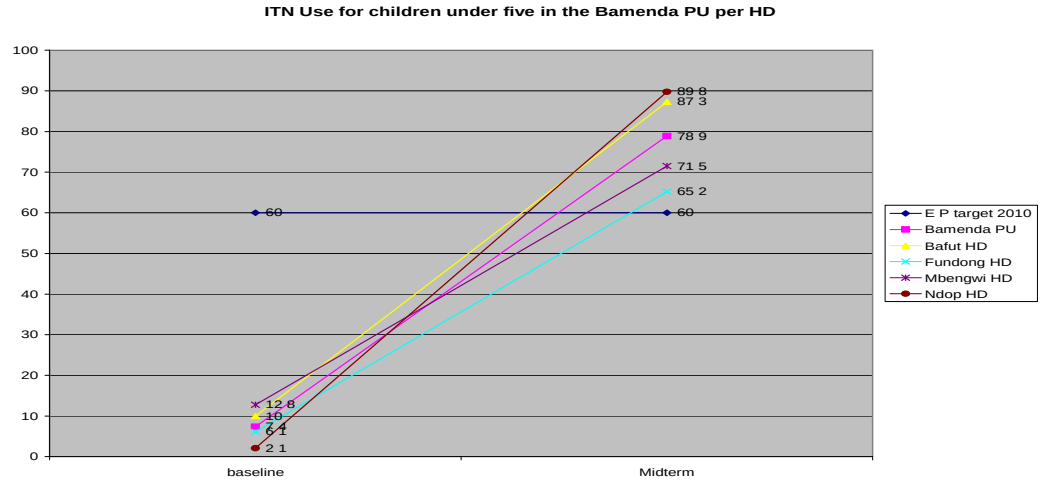


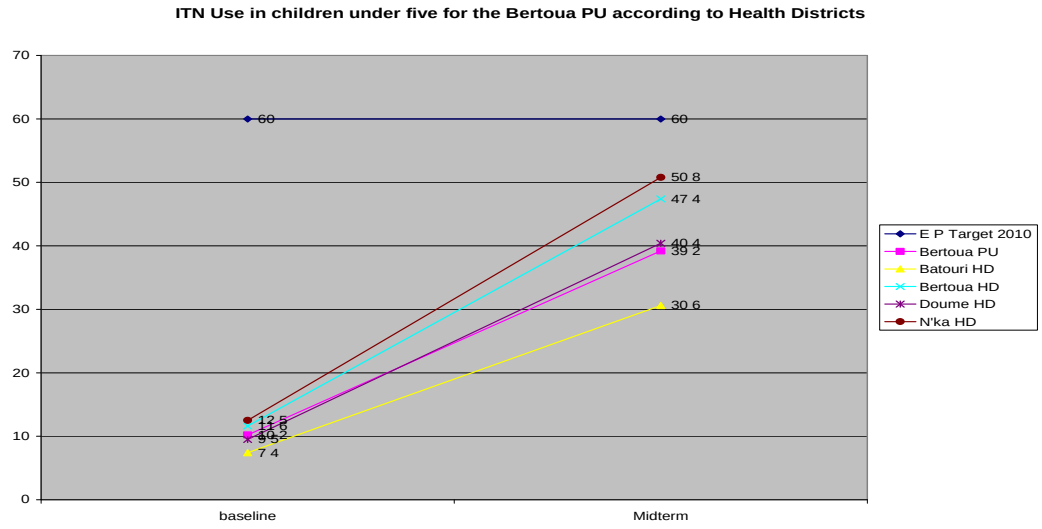




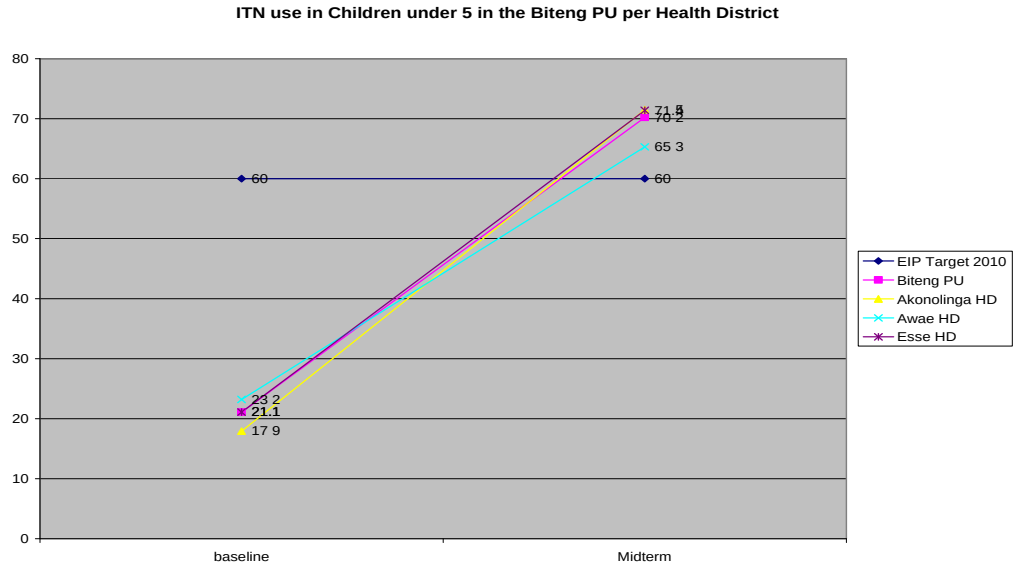
ii) Child insecticide treated bednet use: ***Percentage of children aged 0-23 months who slept under an insecticide-treated bednet the previous night.***.

All the 11 Health Districts have performed quite well for this indicator with the Bamenda and Biteng HDs faring beyond the expected target of 60%.



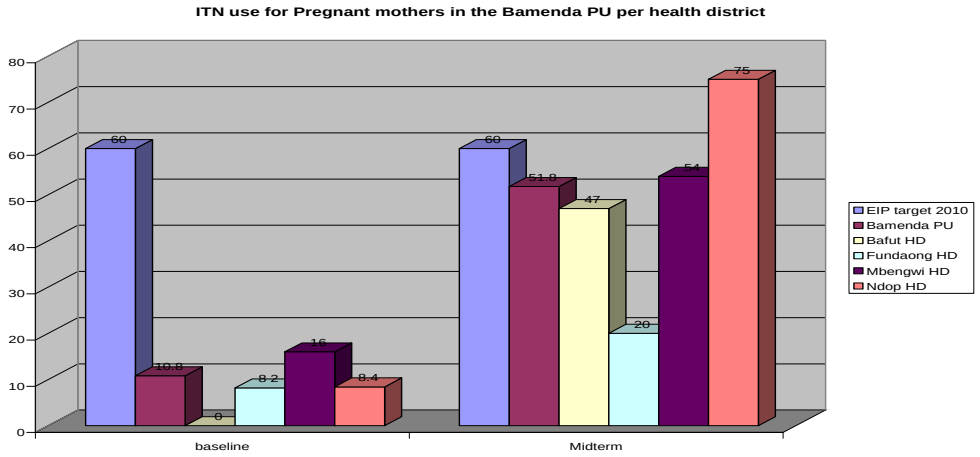


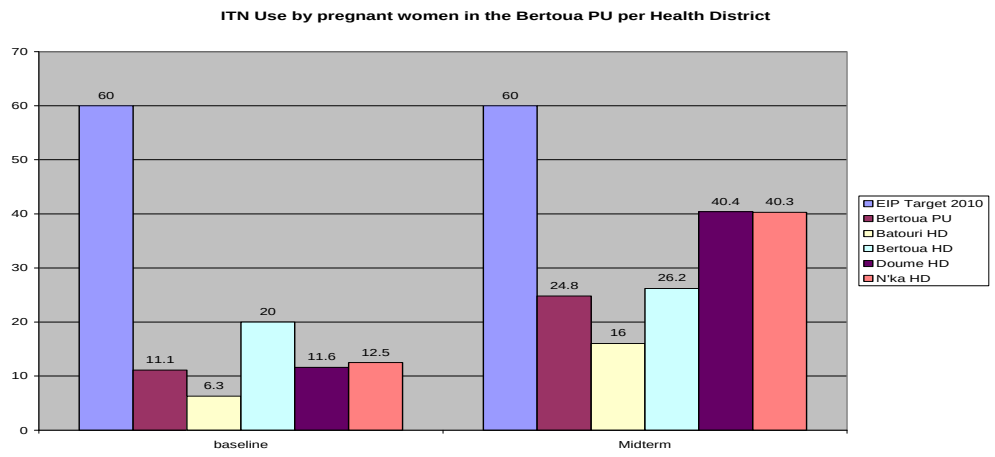
It has to be noted that the HD with the least performance has been Batouri. The paradox is that it benefited from free 10,000 LLITNs from the project. There will be need for a more in depth investigation for this mediocre performance.

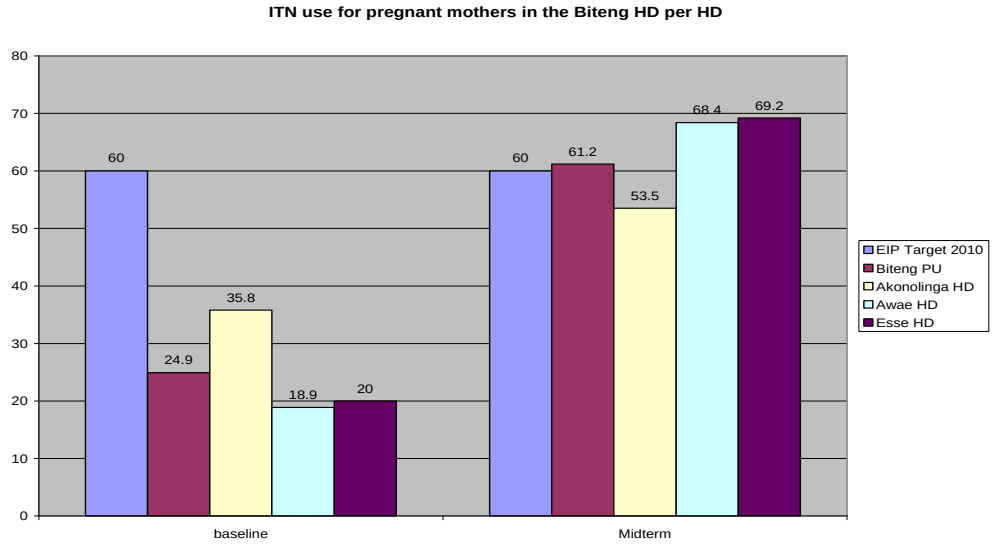


iii) Pregnant women insecticide treated bednet use: ***Percentage of pregnant women who slept under an insecticide-treated net the previous night***.

The 11 Health Districts are fairing well for this indicator with the three of Biteng having exceeded the target of 60%. The Fundong HD of the Bamenda PU will need an extra push to get to the common trend.

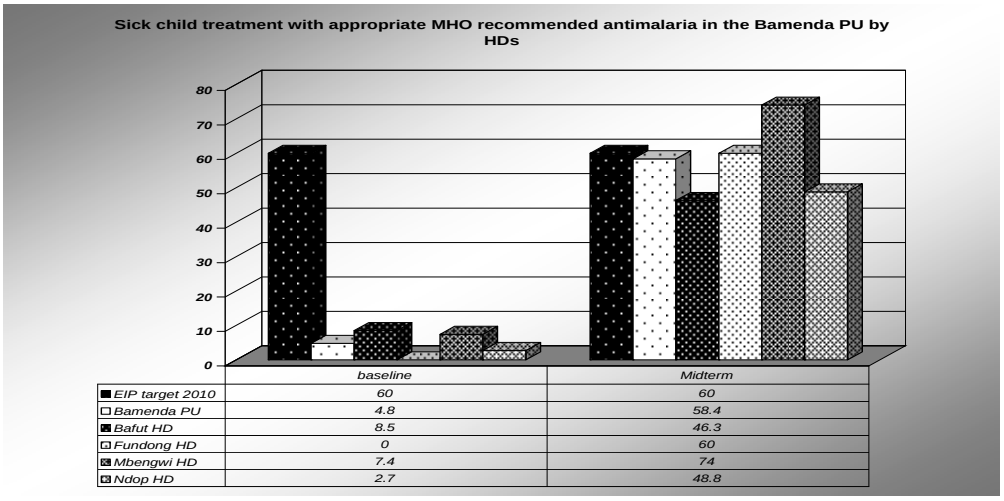


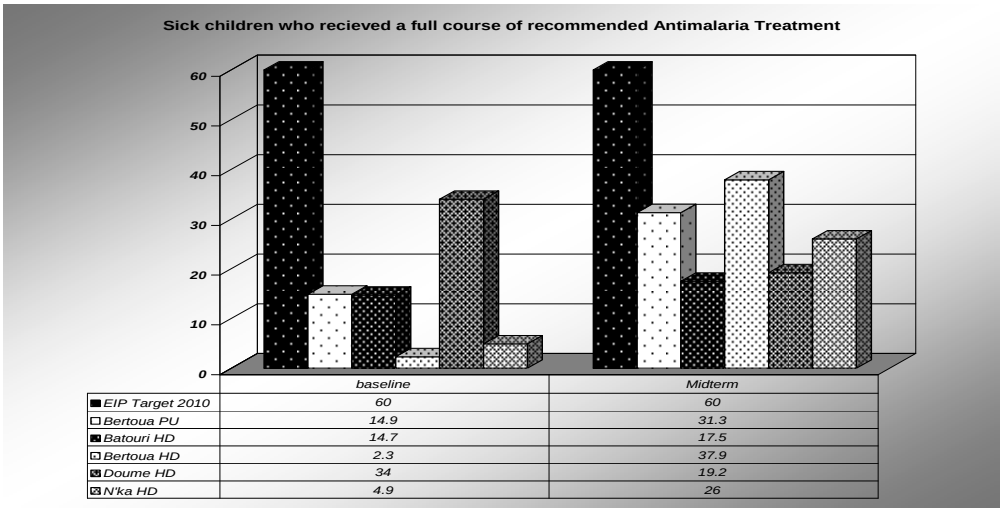


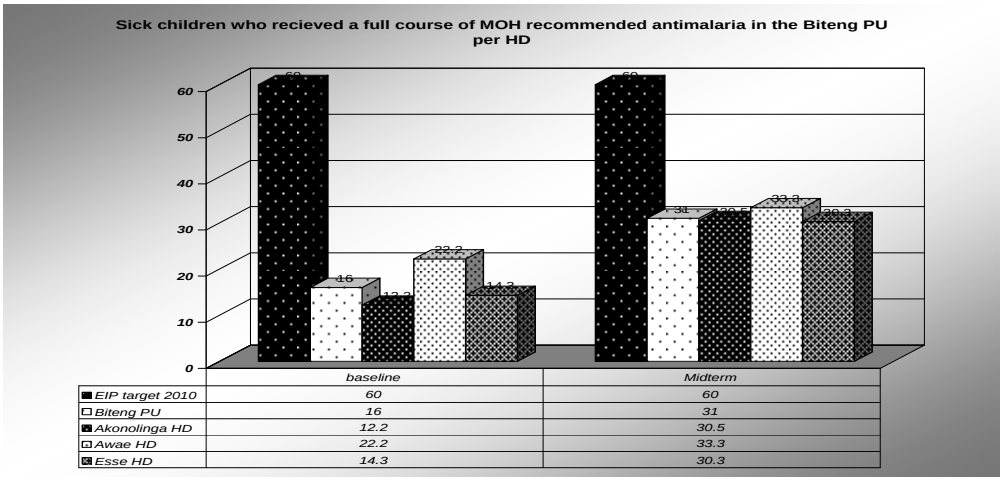


iv)Malaria case management for sick children: ***Percentage of children age 0-23 months who received a full-course of recommended anti-malarial (according to the MOH's recently approved protocols) within the 24 hours of the onset of fever*.**

All the HDs have demonstrated a good performance with the exception the Doume HD of the Bertoua PU which has witnessed a drop from 34% to 10.2%. The C-IMCI, the Clinical IMCI trainings and implementation, the CR agents training on the home based treatment of malaria and the availability of essential drugs (ACT) have greatly contributed to this progress.

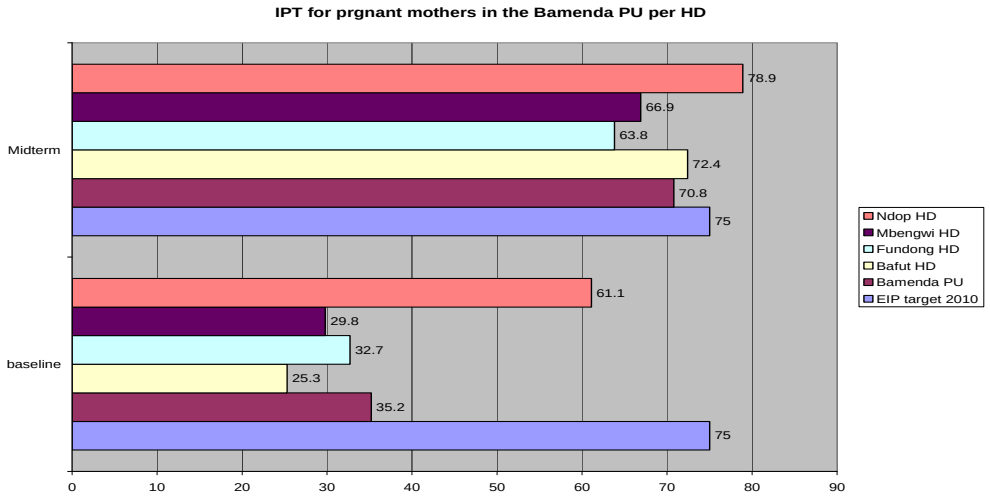


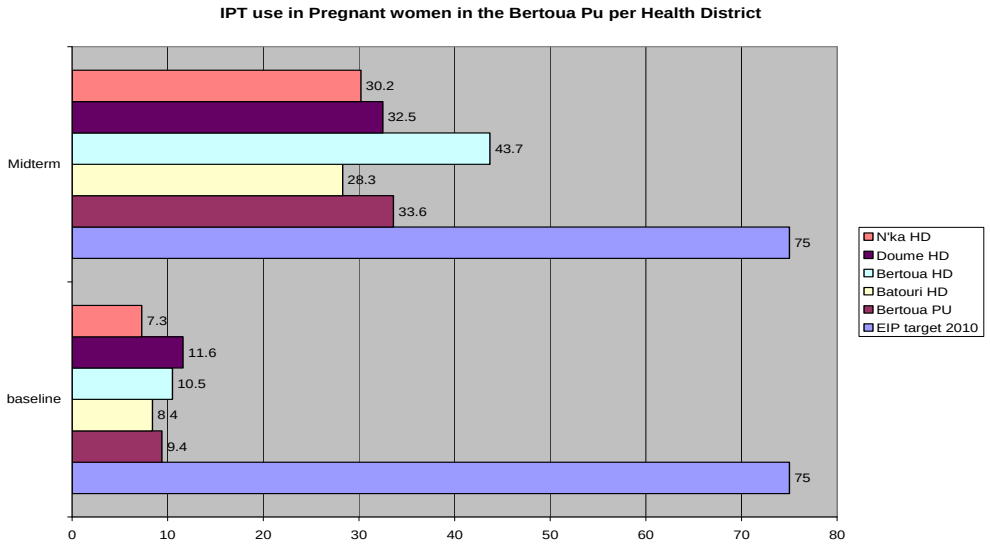


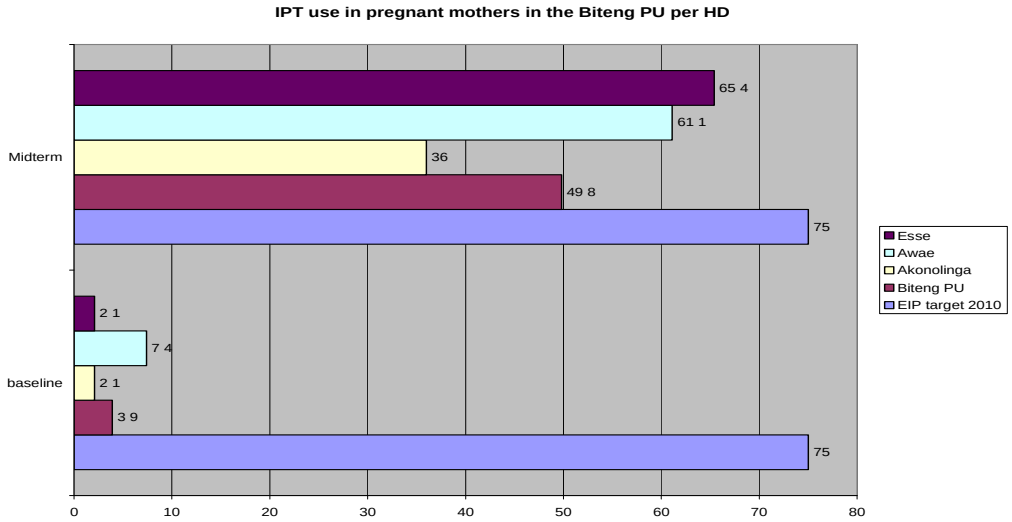


v)Malaria prophylaxis in pregnancy (IPT): ***Percentage of women who completed Intermittent Presumptive Treatment (IPT) during their current or last pregnancy***.

All the 11 Health Districts have performed remarkably well for this indicator with Ndop and Bafut already above the EIP target.

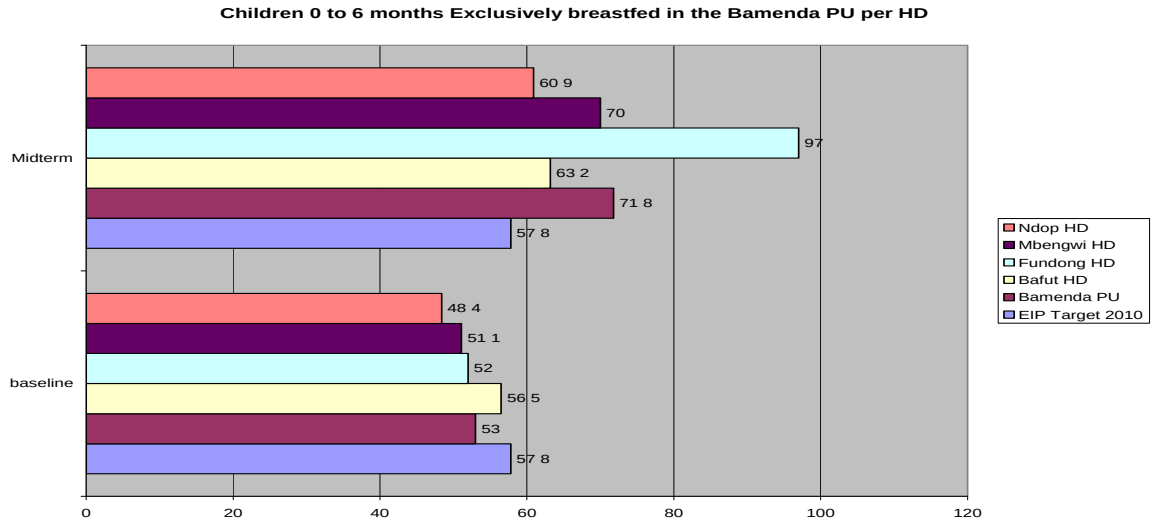


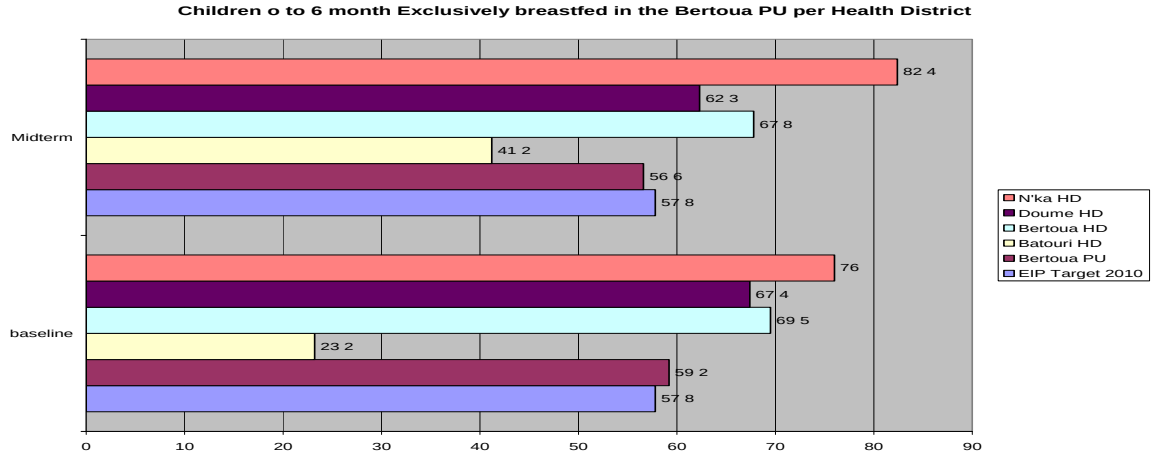


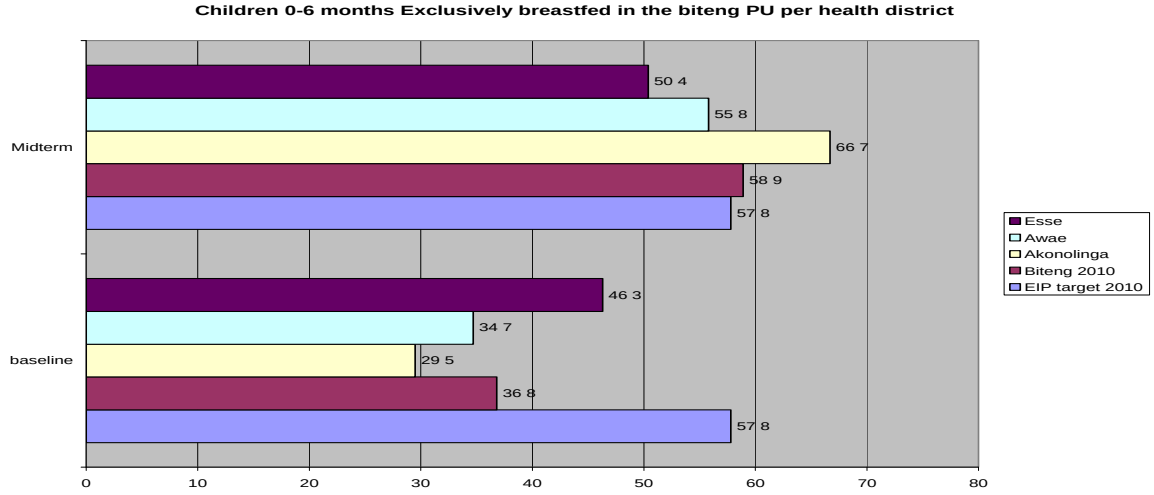


vi) Exclusive breastfeeding rate: ***Percentage of infants aged 0-5 months who were exclusively breastfed in the last 24 months***.

This indicator has had a very good performance in all the 11 HDs. Credit to this goes to the C-IMCI BCC interventions.

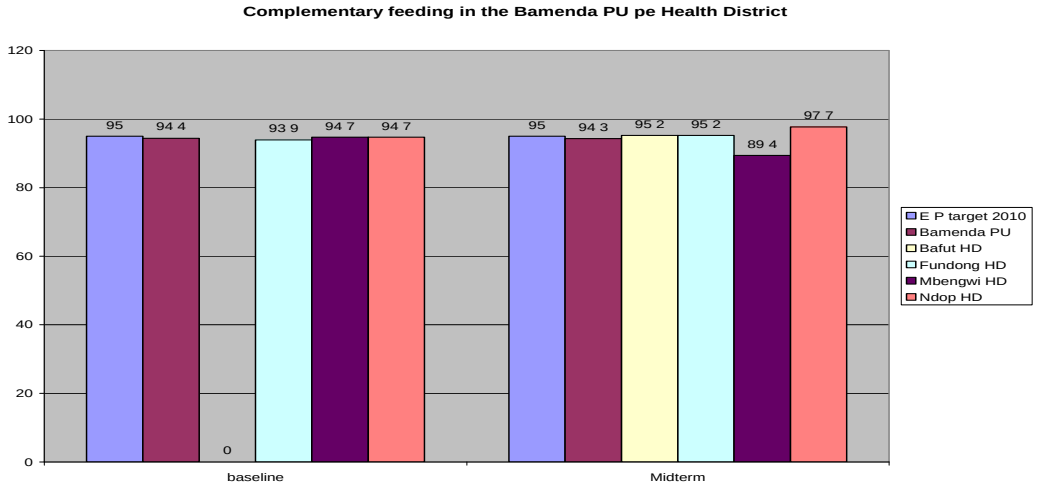






vii) Complementary feeding rate: ***Percentage of infants aged 6-9 months receiving breast milk and complimentary (solid) foods in the last 24 hours***

All the Health Districts have demonstrated a sustained positive performance except the Mbengwi HD where there has been a slight



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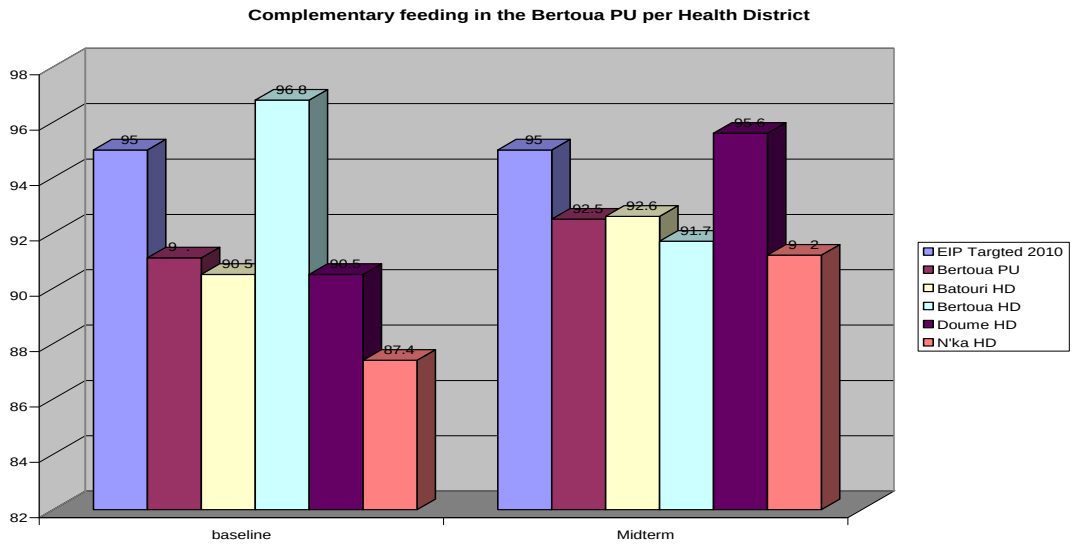
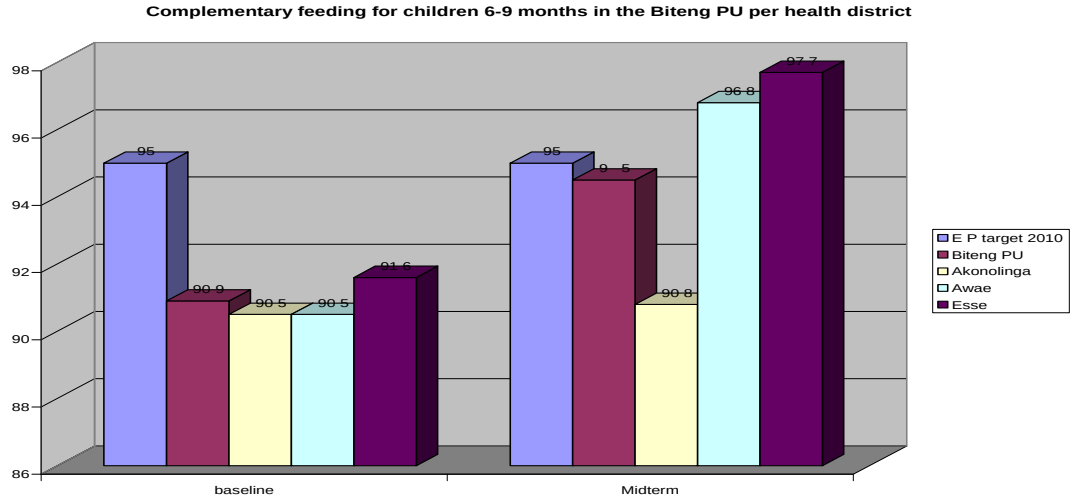
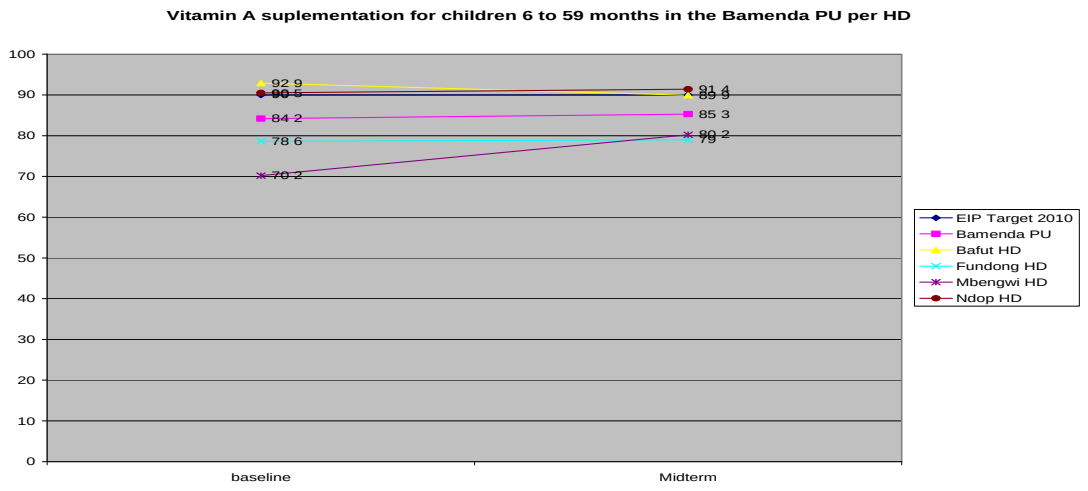
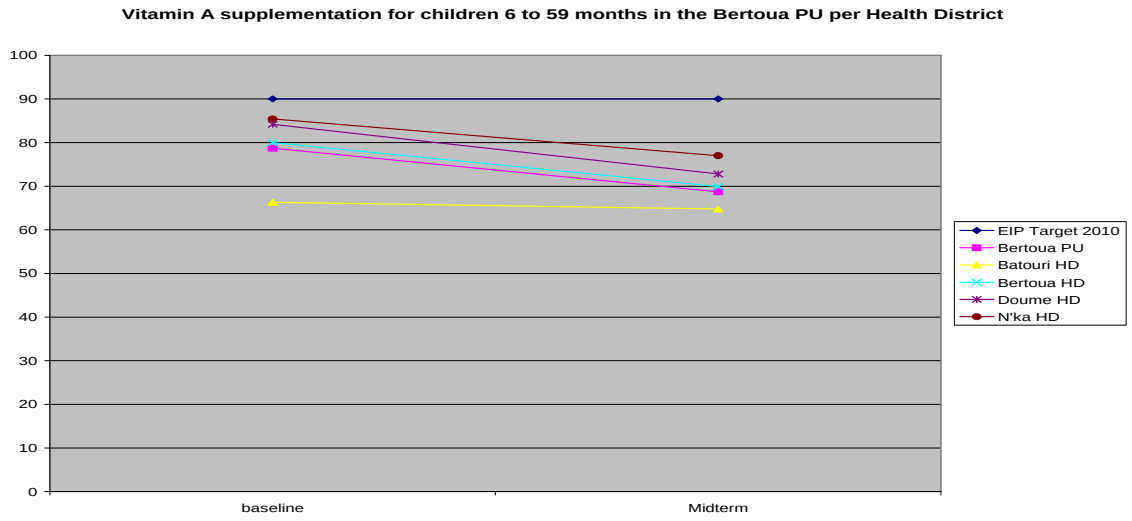


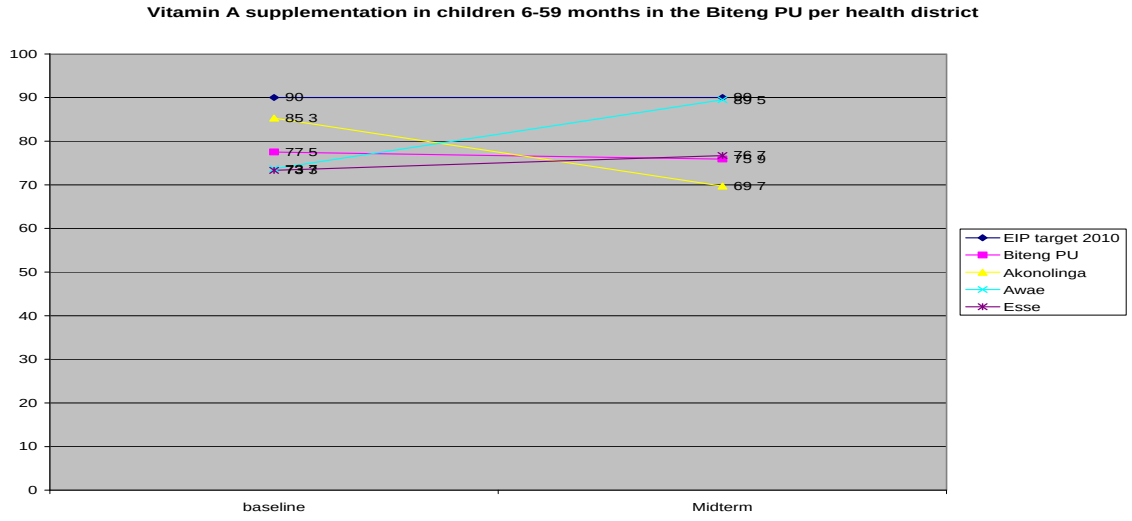


viii) Vitamin A supplementation: Percentage of children 6-59 months who received Vitamin A in the prior 6 months.

Generally, this is a poorly performing indicator especially in the Bertoua PU where all the 4 HDs have regressed. The others have remained stagnant with the exception of the Awae HD that has witnessed a substantial increase. The Health and Nutrition Action weeks have not impacted much on this indicator.



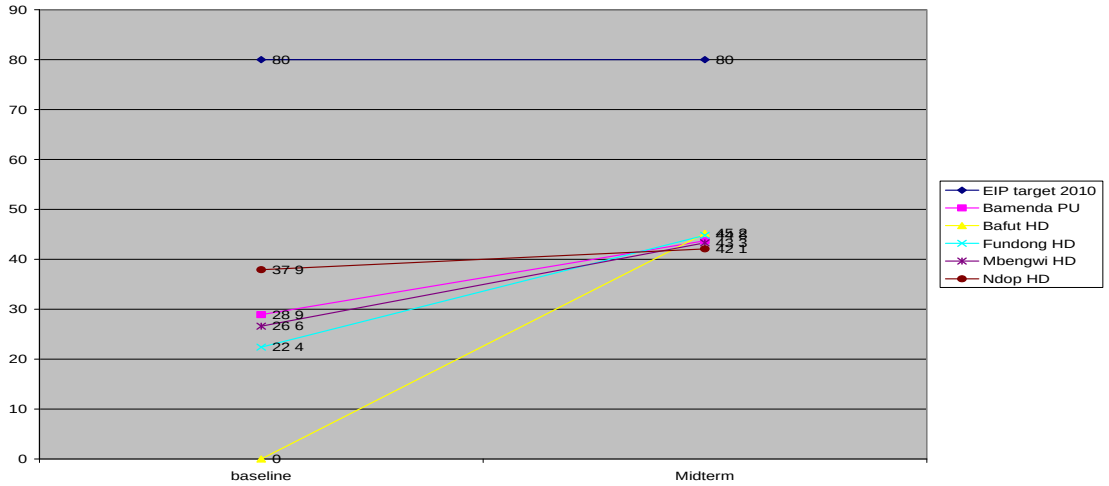




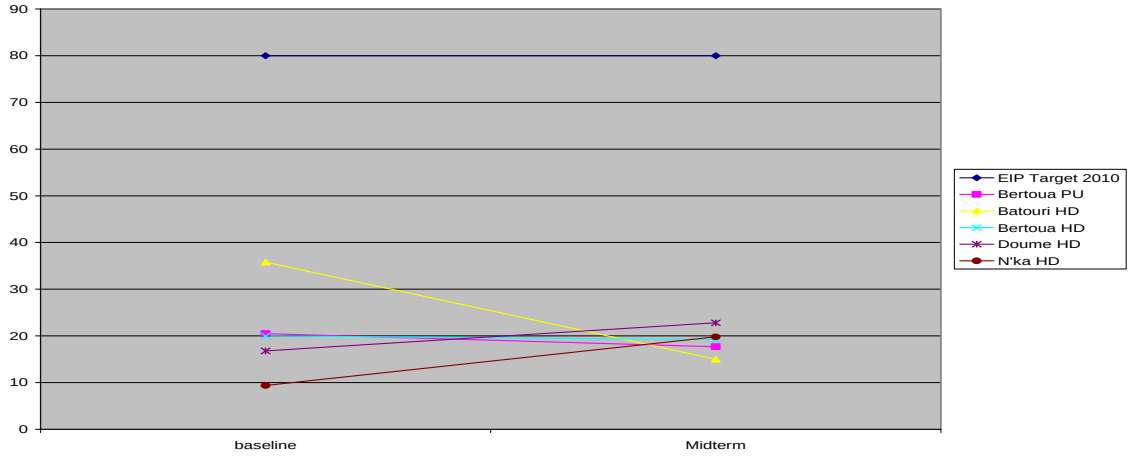
ix) Vitamin A supplementation Post-partum: Percentage of mothers of children 0-23 months who received two vitamin A supplement within 08 weeks post-partum

This indicator is poorly performing in all the 4 Health Districts of the Bertoua PU. The 8 HDs of the Bamenda and Biteng PUs are on tract.

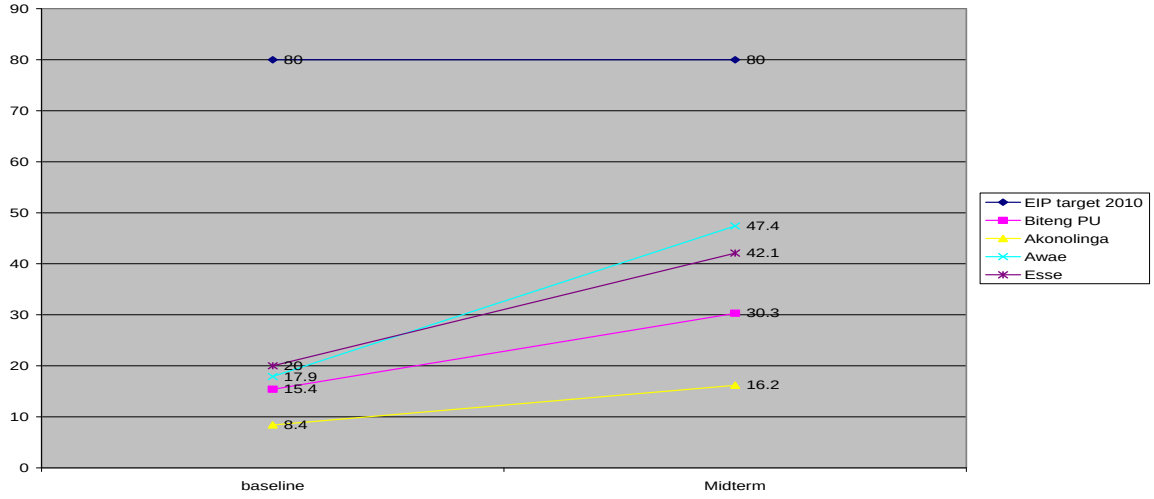
Post partum Vitamine A supplementation in the Bamenda PU per Health District



Vitamin A supplementation in Post partum in the Bertoua PU per Health district

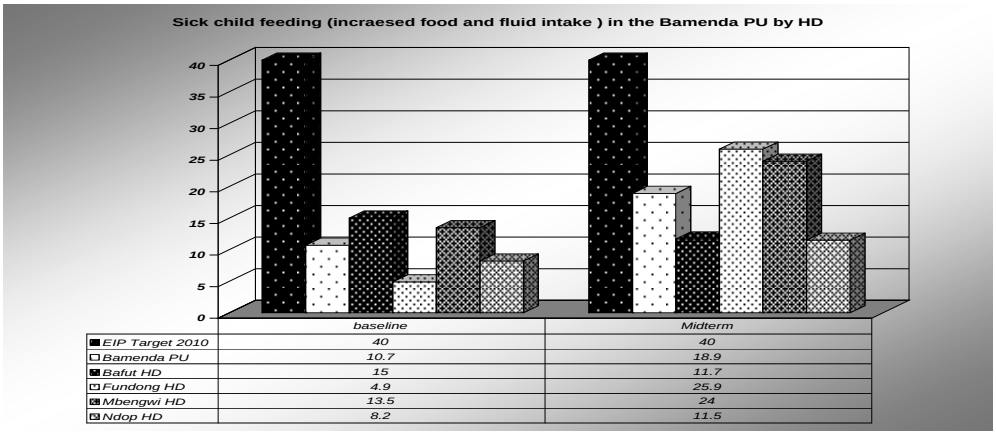


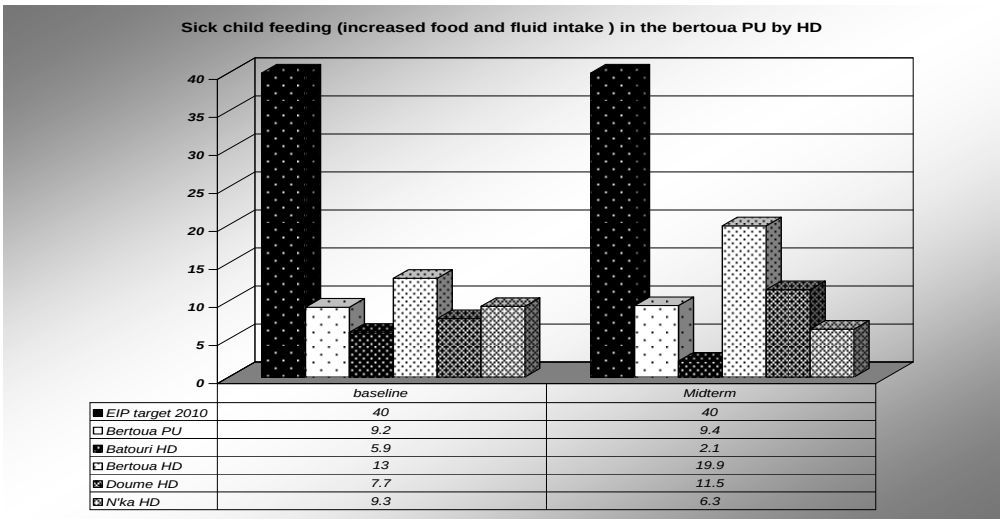
Post partum Vit A supplementation in the Biteng PU per health district

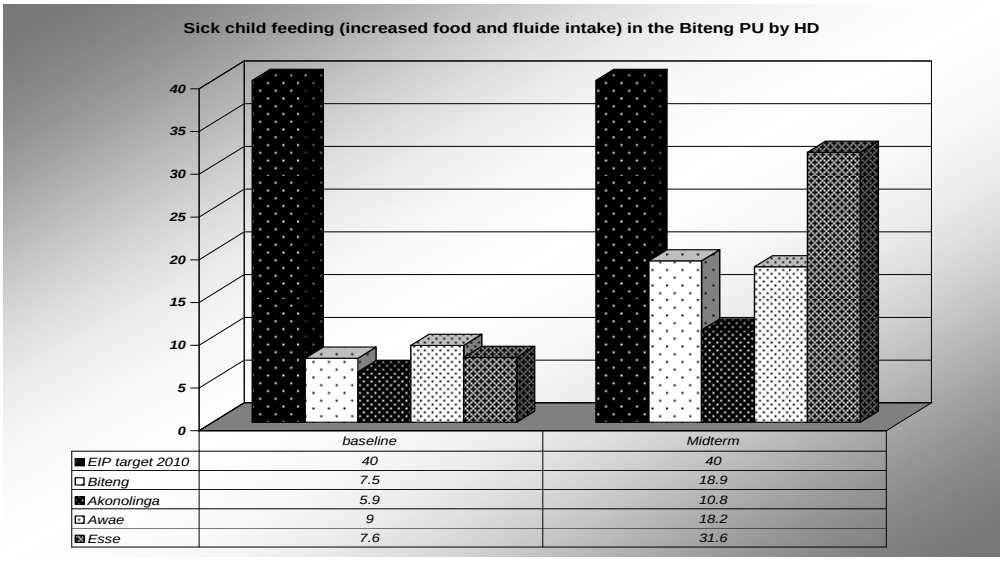


x) Sick Child feeding (Increase foods and fluid intake): percentage of sick children aged 0-23 months who received increased fluids and continuous feeding during an illness in the past two weeks.

All the 4 health Districts in the Bertoua PU have not had a comparative progress as has been the case with the Bamenda and Biteng PU health districts. This notion will need to be emphasized on in the C-IMCI BCC package.

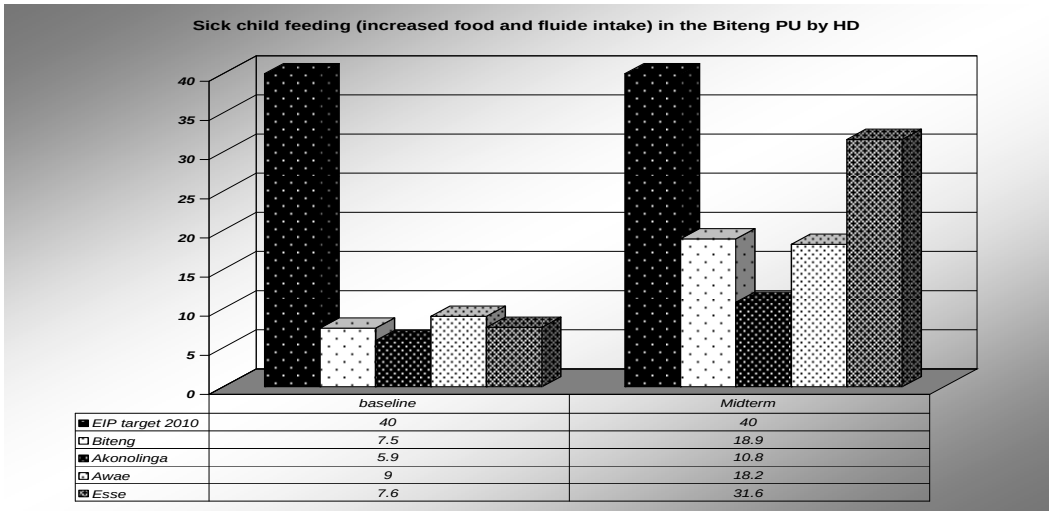


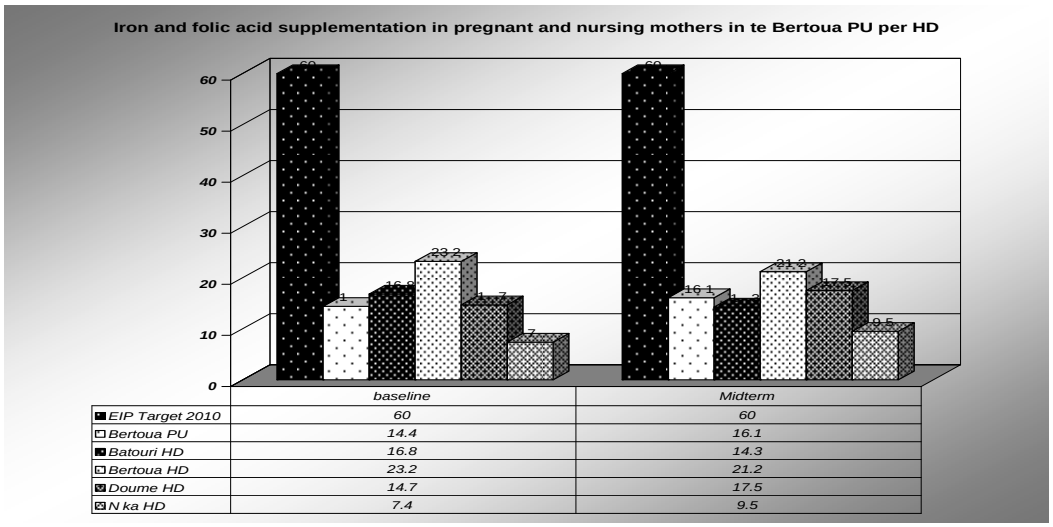


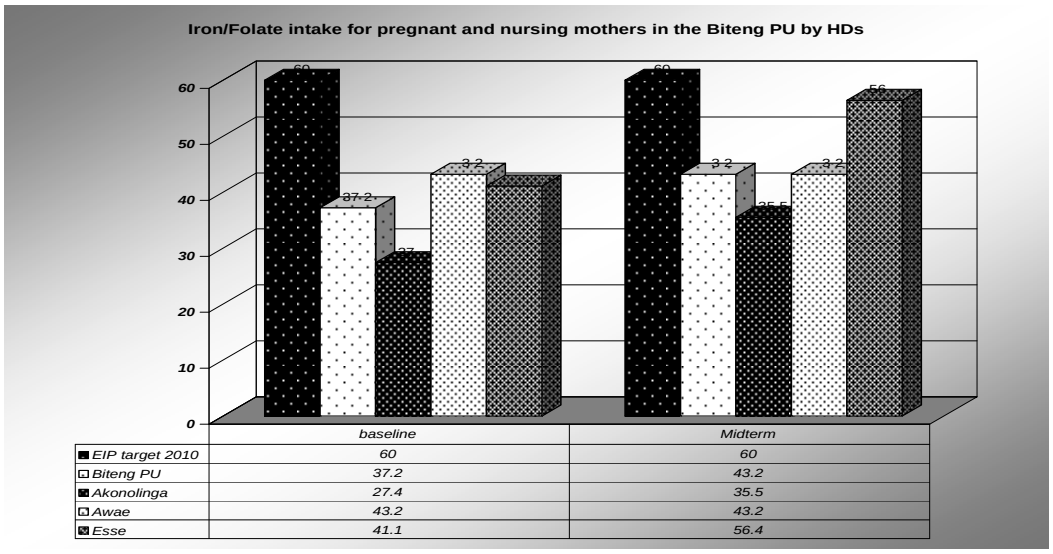


xi) Iron and Folic supplementation in pregnant mothers: percentage of mothers of children age 0-23 months taking iron/folic supplement daily at least five months during their last pregnancy

The HDs of the Bamenda and Biteng PUs have shown a moderate increase. All the HDs of the Bertoua PU have either decreased or stagnated.

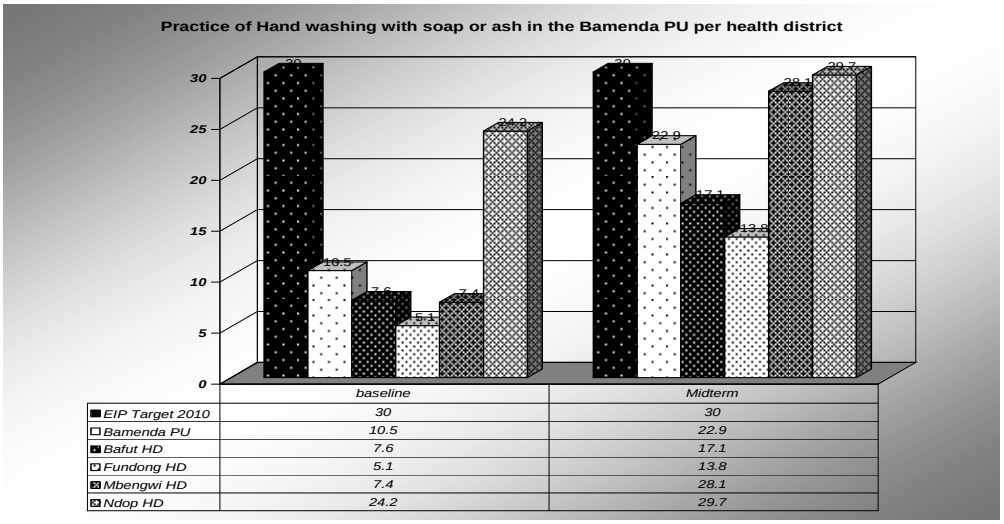

Sick child feeding (increased food and fluide intake) in the Biteng PU by HD
40
35
30
25
20
15
10
5
0
baseline
Midterm
EIP target 2010 40 40
Biteng 7.5 18.9
Akonolinga 5.9 10.8
Awae 9 18.2
Esse 7.6 31.6

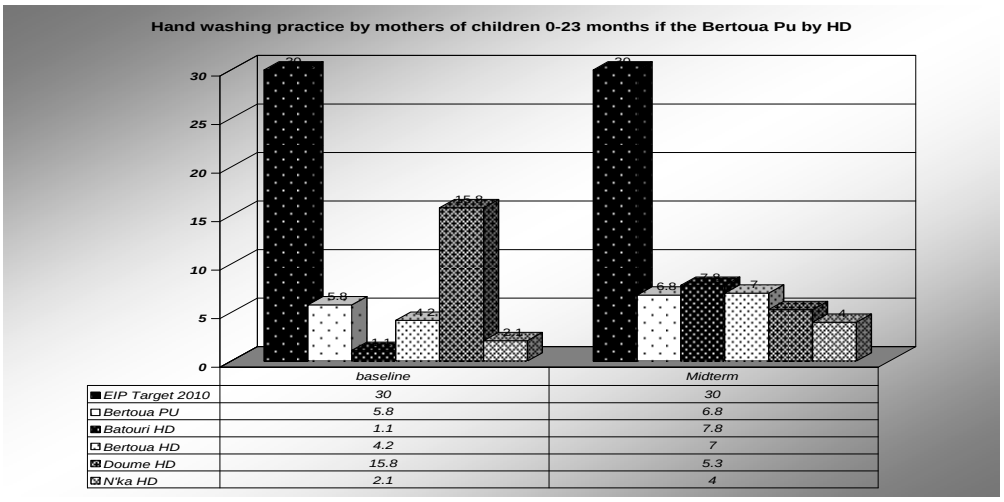

Iron and folic acid supplementation in pregnant and nursing mothers in te Bertoua PU per HD
60
50
40
30
20
10
0
baseline
Midterm
EIP Target 2010 60 60
Bertoua PU 14.4 16.1
Batouri HD 16.8 14.3
Bertoua HD 23.2 21.2
Doume HD 14.7 17.5
N ka HD 7.4 9.5

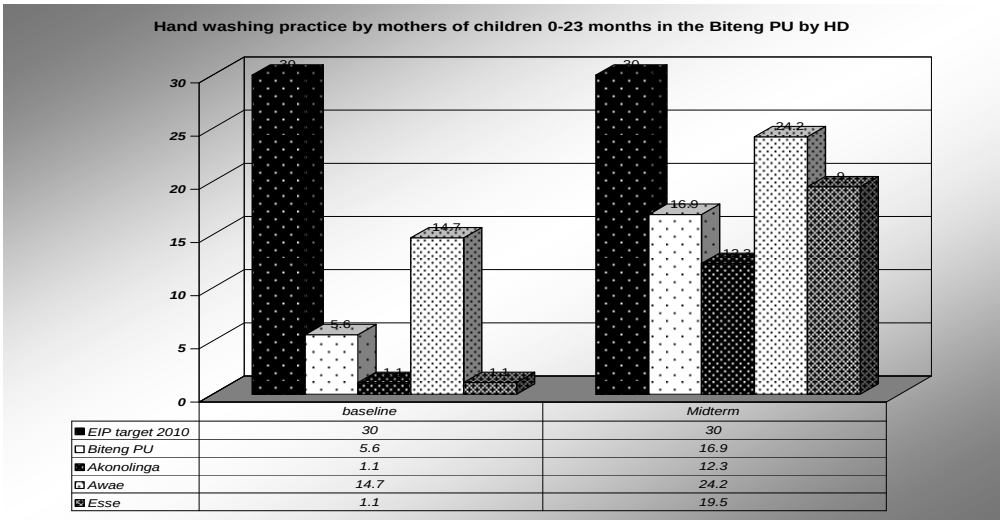

Iron/Folate intake for pregnant and nursing mothers in the Biteng PU by HDs
60
50
40
30
20
10
0
baseline
Midterm
EIP target 2010 60 60
Biteng PU 37.2 43.2
Akonolinga 27.4 35.5
Awae 43.2 43.2
Esse 41.1 56.4

xii) Hand washing: Percentage of mothers of children age 0-23 months who report that they wash their hands with soap before feeding children, after defecation and after attending a child who has defecated.

The HDs of the Bamenda and Biteng PU have had a steady positive trend for this indicator. The Bertoua PU HDs have stagnated.


Practice of Hand washing with soap or ash in the Bamenda PU per health district
30
25
20
15
10
5
0
baseline
Midterm
EIP Target 2010 30 30
Bamenda PU 10.5 22.9
Bafut HD 7.6 17.1
Fundong HD 5.1 13.8
Mbengwi HD 7.4 28.1
Ndop HD 24.2 29.7

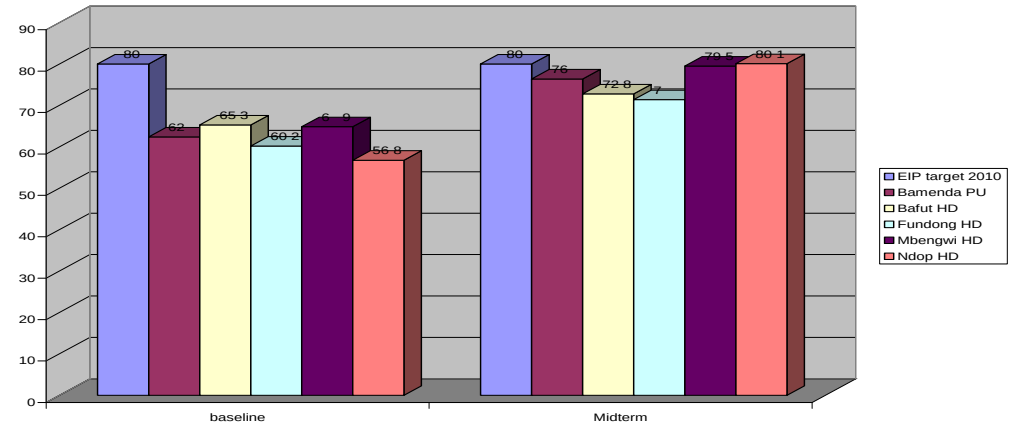

Hand washing practice by mothers of children 0-23 months if the Bertoua Pu by HD
30
25
20
15
10
5
0
baseline
Midterm
EIP Target 2010 30 30
Bertoua PU 5.8 6.8
Batouri HD 1.1 7.8
Bertoua HD 4.2 7
Doume HD 15.8 5.3
N'ka HD 2.1 4


Hand washing practice by mothers of children 0-23 months in the Biteng PU by HD
30
25
20
15
10
5
0
baseline
Midterm
EIP target 2010 30 30
Biteng PU 5.6 16.9
Akonolinga 1.1 12.3
Awae 14.7 24.2
Esse 1.1 19.5

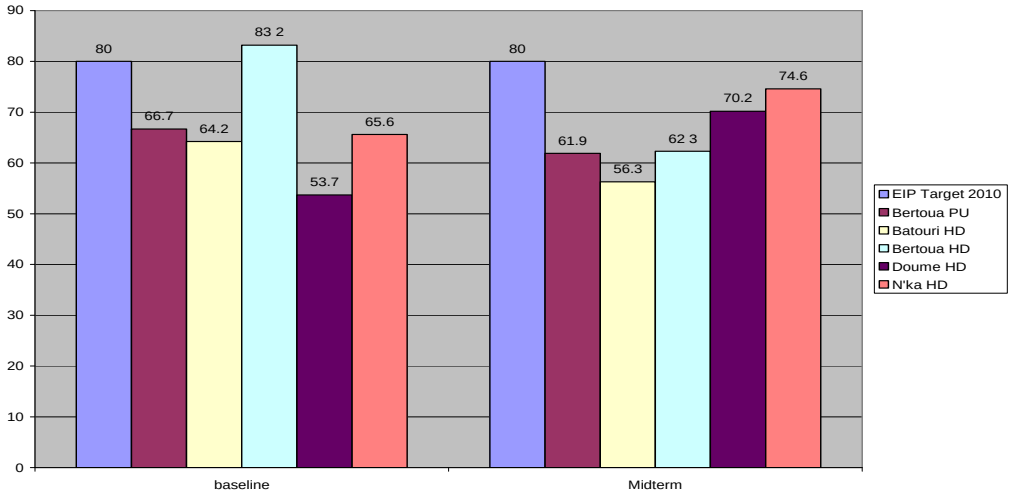
xiii) Knowledge of at least two signs of childhood illness: Percentage of mothers of children age 0-23 months who know at least two signs of childhood illness that indicate the need for treatment

Even though the Bertoua and Batouri HDs of the East dropped in performance (83.2%-62.3% and 64.2-56.3% respectively), all the other HDs witnessed a slight increase.

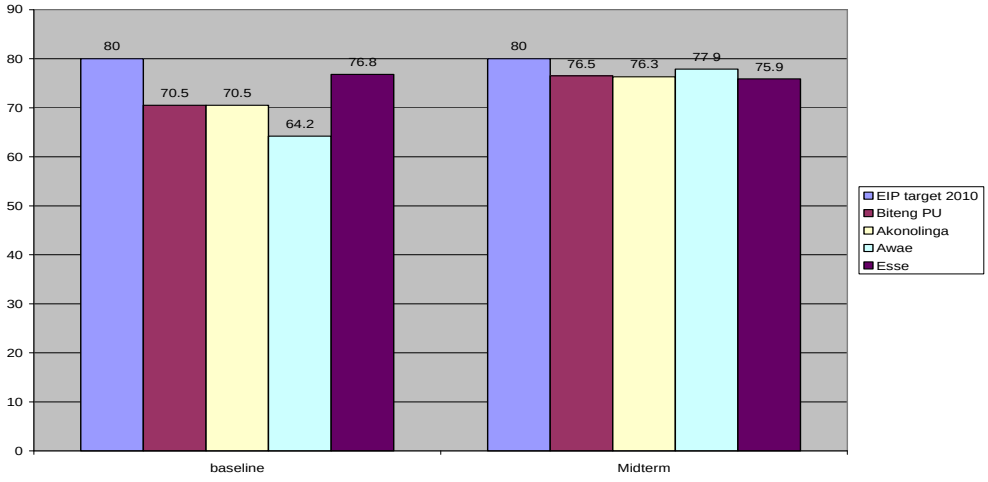
Mothers of children 0-23 months who know at least 2 signs of childhood illness that need medical care in the Bamenda PU per HD



Knowledge of mothers on signs of sick children

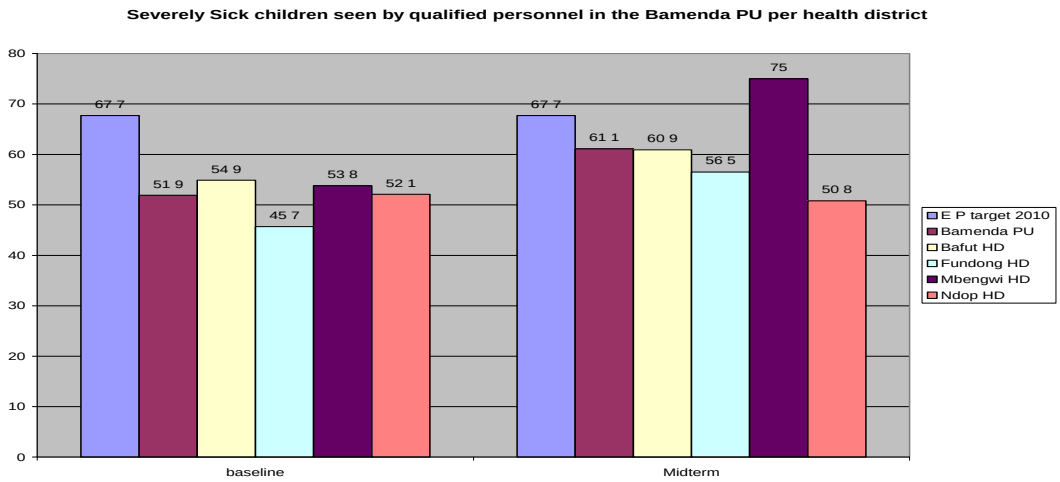


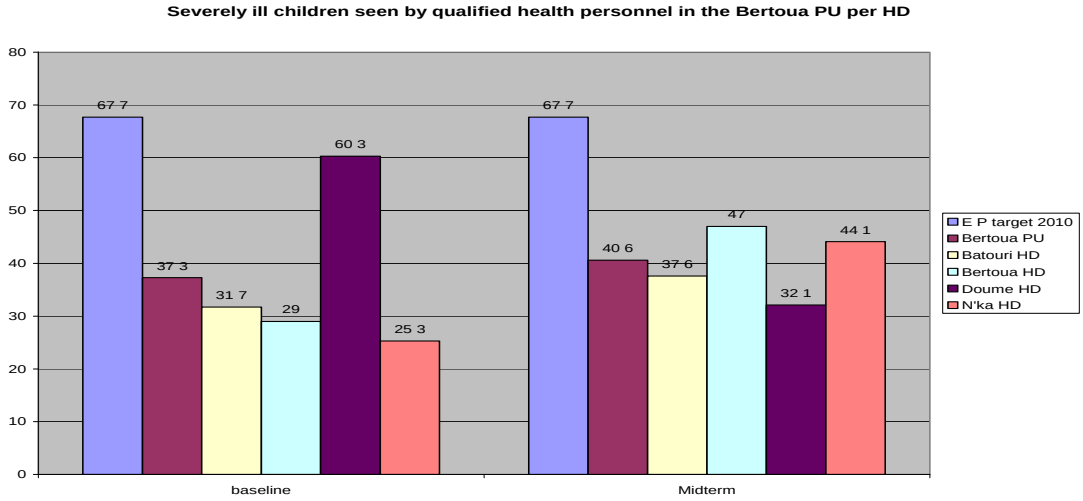
Knowledge of mothers on the child illness that need medical care

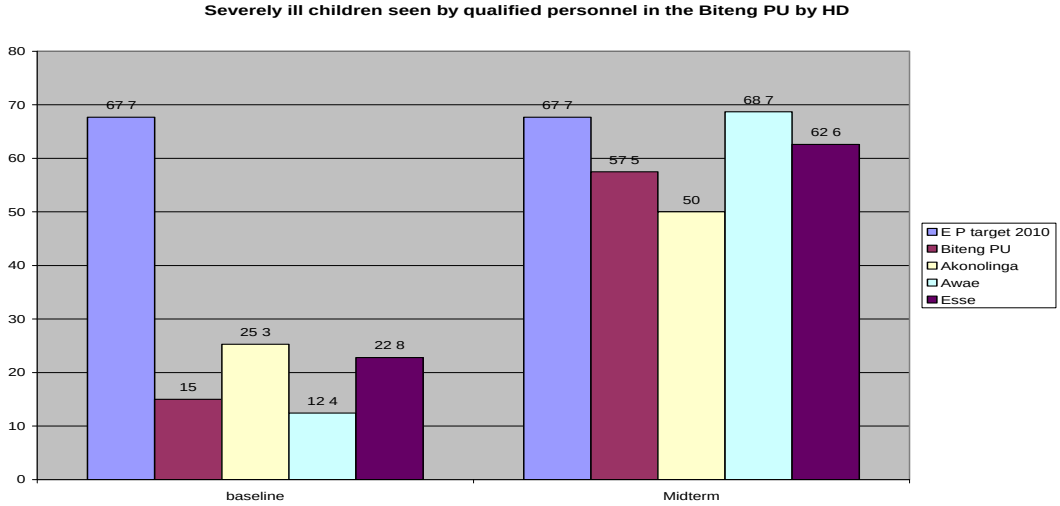


xiv) Children seen by qualified health personnel: Percentage of children with severe childhood illness who were seen by qualified public or private provider in the past two weeks.

Of all the 11 Health Districts the indicator is stagnant in Doume and Batouri health Districts in Bertoua PU. But it is performing well in all the other 9 Health Districts.

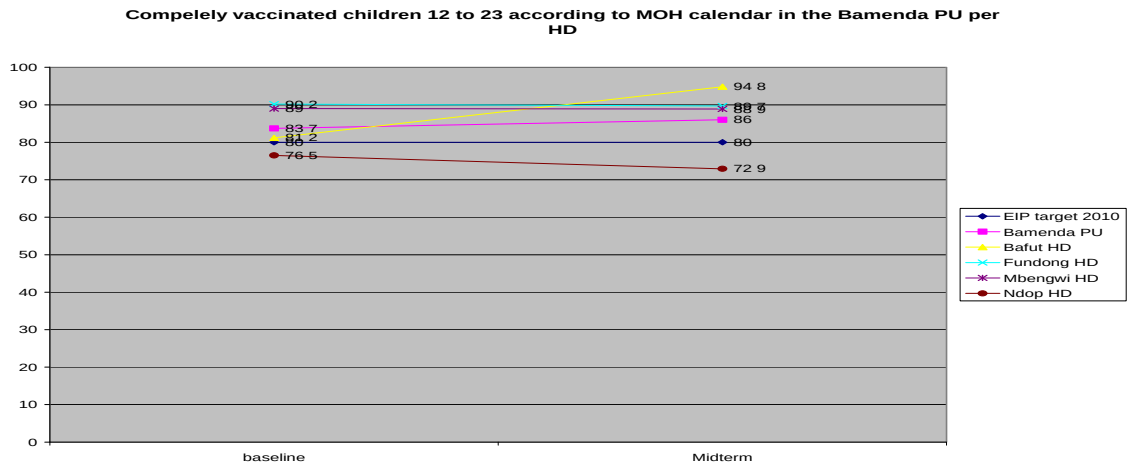


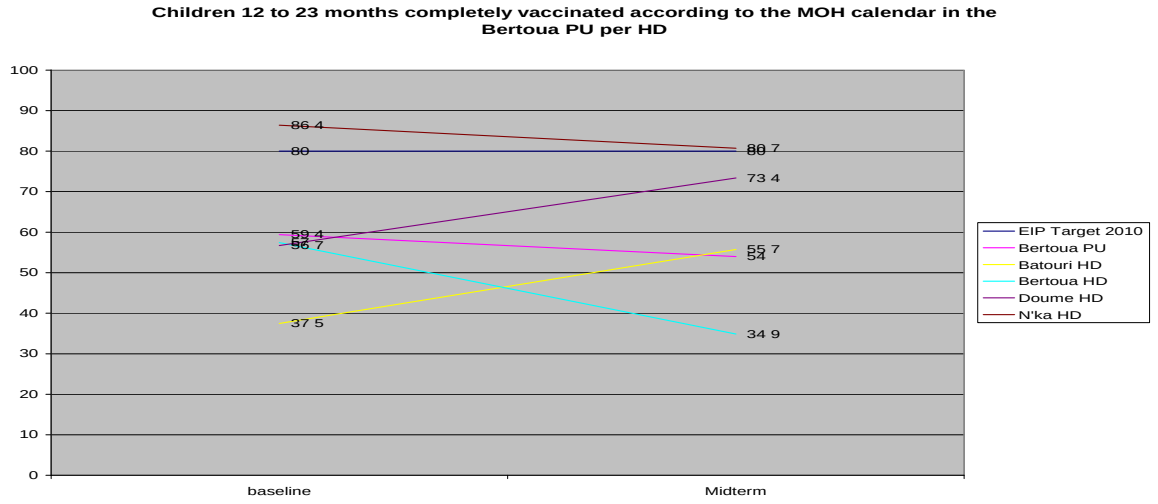


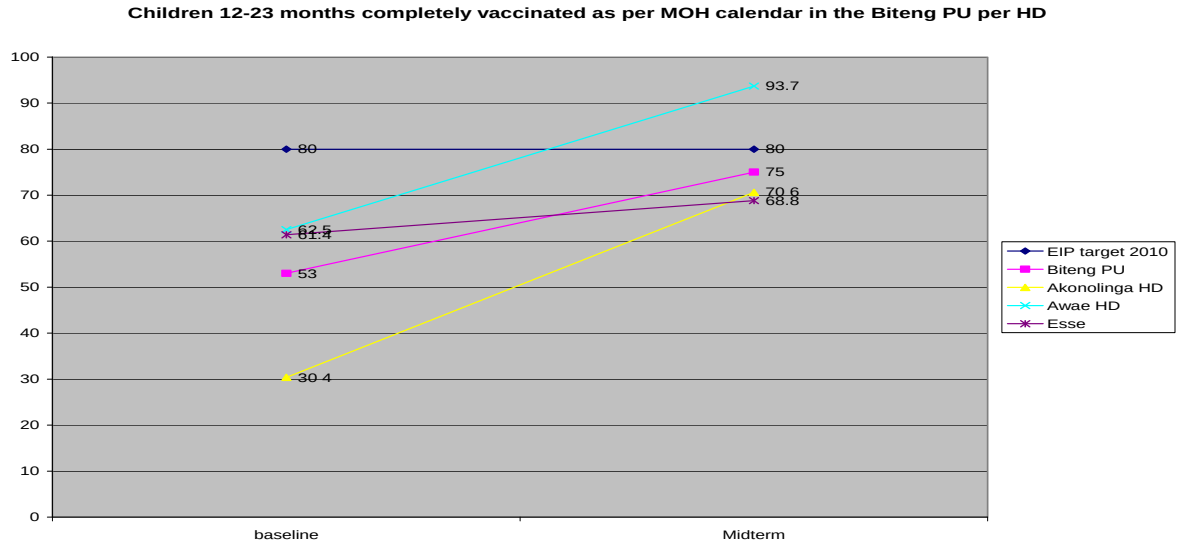


xv) EPI full immunisation coverage by first birth day: ***Percentage of children aged 12-23 months who are fully immunised against the five vaccine preventable diseases before the first birth day.***

The EPI coverage trend is positive in the Bamenda and Biteng PUs. Three of the 4 HDs of the Bamenda PU have actually exceeded the Project and MOH target of 80 %. The Bertoua PU will need to work extremely hard to reverse the negative trend of the Bertoua and Nguelemendouka HDs.

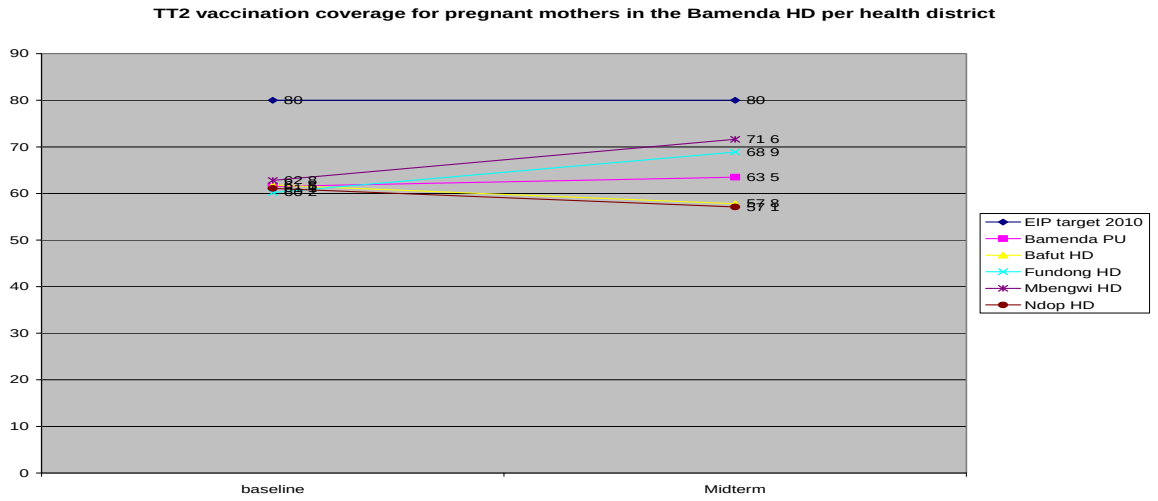


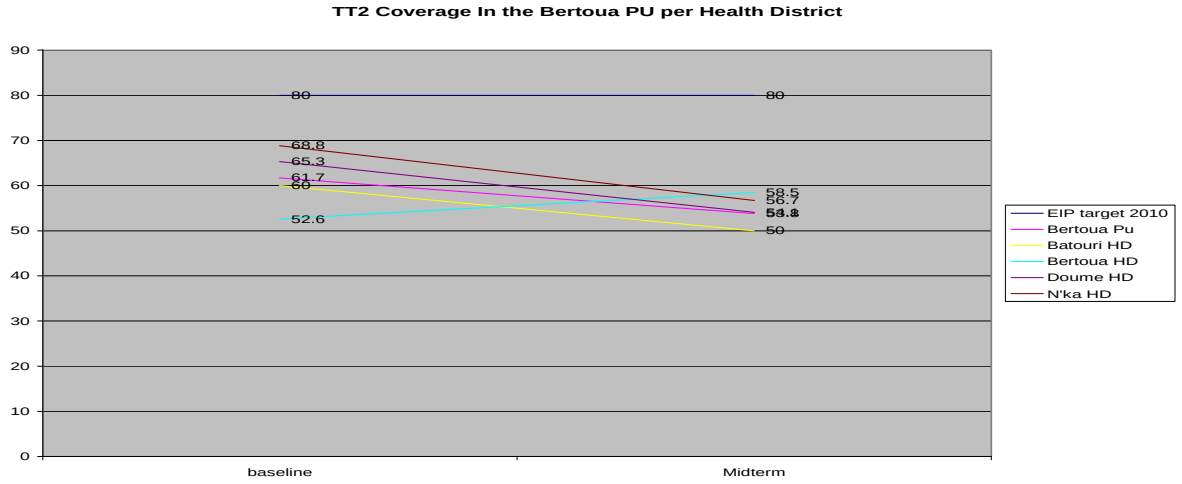


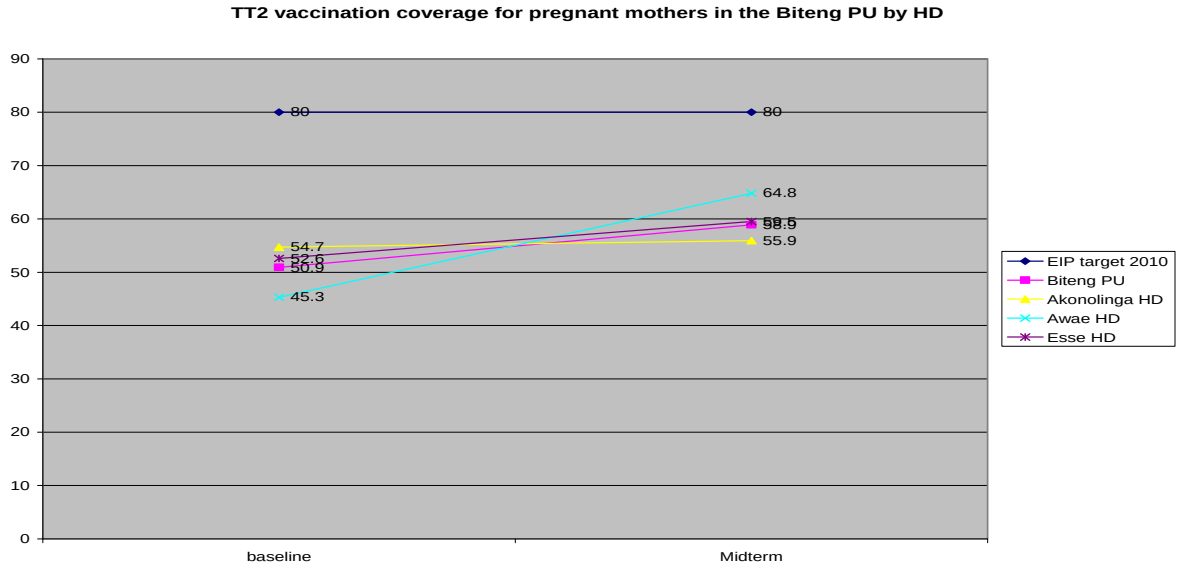


xvi) Tetanus toxoid coverage: ***Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child.***

The 4 Health Districts of the Bertoua and Bafut and Ndop for the Bamenda PU performed poorly for this indicator (regressed). On the other hand, the Biteng PU witnessed a steady increase.

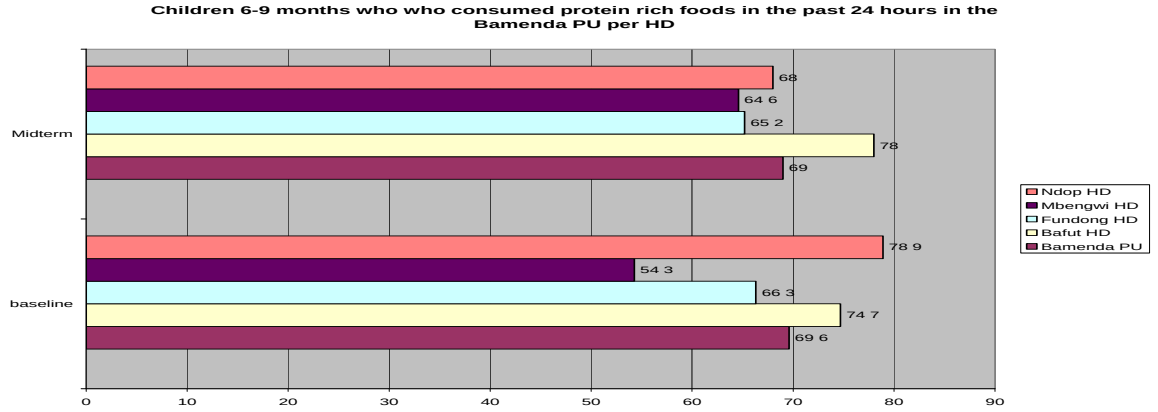


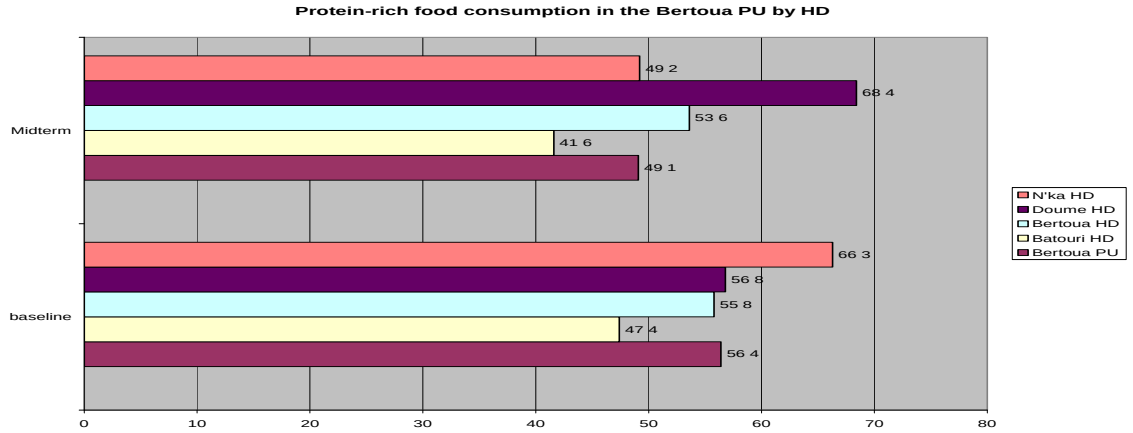


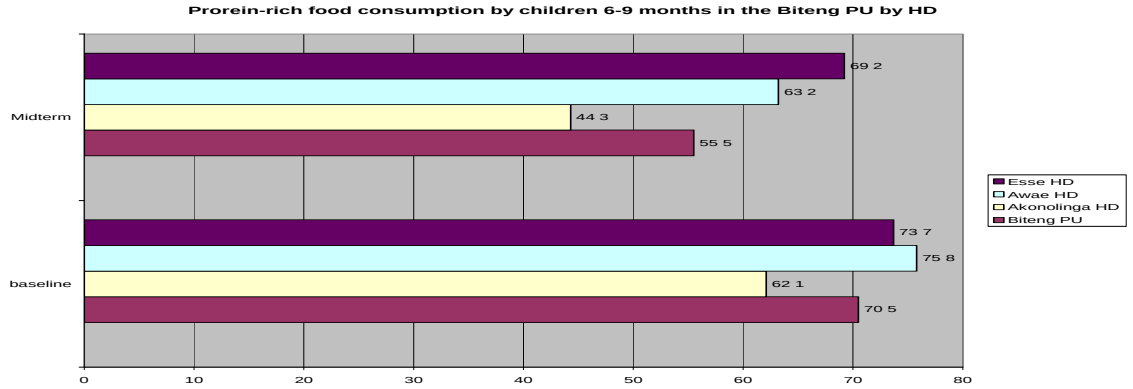


xvii) Protein intake: Percentage of children 6-9 months who consumed food rich in protein in the 24 hours preceding the survey

Only 3 out of the 11 Health Districts have performed well for this indicator. Doume,Bafut and Mbengwi health Districts. The others will have to improve on their performance in the second half of the project.







CONCLUSION

The aggregated results of the KPC have revealed that the Bamenda and Biteng PUs have performed quite well and recorded a positive trend in 15 and 16 indicators respectively out of the 19. The Bertoua PU recorded moderate progress only in 6 of the 19 indicators.
The Bamenda PU will need to improve in the following three slowly progressing indicators

- Sick child feeding (Increased food and fluid intake during child illness)
- Iron/Folate supplementation in pregnant women
- TT2 vaccination for pregnant women

The Biteng PU is not fairing well for the following indictors for which extra efforts will have to be accorded.

- Vit A supplementation for children 6-59 months
- Protein intake for children 6-9 months

Bertoua PU is fairing on well for the following indicators

- ITN use by children U5
- ITN use by pregnant women
- Treatment of sick children with appropriate antimalaria within 24 hours as recommended by the MOH
- IPT completion by pregnant women
- Exclusive Breastfeeding for children 0-6 months
- Complementary feeding for children 6-9 months.
- Complete vaccination coverage for children 0-23 months

In all the PUs the following 2 indicators have performed well above the project targets;

- Exclusive Breastfeeding
- ITN use by children U5

The major challenge will be to sustain this performance.
The IPT completion and ITN use by pregnant women are progressing well and are expected to reach the target by the end of the project.

As a whole the EIP project has performed pretty well in the first half of its lifespan. The major challenges are to maintain the achievements and cover the gaps in the poorly performing indicators.

RECOMENDATIONS

Based on the results of this second monitoring of the EIP at midterm, the general recommendation to all the stakeholders is that the momentum be maintained to sustain all the achievements so far and that bridge the gaps where there is poor performance.
Specifically,

To the MOH:

- To continue to provide free LLITN to the vulnerable groups (children <5 and pregnant mothers) and the general population to get to the RBM target of 2 LLITNs per household
- To sustain the ACT antimalaria subvention scheme for both health facilities and the communities case management.
- To continue and better organise the Mother and Child Health and Nutrition Action Weeks that were started by the EIP and adopted by the MOH. This integrated strategy will go a long way to boost the indicators of mother and child health.
- To make available funds for more Clinical IMCI training sessions and to use the provincial pools of trainers to organise trainings in other non-project HDs.
- To organise more regular and effective health facility quality supervisions to ensure the effective application of the clinical IMCI by the trained staff
- To have ownership and make use of all the tools (trainings) that the project has put at their disposal to ensure sustainable interventions
- To rapidly put in place in place strategies of addressing the poor performances in the respective health districts or health areas per indicator.

To the EIP team

- To continue to support the MOH and the communities in the implementation of the three components of IMCI especially the C-IMCI Framework
- To intensify support and supervision to the LNGO partners and the CBOs in their field interventions
- To identify, in collaboration with all the stakeholders, strategies of addressing the poor performances in the respective health districts of health areas.

7. Evaluation Team Members and their titles

Evaluation Team Members

Name	Title	Org. Affiliation
Dr. Ephraim Toh	Health Advisor	Plan Cameroon/MOH
Dr. Joseph Shu	EIP Project Coordinator	Plan Cameroon
Ryan Lander	Health and Development Associate	Plan HQ
Dr. Laban Tsuma	Child Survival Advisor	Plan USA HQ
Ndji Y. Patrice	HIS Assistant	Plan Cameroon
Djihoua Domngue Bertrand	CSSD 3	MOH, CRAAIDCR/ AWARE
Meyong Edellh Roger	Promoter, Central Province	Local NGO – Centre de Research – Center Province
Ntsoame Bissal Marc	Capacity Building Supervisor	Plan/ Centre Province - Mfou -
Onanina Jules Yves	(Malaria) Promoter	ACMS/PSI Central Prov.
Dr. Mba Bekolo	Health Coordinator	Plan – Central Province
Dr. Dongmo	District Management Officer	MOH Northwest Province
Mathilda Mabou (F)	Capacity Building Supervisor	Plan – Bamenda NW Prov.
Dr. Ajabmoh Henry	Dist. Medical Officer	MOH – Northwest Prov.
Nkwain Joseph	M&E	MOH - NW Province
Ngwang Roland	Coordinator	NAFI (L-NGO) NW Province
Bonekeh John	District Management Committee - Community	Community - NW Prov.
Ngo Ngan Louise (F)	Prov. Unit Health Coord.	Plan Bamenda NW Prov.
Inak Martin Jules	Delegate	ASAD (Local NGO) East Province
Mpiang Mpiang Jacques	Capacity Building Supervisor	Plan Bertoua East Province
Benedict Tabiojong Mbeng	Program Unit Health Coordinator	Plan Bertoua East Province
Tsam Zok Emmanuel	COSA	Community – East Province
Nan Kap Martin	Nutrition & CS Program Officer	Helen Keller International
Nkoumou Moise	BCC Specialist	ACMS/PSI
Youmba Christian	Dept. Dir. Family Health	AMCS/PSI

Annex 8. Evaluation Assessment Methodology

The final evaluation was conducted over a period of 24 days as shown below.

# of days	Cumulative # days	Date	Task Description	Location of work
			KPC and HFA survey implementation, and analysis	Cameroon
2	2	Before Aug 17	Familiarization with project Documents	US
1	3	Aug 17- 18	Travel to Cameroon	US-Cameroon
3	6	Aug 19 -21	Planning meeting, Development of Tools Evaluator interviews project staffs that are evaluation Team members;	Yaounde
1	7	Aug 22	Teams 2 & 3 travel to regions	Bertoua - Bamenda
3	10	Aug 23 – 25	Team 1 - Center Province data collection & review M&E tools and MIS tools; Team 2 – East Province Team 3 – North West Province If each team is 7-8 people and there are 2 vehicles in each region for the team to use, then each team will split up and each work in a separate project area over the 3 days	Team 1 Center Prov. Team 2 East Province Team 3 Northwest Province
1	11	Aug 26	Teams 2 & 3 Travel to Yaounde	Yaounde
3	14	Aug 27 - 28	Data tabulation and analysis	Yaounde
1	15	Aug. 29	½ debrief prep ½ debrief presentation by evaluation Team	Yaoundé
1	16	Sept. 1-2	Travel to US	En route
6	22	Sept. 4- 12	Report Writing	US
2	24	Sept 18 -19	Final Edits	US

.

The in-country portion of the evaluation was divided into four components: Team planning meeting (3 days); key informant interviews/field work (3 days), data analysis (2 days) and presentation preparation and facilitation (1 day). For the key informant interviews, the larger evaluation team was divided into 6 sub groups as shown below and each group conducted interviews in each of the three target Provinces. Care was taken to avoid the appearance of conflict of interest by assigning team members to district where they hadn't worked or to avoid interviewing people they knew.

Sub Teams for Field Work

Center Prov.	**Organ/Base**	**East Province**	**Organ/Base**	**NW Province**	**Organ/base**
Team 1		**Team 1**		**Team 1**	
Bonnie*	Consultant	Nankap Martin	HKI (CO)	Laban	Plan (HQ)
Joseph	Plan (CO)	Dr Ndongmo	MOH (NW)	Onanina	ACMS
Matilda	Plan (NW)	Dr Henry	MOH (NW)	Dr Toh	Plan CO
Patrice	Plan CO	Moise	ACMS	Mpiang	Plan (East)
Martin	ASAD (East)	Marc	Plan (center)		
Team 2		**Team 2**		**Team 2**	
Dr. Daniel	MOH/DMO (East)	Dr Mba	Plan (Center)	Ryan Lander	Plan (HQ)
Nkwain	MOH (NW)	Bonike	COSADI (NW)	Dr. Youmba	ACMS
Zok	COSADI (East)	Roland	NAFI (NW)	Meyong	CRAEDR (Centre)
Louise	Plan NW	Dr Djihoua	MOH (Centre)	Mbeng	Plan (East)
9		**9**		**8**	

Before, during and after the field work, the external consultant reviewed documents related to the project including the results for the KPC survey.

After tabulating the questionnaires together as a group, a presentation of the preliminary results of the ACSP was planned and presented by the team members on the last day of the in-country portion of the evaluation. This presentation was attended by approximately 10 people.

The following is a list of key documents that were reviewed for the final evaluation:

- Project proposal
- Baseline and Mid term KPC and Health Facility survey reports

- Detailed implementation plans and supporting documents including project work plan, monitoring and evaluation matrix
- annual reports and supporting documents
- Project study reports and case studies
- leaflets and mass media materials
- training curricula
- M&E forms and guidelines
- EIP staff monthly reports
- Training reports

Annex 9. List of persons interviewed and contacted

Amadou Bocoum – CD PLAN Cameroon
Xavier Crespin – CD HKI Cameroon
Nestor Yar Ankida – CD ACMS/PSI Cameroon
Christien Yameni – Malaria Project Coordinator, ACMS
Nsangou J.F. Inoussa – Deputy Director, Reproductive Health MOLH
Okala George – Director of Nutrition, Family Health Division, MOH
M. Toumamiko Mefane Barthelemy – Point Focal C-IMCI
Fonge Sawa Bernadette – Program Unit Manager – Center Province PLAN/Cameroon
Program Unit Managers – Northwest and East Provinces PLAN/Cameroon
MOH Provincial Delegates –Northwest Province
Joseph Shu – EIP Director
Patrice Ndji Y. – EIP Health Information System (M&E)
Mathilda Mabou - EIP/ CBS NW Province
Ntsoame Bissal Marc – EIP/CBS Center Province
Ngo Ngan Louise - PLAN/NW, Health Coordinator
Benedict Tabiojong Mbeng – PLAN/Center, Health Coordinator
Onanina Jules Yves- ACMS/ Promoter Center Province
Mpiang Mpiang Jacques – EIP/CBS East Province

Key Informant List - 416 individual interviews

	Moms	**C.Relais/CBO members**	**Relais Malaria**	**LNGO Directors**	**LNGO Promoter**	**IHC Heads**	**DMO**
Center 1	10	25	0	0	4	9	1
Center 2	34	31	0	1	2	5	1
Center Total	**44**	**56**	**0**	**1**	**6**	**14**	**2**
NW 1	25	24	3	3	4	6	2
NW 2	29	30	0	2	3	6	2
NW Total	**54**	**54**	**3**	**5**	**7**	**12**	**4**
E 1	30	29	2	2	7	3	2
E 2	30	30	2	0	0	4	2
E Total	60	59	4	2	7	7	4
Total	**158**	**169**	**7**	**8**	**21**	**33**	**10**

Helen Keller International/Cameroun

RESULTS OF OPERATIONAL RESEARCH ON THE INTRODUCTION OF ZINC FOR THE TREATMENT OF DIARRHOEA IN CAMEROON

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LIST OF ABBREVIATIONS

ORS: Oral Rehydration Salt

ORT: Oral Rehydration Therapy

CBO: Community Based Organization

CENAME: Centre National d'Approvisionnement en Médicaments Essentiels

ACMS: Association Camerounaise pour le Marketing Social

I- INTRODUCTION

This document presents a synthesis of data collected during operational research on the use of zinc for the treatment of diarrhea in Cameroon. This was a pilot research intervention carried out in the Bertoua Health District of the Eastern province between August 2007 and February 2008. The research was conducted under the leadership of Helen Keller International (HKI) within the framework of the "Bundled Expanded Impact Child Survival Project" funded by USAID in the Bertoua Health District.

The treatment protocol examined is a 10-day course with dispersible (in water or milk) zinc tablets (procured from Nutriset) provided during and after diarrhea episodes to children less than five years of age. The WHO/UNICEF 2004 joint statement on the management of childhood diarrhea recommends that in addition to oral rehydration therapy children under 6 months of age receive 10mg per day for 10-14 days (or half tablet of 20mg) and children 6-59 months receive 20mg per day for 10-14 days. This recommendation followed research findings that zinc supplementation for the management of diarrhea was associated with a 25% reduction in the duration of acute diarrhea, a 25% reduction in the incidence of diarrhea and a 36% reduction in the incidence of malaria over 2-3 months following treatment. Use of zinc had also been shown to increase the use of oral rehydration salts (ORS) (by approximately 25%) and reduce the inappropriate use of antibiotics (by approximately 20%).

During this research, zinc tablets and ORS were distributed through 16 health facilities and community-based organizations (CBOs) participating in the project in 12 villages of 10 Health Areas.

II- RESEARCH OBJECTIVES

The general objective of the operational research was to facilitate the introduction of zinc in the management of diarrhea in children of less than 5 years in Cameroon.

The specific objectives of the research were to:

1. Determine the best mechanism for introducing zinc for the treatment of diarrhea;

2. Assess the impact of the use of zinc in the treatment of diarrhea on the use of ORT/ORS, antibiotics and other frequently used anti-diarrhea drugs;
3. Identify the main determinants of acceptance, compliance with and completion of the full course of zinc by caretakers at home;
4. Identify the most suitable means for disseminating messages for promoting zinc for the treatment of diarrhea;

The results will subsequently be applied to the design, testing and then production of educational materials to promote the joint use of ORS/Zinc in the treatment of diarrhea.

III- METHODOLOGY

Several approaches were used to collect data. Two cross-sectional quantitative surveys targeting caretakers of children with diarrhea were carried out: one before the intervention (introduction of zinc treatment) and the other five months later. Qualitative tools (in-depth interviews) were used with caretakers of children and health service providers (health personnel, community volunteers and participating community-based organization members). There was also home follow-up of mothers who had received zinc for the treatment of diarrhea to examine compliance with treatment. Other information for this report was derived from monitoring/supervision of the different actors and a behaviorial (doer/non-doer) study on compliance to treatment.

III.1 Quantitative surveys:

This element involved cross sectional baseline and end line surveys: in each case of a sample of 190 mothers whose children had suffered from diarrhea in the two weeks preceding the survey were selected. Information was collected on the following indicators:

- ORS/ORT use to treat acute diarrhea episodes in their children,
- use of zinc in the treatment of diarrhea,
- use of antibiotics and anti-diarrheal drugs during a diarrhea episode,

- source for care in the treatment of diarrhea and the reasons for seeking treatment in those places;
- knowledge of the treatment of diarrhea with ORS and zinc;
- feeding practices during a diarrhea episode;
- source of exposure to the intervention (medical or community network);
- opinion on the cost of treatment of diarrhea with ORS and zinc.

III.2 Doer/Non-doer Analysis

This element was designed to:

- identify the main determinants of compliance with and completion of the zinc treatment of a diarrheal episode;
- identify the main determinants of seeking care from a health facility; and
- inform strategies to minimize barriers to the new treatment and promote the positive health care behaviors while scaling up this treatment at the national level.

The sample for each question included 30 doers (those who ensured their children completed zinc treatment) and 30 non-doers, and the two groups were compared in relation to various factors influencing adoption of the behavior; perceived self-efficacy (belief in one's capacity to perform a new behavior) in implementing the recommended behavior; and perceived social acceptability (belief that one's community approves of the new behavior).

III.3 Qualitative Research

The objectives of this element were to:

- examine the range of home practices used for the treatment of diarrhea in young children;

- examine the factors that impel caretakers of children with diarrhea to seek treatment outside of the home (facilitating factors) and reasons for not seeking treatment (barriers);
- describe the sources of treatment for diarrheal diseases (health facility, community network, traditional healers, informal sector drug sellers, etc.);
- examine caretakers' and health service providers' perceptions of ORS and zinc tablets for the treatment of diarrhea;
- assess caregivers' performance in the management of diarrhea,
- identify features associated with the zinc tablets such as taste, appearance and beneficial effects that could help inform the future large scale marketing of zinc tablets;
- examine the prevalence and appeal of non-recommended treatment practices for uncomplicated diarrhea (antibiotics, injections, anti-diarrhea drugs, laxatives, etc.)

Qualitative research involved in-depth interviews with service providers (health staff and community agents), mothers and the participating women's association members.

III.4 Home follow-up

Home visits were made to 135 mothers whose children were on a diarrhea treatment and data collected on:

- the quantity of zinc and ORS prescribed;
- the quantity of zinc and ORS purchased;
- the quantity of zinc and ORS used;
- the number of days of zinc treatment given;
- the prescription and use of antibiotics and "anti-diarrhea" drugs;
- the attitude of caregivers in relation to the management of diarrhea in children;

- the techniques of preparation and administration of zinc and ORS;
- difficulties associated with the administration of zinc and ORS;
- risks perceived by parents following the administration of zinc.

IV- INTERVENTION DESCRIPTION

The pilot interventions that were put in place after the baseline survey consisted of the following:

4.1 Policy Advocacy. This was aimed at securing the approval of the MOH for the use of zinc as an essential element in the management of diarrhea in children below five years in Cameroon.

4.2 Capacity building of the different actors. Forty two health staff and 225 members of village health committees or Community-Based Organizations (CBOs) from all the health areas of the Bertoua health district were trained on the use of zinc for the management of diarrhea in children.

4.3 Provision of Zinc and supplies. The different structures (CBOs and health facilities) were supplied a consignment of zinc blisters and quantities of ORS. In all, 1,720 courses of zinc (10 dose, 20-mg zinc blister packs) and 500 ORS sachets were deployed to the different frontline health providers examined by the research arm of the project.

4.4 Communication for behavior change. Various channels of communication were used, notably interpersonal communication by trained service providers or community members, health education sessions held in health facilities and village associations, and radio broadcasts.

4.5 Treatment protocol. The training recommended the following treatments for diarrhea:

- Advice on increased breastfeeding and, for children >6 months, increased feeding and fluid intake during diarrhea;

- Use of zinc for the treatment of diarrhea along with ORS for children >6 months.

The treatment was offered through two networks:

- Health facilities (16): Mbethen Integrated Health Center (IHC), Mokolo I IHC, Ghent Boulaye IHC, Moindi IHC, Moundi Catholic Health Center (HC), Belabo Catholic HC, Belabo Medicalised Health Center (MHC), Nkolbikon Catholic HC, Tigaza Catholic HC, Mokolo IV Catholic HC, Bertoua Lutheran HC, Mandjou Community HC and the Bertoua Provincial hospital.
- CBOs (12): Boulembe (Défense-Enfant), Mboulaye 1 (Essayons-voir), Daiguene (Temo Wete), Mbeth 2 (Femmes Dynamiques), Yanda 1 (Solidarité), Dongo (Amour et Confiance), Dimako (Cercle Familial de Dimako), Andom (Amour et Solidarité), Mbelle Panga (Oyili Nama), Mbang 1 (CEFAS), Yoko Betougou, Ekombitié, Yanda 2 (Femmes Dynamiques et Entente).

4.6 Monitoring and evaluation. The evaluation compared behaviors at baseline and at the end of the intervention (endline). Monitoring/supervision missions of health agents were carried out every month and a home follow-up survey was conducted.

This report presents the findings as well as conclusions and recommendations.

V-MAIN RESULTS

The main results are derived from analysis and synthesis of the different data sources. This section presents the results of advocacy and sensitization efforts, then reviews the analyses relating to the five research objectives.

5.1 ADVOCACY

Advocacy with government partners to promote zinc treatment for diarrhea began with project start-up; the government incorporated this treatment protocol into the National Nutrition Policy and Program documents developed in December, 2006. In January 2008, zinc was added to the list of essential drugs. Administrative procedures for importing the first stock of zinc are underway in the National Drug Procurement Center.

In addition, clinical IMCI training modules have recently been revised to incorporate recommendations for zinc treatment for diarrhea. Revision of community IMCI training modules is still pending. Zinc treatment was also included in the nutrition training curriculum for Cameroon's paramedical training schools, as part of the essential nutrition actions under the topic, "Feeding sick or severely malnourished children."

Scientific meetings, congresses and other workshops were used as forums for advocacy with other actors and/or partners. For instance, during the 10th Congress of the Cameroon Pediatrics Society, the EIP project (HKI) made a presentation on the subject. The issue was also raised during planning and review workshops of the Cameroon–UNICEF cooperation program, particularly in relation to the programs serving Central African and Chadian refugee children in Cameroon. UNICEF has agreed to support reproduction and diffusion of the national protocol for zinc supplementation in diarrhea in the second semester of 2008.

CONCLUSIONS AND RECOMMENDATIONS

In Cameroon, Zinc is on the list of essential drugs but not yet available in the market (public and private health facilities). Thus **continuing advocacy is needed to accelerate procurement**, notably through CENAME and/or PSI/ACMS.

Outside the pilot zone, service providers are still unaware of this new treatment protocol. Thus partners must **mobilize necessary resources for the training of service providers and for the development and production of communication tools that must support this training**.

5.2 INTRODUCTION OF ZINC TREATMENT

The use of zinc for the treatment of diarrhea was introduced through health facilities and the CBOs. Commercial pharmacies were identified in the research protocol but refused to participate.

Of the 190 mothers interviewed at baseline, 81 sought treatment from diarrhea at health centers and 11 sought treatment from CBOs (92 did not seek treatment). For children

<6 months of age, none presented at CBOs; at health centers the correct zinc prescription was given in 62% of cases presenting. For children of 6-59 months of age, CBOs the correct zinc prescription was given in 100% of cases; health staff gave the correct prescription in 99% of the cases. However overall, zinc was prescribed in only 38% of cases presenting with diarrhea, while combined zinc/ORS treatment was prescribed in only 37% of all cases of diarrhea. Health workers missed the opportunity to prescribe zinc in 67% of children presenting with diarrhea; CBOs did not miss any cases but received only 11 relevant consultations.

Table N° 1: Zinc and ORS utilization rate according to the place of treatment

Place of treatment (sample n refers number of diarrhea cases)	**Use rate**		
	ORS	Zinc	ORS/Zinc
Health facility (n=81)	66.7%	29.6%	29.6%
CBO (n=11)	90.9%	100%	90.9%
Total	**69.6%**	**38%**	**36.9%**

Source: Quantitative survey

The performance of CBOs suggests they may be reliable sources of counseling in and provision of zinc for the management of diarrhea at the community level; however, the sample size was quite small (n=11).

Overall 70% of patients of health clinics completed the 10-12 day course of zinc whereas 52% of the patients of CBOs completed the full course.

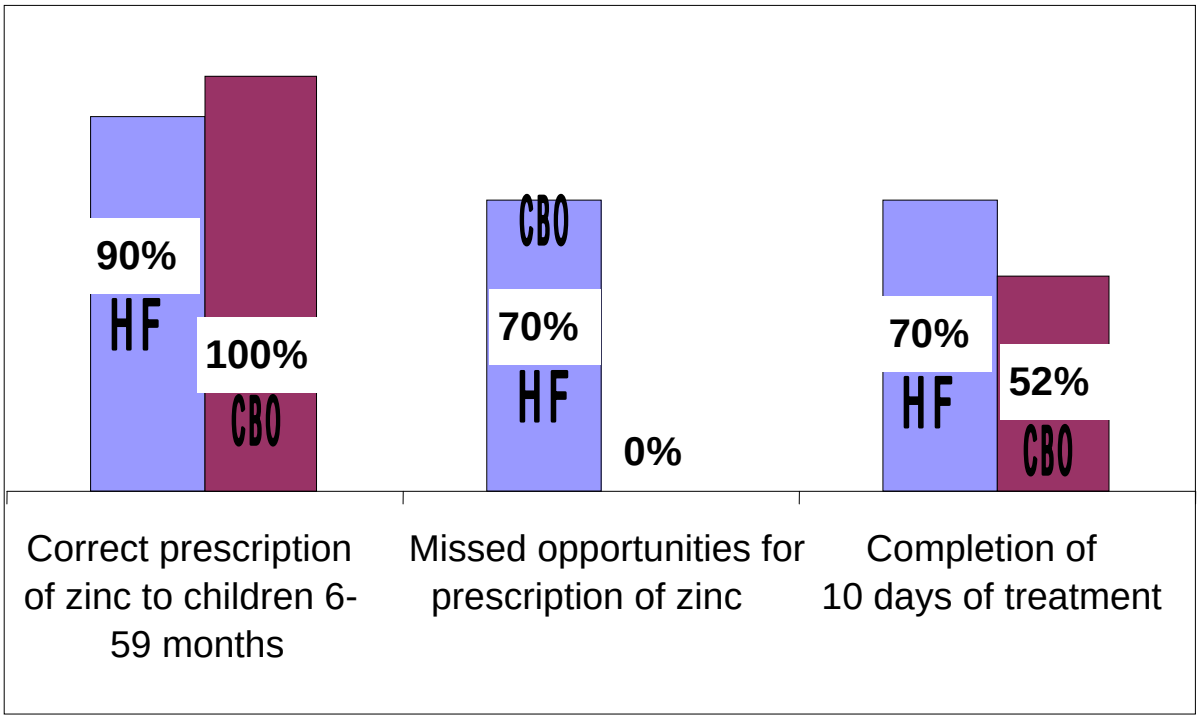
CONCLUSIONS AND RECOMMENDATIONS

On the whole, both the health and CBO staff prescribed zinc correctly for children of 6-59 months, although missed opportunities were higher than optimal. CBOs are more accessible to the population than health facilities, and although the completion rate was higher among children seen at the health facility than those consulting the CBOs,

making zinc available through the CBOs reduced the median delay in seeking treatment (3 days after the onset of symptoms for the health facility vs. 2 days for the CBOs). **The delay between the beginning of diarrhea and seeking of treatment at suitable places is still too long, and should be addressed by the communications strategy.**

Since the action of the two networks is complementary, during the scaling up, **we recommend using both while addressing the shortcomings of each through training and communication. It is preferable to involve the commercial pharmacies as well, as more than 10% of mothers sought treatment for diarrhea directly from pharmacies.**

Figure N°1: Rates of correct prescription, missed opportunities for prescriptions, and completion of treatment at health facilities (HF) and community-based organizations (CBO)



CONCLUSIONS AND RECOMMENDATIONS (cont)

As the primary source of money for treatment, men have an important influence over

this care seeking behavior (61% of fathers vs. 28% of mothers finance treatment), although it is often the mother who takes action. **Thus the communications strategy addressing the management of childhood diarrhea must target fathers.**

Monitoring/supervision missions revealed that some CBOs sell zinc without the ORS, whereas exit interviews revealed that some health staff sell ORS without the zinc. **To change this practice, a "diarrhea treatment kit" should be conceived, containing, for example:**

- **1/2 of a 20 mg package of zinc (or 1 package of 10mg) + 2 ORS sachets for children of less than six months;**
- **1 package of 20 mg of zinc + 2 ORS sachets for children of 6 to 59 months.**

This kit could well be sold in Cameroon through the same channel as that of the "Malaria treatment home kit".

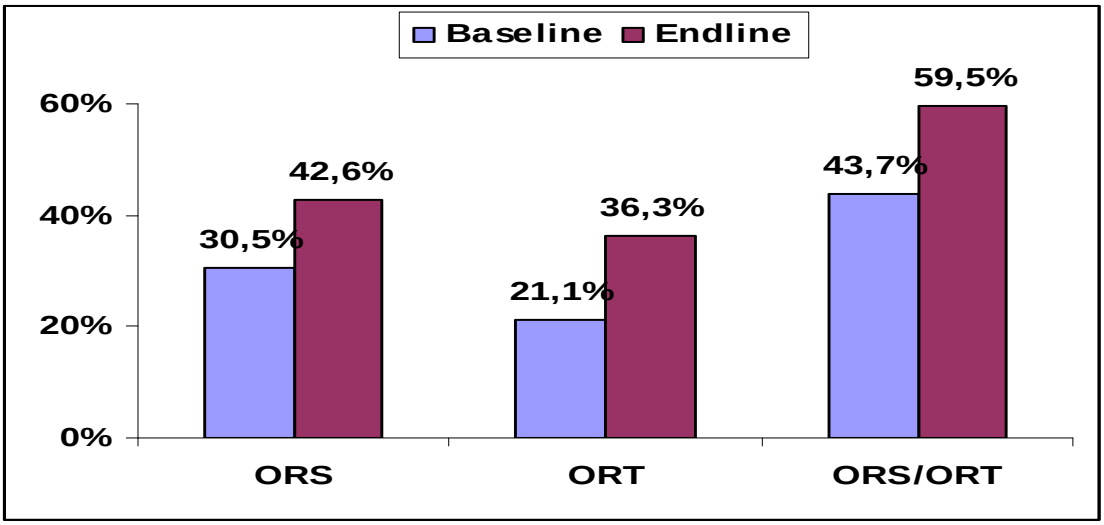
The two networks achieved a relatively satisfactory treatment completion rate (67%) even though it remains lower than that observed in a Malian survey (89%). Evidence also suggests that higher completion rates for the minimum 10-day treatment are achieved when the dose promoted is 14 days. Therefore, we recommend **a 14-day treatment be promoted in order to maximize completion of at least 10 days of treatment. Further studies should be carried out to examine treatment adhesion after scale up.**

5.3 IMPACT OF ZINC INTRODUCTION ON THE USE OF ORT/ORS, ANTIBIOTICS ANTI-DIARRHEA DRUGS.

The promotion of zinc and ORS/ORT for the treatment of diarrhea increased the use of ORS/ORT.

The figure below shows the use rates both for baseline and endline surveys.

Figure N° 2: Use rate of ORS and /or ORT during the project



In the project zone, the use of ORS or ORT at end line was nearly three times the rate observed in the province in 2004 (20%).

In spite of the improvement of the use of ORS/ORT, the frequency of administration of supplementary liquids and feeding during diarrhea remained low. The proportion of mothers who gave more fluids to their children during diarrhea episodes also is low (46%); indeed the proportion is lower than that observed in 2004 (66%) and in 1998 (83%) in the Eastern province. This suggests there has been a decline in the appropriate feeding of the sick child.

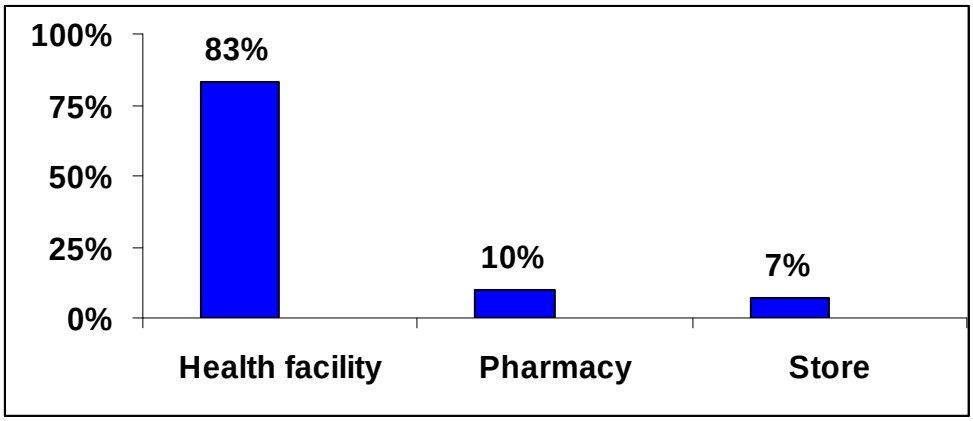
In the management of diarrhea, antibiotics should be prescribed for children suffering from bloody diarrhea (dysentery). It was only possible to assess the appropriate use of antibiotics if these medications were available/visible at the time of the surveys.

Seven percent of the sample of children had diarrhea with blood; antibiotics were used correctly in 11% of cases. Ninety-two percent of children with diarrhea had no blood; 94% of the doses of antibiotics observed were taken by children without bloody diarrhea. It is worth noting that the children often presented several symptoms, some of which might justify the use of antibiotics. This operational research was not able to examine these confounding factors.

The health facility remains the main source for antibiotics (Figure 3).

The proportion of children with diarrhea given anti-diarrhea drugs was 0% and 6% at baseline and end line, respectively. The health facility pharmacy is the main source for the purchase of such treatments.

Figure N°3: Source for purchase of antibiotics



CONCLUSIONS AND RECOMMENDATIONS

The intervention led to an improvement of the use of ORS and/or ORT. Nevertheless, 54% of children did not receive increased fluids during the last episode of diarrhea, and appropriate feeding appears to have declined over time. Therefore, **it is necessary to elaborate and implement a communications plan for the treatment of diarrhea taking into account the four rules of managing simple diarrhea.** The promotional messages and instructions of managing diarrhea must also clearly indicate that antibiotic therapy is only recommended for diarrhea with blood. The use of anti-diarrhea drugs is rather rare.

Reducing the appropriate prescription of antibiotics will require pre- or in-service training of the health staff and pharmacists, who provide most of the prescriptions. **Thus, all future training of health personnel should give emphasis to the proper use of antibiotics.**

5.4 IDENTIFYING MAIN DETERMINANTS TO ACCEPTANCE, USE AND COMPLIANCE TO ZINC IN THE TREATMENT OF DIARRHEA

Some factors affecting acceptance, use and the completion of treatment were explored. Notably, the price of medication, perception of the risk linked to the use of zinc, difficulties of its use in accordance with the prescription, perception of the zinc tablets and perception of its efficacy.

5.4.1 Price of ORS/zinc

During the intervention, a blister of 10 tablets for the children 6-59 months (or 5 tablets for the children of less than six months) was sold by health facilities for 100 FCFA and a sachet of ORS was sold separately at a price between 65 and 150 FCFA. The CBOs sold zinc together with 2 ORS sachets at a total price of 300 FCFA. These prices were considered cheap or affordable by 90% of mothers: "For zinc, the price is good, it is accessible"; “Affordable price." For a few, the price was “dear” or difficult to separate from other medicine purchases. All service providers also considered the price of zinc and ORS affordable or cheap. “Yes, they always buy the two".

The rate of zinc purchase after prescription was 99.2%. The desire to see the child cured was the main motivating factor for the purchase.

CONCLUSIONS AND RECOMMENDATIONS

The zinc and ORS were considered affordable by a large majority of mothers and by all service providers. The price did not seem to be a limiting factor to the access of zinc and/or ORS. However, price could limit the access to treatment for a minority of children of the community. It would be desirable to set prices such that they are not higher than those used for the pilot phase. Thus, **a "diarrhea kit" should be made available to the population at the cost of 300 FCFA.**

5.4.2 Perception of the risks associated with administration of zinc

The perception of some risks linked to the administration of a drug can influence its acceptance and/or the respect of prescription (dose and duration). During home visits to the children given zinc, 5% of mothers on the first visit and 2% on the second visit, said

that zinc provoked some problems in their children. The majority perceived no problems: "I didn't see a problem. On the contrary, I think that it is a good medication for children" declared one mother. Health staff did not record any complaints from parents or observe any side-effects themselves. "No problem. We already used more than 100 tablets."

Some of the symptoms noticed could be linked to the diarrhea itself such as vomiting, fatigue/dehydration, convulsions, fever. They were nearly all danger signs indicating it is necessary to seek care in the health facility.

CONCLUSIONS AND RECOMMENDATIONS

The majority of caretakers and health staff did not perceive any problems in the use of zinc for the treatment of diarrhea. The few problems indicated were danger signs for severe diarrhea (convulsions, fatigue/dehydration, fever, lack of appetite). For these, it is absolutely necessary to look for treatment at the health facility.

Mothers should be made aware of the danger signs of diarrhea and the need to seek immediate health care during sensitization meetings or consultations.

5.4.3 Preparation and administration of zinc and ORS to children

The zinc tablets are dispersible in a small quantity of water or milk (preferably breastmilk). It is also possible to administer directly into the mouth of older children. The tablet dissolves in water and does not need to be crushed. This method of preparation and administration recommended was used in 94% of cases (Table 2).

The other methods of administration (dilution in complementary food, in a glass/cup or with other medication) present risks of loss if the child does not drink the whole quantity or if he/she refuses because of the taste.

Table N° 2: Method of zinc administration

	1st round	2nd round
Method of zinc administration	(n=122)	(n=115)

Tablet in a tablespoon + water	91%	92%
Tablet in a glass/cup of water	2.5%	0.8%
Tablet + breast milk	0.8%	2.6%
Tablet directly into the mouth	1.6%	0.8%
Tablet + Metronidazol syrup	1.6%	0.8%
Tablet in a tablespoon + ORs	0.8%	-
Tablet in the pap	0.8%	2.6%
Tablet diluted to make a purgative	0.8%	-

It is notable that 23% of the cases during the 1st visit and in 12.2% of the cases during the 2nd visit crushed the tablet before adding water. This could be explained by the lack of demonstration or explanation during consultation, but also due to the tradition of crushing tablets like paracetamol before giving it to children.

On the whole, the mothers know that 1 liter of water is necessary for a correct ORS preparation and that it must be used within 24 hours. However for some, measuring the correct quantity of water poses a problem. Difficulties linked to the administration of zinc or ORS to children cited were the refusal by the child and vomiting.

CONCLUSIONS AND RECOMMENDATIONS

Zinc was prepared and administered correctly by the majority of mothers (95%). However, it should be noted that there was the unnecessary practice of crushing the zinc tablet. One woman indicated a preference for syrup for a child 0-6 months.

The following recommendations are made:

- **Demonstrate the preparation and the administration of zinc and ORS to the mother while preparing the first ORS sachet with her and while administering the first zinc tablet. Educational messages must also explain the process and**

emphasize the tablets are soluble.

- Give clear instructions to the mothers for the management of vomiting (for example, by giving in small quantities) and promote the active administration of ORS or zinc.

5.4.4 Factors that can limited access to zinc

Among persons that knew of zinc but did not use it to treat diarrhea in their children various reasons were cited (Table 3).

Table N°3: Reasons for the non-administration of zinc during the last diarrhea episode

Factors limiting zinc access in the treatment of diarrhea	Number of cases (n=9)
Lack of financial means	1/9
Stock Out	1/9
No prescription	5/9
Diarrhea not serious	1/9
Forgot	1/9

The table suggests that the lack of prescription by the service providers limited the access/use of zinc by some children. The stock-out and the lack of financial means appeared as other limiting factors.

Some of these factors had also been indicated during the monitoring/supervision or exit interviews. Moreover, certain health personnel prescribed ORS for the treatment of diarrhea without also prescribing zinc, although it was available in the health facility.

CONCLUSIONS AND RECOMMENDATIONS

The stock-out and the non-prescription of zinc by the health staff for the treatment of diarrhea are important factors that can limit the access of children to this treatment.

This suggests the following recommendations:

- Make available the "diarrhea treatment kit" in order to avoid the prescription of one without the other;

- Put in place a system for regular replenishment of supplies for each distribution network.

5.4.5 Determinants of completion to treatment during 10 days

A semi-quantitative survey of behavioral barriers using the "Doers/Non-doer" method was used to explore factors influencing adhesion to the 10-day treatment. Thus “doers” gave the child a 10-day treatment while “non-doers” gave the child less than 10 days of treatment.

CONCLUSIONS AND RECOMMENDATIONS

Three main barriers to following the 10-day treatment were identified:

- The level of knowledge on the advantages of the 10-day dose.

- The perception that treatment duration is long and the observed rapid recovery of the child. Thus “non-doers” did not think it useful to continue treatment once the child appeared to be cured. They could not observe the protective benefits of continued treatment.

- The self-efficacy of the mother. The doers were more motivated than the non-doers in giving the treatment. Table 4 proposes the strategies to reduce barriers and improve completion to treatment.

Table N° 4: Strategies for improving observance to treatment

Determinants/Barriers	Strategies to reduce barriers and improve compliance
Level of knowledge of the advantages of prevention and treatment	Promotion of preventive and curative advantages of zinc supplementation during diarrhea through various channels: health personnel, community relays, radio, television, testimony, posters, brochure.
Duration of treatment considered too long	Educational messages on the preventive benefits of 10 days of zinc supplementation for the child and the mother. Promotion of strategies to reduce refusal by children. Promotion of ways to recall the duration of treatment. Promotion of the factors that facilitate zinc administration.
Motivation of the mother	Increase the motivation of the mothers to give zinc during 10 days while promoting the benefits for the mother herself.

5.4.6 Perception of zinc tablets

Mothers were interviewed on their perceptions of the taste, size and other properties of the zinc.

CONCLUSIONS AND RECOMMENDATIONS
Very few parents had an opinion on the taste, appearance or the size of the zinc tablet. One person found the tablet "big:" "I didn't taste", "I don't know”

"It is a good tablet, easy to dissolve."

Some mothers found that the zinc tablets could be mistaken for other tablets: "It is possible to confuse it with quinine 300"; "These tablets resemble paracetamol". But the others thought that confusion is not possible: "No, the packaging is different".

To most of the health staff, it would be difficult to confuse it with other tablets because it is the only one that dissolves easily.

5.4.7 Perceptions of efficacy

Service providers and caretakers were interviewed for their perception of the efficacy of zinc.

CONCLUSIONS AND RECOMMENDATIONS

Both parents and service providers found zinc to be an effective treatment for diarrhea.

All mothers found that zinc contributes to the treatment of diarrhea in children: "It treats;" "It cures;" "Its action is fast;" "It's already two months that she drank; she is doing very well and she is not very sick as before."

Mothers cited the curative effect of zinc and its easy administration as advantages; they did not cite any preventive advantages. The complementary roles of zinc and ORS in the management of diarrhea and the need for both are not well understood by the parents.

Service providers also found it to be an effective treatment: "Since we started giving it to the children, the results are positive"; "The results are good. The action is fast: at the end of 2 days the diarrhea stops".

Zinc is not regarded as a replacement treatment for the others.

The role of every medication in the management of diarrhea must be reinforced at the level of the community.

5.5 IDENTIYING THE MOST SUITABLE MEANS TO DISSEMINATE MESSAGES ON THE USE OF ZINC IN THE TREATMENT AND PREVENTION OF DIARRHOEA

In the intervention, many parties were trained, notably health staff, radio broadcasters, village health committee members and CBO members. In addition, a radio spot was produced for broadcast in the three community radio stations that operated in the zone (Radio Zenith, Radio Marveille and Radio Aurore).

According to the end line survey, 36% of mothers (n=69) had heard of zinc, while it was virtually unknown before the intervention (only one person had heard of it, through a pharmacy poster). The information was received through several sources: health staff constituted the main source of information (55%), followed by the radio (23%).

II.1.1.1.1.1.1.2 Table N° 5: Sources of information on zinc

Sources of information on zinc	% citing
Health personnel	55
Radio	23
A neighbor/friend	20
Community agents (CBO or health committee members)	14
Television	4
Another parent	7
Ambulatory seller	6

CONCLUSIONS AND RECOMMENDATIONS

The main sources for messages on zinc were the health staff, the radio and the formal or informal community agents.

Before the scaling up, it is important to train the health staff as well as the community agents. Their messages should be reinforced by those of the mass media in the framework of a communication plan.

5.6 DEVELOP, TEST AND REPRODUCE EDUCATIONAL MATERIALS FOR THE PROMOTION OF THE COMBINED USE OF ORS + ZINC IN THE TREATMENT OF DIARRHEA

During this period, the project produced only a poster for service providers, presenting the four rules for the management of diarrhea. However, data collected should help inform the production of additional educational materials.

CONCLUSIONS AND RECOMMENDATIONS

The information collected from both quantitative and the qualitative sources suggest materials must:

- Address the determinants of compliance with 10-14 day treatment with zinc;
- Specify the appropriate use of every "medication" in the treatment of diarrhea;
- Review the four rules of managing diarrhea;
- Highlight the types of diarrhea requiring an antibiotic therapy.

VI- GENERAL CONCLUSION AND RECOMMENDATIONS

As a result of project advocacy zinc is now included on the list of essential drugs in Cameroon, but it is not yet available through the official drug procurement channel.

During scale-up of its promotion, it will be useful to make a "diarrhea treatment kit" composed of ORS and zinc available to the population through CBOs and health facilities while addressing the shortcomings of staff in both networks through training and communication. It will be important to involve pharmacy operators as well, as more than 10% of mothers go there for diarrhea treatment.

Zinc was prepared and administered correctly by large majority of the mothers sampled in our study (95%). However, a minority unnecessarily crushing the zinc tablet before trying to dissolve.

Both parents and service providers found zinc to be a good treatment for diarrhea. It was not perceived to be a replacement of treatment with ORS.

The majority of the mothers and all the service providers in our sample did not perceive any difficulties in using zinc to treat diarrhea. The few problems cited were rather danger signs of diarrhea (fatigue/dehydration, convulsions, fever, lack of appetite).

Stock-outs and the non-prescription of zinc by the health staff for the treatment of diarrhea are the main factors limiting the access of children to this treatment. The price of zinc and of the combination ORS/zinc was considered cheap or affordable by mothers and service providers.

The compliance with the 10-day treatment with zinc is of an acceptable level as compared to values obtained elsewhere, but could be improved. We suggest that promoting the14-day treatment may increase observance of at least 10 days of treatment; however, it will be necessary test this hypothesis with further research after the scale-up of treatment.

Three main barriers to completion of the 10-day course were identified: the level of knowledge regarding the preventive advantages of zinc; the perception that the duration of treatment is too long; and the self-efficacy of the mother with respect to the treatment.

The introduction of zinc led to an increase in the use of ORS/ORT but, did not reduce the incorrect use of antibiotics. These antibiotics are mainly prescribed (incorrectly) by the health staff. The use of anti-diarrheal drugs is rather rare.

The main interpersonal sources of information about zinc were health staff and formal or informal community agents. Their messages must be reinforced by the mass media within the framework of a coordinated communications plan.

GENERAL RECOMMENDATIONS

A) To the MOH: accelerate the import procedures to assure adequate supplies of zinc.

B) To the other partners (UNICEF, ACMS, HKI, Plan Cameroon etc.) : provide technical and financial support to MOH for a successful introduction of zinc in the treatment of diarrhea in Cameroon

Annex 11. Project Data Form

Annex 12.

Comments on the Flip Chart

Four messages covered – malaria (pages 2-6) diarrhea (7-9), immunization (10) pneumonia (chart 11) ; Why aren't there any nutrition pictures? (I know you told me, but I can't recall.) It would have been good to have all of the messages in one place in one form, easy to carry from house to house.

The icons and title of the project don't have to be on each page – it's distracting.

Picture 2 – Cause of malaria – Did the KPC show that most people don't believe that mosquitoes cause malaria? If not, I would skip straight to prevention and separate child prevention from pregnant women preventive measures.
The two pictures are not proportionate to each other. The child is larger than parents, woman sleeping naked (is that common in the rural areas? If not, the women will be talking about that and not the ITN and the mosquitoes)
The text does not focus on the cause – it mixes messages with prevention – ITN use, which is confusing; The mosquitoes in this picture do not appear to be biting the couple or the child; they are in the air

I like the idea of having key messages on each page.

Picture 3 - malaria prevention - The picture on the left (child and couple) does not correspond to the text on the back which only talks about the child – the picture on the right is a different form than that on the left (skin color is not accurate) and it is not in proportion. It's not clear that the woman is pregnant. When two different panels are used on the same page, they ought to be separated by a black line.

Picture 4 - ITN Retreatment - split picture – one at the health center and one at home- is there really a retreatment center as it says on the building? Does the health facility really retreat nets FOR people? Seems unlikely. The health care providers gesturing to the mother and child are distracting from the message. Why is it only the woman who is retreating the net? Why not the man?

Picture 5 – treatment for malaria – this child looks too old to be held in a mother's lap. Why not include the Malaria Relay in the picture. The message ought to focus on seeking help from the malaria relay or health center nurse too – otherwise they may try to get the drug directly from a pharmacy or traditional healer

Picture 6 - severe malaria – are we sure that women understand this type of boxes (thought boxes) once again the child looks more like a child of 10, not under 5. The picture doesn't show the mother taking her child to the health center – It should.

Picture 7 Water Guard – The text on the back ought to detail how to mix water guard – not just assume that it is clear to the CBO

Picture 8 – hand washing - This picture ought to be about a mother washing hands since most of the hand washing times are around actions she will be involved in, not the child (such as cooking, changing a baby, feeding a baby) Also, it is almost impossible to keep a child's hands clean at all times. There ought to be pictures about when to wash hands to remind the mother.

Picture 9 – Diarrhea - There are too many messages to go with this one set of pictures – signs and symptoms, how to make orasel and signs of serious diarrhea. The stick figure format of the pictures may not be readily understood by the mothers. The children are not the right color, arms are coming out of no where and not attached to a body; bowls made of clear glass are uncommon.

Picture 10 - Immunization - Good picture, but I think that usually the mother stands and the health provider sits. A mother does not need to know all of the diseases that vaccines prevent! You should mention only how many times – 5 – a child needs to frequent the health center before her child turns 1 year to get all of his vaccines. Why not ask mothers if they have noticed any side effects first? Then introduce the normalcy of side effects. In adult learning, you should always start with what the mother already knows.

Picture 11 – pneumonia – I recommend that this be divided into two panels – one with a child showing in-drawing and the other of the mother going to the health center. The text in English says "indrawing' but I doubt the CBOs are familiar with this term. The French doesn't even make reference to indrawing. This symptom needs to be explained – like 'the baby sucks in his chest when trying to breath -