

Report prepared for The Reproductive and Child Health Unit  
as part of the Evaluation of the 1994–1999 FP Training Strategy

Technical Report # 25  
**The Tanzania Family Planning Training Program**

The Impact of an Innovative Training Strategy  
on Reproductive and Child Health Service Performance  
of Health Attendants in Tanzania

November 2001

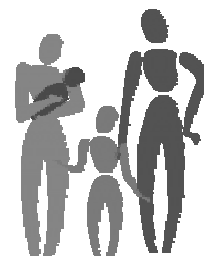
By: Wambui Kogi-Makau  
G. M. Tibaijuka  
Grace Mtawali  
Rose Mapunda

Technical Editor: Richard F. Mason, Jr.



**Tanzania Ministry of Health**

**PRIME II**



---

---

This publication was produced by Intrah at the University of North Carolina at Chapel Hill for PRIME II project and was made possible through support provided by the Center for Population, Health and Nutrition, Global Bureau, U.S. Agency for International Development, under the terms of Grant No. HRN-A-00-99-00022-00. The views expressed in this document are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development or the PRIME project.



Any part of this document may be reproduced or adapted to meet local needs without prior permission from Intrah provided Intrah is acknowledged and the material is made available free or at cost. Any commercial reproduction requires prior permission from Intrah. Permission to reproduce illustrations that cite a source other than Intrah must be obtained directly from the original source.

Intrah would appreciate receiving a copy of any materials in which text or illustrations from this document are used.

---

---

PRIME II is a project for training and supporting primary providers of reproductive health services around the world. PRIME II is implemented by Intrah in collaboration with Abt Associates, Inc.; EngenderHealth; PATH (Program for Appropriate Technology in Health); and TRG (Training Resources Group), Inc.

---

---

ISBN 1-881961-61-3      Suggested citation: Kogi-Makau; W.; G.M. Tibajuka; G.      © 2001 Intrah  
Mtawali, R. Mapunda. The Tanzania FP Training Program.  
Chapel Hill, NC: Intrah, PRIME II Project, 2001. (PRIME  
Technical Report # 25)

---

---

### **Intrah**

School of Medicine

The University of North Carolina at Chapel Hill

CB # 8100, 1700 Airport Road, Suite 300, Chapel Hill, NC 27599-8100 USA

Phone: 919-966-5636 • Fax: 919-966-6816

E-mail: [intrah@intrah.org](mailto:intrah@intrah.org) <http://www.intrah.org>

---

---

<b>East/Southern Africa</b>	<b>Asia/Near East</b>	<b>West/Central/North Africa</b>	<b>Latin America/Caribbean</b>
P.O. Box 44958 00100-Nairobi Kenya Phone: 254-2-211820 Fax: 254-2-226824	IFPS Liaison Office 50M Shantipath Gate Number 3 Niti Marg Chanakyapuri New Delhi 110021, India Phone: 91-11-464-8891 Fax: 91-11-464-8892	B.P. 5328 Dakar-Fann, Sénégal Phone: 221-864-0548 Fax: 221-864-0548	Federico Henríquez y Carvajal #11 Los Casicasaz Santo Domingo, Dominican Republic Phone: 809-686-0861 Fax: 809-221-2914

---

---

- 
- 
- 

- For more information on this publication or to order additional copies, please contact the Communications Unit at the Chapel Hill office listed above.





# Contents

- Authors and Acknowledgements ..... vii
- Acronyms ..... ix
- Operational Definitions ..... xi
- Executive Summary ..... 1
- Introduction ..... 3
  - Background ..... 3
  - The HA Training Curriculum ..... 4
  - Problem Statement ..... 5
  - Purpose and Objectives of the Impact Study ..... 5
  - Hypothesis of the Study ..... 6
- Methodology ..... 7
  - Study Location ..... 7
  - Study Design ..... 7
  - Sampling and the Sample ..... 8
  - Study Team ..... 8
  - Data Collection Instruments ..... 9
  - Data Quality Control ..... 10
  - Data Processing ..... 11
- Results ..... 13
  - General Characteristics of RCH Service Providers ..... 13
  - Impact of Training on HAs’ Knowledge and Skills to Provide RCH Services ..... 14
  - Impact of Training Strategy on Provision of RCH Services ..... 15
  - Attributes of the Training Strategy ..... 19
- Conclusions and Recommendations ..... 35
- References ..... 39
- Appendices ..... 41



# *Boxes, Tables and Appendices*

<b>Boxes</b>	Box 1	Most appropriate training methods and skills according to trainers ..... 28
	Box 2	Ranking of topics by onsite supervisors according to best suited learning methods ..... 29
<b>Tables</b>	Table 1	Distribution of intervention sites by MCHA status during planning of the study and actual study time .. 8
	Table 2	Distribution of RCH service providers by cadre for type of facility (intervention and comparison groups) ..... 13
	Table 3	Distribution of RCH service providers by type of FP/RCH training for type of facility (intervention and comparison groups) ..... 14
	Table 4	Distribution of FP/RCH service providers by the year they received FP/RCH training by type of facility (intervention/ comparison) ..... 14
	Table 5	Mean number of clients for contraceptive methods in the period before, during and after training..... 16
	Table 6	Mean number of at risk clients: comparison between periods before, during and after training (intervention and comparison sites) ..... 17
	Table 7	Views of onsite supervisors on specified attributes of the training approach ..... 27
	Table 8	The perception of onsite supervisors on the learning aids..... 30
<b>Appendices</b>	Appendix 1A	Data sources and collection methods ..... 43
	Appendix 1B	List of the records which yielded data on the eighteen indicators..... 43
	Appendix 2	Mean monthly contraceptive clients for intervention and comparison groups before, during and after training of HA..... 44
	Appendix 3A	Mean monthly at risk clients in facilities with trained HA ..... 45
	Appendix 3B	Mean monthly at risk clients in facilities with non-trained HA..... 46
	Appendix 4A	Mean monthly immunization in facilities with HA trained..... 47

Appendix 4B	Mean monthly immunization in facilities with non-HA trained.....	47
Appendix 5	Trends in immunization against BCG and measles .....	48
Appendix 6	Trends in immunization against DPT1, DPT2 and DPT3.....	48
Appendix 7	Trends in immunization against Polio0, Polio1, Polio2 and Polio3 .....	49
Appendix 8	Number of HA and skills in which they have limitations .....	49



# *Authors*

**Wambui Kogi-Makau** is a Consultant for PRIME/Intrah.

**G.M. Tibaijuka** is an Assistant Training Coordinator, Reproductive Health Unit, Ministry of Health, Tanzania.

**Grace Mtawali** is the Clinical Program Officer for PRIME/Intrah based in Nairobi, Kenya.

**Rose Mapunda** is the Reproductive Health Training Officer for PRIME/ Intrah based in Nairobi, Kenya.

# *Acknowledgments*

This report starts with a dedication to the late Ms. Angelina Mayombo (who passed away on Sunday, May 2, 1999) in recognition of her contribution to the implementation of the HA Training Strategy. Her last days included participation in collection of data for this impact study. She was a member of the core evaluation team. Ms. Mayombo participated in all the Phases of the Strategy Implementation in her capacity as a Member of the Regional Training Team. May her soul rest in peace.

We acknowledge Dr. G. Mbaruku, the Regional Medical Officer for Kigoma Region, Dr. R.M. Mnenge and Dr. V.R. Bangi the DMO for Kibondo and Kasulu respectively for availing and mobilizing logistical support during the data collection phase. In addition, we acknowledge the participation of Dr. Mnenge in site visits and data verification for this impact study. We also acknowledge the participation of Bertha Ndalituke (Regional Trainer) in data collection/verification.

We thank the following district-based officers who participated in supervision and verification of data as an on-going process and also in the final data collection/verification visit. The following people accompanied the team through the districts as we searched for health facilities: Mr. Mweko (Senior Hospital Secretary), D. Rweyongeza (DMCHCo), M. Teikwa (District Public Health Nurse), Edna Lyimo and Adelina Kamwana (HA District Trainers), E. Sonoko (District Cold Chain Operator), all of Kibondo and their counterparts in Kasulu district, M. Mbonigabha (DMCHCo) and E. Matanwa (HA District-based trainer).

We are grateful to the COs/ACO of all the study facilities and other staff who assisted in collection and screening of records for data. We are indebted to Clement Kihinga (IEC Research Officer with the RCH-Unit) and his team of data entry clerks for ensuring timeliness in data entry.

Finally, to the RCH-Unit, Intrah-RO/N and Intrah-CH we say “Shukran” for entrusting this assignment to us and reviewing the several versions of this document, greatly enhancing the final product. It was a challenge we undertook with great pleasure.



# *Acronyms*

BCS	Basic Clinical Skills
CCS	Comprehensive Clinical Skills
CO/ACO	Clinical Officer/ Assistant Clinical Officer
DBL	Distance-Based Learning
DCCO	District Cold Chain Operator
DED	District Executive Director
DHMT	District Health Management Team
DMO	District Medical Officer
DNO	District Nursing Officer
FP	Family Planning
HA	Health Attendants
HSR	Health Sector Reform
IEC	Information Education and Communication
IRCHS	Integrated Reproductive and Child Health Skills
IUCDs	Intra-uterine Devices
LTM	Long Term Methods
MCH	Maternal Child Health
MCHA	Maternal Child Health Aides
MOH	Ministry of Health
NM	Nurse Midwife
OJT	On-the-job Training
PHNB	Public Health Nurse B
RCH	Reproductive Child Health
RCHS	Reproductive Child Health Section
RHMT	Regional Health Management Team
RMO	Regional Medical Officers
RTMA	Resident Training Management Advisor
RTT	Regional Trainers Team
STI	Sexually Transmitted Infection
TBA	Traditional Birth Attendants
TOR	Terms of Reference



# Operational Definitions

- Double protection:** The use of condoms by male or female clients with or without another family planning (FP) method but with a dual-purpose intent. This means the client was using the condom because of its double protection capacity of preventing transmission of STI including HIV and unwanted pregnancies. This distinguishes the deliberate use of condoms for double protection from receiving double protection because one is using condoms as per the Cairo Conference on Population.
- New FP client:** A client who has never before used a FP method.
- Revisits:**
- other clients
    - clients who have resumed FP after a break, e.g., due to pregnancy
    - a continuing client who started using FP at other sites.
- Risk Factors for Women:**
- Too soon:* Women who become pregnant before the age of 18 years.
- Too late:* Women who become pregnant after the age of 35 years
- Too close:* Women who become pregnant at intervals of less than two years
- Too many:* Women who have had more than four pregnancies.
- Postabortion clients:** The clients who sought assistance from the Health Facilities for problems/complications consequential to abortion or who are identified as requiring postabortion care (PAC) coincidental to the primary service they sought from the provider.
- RCH:** Reproductive and Child Health is a concept that encompasses services such as, FP, pre, intra and postpartum care, postabortion care, child survival oriented services (e.g., immunization) and STI and HIV/AIDS service. The scope includes preventive aspects (e.g., education and provision of information), treatment, counseling and referral.



# *Executive Summary*

This report is based on a study, implemented in Kasulu and Kibondo districts in Kigoma Region, Tanzania, to assess the impact of a health attendants' pilot training strategy on reproductive and child health (RCH) services. The strategy was developed and implemented by the RCH-Unit of Ministry of Health (MOH) with technical assistance from Intrah/PRIME and was implemented with financial support from USAID.

The training strategy, covering a period of four months (July to October, 1998), used a combination of on-the-job-training (OJT) and traditional central and distance-based learning (DBL). The training was divided into four modules. Modules 1 and 3 were centrally based while Modules 2 and 4 used OJT and DBL in which the HAs remained at the facilities where they worked. The DBL was backed by supportive supervision from facility in-charge staff as onsite supervisors, district-based supervisors and trainers and regional trainers. It also utilized two key learning aids (developed as part of this strategy): a handbook and solar-powered cassette player with audiotapes. Each trainee was given a solar/battery-powered cassette player and six audiotapes containing course content.

The study utilized three different intervention designs to assess three different levels of impact.

- 1) The study used pre- and post-test assessments of knowledge and skills to determine whether learning occurred among trainees as a result of the training.
- 2) A non-equivalent control group design was used to compare whether the training significantly influenced provision of reproductive and child health services in trainee facilities over facilities where providers had not been trained.
- 3) The study requested feedback from various players on the HA training strategy.

This assessment addressed attributes such as appropriateness, acceptance, achievement of the project's objectives, how the project was comprehended/perceived and the reliability of this training approach.

The HA training led to acquisition of knowledge as indicated by a significant change in the mean score of Module 1 pre-test (32.8) compared to post-test mean score (71.4) ( $P < .05$ ). A similar trend was found in Module 3 in which the mean pre-test score (70.5) was significantly lower than the post-test mean score (87.1) ( $P < .05$ ).

The skills assessment demonstrated a substantial gain in two skills: antenatal client assessment and conducting growth monitoring. However, counseling services, care for mothers and neonates during the postpartum period and care during and monitoring progress in labor did not improve. As a result, the investigators concluded that HAs gained adequate skills in some areas while continued learning is essential in others, possibly through further OJT by the RCH trained CO/ACO at the HA work site. Comparison sites are also in need of improved training to improve their RH/FP skills.

The data collection period for the service statistics assessment was divided into three blocks: prior to training (March - June 1998), during training (July - October 1998) and after training (November 1998 - February 1999). The intervention group comprised 29 health facilities while the comparison group contained 25 facilities. For the comparison group, data were collected only for the periods before and after training. Six study

instruments (five questionnaires and one data collection sheet) were used as data collection tools.

From the RCH-Unit through the regional, district and facility levels, the training approach was considered to be suitable, especially for the targeted (HA) cadre. It was agreed that this target group required a training approach that emphasized practice-oriented learning methods instead of a traditional didactic approach. To meet these needs, the project provided two key learning aids: the handbook and cassette tapes. The handbook was considered to be appropriate for three reasons: the handbook satisfactorily covered the training content, it was well illustrated, and it utilized language appropriate to the target audience. The cassette tapes were considered to be suitable learning aids because they were audible and contained appropriate and adequate content. However, audibility reportedly decreased sharply as battery power diminished.

Nevertheless, feedback also highlighted areas for improvement. Respondents pointed out that the approach was expensive. District planning boards that are responsible for financing training in the post health sector reform (HSR) era may not be able to afford to replicate the training. As a result, they may revert to the traditional central training approach. Respondents also reported that the use of solar-powered audio tape players proved to be too sophisticated for the target facilities. Solar-powered cassette players were found to be vulnerable to frequent breakdown and other minor mishaps. As a result of these failings, a recommendation was made that ordinary battery-powered cassette players be adopted for future training. A recommendation was also made to review and edit the handbook to reduce its size. While the HAs generally reported that the language used in the handbook was easy to understand and the illustrations were clear, they reported that there was room for improvement in these areas as well.

The sustainability of this training strategy depends on the availability of sufficient funding to carry out all of the project's elements, especially learning at the work site. The feasibility of replicating this successful intervention remains to be demonstrated.

The HA training strategy set out to achieve certain objectives: develop a curriculum and two complimentary learning aids; select and prepare trainers, and both on and offsite supervisors; update facility in-charge staff on RCH; and train a selected number of HAs. It was also planned as a pilot study for testing all of the components and documenting the strengths and weaknesses of the approach. In addition, the training was geared at empowering both the DHMT members and the staff at the intervention facilities. This evaluation concluded that the HA training strategy achieved these objectives.



# *Introduction*

## **Background**

Prior to 1994, the Tanzania Family Planning Policy Guidelines, Service Standards and the Tanzania Family Planning Training Strategy were developed to guide FP service delivery and training. These documents identified nurses, maternal and child health (MCH) aides (MCHA) and Medical Assistants (currently known as clinical officers) as primary MCH/FP service providers. At a 1994 meeting of Regional Medical Officers (RMO) it was learned that expansion of FP services, particularly in peripheral rural health units, was severely restricted because of the limited numbers of the fore-mentioned cadres in each district. In order to increase the number of health workers eligible to deliver reproductive and child health (RCH) services, Health Attendants (HAs) were proposed as a new and suitable cadre to fill this service need. HAs are front-line health workers with at least elementary school education who receive a one-year formal training course. They usually live in the community where they work and thus were seen as a potentially good resource for the expansion of FP/RH efforts (see PRIME Technical Report # 3, July 1996). As a result, the 1994 revised Tanzania National Policy Guidelines and Standards for training and service delivery included HAs among the priority cadres for FP training alongside other cadres (Intrah, 1996, p.1).

It was noted that very little was documented about HAs (who they are, what they do and what they would be capable of doing). Due to this limitation it was difficult to formulate a strategy for their effective participation in the expansion of FP/RCH services.

In response to this information gap coupled with the demand and expressed need for their training, a three phase pilot project was designed. The first Phase consisted of a needs assessment study whose findings and recommendations would form the basis for designing a training strategy. Phase Two involved the development, pre-test and refinement of training materials. Phase Three comprised the training of HAs and the evaluation of the training project as a whole. (Intrah, 1996).

The needs assessment survey established that HAs provided the following services: curative care, immunization, child growth and development monitoring, antenatal care and delivery, home visitation, health education and FP (Intrah, 1996).

The goal of the impact study was to measure individual and service level changes that resulted from the implementation of the HA training strategy. This impact assessment is the topic of this report.

### *Training Modules and Content*

Module 1 consisted of two weeks of group/centralized learning and clinical practice. This learning focused on the following theories and skills: providing client-oriented services consisting of general health and all FP methods' education; counseling and providing FP methods (except IUD and voluntary surgical methods); counseling for unsolicited services; organizing the clinic including infection preventive measures; how to use the RCH Handbook and solar operated cassette player and taped skills; and how to monitor self-learning through use of a notebook with a list of skills for the centralized learning and the subsequent distance-learning module (Module 2) at own work site.

Module 2 comprised six weeks of practice skills cited in Module 1 at own work site with technical and administrative assistance of the onsite clinical or assistant clinical office and district-based trainers and supervisor.

Module 3 focused on centralized theory and actual practice for two weeks including, providing client-oriented maternal (pre-, intra-postpartum) services, under five year old services, services to high risk groups of both sexes and adolescents; providing preventive STI/HIV/AIDS services; providing postabortion counseling including emergency contraceptive pills.

Module 4 involved four weeks of active learning and practice using the methodology described for Module 2 and two weeks meant for skills assessment on all the skills from Module 1-4 and certifying.

### *Tape-talks*

There were eight Kiswahili audio "tape talks" which were selected based on FP trainers' experience of how long it usually took to help trainees to master them. In a phased training program we expected the trainees to come out with safe competence in selected skills and beginning skills in a few. The skills in the audio cassettes fell into the category of "beginning skills."

The skills were presented in simple real to life client/provider situation. A presenter from a familiar radio program read the situation. The presenter simulated clients or the HA in serving the client, positively or negatively/inefficiently. At special stops the presenter asked the HA/learner in training to write in his/her notebook how he/she would have managed the situation. After making encouraging remarks for the task, the presenter asked the learner to check in the Handbook or asked the learner to rewind the tape and even to try/simulate the skill, etc. Immediate reinforcement of learning took place. Thereafter, according to the training guidelines, the learner made his/her own decision to consult further with the onsite supervisor for any further help.

The titles of the audio taped sessions included:

- How to use the HA Handbook and tapes.
- How to achieve quality of care through client-centered/ oriented services.
- How to conduct interactive counseling.
- How to conduct a group education session.
- How to screen and counsel clients with STI.
- How to provide unsolicited health care services.

**Problem Statement**

The study assessed the impact of the HA training strategy by: measuring learning among trainees, comparing service delivery in facilities with staff that received the intervention with service delivery in facilities with staff that did not receive the intervention and by soliciting feedback from key informants. Three effects of interest were studied:

- The influence of the strategy on provider performance (knowledge and skills) and services provided (range, volume and quality).
- The acceptance of the training strategy by the MOH policy makers, trainees, trainers, supervisors and facility in-charges.
- The appropriateness of the strategy as viewed by MOH policy makers, trainers, supervisors and facility in-charges.

**Purpose and Objectives of the Impact Study**

The purpose of the study was to establish whether the HA training strategy improved the RCH skills of HAs and service delivery at health facilities where trained HAs worked, as well as soliciting input about the program from a variety of sources.

*The objectives of the study were*

1. Establish whether the HAs acquired knowledge as a result of the HA training:
  - Was there a difference in their knowledge before and after training using pre-/post-test scores obtained during the training process?
  - What was the trainees' level of skills using skill assessment scores obtained during the training?
2. Establish the influence of the training strategy on selected aspects relating to provision of RCH services.
  - What was the range of services being offered (contraceptive methods, screening for STI, immunization of children, counseling and referral services for groups at risk) and did this change during the project?
3. Determine the ability of HAs to provide RCH services, resulting from skills gained from the training.

- Perform a qualitative assessment of the performance of HAs as perceived by the facility in-charges.
4. Establish how the training strategy was comprehended and perceived in terms of its appropriateness, reliability and the achievement of its objectives.
- Did the strategy achieve its objectives?
  - How was the strategy comprehended/ perceived?
  - Evaluate the appropriateness of the strategy by looking at different dimensions of the training approach and learning aids.
  - Is the strategy reliable?

### **Hypothesis of the Study**

The performance of the facilities where the HA training strategy was piloted will be higher than in the facilities in which the strategy was not tested. Three additional sub-hypotheses were used in testing this general hypothesis.

- There is an increase in the level of HA knowledge before and after training.
- There is an increase in the volume of RCH/FP services within the sites before and after training of HAs.
- There is an increase in the range and volume of RCH/FP services at the sites with trained HAs compared with those without trained HAs.

# *Methodology*

## **Study Locations**

The HA training strategy pilot project was implemented in Kasulu and Kibondo districts of Kigoma region. Both of these districts were included in the study. The 29 health facilities from which HAs were trained formed the intervention group and the 25 facilities in which HAs did not take the HA training constituted the comparison group. A total of 54 facilities participated in the study.

The study facilities for the intervention group consisted of 21 dispensaries, six health centers and two mission hospitals, while those of the comparison group consisted of two health centers and 23 dispensaries. No district hospitals were included in this study.

Kasulu district covers an area of 9,324 sq. km. The estimated population for the district for 1999 is 439,632. Of this number, 20% (87,926) are women of child bearing age (15-45 years of age) and 17,200 of these women are expected to become pregnant within the year. The estimated population of children below the age of five years is 87,926 of whom 17,585 are expected to be under the age of one year. Kasulu district has 62 health facilities, three district hospitals, six health centers and 53 dispensaries. Most of the health facilities provide MCH and FP services. Kasulu has 300 registered traditional birth attendants (TBAs) who conduct about 45% of the deliveries.

Kibondo district has an estimated population of 245,128. Of this number, 18% (44,123) are women of childbearing age of whom 11,276 are expected to become pregnant within the year. The estimated number of children under the age of one year is 11,276. Kibondo has 50 health facilities, including one district hospital, four health centers and 45 dispensaries. The district has 780 registered TBAs who conduct approximately 42% of the deliveries.

## **Study Design**

This was a comparative study that involved:

- Pre-test and post-test of HA skills and knowledge levels (before and after training).
- Before and after intervention (training) comparisons of service data among sites with trained HAs.
- Inter-group comparisons in performance data between facilities with trained HAs and facilities with untrained HAs.
- All of the 29 HAs who were trained were given a knowledge test prior to the beginning of the training and again after completion of the training.

Before and after training service statistics in the facilities with trained HAs were collected in the following manner:

In a longitudinal study format, quantitative data was collected over a period of 12 months, divided into three blocks of four months. Block

1 (March to June 1998) represented the period prior to initiation of training of HAs. Block 2 (July to October 1998) represented the period during the training of HAs and Block 3 (November to February 1999) represented the post training period. Data from Block 1 and 3 were used to show the differences in performance of health facilities before and after training.

## Sampling and the Sample

The sampling frame was a listing of the 64 health facilities from which the 109 HAs were drawn.

A multi-stage sampling was applied to select 30 sites from which HAs were to be trained. First, the 64 sites were stratified by whether or not they had a MCHA. This stratification yielded 47 sites with MCHAs and 17 sites without MCHAs. Accounting for one of the study's objectives, which was to establish whether the presence of a MCHA in a health facility influenced its performance, all 17 sites without MCHAs (nine in Kasulu and eight in Kibondo) were selected. From the 47 sites with MCHAs, 13 sites were randomly selected, for a total of 30 intervention sites. Out of the 34 remaining sites, 25 were randomly selected to constitute the comparison sites (Yumkella, 1997 and 1999).

The final stage of multi-stage sampling involved selecting one HA from each facility. At facilities having more than one HA participating in training, one HA was selected at random.

It should be noted that there was a three year lapse between the time the pilot and comparison sites were selected and the time the training of HA and the study were implemented. Consequently, the MCHA deployment pattern changed in such a way that by the time of study more of the selected sites had a MCHA. Table 1 shows the planned and actual MCHA status of the intervention sites.

<b>Table 1      Distribution of intervention sites by MCHA status during planning of the study and actual study time</b>			
Period	No. of sites without MCHA	No. of pilot sites with MCHA	Total
Planned	17	13	30
Actual	13	16	29

## Study Team

The following constituted the core verification study team: one Intrah consultant, one Assistant Coordinator of Training (central level), two DMCHCo (for each district), two regional training team (RTT) members and three district-based trainers. They were assisted by onsite staff with the facility in-charge as the primary contact and to a lesser extent the MCHAs, HAs and other staff in that order.

In addition to the verification team, members of the DHMT from each respective district also participated in the data collection exercise. In Kasulu, the Senior Hospital Secretary joined the team and in Kibondo, the DMO, the District Nursing Officer (DNO) and the DCCO accompanied the verification team. The Intrah consultant and the Assistant Training Coordinator were present throughout the data collection time in both districts. The RTTs participated in data collection in Kasulu only. The other district-based members of the team participated only in their respective districts.

Completing Form A (the main instrument for quantitative data) was the responsibility of the following:

### ***Intervention facilities***

The persons in charge of the facilities (CO/ACOs) in which HAs were trained were responsible for filling out this form. They were assisted by facility staff particularly the MCHAs and the HAs. The study team verified and collected missing data in collaboration with facility staff.

### ***Comparison facilities***

The data was collected and the form completed primarily by the off-site members of the study team with assistance from facility in-charges, MCHAs and HAs.

## **Data Collection Instruments**

A total of six instruments were used in this study. Form A targeted quantitative service data, while Questionnaires A, B, C and E and the RCH-Unit questionnaire targeted individuals who played varying roles in the implementation of the strategy as follows:

### ***Form A***

This form was used to tabulate facility-level service statistics for the 18 service indicators. The indicators fell into three categories: contraceptive methods, services targeting high-risk groups and immunization of children under the age of five years.

### ***Questionnaire A***

Addressed opinions related to the curriculum particularly its content, time allocation, views on the handbook, audiocassettes and the cassette tape player, teaching methods and the role of the trainers in assisting the HAs during training and the learning that occurred. The trainers of HAs were the respondents for this instrument.

### ***Questionnaire B***

Addressed matters related to the two main learning aids (handbook and “tape talks”) and the approach in general as viewed by the District MCH service supervisors and trainers.

### ***Questionnaire C***

Addressed the use of the handbook, the training approach and the experiences of the CO/ACO as the facility onsite supervisors.

### ***Questionnaire D***

Was a focus group discussion guide used to gather information from HAs.

### ***Questionnaire E***

Aimed at gathering information on respondents' views on the design of the approach, the involvement of the district staff in planning and implementation of the strategy and its advantages and limitations. This questionnaire also solicited views on preparedness of the districts to continue HA training, availability of resources and capacity building needs for staff, and on matters related to supervision.

### ***RCH-Unit questionnaire***

Addressed the policymakers' perception of the training strategy and the way forward.

The instruments were reviewed by both the RCH-Unit and Intrah-RO/N but were not pre-tested for comprehension. The decision to not pre-test the instruments was justified on the basis that it would have required asking potential respondents to answer the questions and risked biasing their later responses. It was decided that the entire pilot testing of the HA training be taken as a pre-test of the strategy.

Appendix 1A shows the sources from which data were obtained and the methods used. Appendix 1B shows the specific records from which data were compiled.

## **Data Quality Control**

Data quality control targeted both the reliability of the instruments and the validity of the data. Standardizing operational definitions of terms was cardinal to reliability and validity. The standardization was done to synchronize meanings of some of the terms having more than one interpretation. For example, the term '*refer*' for the intervention facilities could also mean *intra-facility* referrals, that is, from HA-to-CO/ACO-to-HA or *inter-facility* referrals. The latter meant referral of clients from one facility to another (offering services at a higher level, e.g., one with capacity to offer caesarian section as opposed to one without such services). The evaluation team agreed to the use of inter-facility referrals for this study.

DMCHCo and trainers verified data at several intervals during the data collection phase. The evaluation team also verified data on two occasions. At the end of data collection at each facility, the instrument was inspected to ensure completeness and to detect errors in data recording. Discrepancies in data collected by the CO/ACO and data collected by the study team were discussed and resolved on a consensual basis.



Lack of kerosene, breakdown of the cold chain system and lack of some of the contraceptives were events limiting the completeness of the data.

## **Data Processing**

### ***Data management***

Overall data management was the responsibility of the Intrah consultant. The Intrah consultant in the field coded all of the quantitative data as it was collected during the data collection phase. The RCH-Unit Information Education and Communication (IEC) Research Officer managed the data entry. Four data entry clerks and a specialist assisted him with the EPI6 computer package, developing the data entry program in EPI6. Further data cleaning was done prior to analysis.

### ***Data analysis***

#### **Analysis of quantitative data**

The data was analyzed using the Statistical Package for Social Science (SPSS) software. Frequency distributions were performed for all variables. The data were summarized using descriptive statistics such as the mean, mode and the median. T-tests were performed on the means of the difference between the pre- and the post-intervention figures. Chi-square tests were also used for some analyses.

The summarized data is presented as Tables and Graphs. To conform with the TOR requirements that monthly means be shown, they have been presented as appendices while the blocks of data reflecting the periods before and after training are presented in the main body of the report. In order to enhance visual perception of some of the findings, they have been illustrated in graphic form.

#### **Analysis of the qualitative data**

Components of qualitative data were analyzed by searching for attributes that were associated with the training strategy. These were then organized into units of meaning to be able to make summative statements about the performance of HAs, how the training strategy was comprehended and perceived, the reliability of the training strategy and whether it achieved its objectives



# Results

## General Characteristics of RCH Service Providers

### *The cadre of health providers*

Within the 54 facilities, 173 people provided FP/RCH services. Of this number, 93 (53.8%) worked in facilities with trained HAs and 80 (46.2%) worked in the comparison facilities. The distribution of the providers of RCH services is presented in Table 2. In both intervention and comparison facilities, the HAs comprise the highest percentage of providers, followed by COs/ACOs and MCHA. Differences in the distribution of providers between the two groups were non-significant.

In addition, further exploration on whether the presence or absence of a MCHA had a significant impact on the number of clients seen showed no effects for group sites with or without MCHA, nor among comparison sites.

Cadre	Intervention group (N=93)	Comparison group (N=80)	Combined (N=173)
	%	%	%
<b>Clinical Office/Assistant Clinical Officer Maternal and Child Health Assistant</b>	31.2	30.0	30.6
<b>Public Health Nurse B Nurse Midwife</b>	17.2	25.0	20.8
<b>Nursing Officer III Health Assistant</b>	3.2	1.3	2.3
<b>H. Assistant</b>	3.2	5.0	4.0
<b>Total</b>	1.1	0.0	0.6
	41.9	35.0	38.7
	2.2	3.8	3.0
<b>Total</b>	100.0	100.1	100.0

### *FP/RCH training*

Out of the 173 service providers, only 24.3% had received any in-service training in FP/RCH prior to the intervention. The distribution of service providers by the type of training is illustrated in Table 3. As this table shows the distribution of pre-intervention in-service training was similar between the two groups.

**Table 3 Distribution of RCH service providers by type of FP/RCH training prior to intervention for intervention and comparison groups**

Type of Training	Intervention group (N=93)	Comparison group (N=80)	Combined (N=173)
	%	%	%
No training	78.5	72.5	75.7
RCH update	2.2	0.0	1.2
FP Clinical Skills training (BCS, CCS, UMATI Family Planning)	12.9	17.5	15.2
IRCHCS	3.2	7.5	5.2
Undefined	3.2	1.3	2.3
Total	100	98.8	99.6

**Impact of Training on HAs' Knowledge and Skills to Provide RCH Services**

**Knowledge**

HAs participating in the training were assessed on their knowledge of topics covered in curriculum before and after Modules 1 and 3. Based on analysis of pre- and post-test scores, it appears that substantial learning occurred as a result of the HA training. For Module 1, 28 of the 29 HAs (96.6%) at pre-test compared with only ten (34.5%) at post-test failed to achieve the minimum score of 65%. Improvement was also observed for Module 3: six HAs (20.7%) failed to achieve the minimum score at pre-test compared with only one HA (3.4%) who failed at post-test.

The pre-test and post-test mean scores also seem to indicate that there was a significant gain in knowledge by HAs following implementation of Module 1 and 3 (see Table 4). The mean score for the Module 1 pre-test was 32.8 while the mean score for the Module 1 post-test was 71.4. The difference between the two was highly significant (P<0.01). The means for pre- and post-Module 3 training were, respectively, 70.5 and 87.1. Due to the small number of trainees overall (N=29), however, these two scores were not significantly different (P=0.12). Based upon these two analyses, it is reasonable to conclude that the training positively impacted HA knowledge.

**Table 4 Mean Pre-test and Post-test Score for Trained HAs (N=29)**

Module	Pre-test %	Post-test %	Difference %
Module 1	32.8	71.4	38.6**
Module 3	70.5	87.1	16.6

\* \*\*= Difference is significant (P<0.01)

**Impact of  
Training  
Strategy on  
Provision of  
RCH Services**

***Skills***

In addition to knowledge tests, the RH delivery skills of trainees were assessed through simulations after Modules 1 and 4. The skills that were assessed for Module 1 included: counseling high-risk clients, client education, counseling for informed choice, starting a client into a FP method, assessing antenatal clients and growth monitoring procedures.

All of the trainees (100%) performed well in antenatal client assessment and growth monitoring of children, attaining the minimum pass score of 65%. Most of the trainees (82.8% and 89.3% respectively) attained the pass-mark in counseling for informed choice and starting clients on a FP method. For counseling of high-risk clients and client education, however, only 69.2% and 58.6% obtained the pass-mark.

Trainee skills were also assessed after Module 4. According to this assessment, the RCH clinical skill areas that posed the most difficulties to the HAs were: counseling oriented services (24.1% had difficulties), provision of care to mothers and neonates during the postpartum period (20.7%) and providing care and monitoring progress during labor (17.2%). Ten percent or less of HAs had difficulty with the other skills that were assessed. According to the trainers these inadequacies were due to lack of opportunities to practice the skills under close supervision and guidance during Module 3.

The goals of the HA training project included increasing both the scope and the accessibility of RCH services. To assess whether the training achieved these goals, the study sought to document the influence of the training on services by collecting service statistics for 18 selected RCH indicators. Data collected included the number of clients who received contraception by method, number referred for long-term methods of FP and the number of at-risk clients – those who were counseled and those who were screened and/or referred for STI. Data collected also included immunization of children by dosage (below the age of five years) as an indicator of impact. Monthly data are presented in the Appendix Section.

***Contraceptive methods***

Paired T-tests were performed on the difference of the mean number of clients for the four months before and the four months after training between intervention and comparison sites. Based on these analyses, the HA training program appears to have significantly increased usage of condoms as a whole and condoms for double protection only. While the mean number of clients increased significantly in intervention sites for Depo Provera, these increases were not significantly different from the comparison sites. As a result these changes can not be attributed to the training program. Finally, although reported usage of pills and foam tablets declined, this decline was not significant.

<b>Table 5 Mean number of clients for contraceptive methods in the period before and after training</b>				
Service (method)	Intervention Group (E)		Comparison Group (C)	
	Before	After	Before	After
Pill	49.3	46.3	36.1	35.4
Depo Provera	79.8	102.1	41.7	66.0
Condoms*	6.3	13.5	4.4	6.0
Condoms for double protection*	0.5	8.9	0.6	0.9
Foam tablets	2.5	0.4	0.2	0.2
Refer for LTM	0.7	10.7	0.4	4.4

Data is based on four months periods  
LTM = Long term family planning methods  
\* = Difference is significant (P<0.05)

### ***At risk clients***

This section presents data on five groups of clients who (as recommended by MTUHA system) are generally categorized as “at-risk” groups. This categorization of at risk conforms to national criteria for identifying at-risk candidates. At-risk groups include the following:

- Diagnosed as having STI, or for having been referred for treatment of STI.
- Counseled on HIV/AIDS because they had other indications of being at-risk.
- Counseled on or referred for pregnancy related risks.
- Counseled or referred for having at-risk under five year old children.
- Counseled or referred as postabortion clients.

While the comparison facilities did not collect data on many services to at-risk clients, both groups routinely collected data on at-risk clients in the following ways: screening for STI, referral for STI treatment, provision of antenatal and postpartum care, provision of HIV/AIDS counseling and referral of at-risk pregnant women.

In the process of data collection, it was noted that the health providers were not referring clients whom they thought could not afford to go to the health facilities they would have referred them to. This probably explains the low percentage in number of facilities referring pregnant women (given that MTUHA has provided

recording space) when compared to the percentage of facilities giving counseling services to similar clients. This may be a reflection of lack of appreciation of the clients right to information.

<b>Table 6 Mean number of at risk clients: comparison between periods before and after training (intervention and comparison sites)</b>				
<b>Services/clients</b>	<b>Intervention Group</b>		<b>Comparison Group</b>	
	Before	After	Before	After
Screened for STI	11.9	24.0	16.9	17.0
Referred for STI	0.2	0.3	0.0	3.9
Counseled on HIV/AIDS	10.7	12.8	0.0	9.4
Counseled on pregnancy risk	53.4	26.0*	0.0	0.0
Referred for pregnancy risk	10.9	21.4	11.5	11.9
Counseled on children at risk	65.2	29.9	0.0	0.0
Referred for children at risk	7.8	9.2	0.0	0.0
Counseled postabortion clients	6.1	3.5	0.0	0.0
Referred postabortion clients	4.9	0.4	0.0	0.0
Antenatal clients	290.2	357.1	280.2	317.7
Postpartum	49.3	61.4	108	113.0
Data is based on four months periods				
* = Difference is significant (P<0.05)				

***Number of STI clients diagnosed***

The HA training appears to have positively impacted STI screening. As shown in Table 6, the number of clients screened for STIs at the intervention facilities was significantly higher in the period following the training compared to the comparison facilities.

***Number of STI clients referred***

As shown in Table 6, referral of clients for STI diagnosis and treatment was almost non-existent in the comparison group facilities and negligible in the intervention group. Among the intervention facilities, there was no significant difference in the number of STI referrals prior to and after training.

***Number of at-risk clients counseled for HIV/AIDS***

As shown in Table 6, counseling of at-risk clients about the dangers of HIV/AIDS went up in both sets of facilities. Although the before and after differences between intervention and comparison sites were not statistically significant, it is gratifying to note that counseling on this issue is improving.

### ***Antenatal and postpartum services***

A set of three antenatal care indicators: number of antenatal clients; counseled and referred at risk pregnant women; and postnatal clients were assessed. The mean numbers of clients are presented in Table 6.

The HA training appears to have had little independent effect on the number of antenatal clients seen at facilities with trained HAs.

However, the number of antenatal clients increased at both intervention and comparison sites – a positive development that can contribute to reductions in maternal mortality and morbidity.

Among the intervention sites, the mean number of counseled at risk pregnant women was significantly lower in the post-training period when compared with the pre-training period. The difference is, however, attributed to better interpretation of the definition of the term counseling in the post-training period. These results are, therefore, considered to be of low reliability and hence are not valid.

Although there was an increase observed, the training did not have a significant impact on the mean number of at-risk pregnant women who were referred in intervention facilities.

While the number of postpartum clients reported before and after the training within the intervention facilities increased, this increase was not significant. This number declined in the comparison facilities over the course of the study.

### ***Clients with children at risk***

The definition of “counseling” employed in the study proved unreliable. As a result, the data shown in Table 6 on counseling cannot be interpreted further and hence is not conclusive. The comparison group did not have data because they either did not provide counseling or did not record data on counseling.

As shown in Table 6, training of HAs did not appear to significantly impact the number of clients who were referred.

### ***Postabortion clients***

The mean number of postabortion clients who were counseled or referred for further management before and after training is shown in Table 6. Monthly means are presented in Appendix 3A. Records on postabortion care were not collected at comparison facilities. The numbers indicate that very few clients received postabortion counseling or were referred elsewhere for care. These low numbers may be partially explained by qualitative data that indicate that providers feel that they have little to offer the few postabortion clients they see. It is likely that communities are not aware of postabortion services and health providers are not adequately skilled in counseling as indicated by findings presented in this report.



### ***Immunizations***

On average, the intervention sites reported higher number of immunizations than the comparison sites both before and after the training. It is only in immunization against measles in the period before training that the comparison group reported a slightly higher number of children than the intervention group. Differences between the two groups were not statistically significant, however. Trends in immunization are illustrated in Appendices 5-7.

### ***Summary of RCH Services Results***

Based on these analyses, it appears that the training positively impacted the use of condoms for FP and the use of condoms for double protection. However, little effect on the provision of other RCH services to at-risk clients was demonstrated. The exception to this is in the screening of clients for STIs.

### ***Limitations of RCH Services Analyses***

The quantitative analyses outlined above are subject to several important limitations. The first and most important potential limitation is the use of facility-level service statistics to assess the impact of training of a single cadre of health care providers. While the number of trained RCH providers did increase in intervention sites overall as a result of the HA training, it is difficult to assess the specific impact of trained HAs on service delivery without specific data on services they provided themselves. The second important limitation of the study design involves the sample size of the two groups. Although intervention sites reported increases in several additional indicators, the low sample sizes for some of the analyses may have prevented the detection of statistically significant changes.

### ***Involvement in the planning and implementation process of the HA strategy***

Various groups of the MOH were involved in the planning and the implementation of the HA training strategy, including the RCH-Unit, the Regional and district levels, trainers and both on- and off-site supervisors. The following are views of the various levels, collected through individual and group interviews. While the study designers attempted to capture the views of as many relevant personnel as possible, these data are qualitative in nature and represent only the informed opinions of the individuals.

### ***Views from the RCH-Unit on planning for the training strategy***

In general, the planning prior to the training was rated as excellent by some, while others considered it to have been simply adequate. The following, however, are more specific observations from the RCH-Unit staff.

- The preparation of the HA off-site supervisors was adequate but that of the onsite supervisors of HAs for Module 2 and 4 was inadequate. The Unit staff also observed that apart from the CO/ACO and the DMCHCo, no other onsite or district-based supervisors were prepared as supervisors of HAs.
- Due to the fragmented nature in which planning was done some of the RCH Unit staff did not receive a holistic view of the total strategy. Different meetings were held to plan for various aspects of the training strategy but there was no harmonization meeting to outline the plan as a whole. Not all of the RCH Unit staff, therefore, understood all of the steps in the implementation process. Their impression was that this could have resulted from inadequate sharing of information between Intrah and the RCH-Unit.
- Development of training materials was considered to have taken too long.
- The impression among some of the Unit staff was that taking into account the frequent breakdown of the solar battery charging system, ordinary radio cassettes could have served better than the solar operated cassette players.
- Development and preparation of training materials and especially the cassette tapes took longer than was expected and this aggravated cost.
- The time (two weeks) allocated to preparation of trainers was inadequate but it would have been adequate for those trained in Basic Training skills.
- It was also felt that facilitators had little time for team planning.

The RCH-Unit respondents respectively rated their involvement in the implementation process as medium and high. They considered the Unit to have been fully involved because it had a key player from the beginning to the end of the implementation process.

The Unit, however, observed that after joint planning and OJT led by PRIME staff, it appeared that the role of the Technical Assistant (TA) and that of the Central Training Team (CTT) member were not different. The two worked in two different districts in which they handled each district separately and as equals. The TA and the CTT member seemed to have operated at the same capacity building and quality control level and thus the aspect of technical assistance was somewhat blurred.

The training of HAs in Kasulu and Kibondo was done simultaneously under the leadership of the TA and CTT member. Substantial modifications were done on the curriculum in each of the two districts but they were not harmonized for the two groups to benefit from each other's experience. This means that the on-going monitoring did not benefit the two training groups uniformly. As a result, the Unit observed that this probably limited quality control

and standardization of training for the cohort trainees.

It was felt that coordination was not well done and delay between the coordinators in giving feedback and updates contributed to this. To the Unit the liaison between the two training teams appeared inadequate. It was felt that there should have been two CTT members for each district with the TA serving as a liaison between the two districts ensuring harmonization of the curriculum. Had this been the case, modifications and arising issues would have been communicated between two groups through the TA and a consensus reached. The role of the TA would thus have included on going monitoring and harmonization between the two groups.

### **Involvement of the regional and district levels in the implementation process**

Responding to the question “To what extent were your district staff involved in the planning and implementation of the HA-training?,” the RMO and DMO expressed the following:

- The RMO rated involvement of the staff at the regional level as “medium” because external (to the region) trainers did most of the planning. Implementation, however, was rated “high” because selected members of the regional training team were fully involved in training and supervision.
- The DMO of Kasulu and of Kibondo rated the involvement of the district teams as “medium”. They pointed out that the idea for such training was hatched at the national and regional level. The real involvement of the DHMT started when they received instruction on selection of trainees, thereafter:
  - The DMO, DMCHCo, DNO and DCCO, who were the key actors in planning and facilitation of the implementation, were fully involved.
  - The DMCHCo and two district staff were involved in discussions relating to training updates and in reviewing suggested modules.
- The DMO noted that some of the crucial groups at the district level were not sensitized to the training. For example, the District Council - the governing board that makes financial decisions for the District - was not consulted. The District Executive Director (DED) should, therefore, have participated in the sensitization meeting held at Kigoma. According to the DMO, the District Council should have been involved even if involvement was limited to advocacy (for HA training) because of its decision making role in funding for health activities in the district.

### ***Views on the training approach***

The following are the views of various players on the training approach.

## **Views from the Reproductive and Child Health (RCH) Unit**

The Unit staff stated the following as the main strengths of the approach:

- In general the approach was good and appropriate. The key persons including facilitators and the HAs to be trained were appropriate. The approach provided a “whole system training” because it provided training and a supervisory system to reinforce that training. This type of approach instills in trainers and supervisors a sense of ownership that can stimulate local support.
- It was more localized and relevant, as it did not completely separate the trainees from their work site. This provided an opportunity to tailor the course to the needs of trainees.
- The training satisfactorily integrated theory and practice.
- The learning achieved using a mixture of central and distance based onsite learning supported with learning aids was considered to be superior to and probably more sustainable than learning achieved when the two are used separately.
- The distance based learning allowed for immediate onsite practical testing and application of acquired knowledge and skills.
- The roles of key players were well defined and described.
- The training strategy focused on the district and this availed capacity building opportunities to the district-based trainers, supervisors as well as onsite supervisors.
- The strategy provided an opportunity for whole-site learning during the follow-up, monitoring and supervision of the HAs and also during data collection for the impact study.
- The training aids that were developed were good and will serve as reference materials.

The main limitations of the strategy that may have challenging implications on replication of the HA training strategy are:

- Substantial prior preparation needed to be done, e.g., to ensure that the onsite staff were ready and to develop trainers at district level.
- The HA training is not yet integrated in the districts’ health and local government plans. These are the means by which funds for activities are allocated.
- The HA training may not yet be seen as a priority among a multitude of competing needs.
- The training approach was considered to be expensive and districts may not have funds to support the four module based training.
- When funds are limited, coverage of all necessary steps in the approach is not assured and, hence, the timeliness of implementation would be affected which would consequently

affect the quality of training and learning.

- The strategy comprises three major components (preparation of trainers, supervisors and the actual training). These are broken-down into sub-components. This calls for proper coordination of activities. Due to its dependency on this coordination, the likeliness of failure to replicate the approach is high and this may mean limited achievement of intended results.
- The cassette tapes may not be an appropriate learning approach because they were too sophisticated for the facilities. The limitations of this approach were compounded by its dependency on the solar-powered battery. In addition, the handbook is too big and it requires editing.
- The DHMTs are expected to conduct follow-up of trainees yet they are likely not to have funds.

### **Views from the Regional (RMO) and District (DMO) level**

The consensual view of the RMOs and DMOs on the training approach was positive. Basically they regarded it to be a good and appropriate approach to learning for low cadre staff. They considered the role of key players to have been well defined albeit some overlaps. According to the RMOs and DMOs, the following were the main advantages and limitations of the approach.

- Module approach was appropriate for adult learners while the top-down approach enabled planning and scheduling to be put in place. The module based training (alternating theory with onsite practice) with use of learning aids was particularly a positive approach to learning.
- Involvement of trainers from different cadres and levels (national, regional and district) and the fact that the MCHA level was included was one of the advantages of the HA training strategy.
- Approach provided an opportunity for “individually tailored trainer-trainee contact” as the availability of local trainers (DMCHCo, PHN, MCHA) allowed for better bilateral understanding in the cases where it was necessary to understand working circumstances of each trainee<sup>1</sup>.
- Pre-preparation was adequate for the training program and training materials.
- Work site based training (Modules 2 and 4) is desirable because trainers get to know their trainees better and vice-versa and this can contribute to better service provision

### **The limitations of the approach**

- Trainees who are used to the traditional training methods found

---

<sup>1</sup> It was explained that the HA were likely to have benefited more by having MCHA as part of the training team because they may have felt closer and freer to consult and explain learning difficulties to the MCHA than they would be with other cadres.

the participatory training approach strange.

- Training approach is too expensive considering the trainer-trainee ratio. Distance learning is expensive and hence the District cannot manage it without external support.
- Use of audio visual aids, specifically at work site; appears too sophisticated for this cadre and raises the question of affordability by the districts in future training.

### **Views of the trainers and the on/off site supervisors**

A more focused view of the training strategy was obtained from the trainers and the on and off site supervisors of HAs. The panorama covers the content, time allocation to different modules, teaching methodologies and learning aids.

The onsite supervisors of HAs appraised the training strategy by commenting on: the adequacy of time allocated to Modules 1 and 2; knowledge gained from and level of performance at the end of the two modules and whether the effort of having a practicum at work site is worthwhile.

### **The content and time allocation to the curriculum and modules**

According to the trainers, the aim of training was appropriate, and the curriculum was comprehensive enough because it covered all the essential content needed by the HAs. Nevertheless, four out of five felt it was lacking in details. The major objectives of the training were satisfactorily explained but the sub-objectives were not. Hence, while three trainers observed that the curriculum was easy to use, two reported that it was not easy to use. Consequentially, the trainers suggested the following improvements: sub-objectives should be appended, the format adjusted and the headings harmonized with the subject falling under them. As such, all five trainers concurred that the curriculum should be adjusted.

Coverage of content for Module 1 was “moderate” for four of the five trainers and was “high” according to one trainer. It was felt that the time allotted to apply skills at the practicum site was inadequate. The trainers also observed that assessing the coverage for Module 1 would have been more meaningful if done on site during Module 2.

After Module 1, HAs’ gain in skills was rated as “high” by one trainer while the other four rated it “moderate.” This rating considered that trainees had not had previous experience and did not have the opportunity for sufficient practice on the procedures.

The HAs’ gain in knowledge and skills after Module 2 was “high” according to two trainers, “moderate” according two others while the fifth one did not have an opinion. The trainer claimed that she was unable to assess Module 2 because she did not have access to trainees. The two who perceived the skills as adequate considered that HAs had six weeks of onsite practice. The two who considered

it to be moderate took into account the fact that the majority of the trainees did not get sufficient supportive supervision during this module.

By the end of Module 3, the trainers felt that learning was adequate. However, they also felt that the trainees would need occasional follow-up.

Three of the trainers felt that time allocated for the coverage of the curriculum in general and for the sub-objectives was adequate but two trainers felt it was not. In general, the trainers' view was that the time allocated to Module 1 (two weeks) was inadequate. The majority considered the time for Module 2 to be adequate while one felt it was not. Two trainers reported that the time allocated to Module 3 was adequate, one felt that the time was too much (because trainees are not used to central training approaches that contain long theory classroom sections) and two trainers felt that the allocated time was insufficient.

The four weeks allocated for Module 4 was regarded as adequate by two trainers. The rest did not give their view. Due to logistical problems, however, the supervisors were unable to provide supportive supervision to the trainees at the planned time. Supportive follow-up was, however, done after the final dissemination workshop (official closing of the course).

Table 7 presents the comments of the onsite supervisors. The time allocated for Module 1 (theory) was inadequate but according to a majority time for Module 2 (practicum) was adequate.

The majority reported that the level of knowledge gained from Module 1 and 2 was moderate but a about a third found it to be high. After onsite practice, about half of the HAs were rated as being able to perform with little guidance and hence the level of supportive supervision given after Module 2 was considered to be moderate. Nearly all (84.6%) considered onsite training to be worthwhile and cited familiar environment as the main catalyst to learning.

### **Supervision of HAs during (Module 2 and 4) training**

The majority (68%) of the onsite supervisors considered supervision of HAs during training to be easy. They reported to have assisted trainees using mainly demonstrations (53.3%) and discussions (16.4%). Some supervisors reported using a question and answer supervision approach. Most of the facilities (79.3%) reported that they had adequate resources but the rest (20.7%) mobilized items such as posters and registers.

When asked to suggest ways to enhance support in future training, the onsite supervisors suggested the following:

- Be given further training/updates
- Be provided with course curriculum or guidelines

- Be trained in data collection
- Be given supportive supervision from higher authorities (district, region)
- Be provided with reference books
- Involve other onsite staff
- Providing FP services at site should be involved

<b>Table 7 Views of onsite supervisors on specified attributes of the training approach</b>		
<b>Time for Modules 1 and 2</b>		%
Module 1	Adequate	21.9
	Inadequate	75.0
	Do not know	3.1
Module 2	Adequate	69.6
	Inadequate	26.1
	Do not know	4.3
<b>Level of knowledge gained (Modules 1 and 2)</b>		
High		30.3
Moderate		69.6
<b>Value of the practicum</b>		
Worthwhile		95.7
Do not know		4.3
<b>Supportive supervision rating</b>		
Adequate		37.9
Inadequate		24.2
No response		37.9
<b>Supportive supervision given by MCHA</b>		
Extensive		11.1
Moderate		66.7
None		22.2
<b>Views on HAs' need for extended guidance</b>		
Extended guidance needed		11.5
Moderate guidance needed		34.6
Little guidance needed		33.9

In conclusion, the training approach was considered to be a superior way of learning when compared to the traditional central approach of training and this was enhanced by use of a combination of teaching/learning methods. To improve their capacity as supervisors, further training, supportive supervision from superiors, and provision of reference books were indicated.

The training approach required at least two supervisory visits (during Modules 1 and 2) by trainers and/or offsite supervisors at HAs own worksite. It was assumed that the supervisors would use the existing DHMT supervisory visits to get access to the HAs under training.

The RCH-Unit was of the opinion that it was not feasible to provide supportive supervision within the constraints of the existing supervisory system. Time spent in each health facility was not adequate. In addition, not all of the DHMT members had been prepared or were conversant with all RCH issues to be able to



satisfactorily provide supervision. Furthermore, the existing mechanism has too many people on a single supervision trip and with a high number of facilities to be visited per trip. As a result, too little time is allocated per facility for worthwhile supervision to be provided.

### *Teaching/methodology and learning aids*

#### **Training methods**

A variety of training methods was used and, as shown in Box 1, the trainers indicated the teaching methods they considered being most/least appropriate. The skills considered to be the most appropriate are specified under each method. Case studies and lecture methods were not well understood by the trainers and hence they were unable to appraise the two methods. The methods, which required role-play demonstration/practice and group discussion, were considered appropriate for most of the topics. It is, however, to be noted that no objective assessment of the methods was done, rather, the trainers gave their impressions and opinions about them.

#### **Box 1 Methods of training and the skills they are most appropriate for according to the trainers**

##### **Role play**

- Counseling (in general and for STI and HIV/AIDS clients)
- Serving antenatal clients and giving services to children at the MCH
- Identifying at risk children
- Giving health education
- Assisting during the second stage of labor

##### **Demonstration and practice**

- How to do counseling
- Serving antenatal clients
- Examining a pregnant woman
- Giving family planning services
- Conducting a delivery

##### **Group discussion**

- How to counsel a high risk client
- Examining a client during the first stage of labor
- Clinic set-up

##### **Case studies**

- STI in the early stages

##### **Lecture**

- How to do counseling
- Assisting women during the 2nd and 3rd stages of labour

The trainers, on responding to the question on their contribution to learning by trainees, reported to have assisted in the following ways:

- Expounding and elaborating on the theoretical components of the training.
- Assisted trainees on use of the Handbook.
- Gave supportive supervision to the HAs at their work site.

- Where needed, they mediated for better personal relationship between HAs and CO/ACO.

Hence, the trainers contributed to both acquisitions of knowledge and better work environment by improving person-to-person relationships between facility personnel.

Most of the onsite supervisors (85.7%) were of the opinion that the HAs learned most when a combination of teaching/learning methods were used. Box 2 shows the onsite supervisors ranking of topics according to their perception of various learning methods.

**Box 2 Ranking of topics by onsite supervisors according to best suited learning methods**

**Skills best acquired when trainees did things by themselves**

- Antenatal examination
- Health talks
- Counseling
- STI screening
- Family planning

**Skills best acquired through visual demonstration**

- Health talks
- Antenatal examinations
- Examining children
- Managing labor
- Family planning

**Training content best learned through question and answer**

- Antenatal examination
- Family planning
- Child examination

**Learning Aids**

Views of the facility in-charges (who were also the main onsite supervisors of the trainees) on the learning aids that were used are as indicated by data presented in Table 8. The size of the handbook and the language used in the handbook were found to be satisfactory and the illustrations were considered to be appropriate.

The facility in-charge viewed the audio “tape talks” favorably because most considered them to be easy to use, understand and maintain. These audio tapes were mainly used as reference materials to support the handbook. In one facility, however, some of the HAs’ superiors did not approve the use of the audio taped skills - they considered them to be noisy and a distraction.

<b>Table 8 The perception of onsite supervisors on the learning aids (N=27)</b>	
<b>Opinion on the information in the handbook</b>	<b>%</b>
- Just right	85.2
- Information not enough	3.7
- Handbook is too detailed	1.1
<b>Opinion on size of the handbook</b>	
- The size is just right	64.0
- It is too big	36.0
<b>Opinion on language</b>	
- It is simple and easy to understand	96.2
- It is difficult	3.8
<b>Opinion on the illustrations</b>	
- They are appropriate	85.2
- They are relevant	7.4
- They should be in color	3.7
- They are inappropriate	3.7
<b>Opinions on Audio “Tape Talks”</b>	
- They are easy to use	88.9
- They are easy to maintain	96.2
- Voices are audible	100
- Messages are easy to understand	95.5

### **Views of the HA**

The HA gave their views on the learning approach and methods, the handbook, taped skills and the support they received during training from fellow colleagues at the work site, the trainers and supervisors.

The training methods, from which they learned the most, included case studies, demonstration, simulation and onsite practice. The ten communication skills, conducting client education and provision of integrated RCH services were, however, best learned when question and answer was used.

Although the HAs did not rate the adequacy of support from the CO/ACO, they did report that they received technical assistance in provision of services, e.g., immunization, counseling, care to women in labor and in reviving postnatal care. In recording of service data, the CO/ACO tended to favor the MCHAs.

Some of the MCHAs were supportive to the HAs but others were a barrier to learning. They were reported to have impeded accessibility to equipment (locked it in) and were resistant to change. HAs also noted that the cooperation they received from the other HAs was inadequate.

The technical assistance they received from the trainers was adequate for Module 3 but Module 4 was not rated. However, the support of the supervisors in that module was adequate.

All sections of the handbook were found to be relevant as all the HAs had referred to various parts. Additionally, HAs found it to be useful in many of the situations they faced, e.g., providing FP, STI and postpartum services among other services. They noted, however, that the handbook had spelling errors and that the handbook's sequencing also needed to be reviewed.

HAs had a positive view of most of the attributes of the "tape talks" but they also pointed out areas of weakness. The narrator's voice was clear and had the necessary fluctuations; the message was clear and the language simple. The weaknesses in use of the "tape talks" included: lack of spare parts for the solar battery operated cassette player, non-functioning batteries and manual rewinding nature of the cassettes, which was considered to be time consuming. They also mentioned that the solar battery could only be charged when there was sunshine.

### **Views on the cost of the HA strategy compared with other approaches**

Although not supported with cost estimates, the RCH-Unit (FPU) considered the HA training to be more expensive in comparison with other RCH courses, such as the Integrated Reproductive Child Health Clinical Skills (IRCHCS) training, which is a five weeks course.

Despite this, it was expressed that the HA training outputs and outcomes were superior particularly in the context of the on-going decentralization and HSR as it empowers the district. With all the prerequisite preparation having been done it may be possible to reduce the cost by half (50%) – a figure that may be comparable to the IRCHS course.

### ***Prerequisites for Replication of the Strategy***

What needs to be put in place:

- DHMTs and district councils need to be given an orientation to the whole strategy to ensure that they understand their role and responsibilities.
- Districts have to be prepared to take over the responsibility and ownership of HA training.
- The RCH-Unit needs to disseminate the approach/strategy to the stakeholders (i.e., the district authority, communities, private sector, local and international NGOs) and other collaborators in RCH.
- The RCH-Unit must ensure that potential funding agencies and implementers understand the advantages of this approach.
- The training materials must be reviewed to suit actual (e.g., rural) situations.
- Local capacity to plan, conduct and evaluate HA training must

be developed and provided with training material.

### **Steps RCH Unit intends to take to meet the prerequisites**

Although the immediate steps to be taken by the RCH-Unit management to meet the prerequisites are not clear given the MOH plan to scale down the HAs staffing level, the Unit intends to:

- Review the current strategy aiming at incorporating modifications arising from given suggestions and recommendations and thereafter orient DHMTs to the modified strategy.
- Share the advantages of the strategy in the context of decentralized decision making, planning and implementation, which puts these responsibilities to the district.
- Develop strategies for disseminating the training strategy and for its advocacy.
- Plan and solicit support to enable replication of the HA training strategy in at least four (under served) districts.
- Revise and reproduce training materials.

### **RCH-Unit near-term intentions for the HA training strategy**

- To review the existing strategy and thereafter orient the DHMTs that have high percentage of HAs as the main workforce.
- Create awareness in other districts about the strategy.
- Attempt to support replication of the strategy in four other districts.
- To replicate the HA training strategy to other districts.

### **RCH-Unit long-term intentions**

Although this will depend on the progress made on the on-going HSR, the following were proposed:

- Replicate the amended strategy to other regions.
- Support districts, which will indicate the need to use the strategy in training.
- The long-term intentions are not yet clear because MOH needs to clarify the Ministry's position.

### **RCH-Unit intention on use of the training aids**

Near-term:

- Revise and modify to make them more user friendly using information obtained from reviews.
- RCH-Unit's long-term:
  - Upgrade the aids to national materials' standards and monitor their usage.
  - Use the materials for training where other funding agencies are willing to support.
  - Since the relevance of the materials is not limited to HAs and there are few reference materials in facilities, they will be used by

other cadres.

However, before introducing the solar battery operated cassettes to other regions, the current limitations will be addressed or an alternative identified.

### **RCH-Unit views on the effect of the HSR on HA training**

- The HSR gives the mandate to train, to employ and dismiss personnel to District Health Boards. Since the Boards will be responsible for paying salaries and yet do not have a lot of funds to pay higher cadres, it is likely that HAs who are already in employment will remain employed. As such, the HSR, which is still in the pilot phase, might not affect the implementation of the strategy.
- Nevertheless, there is still a chance that the HSR may result in the strategy not being used since it will not be a national strategy (that is, it will not be implemented in all the districts) because it might not be appropriate.
- HSR advocates capacity building, but it may result in lack of capacity building due to lack of funds if the strategy is not integrated into the district plans.
- The quality of training may be jeopardized, for example, in situations in which the districts may decide to shorten the course due to lack of funds.

### **Suggestions from the RCH-Unit on training HAs considering the HSR policy**

- Build adequate capacity to take over the responsibility.
- Sensitize and ensure that the DHMT internalizes the HA strategy to enhance their sense of its ownership and thus its incorporation into the district plans.
- Despite the current HSR policy, strive to continue with the training of HAs (as it molds the health providers towards meeting community expectations) but focus on districts in which a high percentage of the health facilities and the MCH/FP clinics are run by HAs.
- Review the strategy.

Despite the HSR, it appears that phasing-out of HAs will take time as this will depend on the districts' ability to replace HAs with more qualified cadres.

### **Views from RMO and DMO**

This is the response from the RMO and DMOs on the steps the regional and district levels intend to take to counter some of the major limitations of the HA training strategy. The RMO intends to raise the level of skills of the trainers. The DMOs hold the opinion that without additional external resources they may have to adopt other training approaches, of which OJT appears to be the most

feasible.

The RMO noted that, unlike others, the HA training approach targeted lower cadre staff and maximized adult learning techniques while lectures formed the basis of the courses. The advantages or disadvantages of this approach over others were not clear.

The region has a Zonal Training Centre whose training resources include classrooms, a library and two doctors who have had training in RCH updates. The capacity/capability that need to be developed at the Centre and at the DHMT level to strengthen training include additional training for DHMT and increasing the pool of facilitators.

The estimated cost of training per participant per day (boarding and lodging, training cost, travel, etc.) at a site in the district headquarters would be Tsh. 25,000.

In terms of supervisory mechanisms, the region, apart from the HA-training, has prepared supervisory teams for the TB/Leprosy and Expanded Programme of Immunization (EPI) courses. The number of trained staff is inadequate and there is a need to train more HAs not only in RCH/FP but also in other aspects of Integrated Management of Childhood Illnesses (IMCI). The region plans to solicit additional resources for training.

### **Region's and Districts' Vision of Future Training of HAs**

The RMO and DMOs favor training of other HAs but they all concurred that funding is a major constraint and as such, the RMO could not be specific on the future training of HAs. "It is difficult to tell" was his conclusion.

On the issue of the type of support required to ensure continued training of HAs, the RMO said he would make recommendations to the Ministry (Central). He implied that acceptance by the Central level of the idea that training is feasible and useful is a prerequisite to success and felt that it should also solicit funds. Despite the difficulties, the RMO viewed the training of HAs using the strategy as having a future because up to 50% of the health units in the region are manned by untrained persons.





# *Conclusions and Recommendations*

## **RCH Services**

1. The HA training strategy resulted in significant gains in knowledge, in improved performance of HAs and CO/ACOs in the delivery of RCH services and a small increase in the volume of RCH clients.
2. While use of a variety of FP methods reportedly increased, the training specifically resulted in significantly elevated numbers of clients for condoms and condoms for double protection and clients screened for STI.
3. The strategy resulted in improved training status in RCH. A significantly higher number of health providers with FP/RCH training were offering services in the group of facilities with trained HA.
4. The mean monthly number of clients for various RCH services in the two groups was low. For example, although sites with trained HAs reported higher numbers of clients receiving counseling or being referred (referrals) for further management, the number remained generally very low. This implies the need to formulate strategies for raising the level of counseling and referrals of at risk cases.
5. The training strategy appear to have had the least influence in the immunization status of clients -- the mean number of children immunized after training remained numerically lower than that immunized before training. It is, however, likely that external influences such as those related to the cold chain system were important factors in this decline.
6. The results of skills assessments imply that acquisition of skills in client counseling, client education, post delivery care for both mothers and neonates and monitoring labor was insufficient. This indicates a need for improved training methods.

## **The Training Approach**

1. There is a general consensus that the training approach was good and appropriate.
2. This approach availed the opportunity for whole-site OJT. Albeit limited for some of the cadres, it was substantial for the HAs.
3. The approach provided capacity building of regional and district trainers, facility in-charges and HAs.
4. It contributed towards bilateral understanding between the trainees and their trainers/supervisors.
5. The two learning materials developed were appropriate not only for the HA but for the whole facility.

6. The approach was felt to be more costly to implement compared with the traditional central training approach. However, considering development costs, future training should be more cost-effective.
7. The future of the HA training strategy is unclear given the ongoing HSRs. It is to be noted that despite HSR, facilities are still entitled to a limited number of HAs and that there are districts, even in other regions, that heavily depend on HAs as the main workforce.
8. For continued implementation of the HA training strategy, it must be integrated into the plan of the Local Government/District Board for budgetary allocation. The need to advocate for HA training is thus critical.
9. The sub-hypothesis that HA training resulted in a significant gain in knowledge was accepted.
  - The sub-hypothesis that a significant increase in the volume of clients served occurred as a result of the training was accepted for: Depo Provera, condoms, condoms for double protection, diagnosing of STI, antenatal clients and counseling of at risk pregnant women.
  - The sub-hypothesis that there was a difference in the volume of RCH services was accepted for condoms for double protection only.

### **Issues**

- The indications are that there is need to foster teamwork at work site especially between the MCHA, the HA and the trained HA.
- The training was not integrated in the District Social Development and the District Health Board/Local Government was not sensitized.
- Apart from the DMCHCo and the DMO, other members of the DHMT were not sensitized to the supervision of HA during training.
- Out of all the DHMT members, only the DMCHCo felt adequately prepared for supportive supervision of the HA trainee.
- The HA training supervisory team was exclusive because it involved only DMCHCo and the CO/ACO hence the supervision capacity was not ingrained in the majority of the DHMT members. Coupled with the brief nature of the DHMT supervision trips, it was not possible to effectively use these trips for OJT or supportive supervision.

### **Recommendations from RCH-Unit**

It is recommended that all stakeholders in specific training should participate in planning, implementing and monitoring of the training programme.

It is suggested that preparation of other DHMT members for whole

site supervision and articulation of their role as supervisors of RCH service provision in facilities be considered in future training.

The district-based trainers should have the four week basic training skills course for a multidisciplinary trainer team as a prerequisite to being prepared as trainers in specialized areas such as RCH. However, the themes of such training for HA should include training of low education trainees, how to train using modular skills oriented curriculum/handbook and other materials. The training should be preceded by a performance needs assessment to adapt the current basic training skills-curriculum for the group.

The districts should have adequately trained personnel in RCH to provide appropriate supervision during and after training.

District councils should be given an orientation to the whole HA strategy while attempts are made to incorporate the HA strategy into district plans.

The handbook should be edited to reduce its size and make it more user-friendly. The use of the solar-powered cassette player should be appraised with a view to improving it or replacing it.

The whole HA strategy should be reviewed and accordingly adjusted prior to its replication in other districts.

Training of HA should continue but should focus in districts in which a high percentage of HAs is responsible for running MCH/FP clinics.

### **Recommendations from the trainers**

Recommendations of trainers on improving training of HA fall into four categories: enhancing the HA training, trainers capacity, capacity to supervise HA and making the HA a nationwide training.

#### ***Enhancing the HA training***

- The curriculum and the handbook should be reviewed and modified using the feedback collected during training and during the evaluation of the training strategy.
- In future, ordinary battery-powered cassette players should be used.
- The training duration should be extended. For example, Module 1 should be three or four weeks divided into equal parts of theory and practicum.

#### ***Enhancing supervision of trainees***

- The HA trainee should be followed-up at their work site, guided on the job and assessed for the skills they are expected to have learned.
- CO/ACOs should be trained in clinical skills training in IRCH based on a performance needs assessment to amplify their capacity as onsite supervisors.

- Efforts should be made to improve inter-personal relations between the facility in-charge and the HA.
- The MCHA should be considered as part of HA supervision system and hence be given a defined role in supervision and on the job training of HA.

### *Enhancing the capacity of trainers*

- Trainers at the district level should be assessed for preparedness to train.
- The trainers should be followed-up during training to be given supportive supervision.
- HA training should be implemented as a nationwide course.
- The MOH, the regions and districts should cooperate in planning so that all HA can get this type of training.

# References

- Intrah. PRIME Evaluation and Research Plan, Volume 1. Chapel Hill, NC: Intrah/PRIME, University of North Carolina, 1996a. p. 79-80.
- Ministry of Health, Tanzania. Curriculum on Reproductive Health Update and Orientation to HA Training Activity for Clinical Officers and Assistant Clinical Officers. Tanzania: MOH, 1997.
- Ministry of Health, Tanzania. Reproductive Health Handbook for Health Attendants. Republic of Tanzania: MOH, 1997.
- Mtawali, Grace. Session on Use of Form A for Compiling FP/RH service Data. Notes. Document HAFORMA.DOC. Nairobi: Intrah, 1997.
- Mtawali, Grace. and G. Kahuthia. PRIME Trip Report #P-2018. Nairobi: Intrah, PRIME Project, 1997.
- NFPF and Intrah/PRIME. National Reproductive Health Programme, Curriculum on Selected Reproductive and Child Health Services for Health Attendants with Session Plans. June 1997.
- Yumkella, Fatu, Thuo, Michael, Karungula, January, Muhuhu, Pauline and Mapunda, Rose, "An Assessment of the Potential of Health Attendants for Family Planning and Reproductive Health Expansion in Tanzania," PRIME Technical Report 3, July 7, 1996.
- Yumkella, Fatu. Memo. The Health Attendant FP Training Project Phase II: Selection of Study Participants for Testing the Effectiveness of the HA Training Strategy. Nairobi: Intrah, 1997.
- Yumkella, Fatu. Notes on Sampling. Nairobi: Intrah, Nairobi, 1999.
- Yumkella, Fatu; M. Thuo, J. Karungula, J, et al. An Assessment of the Potential of Health Attendants for Family Planning and Reproductive Health Expansion in Tanzania. Intrah, 1996.



# Appendices

## Appendix 1A

### Data sources and collection methods

#### Data Sources

- Trainers/supervisors (8)
- Facilitators (2)
- Health facility in charges (29)
- RMO/DMO (3)
- Clinic records (29 sites)\*
- RCH-Unit Management (4)

#### Data collection methods/instrument

- Self administered questionnaire process review
- Notes
- Pre-test and post-test data
- Self administered questionnaire
- Interview schedules
- Review and extraction of service data/structured form as a tool
- Self-administered questionnaire.

\* Service data was categorized into 18 indicators which were put into three groups: contraceptive methods; services to groups at risk, the latter fall into sub-groups as follows, services to clients with sexually transmitted diseases including HIV/AIDS, at risk ante/postpartum clients, counseling and referrals for mothers of children below the age of five years and postabortion clients; and lastly immunization

## Appendix 1B

### List of the records which yielded data on the eighteen indicators

#### I. Contraceptive methods

- MTUHA Book 8

#### II. Referrals for long term contraceptive methods (tubal ligation and Norplant® Implants)

- MTUHA Admission Register
- MTUHA Book 8
- Daftari ya huduma za pamoja za afya ya uzazi (intervention group only)

#### III. STI and HIV/AIDS (three indicators)

- MTUHA Book 5 for clients diagnosed with STI
- Daftari ya huduma za pamoja for clients referred for STI treatment and clients who were counseled for prevention of HIV/AIDS

#### IV. Immunization

- MCH3 and MCH2 data forms on immunization of under five-year-old children

#### V. Antenatal and Postpartum Data

- MCH3 for Antenatal visits
- Daftari ya huduma za pamoja postpartum visits

#### VI. At Risk Mothers Children and Postabortion Clients (six indicators)

- Daftari ya huduma za pamoja za afya ya uzazi for data on counseling of/for groups at risks (mothers and children)
- Admission register-book and Daftari ya huduma za pamoja za afya za uzazi for counseling of postabortion clients
- MTUHA Book 6 for mothers at risk that had been referred
- Daftari ya huduma za pamoja za afya ya uzazi for data on number of children at risk who have been referred
- Daftari ya huduma za pamoja za afya ya uzazi and admission register-book for postabortion clients

Appendix 2

**Mean monthly contraceptive clients for intervention and comparison groups before, during and after training of HA**

<b>Intervention Group</b>													
Contraceptive Method		Mean Before				Mean During				Mean After			
		<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>
Pill	New	2.1	3.1	2.6	3.3	4.5	4.3	4.5	3.0	4.0	2.8	3.3	2.4
“	Revisit	9.7	10.1	8.7	9.5	7.5	6.5	8.3	7.4	9.0	9.2	7.8	8.0
Depo	New	5.0	4.1	4.3	5.8	7.5	5.1	4.9	5.1	6.1	5.7	5.7	4.7
“	Revisit	17.2	15.7	12.1	17.1	10.4	8.4	10.4	12	20.0	21.3	21.1	17.2
Condom	New	0.8	0.3	0.9	0.8	1.6	1.5	2.4	1.5	2.4	1.9	1.8	2.0
“	Revisit	0.8	1.0	0.9	0.7	0.2	0.3	0.7	1.2	1.4	1.4	1.8	0.9
Double <sup>1</sup>	New	0.1	0.1	0.1	0.1	0.4	0.5	0.6	0.4	2.3	1.4	0.7	0.9
“	Revisit	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.6	0.9	1.0	0.7	0.1
Foam T.	New	0.5	0.3	0.1	0.1	0.4	0.0	0.3	0.1	0.1	0.0	0.0	0.0
“	Revisit	0.7	0.9	0.0	0.0	4.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
LTM <sup>2</sup>	New	0.0	0.1	0.1	0.0	0.1	0.1	0.3	0.6	1.0	0.9	0.0	1.4
“	Revisit	0.1	0.2	0.3	0.0	0.0	0.1	5.1	1.0	1.1	1.8	0.0	2.1
<b>Comparison Group</b>													
		<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	NO-DATA				<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>
Pill	New	2.2	1.7	1.7	1.7	NO-DATA				2.2	2.0	2.2	2.7
“	Revisit	8.6	8.0	6.4	6.1					6.7	7.2	5.8	6.2
Depo	New	2.0	12.4	2.9	3.5	NO-DATA				2.6	2.8	2.6	1.9
“	Revisit	8.1	8.6	8.4	9.6					8.0	9.1	8.5	6.4
Condom	New	0.4	0.4	0.5	1.5	NO-DATA				1.3	1.3	1.2	0.6
“	Revisit	0.2	0.3	0.3	0.4					0.2	0.4	0.2	0.5
Double <sup>1</sup>	New	0.0	0.2	0.2	0.1	NO-DATA				0.4	0.0	0.2	0.1
“	Revisit	0.0	0.0	0.0	0.0					0.0	0.0	0.1	0.1
Foam T.	New	0.0	0.0	0.0	0.0	NO-DATA				0.0	0.0	0.0	0.0
“	Revisit	0.2	0.0	0.0	0.0					0.0	0.0	0.0	0.0
LTM <sup>2</sup>	New	0.1	0.0	0.0	0.0	NO-DATA				0.0	0.0	0.1	0.0
“	Revisit	0.3	0.0	0.0	0.0					0.0	0.0	3.1	1.2

M to F represent months March 1998 to February 1999

<sup>1</sup> Clients using condoms for double protection

<sup>2</sup> Clients referred for long term methods of family planning



## Appendix 3A

**Mean monthly at risk clients in facilities with trained HA**

Month	Risk indicators								
	STID	STIR	HIV	MC	MR	CC	CR	PC	PR
Mar	2.4	0.2	2.0	14.3	3.1	20.9	1.0	1.3	0.9
Apr	2.7	0.1	2.7	15.0	3.4	21.9	3.0	2.2	0.7
May	3.3	0.1	2.8	13.7	3.4	19.4	3.2	1.6	0.5
Jun	3.6	0.0	3.2	13.3	2.5	20.2	3.2	1.2	0.6
Jul	3.5	0.0	3.6	17.3	1.9	13.9	0.7	0.8	0.2
Aug	4.5	0.2	4.0	16.6	2.3	13.3	1.0	0.8	0.1
Sep	3.5	0.0	3.7	15.0	2.6	9.9	0.6	1.0	0.2
Oct	3.2	0.1	1.7	9.8	4.0	8.4	1.3	0.8	0.0
Nov	8.0	0.1	4.3	8.2	6.5	9.6	9.6	1.2	1.2
Dec	6.3	0.0	3.0	6.4	4.4	7.3	7.3	0.6	0.6
Jan	4.9	0.1	2.1	7.9	7.9	8.2	8.2	0.6	0.6
Feb	4.8	0.1	3.1	8.7	8.7	4.9	4.9	0.6	0.6

STID= Clients diagnosed for STI

STIR= Clients with STI referred for further treatment

HIV= HIV/AIDS clients counseled on the disease

MC= Mothers with pregnancy related risks who were counseled

MR= Mothers with pregnancy related risks who were referred

CC= Mothers with at risk under five year old children who were counseled

CR= At risk under five year old children who were referred for further management

PC= Postabortion clients who were counseled

PR= Postabortion clients who were referred for further management

## Appendix 3B

**Mean monthly at risk clients in facilities with non-trained HA**

Month	Risk indicators								
	STID	STIR	HIV	MC	MR	CC	CR	PC	PR
Mar	7.6	0.0	0.0	0.0	4.4	0.0	0.0	0.7	0.1
Apr	6.3	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0
May	6.3	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0
Jun	8.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0
Nov	4.4	2.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0
Dec	7.1	0.5	0.0	0.0	4.8	0.0	0.0	0.0	0.0
Jan	8.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STID= Clients diagnosed for STI

STIR= Clients with STI referred for further treatment

HIV= HIV/AIDS clients counseled on the disease

MC= Mothers with pregnancy related risks who were counseled

MR= Mothers with pregnancy related risks who were referred

CC= Mothers with at risk under five year old children who were counseled

CR= At risk under five year old children who were referred for further management

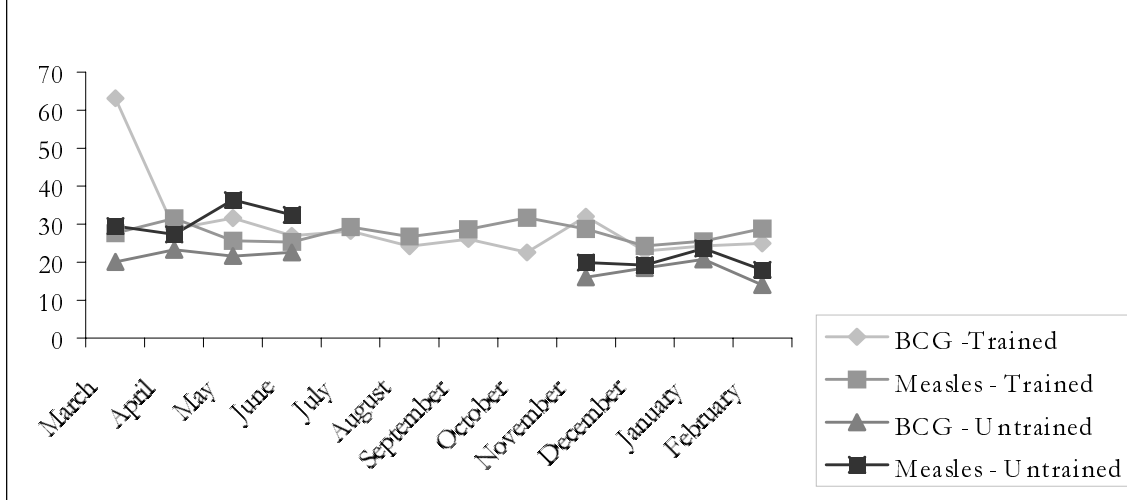
PC= Postabortion clients who were counseled

PR= Postabortion clients who were referred for further management

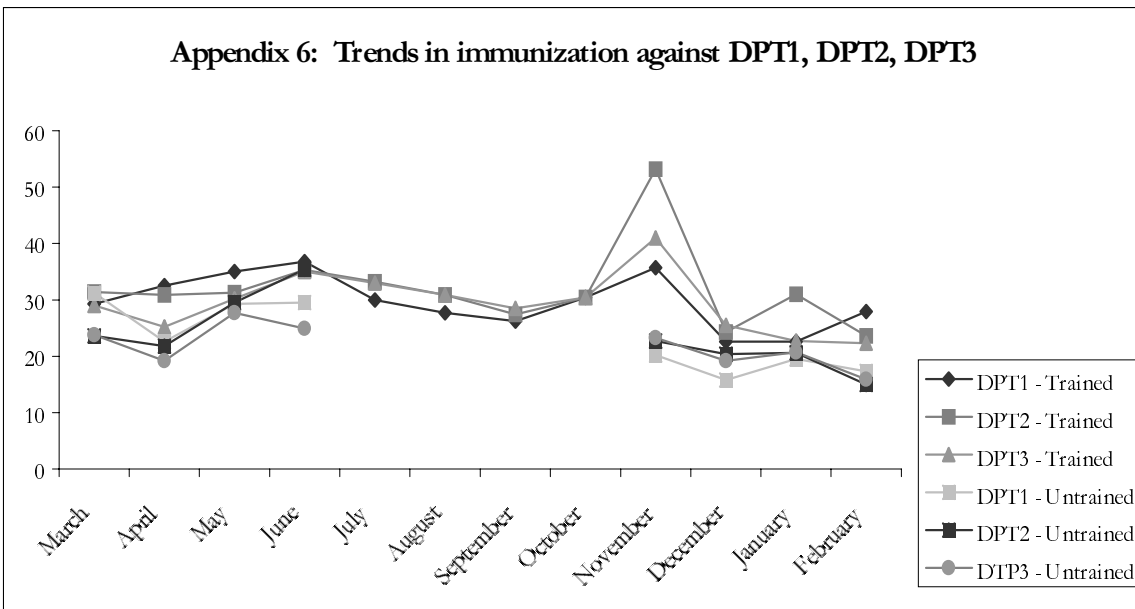
Appendix 4A Mean monthly immunization in facilities with HA trained									
Month	Vaccinations								
	BCG	DPT1	DPT2	DPT3	Pol0	Pol1	Pol2	Pol3	Measles
Mar	63.1	29.3	31.4	29.0	17.3	36.6	24.2	24.8	27.6
Apr	28.8	32.5	30.9	25.2	18.8	37.5	31.8	26.2	31.5
May	31.6	35.0	31.3	30.2	16.6	31.0	32.3	29.4	25.6
Jun	27.0	36.8	35.3	35.0	19.4	33.0	38.3	35.8	25.3
Jul	28.2	30.0	33.2	33.0	21.0	30.3	34.2	34.6	29.2
Aug	24.1	27.7	30.9	30.9	16.9	30.0	29.0	31.2	26.8
Sep	26.1	26.2	27.4	28.5	17.0	28.3	30.7	33.3	28.7
Oct	22.6	30.4	30.4	30.4	14.9	31.1	31.9	33.9	34.7
Nov	32.0	35.7	53.2	41.0	24.2	38.6	44.6	43.9	28.8
Dec	23.0	22.6	24.3	25.5	18.0	25.8	29.0	31.3	24.3
Jan	24.3	22.6	31.0	22.7	17.3	27.8	35.7	26.3	25.5
Feb	25.0	27.9	23.6	22.3	17.5	26.6	25.4	23.6	28.9

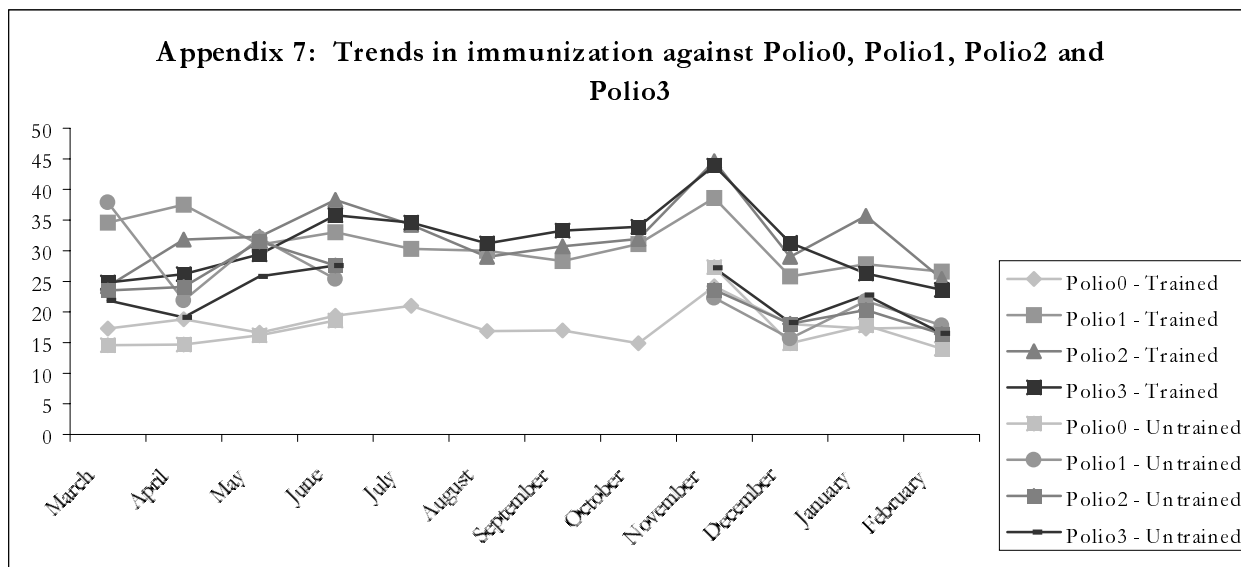
Appendix 4B Mean monthly immunization in facilities with non-HA trained									
Month	Mean Monthly Vaccinations								
	BCG	DPT1	DPT2	DPT3	Pol0	Pol1	Pol2	Pol3	Measles
Mar	20.1	31.3	23.6	23.8	14.6	37.9	23.5	21.9	29.5
Apr	23.2	22.6	21.8	19.2	14.7	21.9	24.1	19.1	27.3
May	21.6	29.3	29.5	27.7	16.1	32.1	31.5	25.8	36.4
Jun	22.6	29.5	35.4	24.9	18.6	25.4	27.6	27.6	32.5
Nov	16.0	20.2	22.7	23.3	27.3	22.3	23.6	27.2	19.9
Dec	18.5	15.8	20.4	19.2	14.9	15.7	18.1	18.3	19.2
Jan	20.8	19.5	20.6	20.7	17.8	21.8	20.3	22.8	23.6
Feb	14.0	17.3	15.0	15.9	14.0	17.8	16.4	16.5	18.0

**Appendix 5: Trends in immunization against BCG and Measles**



**Appendix 6: Trends in immunization against DPT1, DPT2, DPT3**





Appendix 8 Number of HA and skills in which they have limitations			
Skill	Number of HAs		
	Total	Kasulu	Kibondo
Recruiting clients for family planning use	3	2	1
Counseling high risk clients with children with risk indicators	7	2	5
Counseling clients for informed choice of family planning method	3	2	1
Counseling clients for STI/HIV prevention and use of condom	1	0	1
Vaccinating under five year children and pregnant women	1	0	1
Provision of care and monitoring progress of labor	5	1	4
Monitoring women and neonates progress during postpartum period	6	4	2
Counseling clients with hormonal family planning method side effects	2	1	1
Assessing antenatal women	3	1	2
Taking appropriate action to pregnant women with risk indicators	1	1	0
Planning and compiling service data records using MTUHA system	2	1	1
Keeping and compiling service records guided by MTUHA standards	1	1	0