Republic of Rwanda

Ministry of Health
PO Box. 84, Kigali

Community IMCI / Community Case Management

Evaluation Report of Community Health Workers Performance

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I. Background

The results of the 2007 Intermediary Demographic and Health Survey conducted in Rwanda showed that average 110 under five years old children die every day. Like most of African countries, Rwanda adopted the Integrated Management of Childhood illness (IMCI) developed by WHO and UNICEF in 1995, a holistic approach to childhood illness aimed at improving health worker skills, strengthening health systems and engaging and improving community and family practices to deal with the main causes of mortality and morbidity in children under 5 in resource limited settings. IMCI strategy includes interventions that promote child growth and development, prevent illness and allow illness proper management when it appears. These interventions should take place at facility level or at home at community and family level. So there are 2 levels where IMCI should be implemented: Health facilities level (facility IMCI) and community level (Community IMCI or Community Case management).

In Rwanda, the IMCI strategy implementation effectively started in 2006 with the set up of a functional working group, the development of a strategic work plan, the adaptation of the generic material, the training of national trainers then the training of providers in order to quickly expand the strategy. In may 2009, facility IMCI is implemented in 29 districts out of the 30 in the country

Thanks to technical support from partners like USAID/BASICS, SPS, EIP, Twubakane project and UNICEF, Community IMCI (C-IMCI) implementation tools have been developed and field tested then revised, Community Health workers (CHWs) have been trained and cases management at community level begun on February 2009 in the districts of Kirehe, Ruhango, Nyamagabe, Nyaruguru, Ngoma, Nyamasheke et Gisagara. In order to assure the quality of case management, a team composed of Community Health desk of MOH, BASICS, Twubakane project, EIP and malaria control unit carried out a CHWs follow up activity on may 11 to 16, 2009.

II. Objectives of the assessment

The main objective of this first post training follow up activity is to analyze CHWs performance in order to use early lessons learned to inform the program expansion. The following 3 specific objectives were included:

1) Review the quality of case management by CHWs

2) Review the quality of drugs management
3) Analyze the process and quality of technical supervision received by the CHWs
4) Analyze parents' satisfaction after using CHWs services
5) Make recommendations to improve the program implementation

III. Methods

III.1. Data collection

Three (3) methods have been used to gather information on the field:

- Retrospective quality review of the records using C-IMCI management tools like register, individual patient form and referral form
- Observation of the CHW demonstrating key competencies like check for dehydration, check for difficulty breathing, breathing cycles count, fast breathing threshold, use of the MUAC, the 3 rules of home care, drug dispensation.
- Interview of the 2 parents who used the CHWs services the more recently.

Data collection tools have been developed and field tested in the district of Ngoma and data collectors trained during 3 days. Demonstration of the use of the MUAC (malnutrition identification) and the timer (breathing cycles count) have been performed by the CHW on an under five years old child identified in the village. For the timer use demonstration, it has been recommended that the CHW make the child run in order to accelerate the breathing rhythm before starting to count.

III.2. Sampling

The following criteria have been used to identify 4 districts where data will be collected: At least 2 months background in C-IMCI roll out using the revised tools, systematically includes Kirehe and Ruhango who begun the C-IMCI implementation using previous tools on 2008 and are supported by different partners, respectively EIP and Twubakane. So 2 others districts have been randomly chosen: Gisagara and Nyamagabe, all supported by EIP

In each of the 4 sampled districts, all the health centers have been included. In each health center, 2 CHWs, one in a village near to the health center and the other one in a village far from the health center have been chosen by the HC manager and visited at home by the assessment team where they deliver care to children.

IV. Results

IV.1. Quality of case management

IV.1.1. Cases treated by CHWs

A total of 95 CHWs have been visited and the cases they managed from March 1st to May 11th analyzed. Table 1 below indicates that fever was globally the first reason for seeking care (913 cases), followed by Diarrhea (215), Pneumonia (200), cough/cold (163), then malnutrition (62). Few cases of fever have been notified in Nyamagabe probably because this is a non malaria endemic area. Fortunately, average 87% of fever cases used the CHWs services within 24 hours, with the lower rates in Nyamagabe (67%) and Kirehe (69%). It was not appropriate to analyze the CHWs workload based on these data because long period of drugs stock-out has been notified during the assessment leading to a non regular use of CHWs services. More pneumonia cases have been notified in Gisagara (20%) and Nyamagabe (40%) compared to Ruhango (3%) and Kirehe (11%) with high discrepancies. In Gisagara, the quasi totality of cough has been classified as pneumonia which seems to be inadequate.

Acute malnutrition is a result of recent (short-term) deficiency of protein, energy together with minerals and vitamins leading to loss of body fats and muscle tissues. Acute malnutrition presents with wasting (low weight-for-height) and /or presence of pitting edema of both feet (severe acute malnutrition). The Mid-Upper Arm Circumference (MUAC) Tape is used for screening for acute malnutrition. MUAC is a better indicator of mortality risk associated with malnutrition than Weight-for-Height. It is therefore a better measure to identify children most in need of treatment. Around 5% of the 1326 children assessed have been identified as acute malnourished, which seems to reflect the prevalence noticed within the global population in the 2005 DHS. But the prevalence of malnutrition could be higher in a sick children group compared to the global population of children.

Table1: Types of cases managed by 98 the CHWs from March to mid May 2009

	Ruhango	Gisagara	Nyamagabe	Kirehe	Total
# CHWs assessed	25	23	23	24	95
# children treated	350	413	218	345	1326
# Fever	292	265	51	305	913
% Fever received within 24h	99%	100%	67%	69%	87%
# Diarrhea	52	61	56	46	215
# Cough or Cold	35	1	107	20	163
# Pneumonia	14	73	83	30	200
# Malnutrition	11	10	27	14	62

IV. 1.2 Quality of data recorded in the register

Data from the management of 1103 cases have been completely and correctly recorded in the register at a good rate. At least 80% of the required information is roperly recorded in the register by 91% of CHWs. In Ruhango, all the 23 CHWs visited properly recorded at least 80% of these data (table 2). The more often missing information are related to age, growth monitoring, status classification and health status evolution.

Table 2: level of complete information recorded in the register

% Data completely and correctly recorded	Ruhango # CHWs=23	Gisagara # CHWs=23	Nyamagabe # CHWs=22	Kirehe # CHWs=24	Total # CHWs=92
100%	48%	17%	36%	8%	27%
80-100%	52%	74%	54%	75%	64%
60-80%	0%	9%	4.5%	12.5%	7%
<60%	0%	0%	4.5%	4.5%	2%

IV.1.3. Quality of data recorded in the referral form

Data on the referral forms are usually well recorded. But the contre-referral from health center is so weak, 20% to 67%.

Table 3: Level of data quality in the referral form

Required items	Ruhango n=24	Gisagara n=99	Nyamagabe n=96	Kirehe n=30	Total N=249
Child identification	96%	96%	100%	97%	97%
Cause of reference	100%	97%	96%	83%	83%
Received treatment	88%	70%	98%	97%	97%
CHW's name	100%	98%	100%	97%	97%
Average score	96%	90%	98%	93%	94%

IV.1.4. Quality of data recorded on the individual patient form

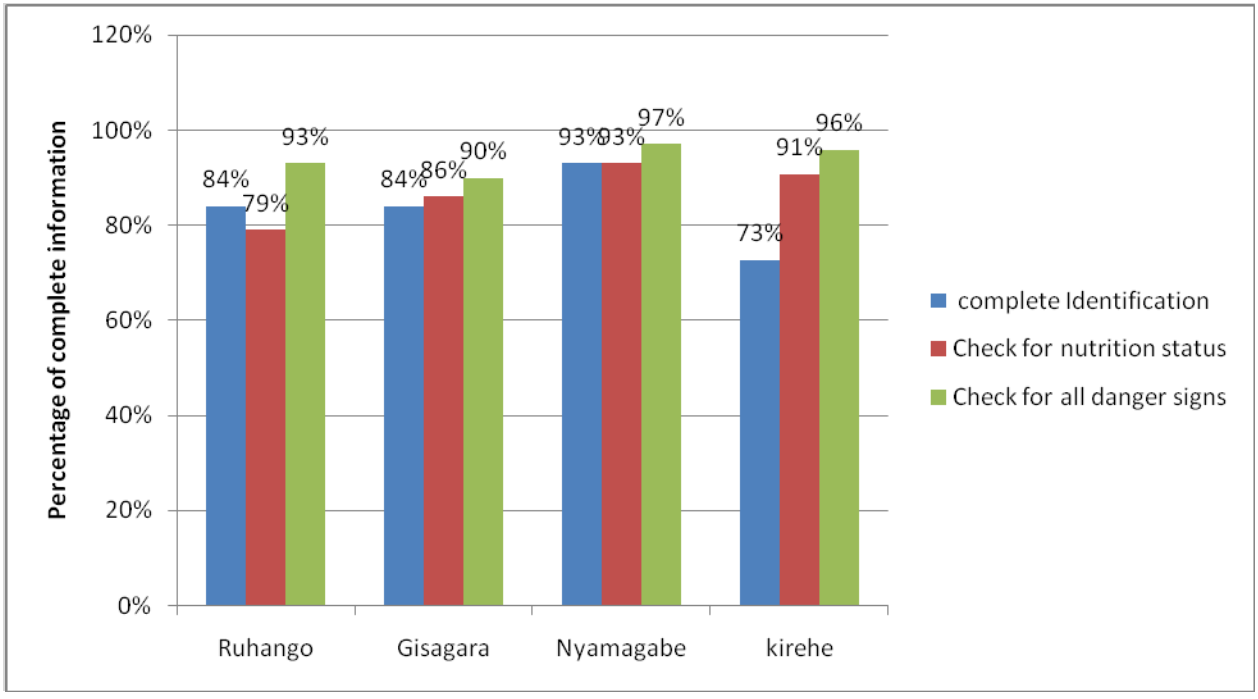
The majority of CHWs (82%) properly recorded at least 80% of the required information in the individual patient form of 946 cases received. This form is considered as the patient file that could be retrospectively analyzed by the supervisor to appreciate the quality of care provided by the CHW. The quality of recording data on this form is so important to be able to reflect the quality of the child assessment, the decision taken and the subsequent treatment provided. The usually missing information are "complete patient identification, nutrition status, checking for all main symptoms, concordance between age and dose for coartem, zinc and amoxicillin.

Table 4: level of complete information recorded in the patient individual from

% Data completely and correctly recorded	Ruhango CHWs=24	Gisagara CHWs=23	Nyamagabe CHWs=23	Kirehe CHWs=16	Total CHWs=86
100%	13%	0%	17%	13%	10%
80-100%	67%	87%	65%	69%	72%
60-80%	8%	9%	13%	13%	10%
<60%	13%	4%	4%	6%	7%

IV. 1.4.1 Information on Identification, nutrition status and danger signs in the patient individual form

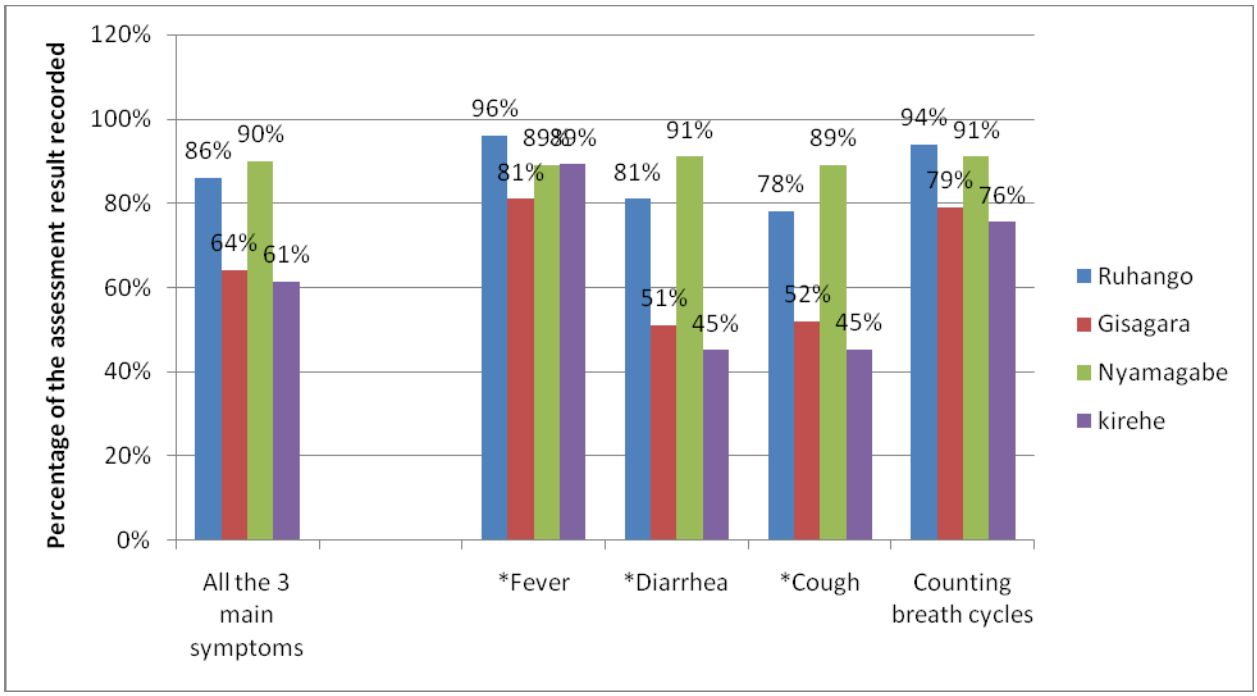
From the analysis of 946 cases, the 3 variables above are globally well noticed in the patient individual form. The lower rates of complete and correct information are noticed in Ruhango (79%) and Kirehe (73%) for the "patient identification" (graphic 1).



Graphic 1: record review of key data on the patient individual form: Identification, nutrition status and danger signs

IV.1.4.2. The main symptoms recorded in the patient individual form

The 3 main symptoms like fever, diarrhea and cough should be systematically checked in each sick child. It is recommended that the CHW check for all these main symptoms then record the result in the patient individual form. Lower rates of notifying these information on the patient individual form are noticed in Gisagara (64% of 377 cases) and Kirehe (61% of 195 cases). In the case that the child has cough, the breath cycles are recorded in at least 76% of cases (graphic 2). Diarrhea and cough are not usually checked or notified in Gisagara and Kirehe. This means that in these 2 districts, if the data recorded match with the real attitude of the CHW, there still is an individual health problem management instead of an integrated management.

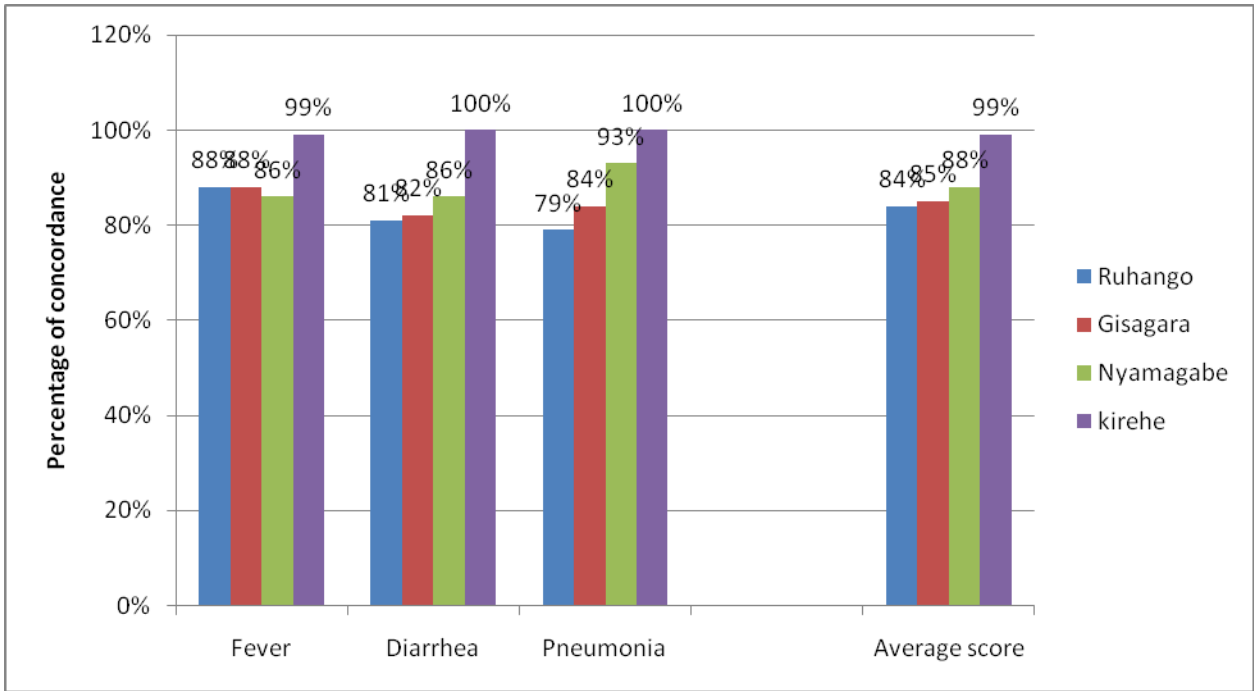


Graphic 2: Percentage of information on the main symptoms assessment results recorded in the patient individual form

IV.1.4.3. Correspondence between the child health status and the decision taken

In principle, the signs and symptoms gathered during the assessment should lead to the child health status classification then to identifying the appropriate decision/treatment. The record review on the patient individual form indicates that over 80% of the decision taken by the CHWs are appropriate with the child health status (graphic 3). The higher rate is noticed in Kirehe (99% of decisions are appropriate). If these data are reliable to the real situation, 1 to 16 % of children were wrongly treated. While the decision taken was correct for fever, diarrhea

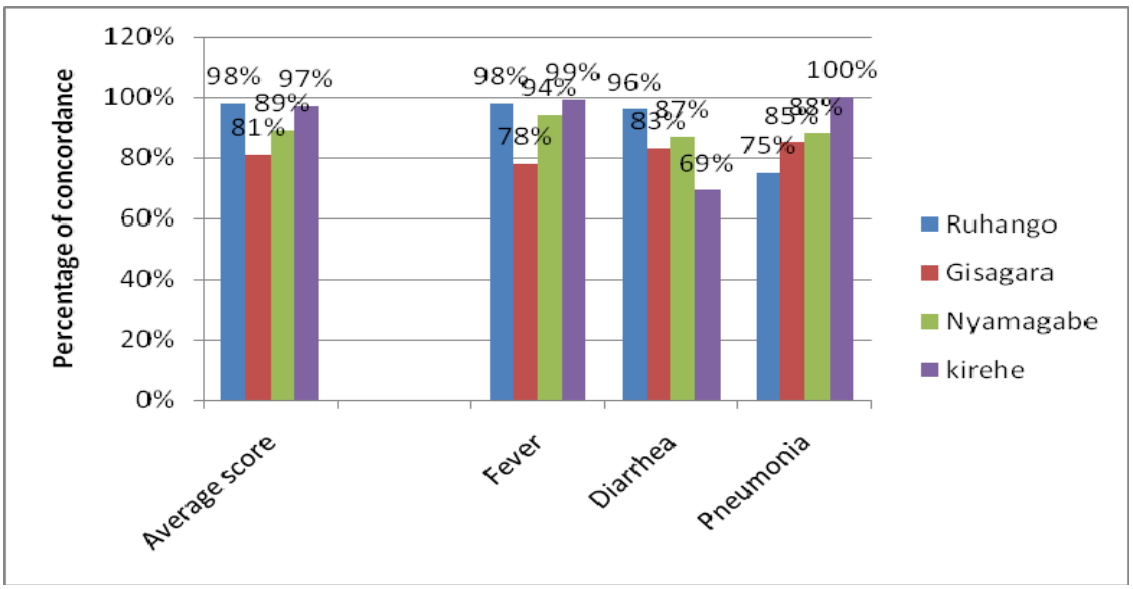
and pneumonia in Kirehe, it was not enough consistent for all these 3 health conditions in Ruhango, Gisagara and Nyamagabe.



Graphic 3: Correspondence between the child health status and the decision taken/record review

IV.1.4.4. Correspondence between age and treatment dosage / record review

The results from the record review indicate that the correct treatment dosage for age was more frequently given globally in Ruhango (98%) and Kirehe (97%) (Graphic 4). But In-depth analysis indicates that 25% in Ruhango and 30% in Kirehe were not given the correct dosage for age respectively for pneumonia and diarrhea. The lower performance of treatment dosage has been noticed in Gisagara (average score=81%) and surprisingly lower for fever (78%). The record review of the Home based Management of Malaria (HMM) strategy conducted in November 2008 indicated that 92% of 402 children treated were given the correct blister for age.



Graphic 4: Correspondence between age and treatment dose / record review

Detailed treatment dosage data are compiled in table 5 below. Given the importance of this indicator, the assessment team tried to better explore the reasons of weak performances through discussion with the CHWs. It appears globally that during the training sessions, they were not clearly taught on how to record this information on the patient individual form. So, it is difficult through the current assessment to link the results from the record review to what has been really given to the child or advised to the mother.

Table 5: Correspondence between treatment dosage and age / record review

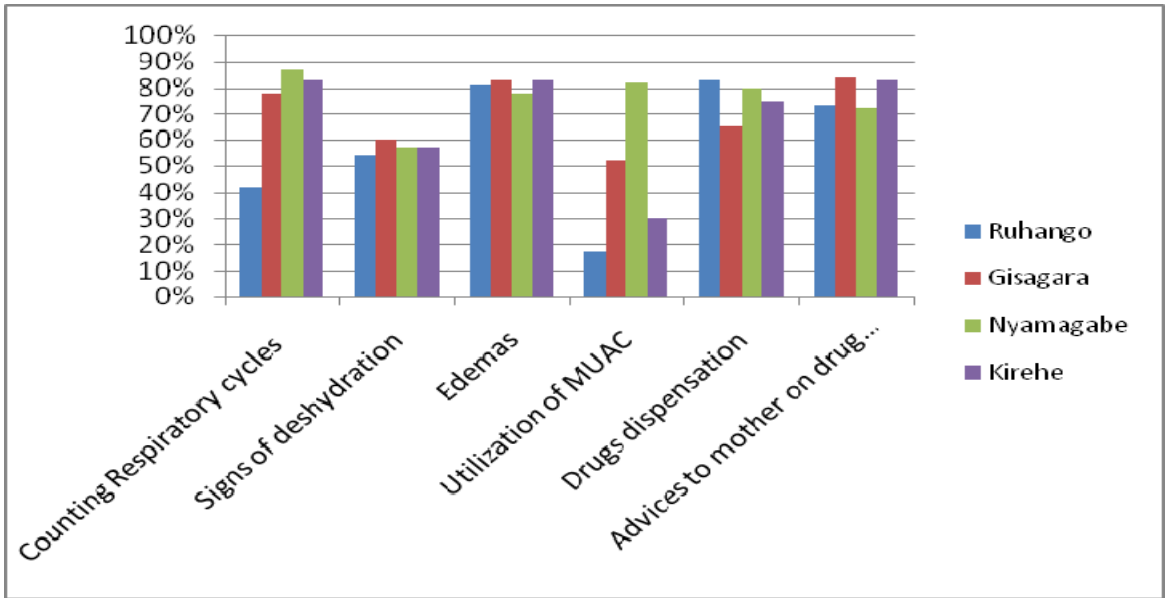
Treatment	Ruhango	Gisagara	Nyamagabe	Kirehe
Fever	**98%**	**78%**	**94%**	**99%**
Red Primo	98%	82%	94%	100%
Yellow Primo	100%	58%	94%	98%
Diarrhea / Zinc	**96%**	**91%**	**87%**	**69%**
< 6 months	83%	83%	87%	100%
> 6 months	100%	92%	87%	60%
Pneumonia / Amoxicillin	**N/A. Only 3 cases**	**85%**	**88%**	**100%**
2-4 months		100%	91%	100%
5-12 months		93%	89%	100%
13-30 months		92%	85%	100%
31 ms-5 years		70%	88%	100%

IV.2. Analysis of the CHWs competencies

Key competencies of the CHWs have been analyzed during the assessment through demonstration. These skills include check for dehydration, check for difficulty breathing, counting respiratory cycles, fast breathing threshold, utilization of the MUAC, the 3 rules of home care, drug dispensation.

The majority of the CHWs have a rather good competency in the research of edemas, counting of the respiratory movements, dispensation of the drugs and the advice to the mother on how to take/handle drugs at home. The big gap of competencies is very marked in the use of the MUAC (Ruhango, 17%, Kirehe, 30% and Gisagara, 52%). A very small proportion of the CHWs in Ruhango can count correctly the respiratory movements (42%). Competencies in the research of the signs of dehydration are very weak in all districts, less than 60% (Graphic 5). Given the

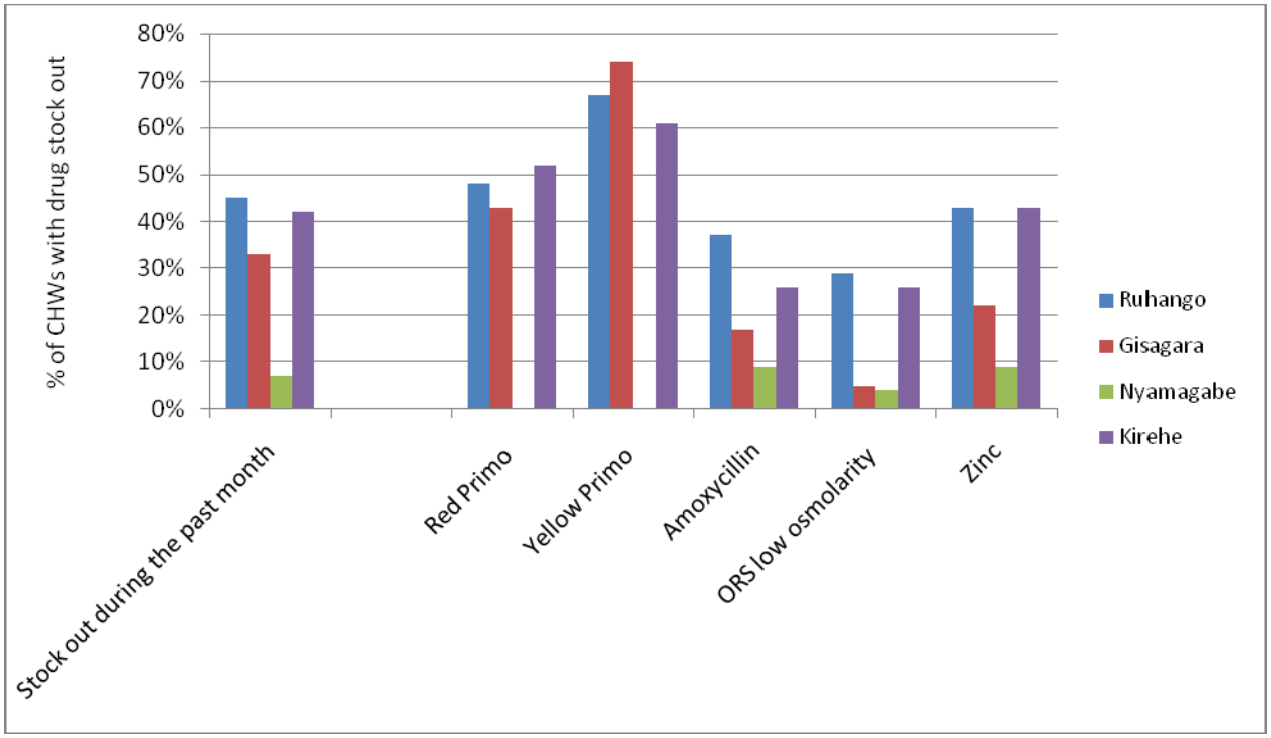
low level of demonstrated competencies, pneumonia cases in Ruhango and malnutrition cases recorded in Ruhango, Gisagara and Kirehe by CHWs should not be reliable.



Graphic 5: Community Health workers Competencies

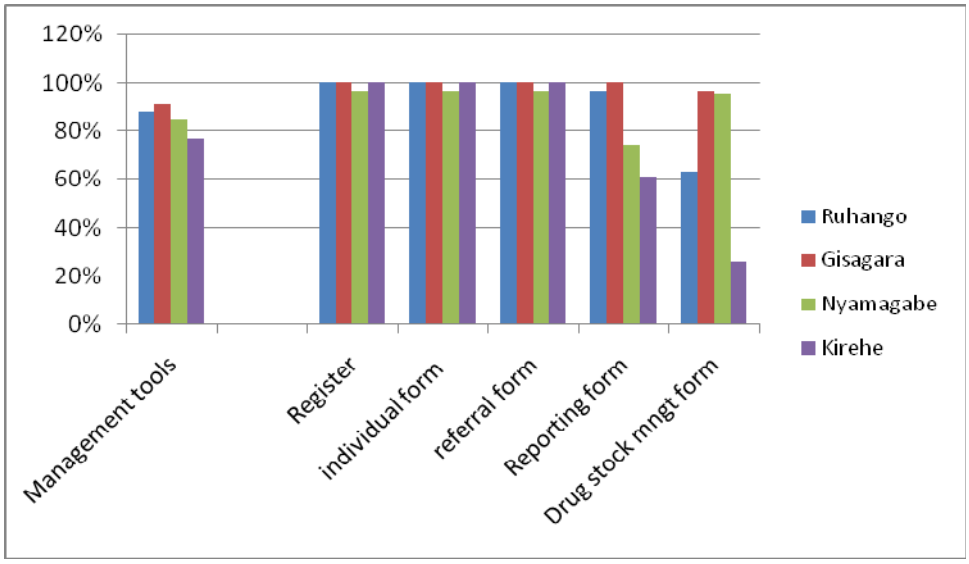
IV.3. Availability of drugs

On the day of the visit, only 58% (55/95) of the CHWs had all the molecules available in their stock. During the past month before the visit, all the 4 districts experienced stock-out of one or more molecules (graphic 6). Malaria treatment drugs (red primo and yellow primo) have been the most frequently missed. In some districts, stock-out of primo lasted during 3 months. Discussion with health workers and drug managers reveals that the district pharmacists are not motivated to apply the principles and rigor of drug management to CCM because there is no benefit, given that they deliver these drugs to health centers free of charge.



Graphic 6: Drugs stock-out during the past month preceding the visit

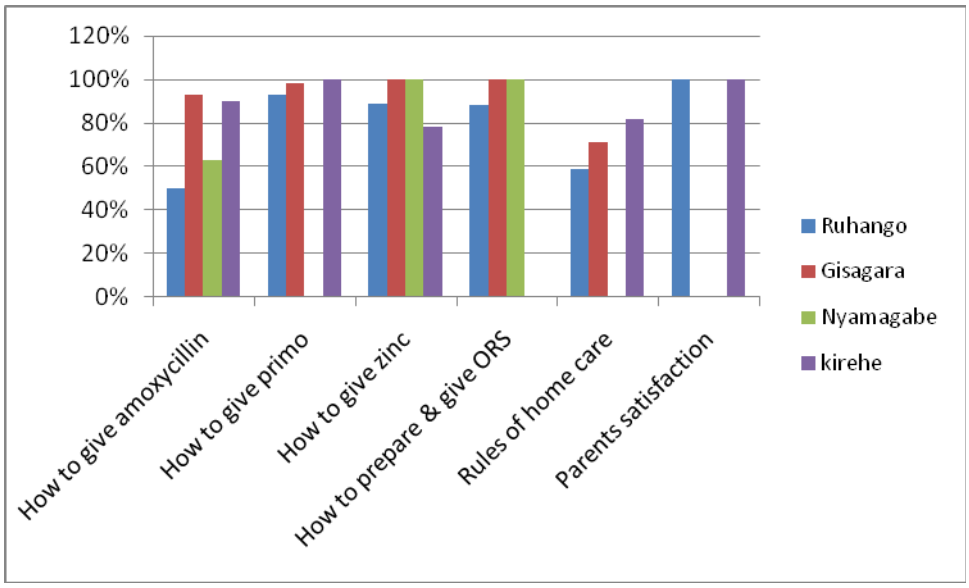
Therefore, the management tools were globally available except the drugs management and the monthly reporting ones (graphic 7).



Graphic 7: Availability of the management tools

IV.4. Parents knowledge and satisfaction after using CHWs services

Parents that recently used the CHWs services globally know how to treat the child at home. But few of them in Ruhango (50%) and in Nyamagabe (63%) know how to give amoxycillin. The rules of home treatment (increase liquid, increase breastfeeding or food, reminding 2 danger signs) are not well known. All the parents are satisfiyed with the care received from the CHWs. The common reason why they are satisfiyed are “CHW availability”, the “quality of the reception”, “ the treatment” and “the information received” (graphic 8).



Graphice 8: Parents knowledge of key information and their satisfaction

V. Conclusion

The first CHWs follow up after they received training reveals that CHWs are really motivated to perform their tasks but they need technical mentoring to master how to fill the forms, how to properly assess, classify, treat the child and counsel the care giver. At this stage, the CHWs globally do not correctly fill the management tools. So the data they will be reporting will not be reliable. In addition, the analysis of their competencies shows that their skills in identifying all danger signs – mainly the critical ones- assessing for pneumonia, severe diarrhea and malnutrition are globally weak, which reinforce the fact that the data recorded should not be reliable.

CHWs performance are strongly linked to the level of simplicity of the management tools, the quality of the training they received - which should be a competency based training focused on exercises, demonstration, role play, video projection, case studies and practices- and the quality of the mentoring they received on site after the training.

Given that the managements tools have been simplified at their maximum after several work sessions involving all partners and the training curriculum developed including all the competency based methods and tools listed above, the gap should be situated at the way the training sessions have been organized and conducted and finally at the level of technical mentoring by the health center after the training session which never been done. Indeed, the training sessions were usually poorly prepared –not all the material are usually made available and no team preparation by the trainers before the sessions- and the different sections of the curriculum were not properly mastered by the trainers leading to insufficient skills of the CHWs at the end of the sessions. Finally, some CHWs use to leave the training session without the material to immediately start working while back home. The longer they wait after the training without starting, the more chance they have to loose the competency acquired during the training session.

The Home based Management of Malaria strategy has been used as a platform to integrate additional health conditions management such as diarrhea, pneumonia and malnutrition. Fortunately, this first follow up of the CHWs did not show negative effect on malaria management. CHWs are still able to properly assess and treat fever. Future follow up should keep emphasizing on this issue.

VI. Recommendations

- Organize a session with the group of national trainers to review the training curriculum, harmonize the way to conduct the training sessions, review each section individually to ensure the appropriate methodology is applied
- Organize a consensus meeting with the district pharmacist to identify the best way to supply drugs at community level
- Define a mechanism to institutionalize the technical supervision of CHWs by the health center
- The community PBF currently in a start up phase will focus on paying for the report submitted instead of the quality of care delivered to children. It is urgent to integrate a quality component into the community PBF to motivate health centers to supervise CHWs and ensure that the system is paying for quality care and not only for quantitative data.
- Several types of MUAC with different graduations exist on the field. Decide which is the standard one to be used, make it available and take out all the others
- Organize that CHWs follow up at least every six months in each health center surrounding villages.
- For the extension of CCM to other districts, start gradually in each health center by the villages far from the health center for the supervisors to master the process before moving progressively to villages close to the health center