Innovating for Maternal and Child Health in Africa (IMCHA)

Final Technical Reporting Format and Guidelines for Implementation Research Teams (IRTs)

Purpose: The final technical report provides feedback on project milestones, particularly against the objectives set in the grant for this project. The report provides the opportunity to share lessons and information on the impact of interventions that improve the lives of women and children. The information you will provide will feed into the overall monitoring and evaluation of the IMCHA initiative. This final report is composed of two parts: Part 1 covers Sections 1-8. These are the same as in your regular progress report template. Please complete as usual by reporting activities conducted since your last technical report. Part 2 covers Section 9. This addition to the template is to collect reflections about your project in its entirety (from beginning to end).

Part 1: Last reporting period

Overview: The log-model and performance measurement framework included in the annex outlines the expected results of the IMCHA initiative.
Please outline general project information in the table below:

Project number and name	**108023-001: Improving access to health services and quality of care for Mothers and Children in Tanzania**
Recipient institutions	Institute of Development Studies, University of Dar es Salaam & HealthBridge Foundation of Canada
Location - country(ies)	Tanzania
Project start date	10 September 2015
Project completion date	09 March 2020
Period of report (since your last technical report to now):	10 September 2019 to 09 March 2020

Section 1: Synthesis
During this reporting period, the project implemented a number of activities as described below:

Activity 1: Coding and Analysis of Data
The team jointly analysed the data and produced preliminary reports. Draft quantitative reports are attached as **Annexes 1 & 2**. The data set analysed included household questionnaires, women and male group questionnaires, in-depth interviews, and health facility data.

Activity 2: Participation in the 25th Canadian Conference for Global Health
The Canadian Co-PI (Dr. Sian FitzGerald) participated in the 25th Canadian Conference for Global Health held from 17th to 19th October 2019 in Ottawa, Canada. During the meeting, Dr. FitzGerald made two presentations on behalf of the team titled: (i) Leaving no one behind: engaging community to improve health of Mothers and Children in Tanzania; and (ii) Improving access to health services and quality of care for Mothers and Children in Tanzania. Copies of the presentations are attached as **Annexes 3 & 4.**

Activity 3: Participation in IMCHA Learning Workshop
From 20th to 24th January 2020, PI (Prof. Stephen Maluka), Decisionmaker co-PI (Dr. Robert Salimu) and Canadian researcher co-PI (Dr. Sian FitzGerald) participated in the IMCHA Learning Workshop in Kigali,

Rwanda. The objectives of the workshop were to: give space for the Research Teams and HPROs to share results and learn from each other (including synthesizing key challenges and effective strategies for overcoming them); to gather materials (interviews, comments, quotes) for communication products, including documenting the legacy; and to strengthen capacity to integrate health equity, scale up and communication strategies into projects analyses and knowledge translation activities.

Activity 4: Preparation of Dissemination Materials

The team prepared dissemination materials including short video, infographics, and PowerPoint presentations. A presentation was made by S. FitzGerald at Global Affairs Canada (GAC) on the occasion of International Development Week. The short video explored the role of women's groups in improving maternal health, and participatory action research. The infographics featured male engagement in maternal health, and participatory action research. The infographics are included as **Annexes 5 & 6.** The short video shows how the participatory action research process was conducted. The video can be viewed at: https://drive.google.com/open?id=1CqBspJT5J7Jd7MANaCdR8v3gIw99Qr5W

In addition, the team implemented the project dissemination plan as indicated in **Annex 7.**

Activity 5: Dissemination of IMCHA Findings in the Districts

Community dissemination meetings were conducted in the project districts from Monday 2nd to Saturday 07th March 2020. We conducted two meetings, one in Mufindi District and one in Kilolo District. The dissemination meetings were attended by different stakeholders including: community leaders, women's group members, male champions, health care providers , community health workers, health facility committees, District leaders, and Regional level health managers. The objectives of the dissemination meetings were to share and validate findings of the research and jointly plan for the scaling up of the project. **Table 1 & 2** indicate list of participants who attended dissemination meetings. During dissemination meetings we also launched IMCHA Documentary and a Drama for wider dissemination of the IMCHA Project. As reported in the previous report (March – September 2019), the team hired University of Dar es Salaam Television Station to prepare the documentary and the drama. The documentary describes how the participatory action research approach was implemented in Kilolo and Mufindi District. It also documents changes which happened following implementation of the IMCHA project. The Drama show the following issues: (i) situation of the Villages before the IMCHA project, (ii) activities implemented by women groups and male champions as part of the IMCHA interventions, and (iii) changes in maternal and child health services utilization after implementation of the IMCHA project.

Table 1: Participants from Kilolo District

S/N	Category of Participants	District Official	Ibumu	Kilumbwa	Mazombe	Lugalo	Itungi	Mlafu	Total
1	District Executive Director & District Medical Officer	2							2
2	Council Health Management Team Members	2							2

3	Ward Executive Officers	-	1	-	1	-	-	1	3
4	Village Executive Officers	-	1	1	1	1	1	1	6
5	Village Chairpersons	-	1	1	1	1	1	1	6
6	Religious Leaders	-	1	-	1	1	1	-	4
7	Health care providers	-	1		1	1	1	-	4
8	Health Facility Governing Committee	-	1	-	1	1	1	-	4
9	Community Health Workers	-	2	2	2	2	2	2	12
10	Women Groups	-	14	15	9	10	18	14	80
11	Male Champions	-	3	2	2	3	5	04	15
	Total	**4**	**25**	**21**	**19**	**20**	**30**	**23**	**135**

Table 2: Participants from Mufindi District

S/N	Category of Participants	District Officials	Iramba	Ikimlinzowo	Kasanga	Nyo/Shule	Nyo/Njiapanda	Igowole	Ibatu	Ihomasa	Total
1	District Executive Director & District Medical Officer	2	-	-	-	-	-	-	-	-	2
2	Council Health Management Team	2	-	-	-	-	-	-	-	-	2
3	Ward Executive Officers	-	1	-	1	1	-	1	-	-	4
4	Village Executive Officers	-	1	1	1	1	1	1	1	1	8
5	Village Chairpersons	-	1	1	1	1	1	1	1	1	8
6	Religious Leaders	-	1	-	1	-	-	1	-	1	4
7	Health care providers	-	1	-	2	1	-	1	-	-	5
8	Health Facility Governing Committee	-	0	-	1	1	-	1	-	-	3
9	Community Health Workers	-	2	2	2	2	2	1	2	2	15
10	Women Groups	-	16	13	15	12	8	9	15	14	102
11	Male Champions	-	5	2	3	2	3	1	2	3	21
	Total	**4**	**28**	**19**	**27**	**20**	**15**	**17**	**21**	**22**	**174**

Activity 6: Presentations in the 1st International Conference of Development Studies

The Project PI (Prof. Stephen Maluka) and 2 PhD candidates (Chakupewa Joseph & Japhet Paul) participated in the 1st International Conference of Development Studies held in Dodoma, Tanzania from 11th to 12th March 2020. The conference was jointly organized by the University of Dodoma (Tanzania), University of Dar es Salaam (Tanzania), and University of Jyväskylä, (Finland). During the conference we made three presentations about the IMCHA project. The three abstracts presented during the conference are included as **Annex 8.**

Section 2: Progress of Project Objectives

a) **Status of Project Objectives and Milestones.** Please indicate the progress against the objectives set in the project grant for this reporting period (i.e. last year).

Table 3: Progress in the implementation of the project

Project objective	*Measurement (indicator)*	*Progress (completed, on-track, delayed, not started, new, removed/deleted).*	*Comments on status*
Endline data coding	- Household survey data set -Health facility assessment data set -Coded interviews	Completed	Endline data were coded as planned.
Data cleaning, transcription, and coding	-Cleaned quantitative data set - Interview transcripts -Coded data set	Completed	Cleaning and transcription completed as planned
Data analysis	-Analysed quantitative data -Analysed interviews	Completed	Data analysis was done as planned
Dissemination of Findings at the community level	- Dissemination Report	Completed	Dissemination at the community was done from 2nd to 7th March 2020.

b) **Revised or Delayed Project Objectives or Milestones:**

- All activities were implemented as planned.

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c) **Governance and Coordination of Project**

There are no changes to the project governance and coordination structure.

Table 4: Meetings of the team members

Governance or coordination structure	*Number of meetings planned for reporting period*	*Number of meetings conducted for reporting period (with dates)*	*Name of core research team attending meeting (please * beside name if they are a PI, co-PI or focal decision maker on research team*	*Additional persons attending meeting (name, title and organization)*
Project PI & Co-PIs	No physical meeting planned between African PI & Decisionmaker Co-PI with Canadian Co-PI during this reporting period	-We managed to meet during IMCHA Learning Workshop in Kigali, Rwanda. In addition, we had several email exchanges between the PI and Co-PIs between October 2019 to March 2020.	1. Dr. Stephen Maluka* (PI)- Coordinates the project and leads qualitative and action research component 2. Dr. Robert Salim *(co-PI and decision maker in the region) 3. Dr. Sian FitzGerald* (Canadian co-PI and Executive Director, HealthBridge).	None
Country Action Research Team	3 meetings	We conducted 3 physical meetings as follows: On 13th January 2020 at the Institute of Development Studies, University of Dar es Salaam. The main agenda was plan for community level dissemination activities. 20th February 2020 at the Institute of Development	1. Dr. Stephen Maluka*(PI) 2. Dr. Robert Salim* (co-PI, and policy maker in the region) 3.Prof. Peter Kamuzora (team member, provides main support in qualitative and action research approach) 4. Dr. Alexander May (team member).	1. Mr. Japhet Paul (PhD student) 2. Mr. Chakupewa Joseph (PhD student)

Governance or coordination structure	*Number of meetings planned for reporting period*	*Number of meetings conducted for reporting period (with dates)*	*Name of core research team attending meeting (please * beside name if they are a PI, co-PI or focal decision maker on research team*	*Additional persons attending meeting (name, title and organization)*
		Studies, University of Dar es Salaam. The main agenda was to plan for community level dissemination activities and data collection. 01st March 2020 in Iringa District. The main agenda was to finalize plans for community level dissemination activities and data collection.		

d) **Health Policy and Research Organization (HPRO) Collaboration.** Please describe the number and type of communication between the IRT and HPRO.

Table 5: Meetings with HPRO

Description of focus or purpose of communication	*Date (D/M/Y) and type of communication (email, skype/phone, meeting)*	*Focal staff and organizations/institutions involved*	*Key ideas and actions resulting from meeting*
Update and progress on the project implementation -Areas for collaboration and support by the HPRO	Several email exchange	HPRO led by Lynette Kamau	Discussed about the project implementation - Planning for capacity building activities

			- Plan the next steps for future National engagement -Plans for disseminating communication materials developed by the IRTs
Participation in documenting legacy of the IMCHA project	Facilitated site visit by the Journalists. The visit was done from 24th to 26th October 2019.	EA-HPRO led by Lynette Kamau, hired Journalists to visit project sites for documenting implementation and effects of the project.	- Document the status of our projects, findings and lessons learned - Document scale-up opportunities and the technical support IMCHA can provide - Document lessons from IMCHA project in Iringa and other projects in Tanzania.

Section 3: Methodology and Measurement

a) **Data/Methodology.** Please give details on the data collection methods implemented during this reporting period.

Table 6: Methodology and measurement

Research methodology planned for reporting period	*Actual progress during reporting period*	*Comments and/or rationale for variation*
Endline data coding and analysis	- Analysis of household data - Analysis of women groups data - Analysis of health facility registers data - Analysis of in-depth interviews	-Data analysis completed as planned

Section 4: Completed Activities and Outputs

a) Health Systems Analysis and Synthesis

i) Number of health system analyses and syntheses that are gender and/or equity focused.

- ***Nothing to report during this reporting period.***

ii) Number of networking and exchange opportunities supported through IMCHA.

- During the IMCHA learning Workshop in Kigali the team had opportunities to network with other research teams and funders.
- The Canadian co-PI had networked with other researchers during the 25th Canadian Conference for Global Health held from 17th to 19th October 2019 in Ottawa, Canada.

iii) Number of synergistic research opportunities

Title of concept note or proposal	*Details of person or group submitting*	*Date of submission*	*Outcome of submission or comments*

- ***Nothing to report during this reporting period.***

Please detail and additional related preparatory activities or actions taken:

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b) Partnerships and Collaboration

i) Number of new partnerships or collaborations between decision-makers and researchers

- ***Nothing to report during this reporting period.***

ii) Number of connections established between IRTs and organizations outside of IMCHA.

- ***Nothing to report during this reporting period.***

c) Integration of Research into Policy and Practice

i) Decision makers' follow up on recommendations from research into health systems planning forum(s)

- ***Nothing to report during this reporting period.***

Please detail any additional related preparatory activities or actions taken:

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ii) Number and description of evidence-based policy and practice promoted by IRTs.

- ***Nothing to report during this reporting period.***

ii) Number and type of knowledge translation activities. The activities may include information sharing and dissemination (reports, journal articles, policy briefs, practitioner tools, workshops, conferences, seminars, radio programs, films, interviews, websites, CD-ROMs, etc.) and creation of new knowledge in forms other than publications or reports (new technologies, new methodologies, new curricula, new policies, etc.).

As indicated in section 1 of this report, several knowledge translation activities were implemented during this reporting period which include: workshops, short video (https://drive.google.com/open?id=1CqBspJT5J7Jd7MANaCdR8v3gIw99Qr5W); infographics (**Annexes 5, 6, 9, 10, 11),** IMCHA documentary and a drama. Infographics are being shared widely in the social

media including twitter, WhatsApp, Facebook. We are also sharing through Healthbridge and University of Dar es Salaam websites. During this reporting period one paper was also published in *BMC Pregnancy and Childbirth*, an International Peer Reviewed Open Access Journal. You can access and download the paper using this link:

https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-020-2823-4

Section 5: Capacity Building

This section gathers collective as well as project specific data on capacity building efforts within IMCHA.

i) Number of emerging researchers involved in the IRT research

Table 7: Capacity building

Name of student or emerging researcher (defined as new to the health systems field < 5 years).	*Current level of study (i.e. masters, PHD, Post docs, new investigator).*	*Current role or tasks undertaken for reporting period*	*Outputs or description of how this is being used for the research process of the project*
Japhet Paul	PhD	Supporting data analysis and dissemination of the findings	-Knowledge on how to code and analyse data -Experience in designing knowledge translation activities - Experience in conducting dissemination - Presentations in the International Conferences - Experience in writing Manuscripts
Chakupewa Joseph	PhD	Supporting data analysis and dissemination of the findings	

ii) Number of individuals who received training, networking and exchange opportunities

- The two PhD students participated in data coding and analysis. They also participated actively in the dissemination of findings in the Districts.
- The two PhD students presented in the 1st International Conference in Development Studies held from 11th to 12th March 2020 in Tanzania.

Section 6: Research Findings

Please describe any preliminary findings from your research project. Highlight the significance of these findings in relation to the existing knowledge-base and/or policy environment.

Key Finding 1: Changes in maternal and child health outcomes

1.1 Antenatal care

Antenatal care (ANC) services provide a platform for critical healthcare functions, including health care promotion and prevention, screening and diagnosis of diseases. It is recommended that pregnant women receive at least 4 comprehensive ANC visits with one in the first trimester (within 12 weeks). As indicated in **Figure 1,** the percentage of women who started ANC within 12 weeks increased by 24% points (from 34% to 58%) and 18% points (from 17% to 35%) in Kilolo and Mufindi Districts, respectively.

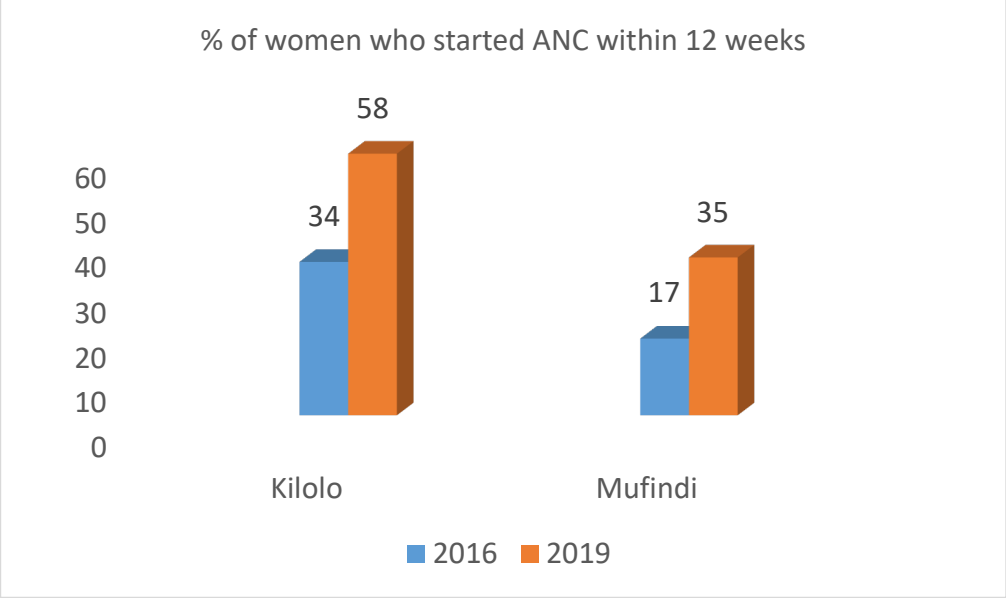

Figure 1: ANC attendance within 12 weeks

Household surveys confirmed considerable differences in use of ANC services between intervention and control Villages. As indicated in **Figure 2**, the prevalence of women that have attended antenatal care (ANC) within 12 weeks of pregnancy was higher in the intervention villages in comparison to the control villages (74 vs. 47%, respectively).

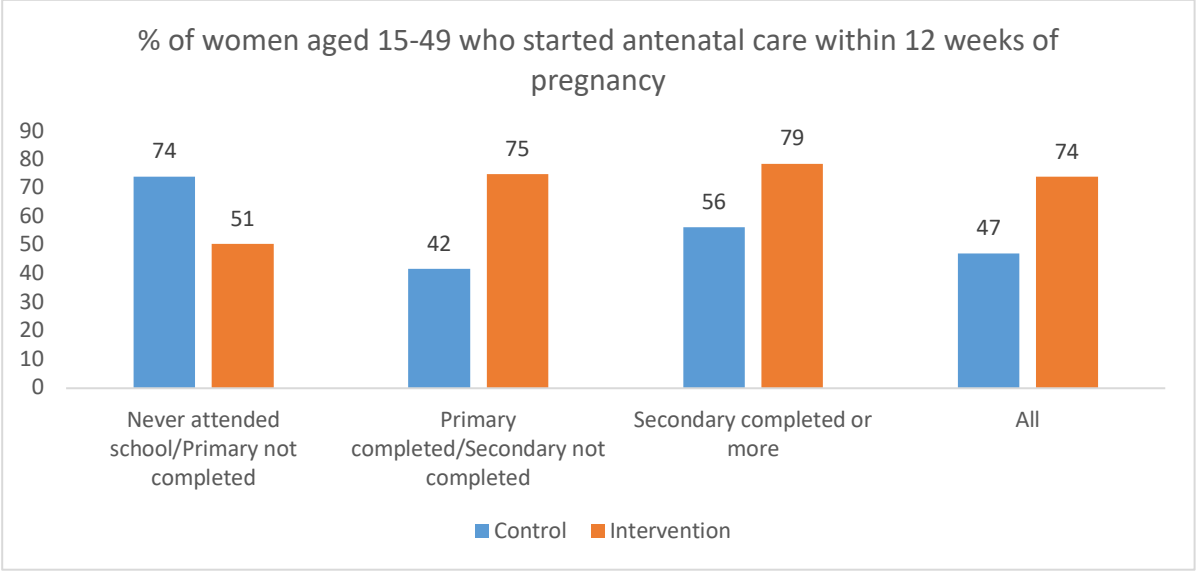

Figure 2: ANC attendance within 12 weeks in the intervention and control Villages

In Tanzania, on average, only 21% of women that live in rural area are less than four months pregnant at the time of the first ANC visit. Starting ANC within 12 weeks increases the chance of early diagnostic and treatment of potential complications for the mother and baby.

The percentage of women who completed 4 or more ANC visits increased by 11% points (from 39% to 50%) and by 29% points (from 35% to 64%) in Kiolo and Mufindi Districts respectively **(Figure 3).**

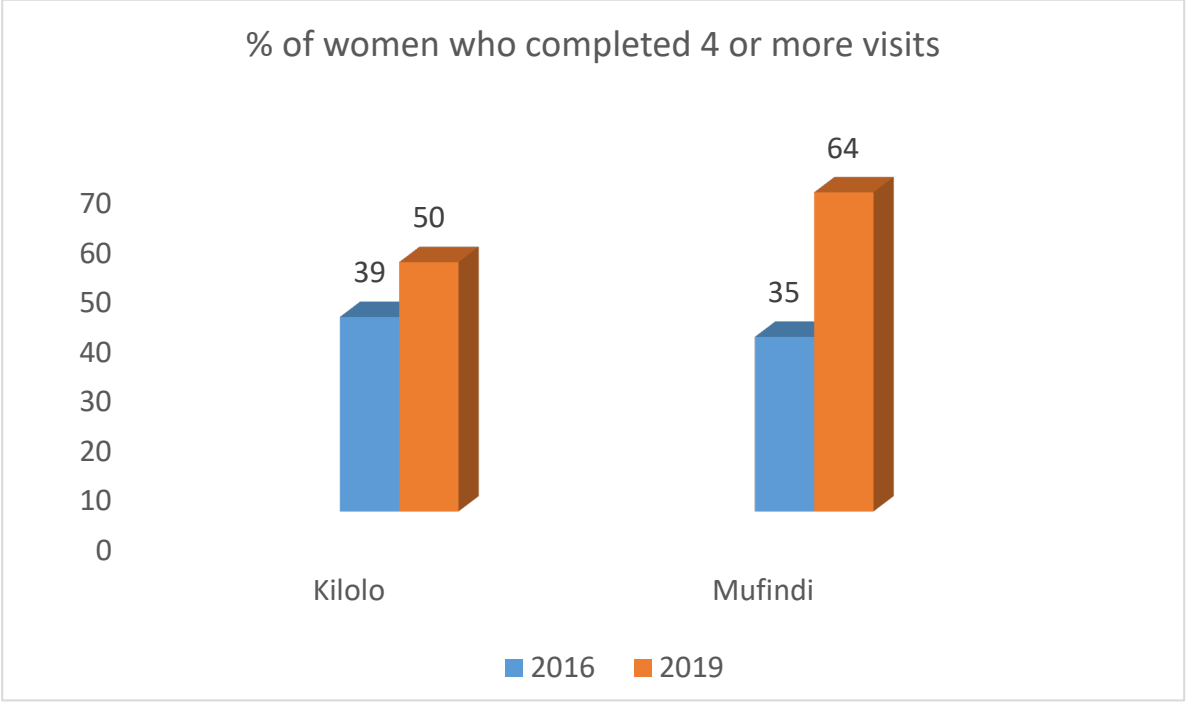

Figure 3: Women who completed 4 or more visits

1.2 Male involvement in maternal and child health

Male involvement in maternal and child health is associated with increased access to ANC and delivery in the health facilities; increased knowledge of both women and men on danger signs; increased use of family planning methods; and decreased gender-related barriers to maternal and child health services. In addition, couple HIV testing and counselling is among the key components of ANC in Tanzania. Couples are expected to participate in the HIV/AIDS counselling and testing during the first ANC visit as part of the Prevention of Mother to Child Transmission (PMTCT) services. One of the objectives of the project was to improve male involvement in PMTCT services. As indicated in Figure 4, the number of couples who participated in PMTCT services increased by 5% points (from 46% to 51%) and 13% points (from 47% to 60%) in Kilolo and Mufindi Districts, respectively. In Tanzania, despite different efforts, only 30% of male partners participate in the PMTCT.

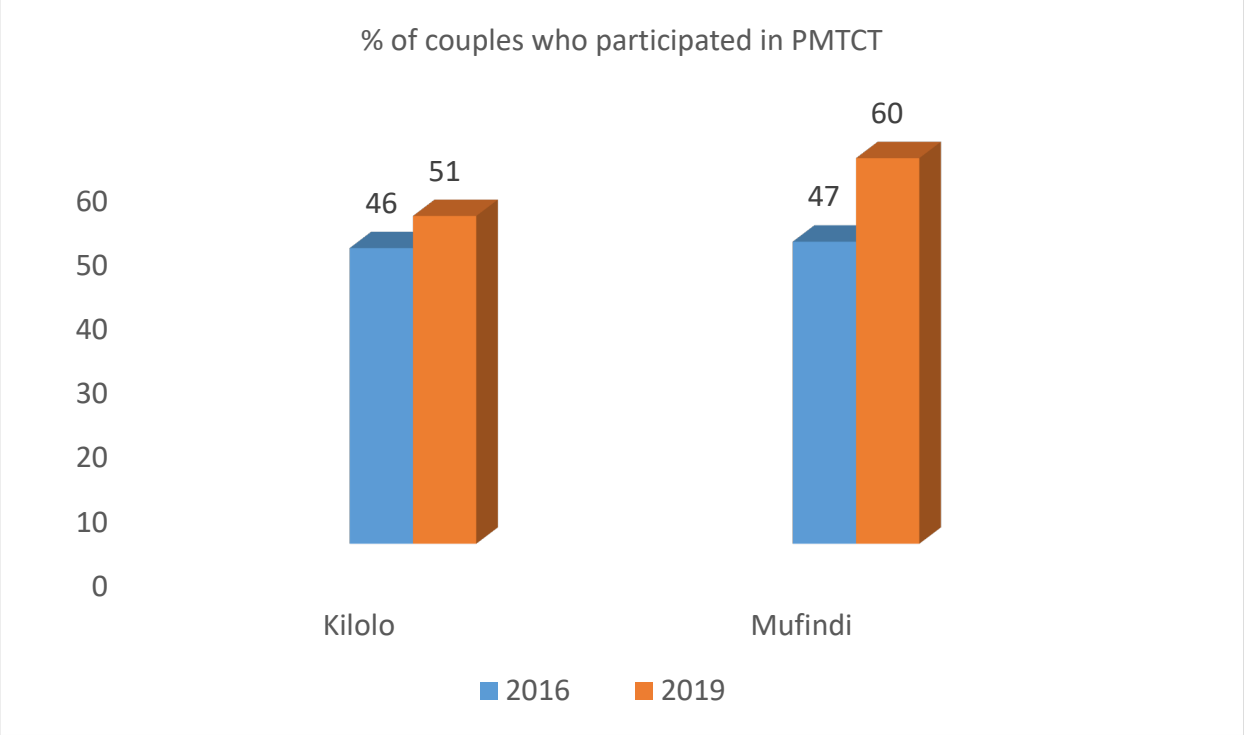

Figure 4: Couples who participated in PMTCT services

1.3 Facility delivery and delivery by skilled birth attendants

The number of women that had their last delivery at a health facility were high in both intervention and control groups (97% and 98%, respectively). However, as indicated in **Figure 6**, the percentage of women who were assisted by skilled birth attendants increased by 1% point and 14% points in Kilolo and Mufindi Districts respectively.

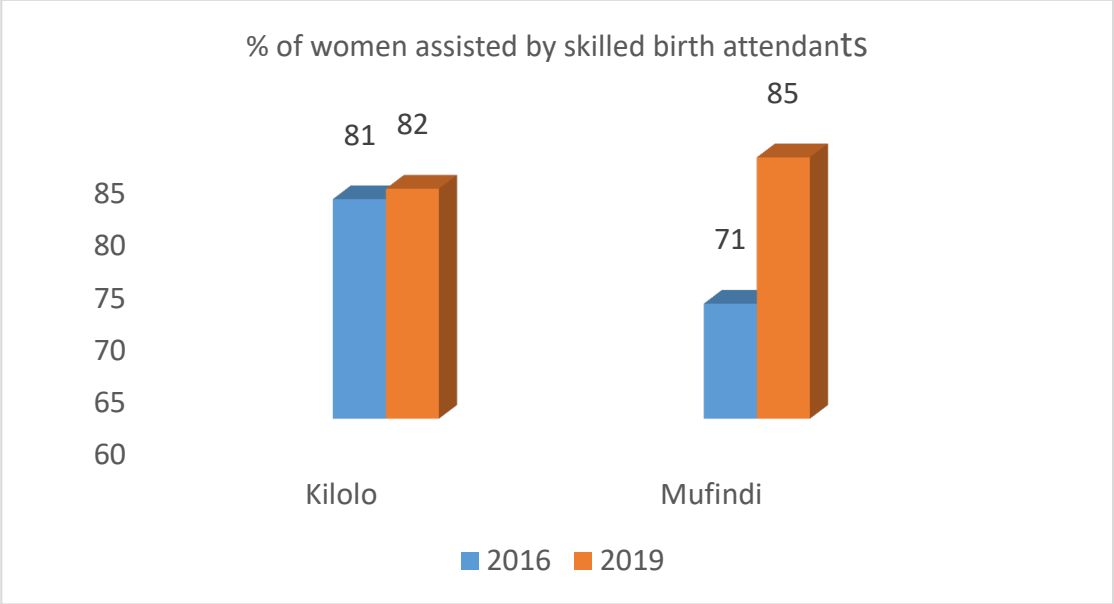

Figure 6: Women assisted by skilled birth attendants

However, as indicated in **Figure 7,** the findings did not show any major difference on women who were assisted by skilled birth attendants between intervention and control Villages.

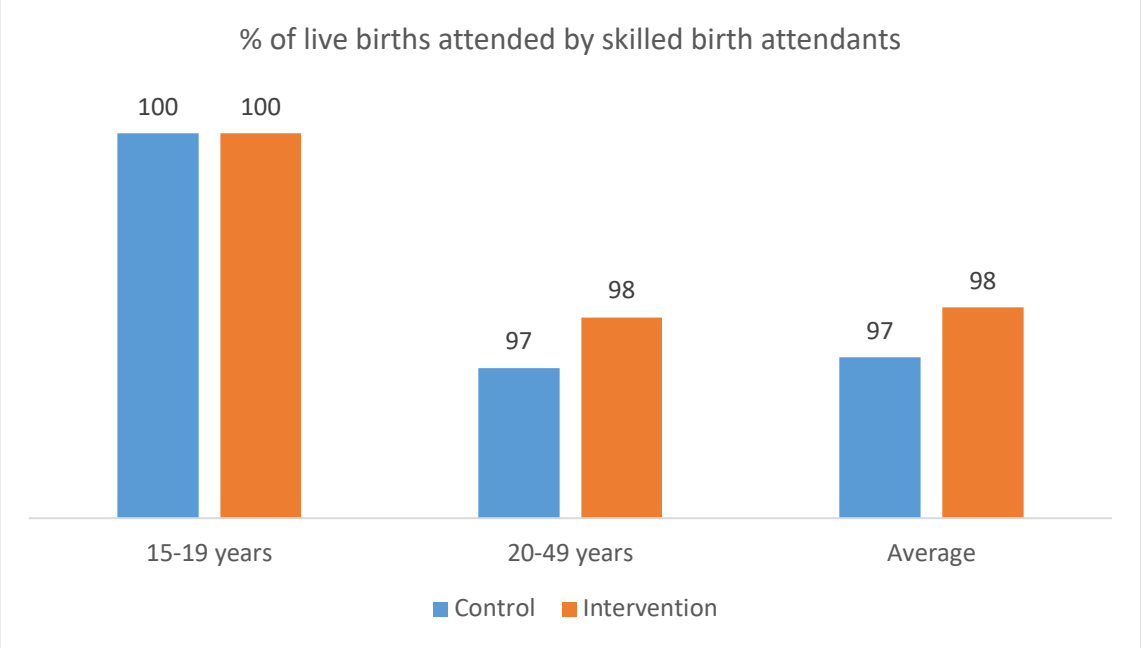

Figure 7: Women who were assisted by skilled birth attendants

1.4 Postnatal care services

Receiving postnatal care (PNC) within two days is important for preventing mother and baby deaths. Ninety-five percent of women in the intervention group and 89% in the control group received PNC within two days after birth **(Figure 8)**.

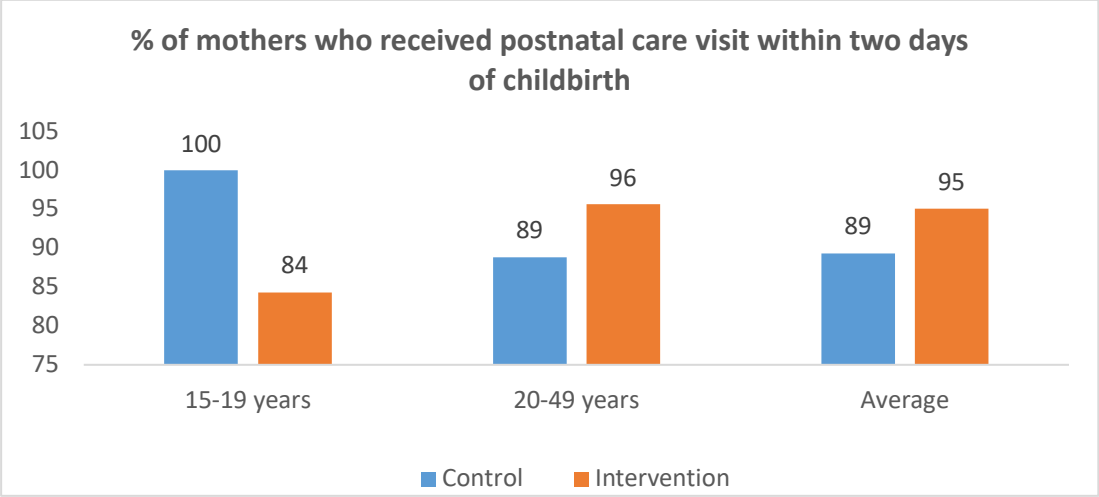

Figure 8: Women who started postnatal care within 48 hours of delivery

In addition, as indicated in **Figure 9,** the percentage of women who received PNC within48 hours increased by 14% points (from 36 % to 51%) in Kilolo District and by 31% points (from 33% to 64%) in Mufindi District.

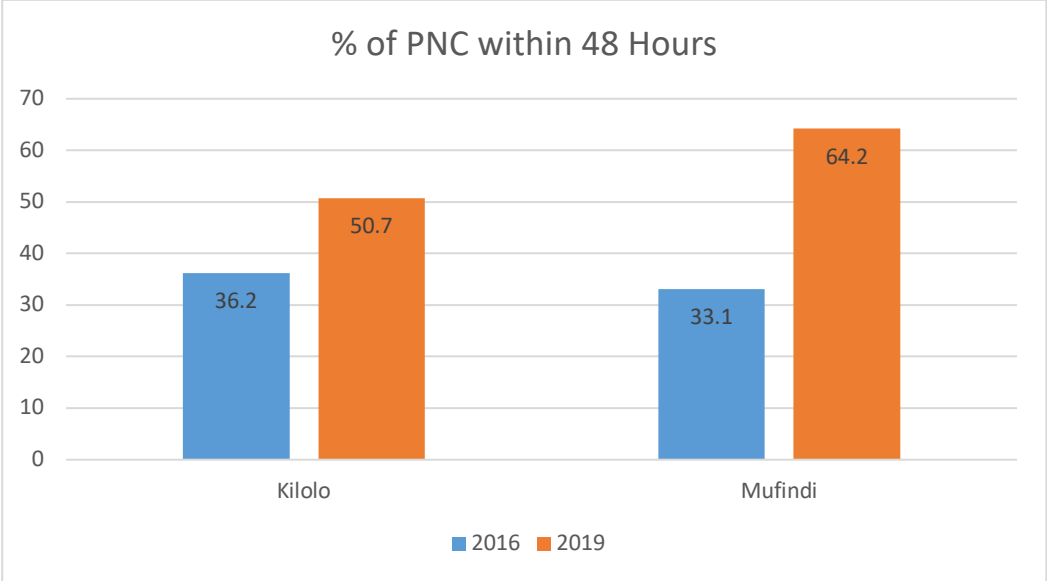

Figure 9: Women who started postnatal care within 48 hours of delivery

1.5 Use of modern contraceptive

As indicated in **Figure 10,** the use of modern contraceptives increased by 31% points (from 50% to 81%) and 24% points (from 49.5% to 73.4%) in Kilolo and Mufindi District respectively.

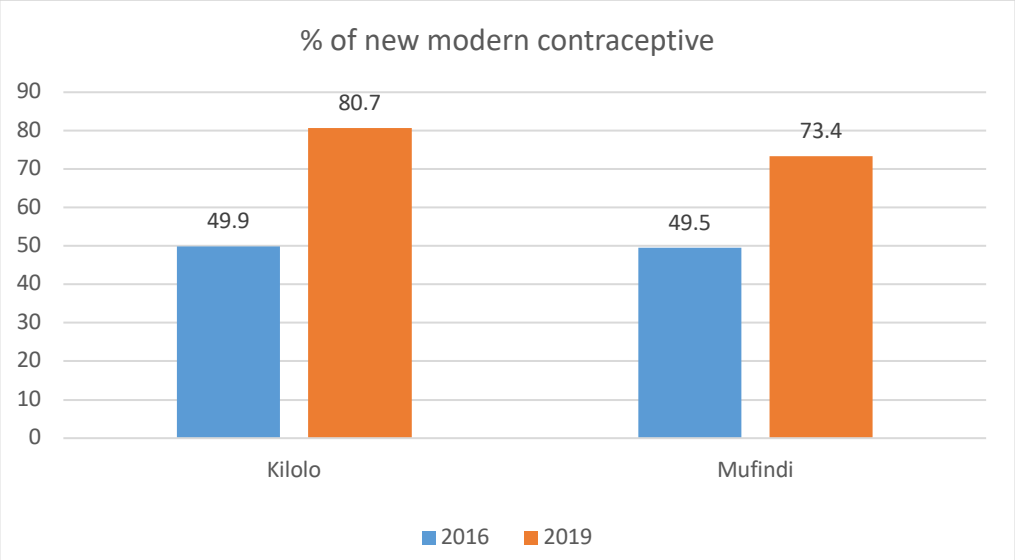

Figure 10: Use of modern contraceptives

Key Finding 2: Attitudes change amongst health care providers

The strong engagement of health care providers during implementation of the IMCHA project, and the fact that women in women's groups (WG) were now more aware of their rights, resulted in health care providers ' changing what was perceived as negative attitudes. WG members reported changes in how maternal and child health (MCH) services were provided:

> *"Our health care worker was too tough to handle. But I am very happy this project has helped change her attitude. She is our friend, we are her friend, and she is a friend of everyone in the community. She knows very well that any sort of misconduct we can quickly report to the village leaders even to the Region Medical Officer (RMO) who is part of the IMCHA team members"* (Interview with WG member, Kilolo District).

Key Finding 3: Increased awareness and knowledge among the community on MCH services

IMCHA interventions increased awareness of the community and women's knowledge about the danger signs and symptoms during pregnancy and delivery. In household surveys, women were asked about danger signs and symptoms during pregnancy, labour, and related to the newborn's health. Respondents could cite more than one sign or symptom per question. Findings indicated that women from the intervention villages were two times more likely to identify danger signs during pregnancy, delivery, and related to the newborn's health compared to women in the control villages **(Figure 11).**

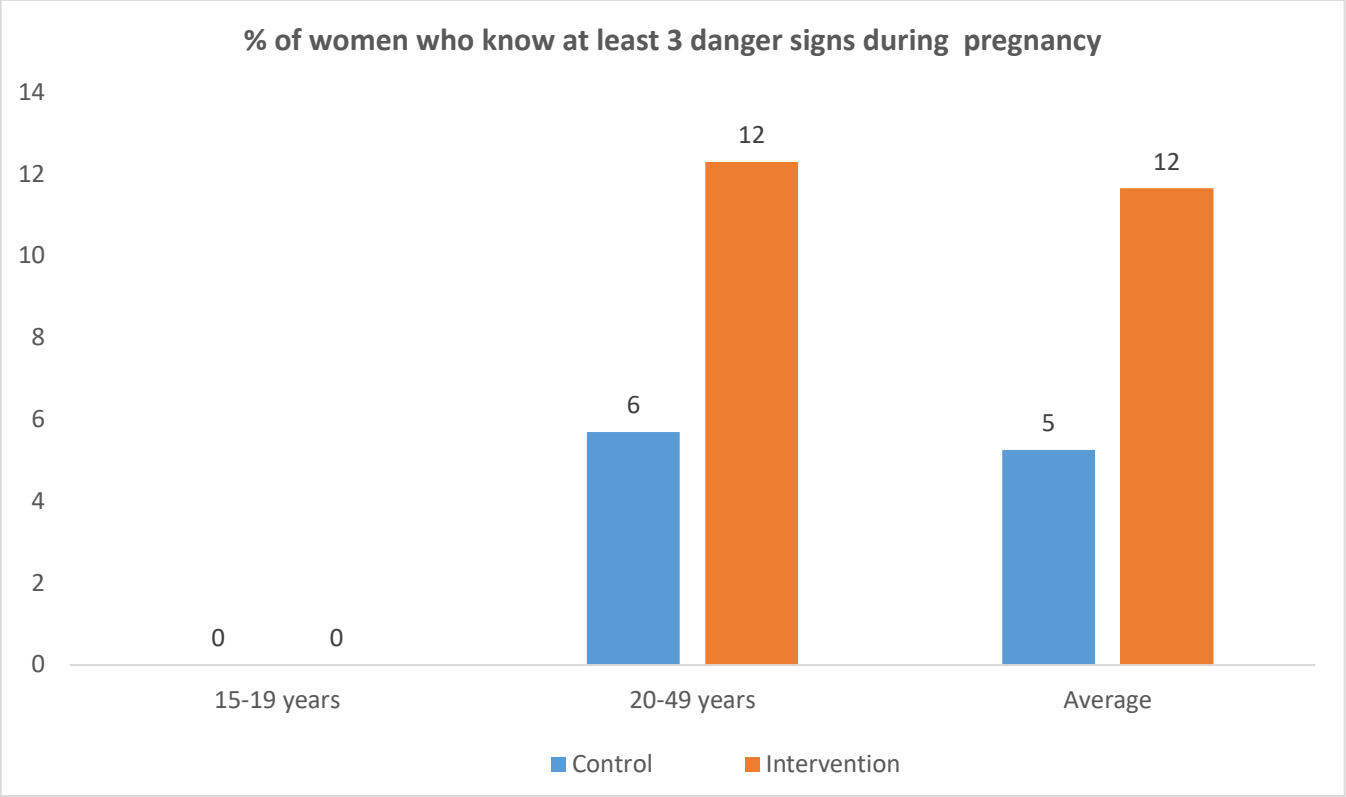

Figure 11: Women who know at least 3 danger signs during pregnancy and delivery

Almost all respondents think delivering at a health facility (HF) is important, and among the most cited reasons for preferring to delivery at a HF were safety and the presence of skilled health workers. **Table 10** shows that women in the intervention group had a probability 2.6 times higher of seeing, hearing or reading anything about health facility (HF) delivery in the past three months, when compared to women in the control group. In the intervention villages, most women stated they heard about HF delivery from IMCHA women group members. Other sources that were higher in the intervention group were poster, leaflet, public meetings, and traditional birth attendants.

Table 9: Information received by women about health facility delivery (N=158)

	Intervention		Control	
	N	%	N	%
Have seen, heard, or read anything about health facility delivery in the past three months	200	75	180	53
Source				
IMCHA group member	200	52	180	1
Health care providers	200	37	180	42
Community health worker	200	8	180	3
Poster, leaflet	200	20	180	12
Public meeting	200	17	180	5

Key Finding 4: Action research has empowered women

As reported in the last reporting period (March 2019 to September 2019), implementation of IMCHA project has increased decision-making space amongst women over health-related matters. There were comments from various respondents that participation in the women groups has been empowering for women. It was said, for example, that the increased men who accompanied their partners were due to women's capacity to convince their partners on the importance of MCH service. Again, women participation during the public meetings increased confidence for them to take control of their health and that of their partners than it was before. Now women confidently speak in front of men in the meetings. However, many women had the opinion that since gender inequalities are deeply rooted in the community more efforts were still needed to further instil and sustain these changes.

> ''*This research has really empowered women in this village. In the past it was not easy for women to speak in the meetings. But now we see women speaking confidently and even asking questions in the meetings. This is a great change* (Village Executive Officer, Kilolo District).
>
> "*Women have now been empowered. I am surprised to see many women now speaking in the meetings. We thank IMCHA team for building confidence to these women*" (Ward Executive Officer, Kilolo District).

Figure 12 shows that most decisions related to key health issues and household purchases were taken by the woman and her husband together. Although only 19% of the women reported making the final decision by themselves on where to give birth in their last pregnancy, more than half declared that, somehow, they participated in this decision with their husbands.

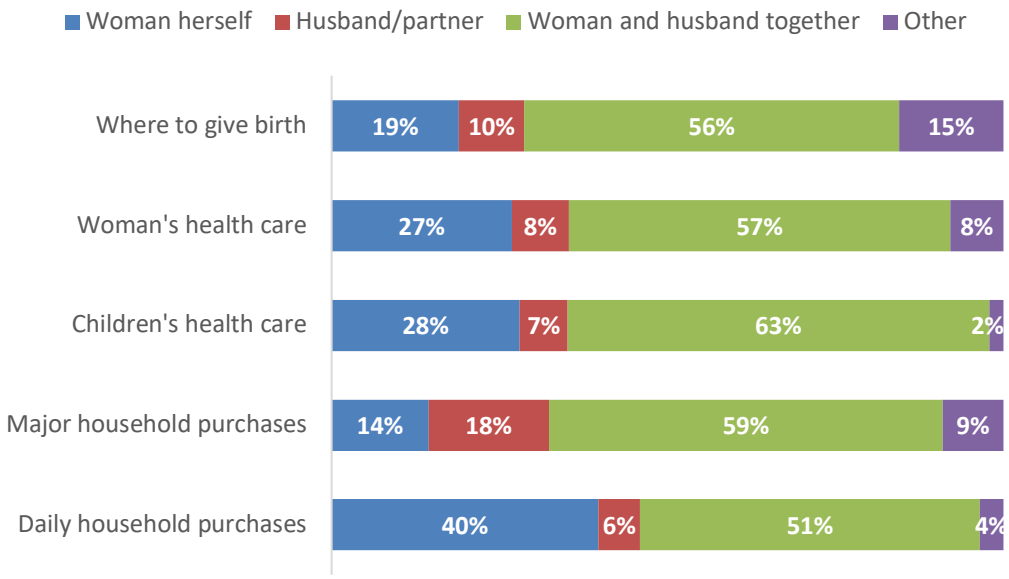

Figure 12: Household decision making on health and daily issues (N=158)

Key Finding 5: Increased collaboration among stakeholders in the provision of MCH services

Again, as reported earlier (March 2019 to September 2019), the IMCHA project successfully brought together many stakeholders from the district, village, and facility-level who started working jointly to

address MCH issues. WG members brought forward challenges they faced in reaching the community and households to the village management team (VMT) to be addressed. This, in turn, resulted into increased cooperation between women group members, male champions and Village leaders. Project implementation review meetings brought together various stakeholders from the village and ward levels. It is evident that implementation of IMCHA project stimulated these stakeholders to work together towards addressing maternal and child health problems in their respective communities. This collaboration is important for uptake and sustainability of the project interventions. There were evidence that some Village leaders have started integrating activities conducted by the women group members and male champions in their village action plans.

Section 7: Key Challenges

Discuss any challenges encountered during this reporting period. These may include administrative or financial challenges, changes in political/policy space, unexpected delays, or staff changes.

- There were no significant challenges during this reporting period. However, the IDRC's policy of withholding final instalment somehow affected implementation of the planned activities. We had to borrow funds from other projects in order to implement IMCHA planned activities.

Section 8: Recommendations to IDRC

Summarize any recommendations for IDRC with regard to the administration of the project, its scope, duration or budget.

- The research team has supported some villages to extend health education by women groups in other villages in their wards. In addition, the team has developed documentary and drama which have been distributed in the Districts to assist scaling up the interventions in other Villages and Districts. During dissemination meetings, community and district leaders showed interests to integrate activities of the women groups and male champions in their action plans. Categorically, the district officials urged Village leaders to continue supporting women groups and male champions in their respective Villages. Furthermore, in some Villages the research team has supported women groups to integrate health education with income generating activities through community-based savings groups. It would be good if IDRC will provide another research grant to build on the foundation that has been developed by women groups especially, and other stakeholders as well.

Part 2: Overall reflections

Section 9: Reflections on the research project in its entirety

Purpose: This section provides feedback on project results covering the full period of your research grant. The information you will provide will feed into the overall legacy of the IMCHA initiative.

1. **What was the main goal and strategic objectives? Please explain how each of these was achieved (or not, and if not, why). Were there any unintended outcomes of the project? Please elaborate.**

   The strategic goal of the project was to improve demand for and use of maternal and child health services in two rural Districts in Tanzania; specific objectives were to: improve awareness of the community on maternal and child health issues; increased rate of pregnant women who start first ANC visit within 12 weeks from 28% and 18% in Kilolo and Mufindi districts respectively to 50%; increased rate of pregnant women who complete four or more ANC visits from 36% and 33 % in Kilolo and Mufindi Districts to 50%; increased rate of pregnant women who deliver in the health facilities from 93% to 95%; increase rate of couples who participate in MPTCT services from 30% to 50%; and increased rate of women who start postnatal care within 48 hours from 36% in Kilolo and 33% in Mufindi to 50%.

   To a large extend, the project has achieved its objectives. The percentage of women who started ANC within 12 weeks increased by 24% points (from 34% to 58%) and 18% points (from 17% to 35%) in Kilolo and Mufindi Districts, respectively. Similarly, the percentage of women who completed 4 or more ANC visits increased by 11% points (from 39% to 50%) and by 29% points (from 35% to 64%) in Kiolo and Mufindi Districts respectively. The number of couples who participated in Prevention of Mother to Child Transmission (PMTCT) services increased by 5% points (from 46% to 51%) and 13% points (from 47% to 60%) in Kilolo and Mufindi Districts, respectively. The percentage of women who received PNC within 48 hours increased by 14% points (from 36 % to 51%) in Kilolo District and by 31% points (from 33% to 64%) in Mufindi District. Furthermore, the use of modern contraceptives increased by 31% points (from 50% to 81%) and 24% points (from 49.5% to 73.4%) in Kilolo and Mufindi District respectively.

   The positive unintended outcomes included home grown strategies developed by the community groups to sustain the project. In many intervention villages, many women group members have integrated health education with income generating activities and organized support for economically deprived pregnant women in their community. The common income generating activities include domestic animal keeping and vegetable gardening. In other villages, women groups raise funds to support transport for pregnant women during emergency and referrals. In addition, in many villages, women groups and male champions have mobilized funds and purchased uniforms which are used when visiting pregnant women, male partners and new-born children in the households and during public meetings. IMCHA project managed to provide T-shirts to women groups and male champions. It was evident that this has increased motivation of the women groups

and male champions.

2. **How did your team incorporate gender considerations in your project? Why did that matter?**
The project integrated gender in its design. Incorporating gender in the research design was important because the adverse effect of socio-economic factors on maternal, newborn and child health (MNCH) in Tanzania is compounded by patriarchal systems, customs and traditions that limit women's autonomy and decision making power. This prevents women from practicing healthy behaviours, as well as seeking and receiving life-saving care around pregnancy and birth.

In the baseline situational analysis, we gained a thorough understanding of social and gender relations and how they influence access to and use of maternal and child health services. The project used participatory approaches to engage both women and men in the communities. In addition, the project built in on-going discussions on gender at each stage of the implementation of the project, which included frequent discussions with the community about the impact of gender on maternal and child health. We also conducted gender sensitization to all stakeholders engaged in the project, as well as to the health care providers and local health management committees. We also trained health management committee members on how to integrate gender in the health facility plans and budgets.

3. **How did your team incorporate health equity considerations in your project? Why did that matter?**
The project integrated health equity in the design and implementation of the interventions. First, intervention Villages were selected taking into account geographic differences; one easily accessible and another one hard to reach village in the Ward. Second, the selection of women groups members and male champions in each Village took into consideration of health equity. Women group members and male champions were selected from all parts of the village in order to ensure effective representation of marginalized streets or parts of the village. Third, women group members and male champions comprised of people with different levels of education, including those who had never attended school or completed primary level education.

4. **How did the project contribute to the field of study / research area? What were the 3-4 most important scientific findings?**
This research adds knowledge on the effectiveness of community-based participatory groups in improving maternal and child health outcomes in low-resource settings via new learning, women's empowerment and improved quality of care. The creation of women's groups was a very scalable intervention and highly desirable. There was increased demand for extending health education through women groups to non-intervention villages. Many nearby Villages which were not part of the intervention requested intervention Villages to extend health education through drama, poems and songs to their respective Villages. The team supported a few intervention Villages to extend health education in other Villages. During community dissemination meetings, District officials and community leaders showed interests to extend health education by women groups and male

champions to other Villages in their Districts. While in Tanzania, community health workers (CHWs) are tasked to do the community health education at the individual and group levels, the villages are often very large and thus they cannot always meet the community needs. Having a group of women in each village was an excellent support network for the CHWs to help them extend their work. The following are the most important scientific findings:

Key Finding 1: Participatory women groups is an effective intervention

- Results from qualitative research reveal that stakeholders appreciate the changes that the project is bringing to their approach to identifying and addressing problems. As indicated above, there were significant improvements in the use of maternal and child health services.

Key Finding 2: Increased awareness among the community on MCH services

- The increased number of people who were utilizing MCH services is evidence that awareness of the community has increased significantly.

Key Finding 3: The use of women's groups and male champions in the villages is a very scalable intervention and highly desirable.

- Women and male champions are an effective complimentary intervention for the CHWs. Having a group of women and several male champions in each village is an excellent support network for the CHWs to help them extend their work.
- The use of drama, poems, and songs as health education tools has much promise. Folk media became the most popular behaviour change strategies in most of the villages. There has been increased demand for extending health education through women groups and male champions to non-intervention villages. Several WG have been invited to provide health education through drama in other non-intervention villages in the districts. The villages that reached out to the women's groups were part of the same geographic setting as the intervention villages, and that the control villages were far from there. Therefore, there was limited risk of contamination.

Key Finding 4: Action research has empowered women

- Implementation of participatory action research with women's groups has increased decision-making space amongst women over health-related matters. There were comments from various respondents that participation in the women's groups has been empowering for women. It was said, for example, that the increase in the number of men who accompanied their partners was due to women's capacity to convince their partners of the importance of MCH services.
- Again, feeling control over their health made women more confident to speak at public meetings than before. Now women confidently speak in front of men in the meetings.
- However, as indicated in **figure 13**, household survey did not show any statistically significant difference between intervention and control Villages.

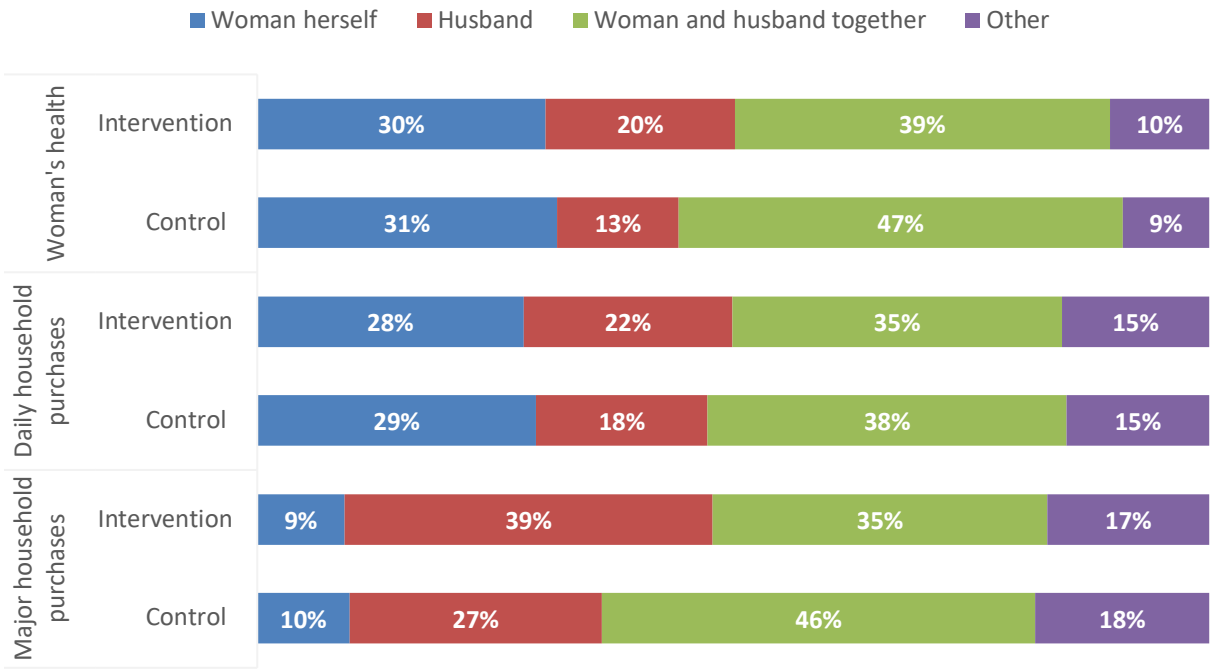

Figure 13: Household decision-making on health and daily issues (N=380)

5. **How would you compare the intended and actual results of the project? Why did it happen that way? Were there any unintended outcomes of the project? Did the project evolve differently than detailed in your original implementation plan? Why did the unintended outcomes occur? What was the impact?**

To a large extent the project has contributed to improving access to and use of maternal and child health services in the Districts. It has also increased awareness in the community of maternal and child health matters. As reported in the previous report, the positive unintended outcomes included home grown strategies developed by the community groups to sustain the project. In many intervention villages, many women group members have integrated health education with income generating activities and organized support for economically deprived pregnant women in their community. The common income generating activities include domestic animal keeping and vegetable gardening. In other villages, women groups raise funds to support transport for pregnant women during emergency and referrals. In addition, in many villages, women groups and male champions have mobilized funds and purchased uniforms which are used when visiting pregnant women, male partners and new-born children in the households and during public meetings. IMCHA project managed to provide T-shirts to women groups and male champions. It was evident that this has increased motivation of the women groups and male champions.

In terms of the implementation process, there were slight modifications from the original implementation plan. As indicated in the previous report (September 2017 – March 2018), we faced

challenges in terms of forming Quality Improvement Teams (QITs) in the health facilities to address delay 3 (receiving adequate and appropriate care at the health facilities). Initially, a Quality Improvement Team was planned to comprise representatives from the various provider roles within the facilities, such as a Matron, Nurse Midwife, Clinical Officer, Laboratory Technician, and Data Clerk. The health facility assessment which was conducted in all health facilities involved in the project revealed that most of the health facilities, particularly dispensaries, had two or three staff which made it difficult to form a QIT. Therefore, the research team decided to replace this intervention component with health care providers' sensitization and training to address delay 3 and to change providers' attitudes and practices towards women and related service provision.

Therefore, throughout the implementation of the project, health care providers from all intervention villages were invited and participated in the stakeholders' meetings where women groups and male champions presented community and health system related barriers to accessing maternal and child health. Health care providers were given opportunity to comment and refine supply side barriers and strategies identified by the community. Bringing health care providers and the community together to discuss barriers to access maternal and child health and jointly discussing strategies identified by women and men was an innovation that strengthened project outcomes. While strategies were identified by the community, health care providers were involved in refining them before commencing implementation of the strategies.

6. Were there concrete policy or practice changes? Was there any action for scale up? At what level did this occur? How many people were affected by the policy or practice change? Please explain.

The creation of women's groups and male champions in the villages is a very scalable intervention and highly desirable. There has been increased demand for extending health education through women groups and male champions to non-intervention villages. Several women groups have been invited to provide health education through drama in other non-intervention villages in the districts. It should be noted that these are different from our comparison (non-intervention) villages and wards. During community dissemination meetings there was increased interest by the district officials and community leaders to support women groups in the intervention areas after the project.

7. What are the five most important results (outputs or outcomes) of this project and how have they been useful or innovative?

The percentage of women who started ANC within 12 weeks increased by 24% points (from 34% to 58%) and 18% points (from 17% to 35%) in Kilolo and Mufindi Districts, respectively. Similarly, the percentage of women who completed 4 or more ANC visits increased by 11% points (from 39% to 50%) and by 29% points (from 35% to 64%) in Kiolo and Mufindi Districts respectively. The number of couples who participated in Prevention of Mother to Child Transmission (PMTCT) services increased by 5% points (from 46% to 51%) and 13% points (from 47% to 60%) in Kilolo and Mufindi Districts, respectively. The percentage of women who received PNC within 48 hours increased by 14% points (from 36 % to 51%) in Kilolo District and by 31% points (from 33% to 64%) in Mufindi

District. Furthermore, the use of modern contraceptives increased by 31% points (from 50% to 81%) and 24% points (from 49.5% to 73.4%) in Kilolo and Mufindi District respectively.

8. **Are there any lessons arising from the implementation of the research related to ethics consideration, or other processes?**

   Actively engaging all stakeholders throughout the research process is key in an action research approach. Furthermore, future research on community-based participatory groups should consider integrating interventions with income generating activities. This could help increase retention of the members beyond the project grant period and address poverty as a key hindrance to access to and use of maternal and child health services in poor resource settings. For example, in our case, we confirmed what has been reported in the literature that while pregnant women were mobilized to attend ANC and deliver in the health facilities, poverty hindered some households timely access to maternal health care services. In many intervention villages, women's group members have integrated health education with income generating activities and organized support for economically deprived pregnant women in their community. The common income generating activities include domestic animal keeping and vegetable gardening. In other villages, women groups raise funds to support transport for pregnant women during emergency and referrals. In addition, in many villages, women groups and male champions have mobilized funds and purchased uniforms which are used when visiting pregnant women, male partners and new-born children in the households and during public meetings. IMCHA project managed to provide T-shirts to women groups and male champions. It was evident that this has increased motivation of the women groups and male champions.

9. **Are there any lessons or observations about the granting process, the financial performance of the project, or IDRC's administration of the project that could inform future programming or IDRC granting / financial management processes?**

   Generally, the project granting process was good. We did not face any significant challenge regarding grand administration. Similarly, financial management process was good. However, the IDRC could consider reducing the percentage of withholding final instalment to enable research teams in low income countries to effectively implement activities planned in the last reporting period.

10. **Do you have any additional comments on the IMCHA model?** (The IMCHA model consist of research teams (RTs) led by an African PI, working in collaboration with a Canadian researcher co-PI and an African decision-maker Co-PI. The model has an open call for proposals to select original grants and a closed call for synergy grants. It also includes two Health Policy and Research Organizations (HPROs) supporting the RTs).

    The IMCHA model was well designed and should be used in all future grants funded by IDRC. The HPRO provided critical roles in strengthening capacity of the young and emerging researchers. They also supported research team in knowledge translation. It would be good if this model is also used by other funders.

11. **List all research outputs generated by the project, where possible provide the link. In this list, identify by a star the 10 most important.** (If you already possess a document with this information, no need to copy here. Please attach as Appendix to this report. Make sure to star the 10 most important.)

Outputs are the directly achievable products of a project's completed activities (e.g. policy briefs, journal articles, research papers, trained people, etc.). Indicate the project outputs that were published on an open access basis.

1. Peer Reviewed Paper which can be downloaded at link*:
https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-020-2823-4

2. IMCHA Project Documentary*
The documentary was shared with IDRC and other stakeholders. The Documentary was officially launched by the District Level Officials during community level dissemination meetings.

3. IMCHA project short video* which can be viewed using this link:
www.healthbridge.ca

4. Research-in-Action Piece led by IDRC -Based IMCHA team entitled "Women lead change for better antenatal care in rural Tanzania" which was published on IDRC website in February 2019, and on various other websites afterwards***.** The story can be viewed at:
https://www.idrc.ca/en/stories/women-lead-change-better-antenatal-care-rural-tanzania

5. IMCHA project dissemination material which was reported in the Deutsche Well Swahili Radio of Germany in Kiswahili*. The content of the dissemination material focused on how women group members in Iringa region mobilize community members to improve maternal and child health services. Dissemination material was produced in Kiswahili and can be found at the following link:
https://www.dw.com/sw/wanawake-iringa-watoa-elimu-kuhusu-afya-ya-uzazi/av-49260025

6. Various Infographics:

i. Male engagement in maternal health infographic **(Annex 5 & 9).**
ii. Participatory action research infographic **(Annex 6).**
iii. Health systems barriers to ANC infographic **(Annex 10).**
iv. Community barriers to ANC infographic **(Annex 11).**

Matrix for IMCHA statistics at project level

12. **How many beneficiaries were reached by your project?** Please fill in the two tables below, responding only to the indicators applicable to your project.

A. Information about the population

Indicator	Baseline (indicate year)	Most recent data (indicate year)	Data source	Note
Total size of the population in the catchment area Kilolo District Mufindi District	 F 112,274 (2012) M 105,856 (2012) F 139,933 (2012) M 125,896 (2012)	 F M F M	National Census Data	The current population data used by the Districts is based on the 2012 National Population Census. This is the latest Census Data for the country. The average annual growth rate of the population for Iringa region is 1.1%.
Number of women of reproductive age (15-49) Kilolo District Mufindi District	 52,769 (2012) 65,768 (2012)			
Number of births per year Kilolo District Mufindi District	 F 636 (2016) M 510 (2016) F 695 (2016) M 629 (2016)	 F 520 (2019) M493 (2019) F 1120 (2019) M 1056 (2019)	Health Facility registers	

Number of maternal deaths per year				
Maternal Mortality Rate *Kilolo District* *Mufindi District*	64/100,000 (2016) 103/100,000 (2016)	80/100,000 (2019) 48/100,000 (2019)		District Data
Number of newborn (0-1 month) deaths per year *Kilolo District* *Mufindi District*	 12.3 % (2016) 12.8% (2016)	 6.2% (2019) 9.0% (2019)		The Regional level data shows that Neonatal death rates for the region has increased from 4.7 % in 2017 to 14.2% in 2019. The two intervention Districts had relatively low rates than the regional level average.

B. Number of people directly reached by the project

Indicator	**Total number of people (by sex)**	**Date for data**	**Source**	**Notes**
Number of community health workers trained	F 24 M 20	June 2019	IMCHA Project implementation Reports	On average we trained 2 CHWs for 20 intervention Villages. However, in one Village in Mufindi we trained 6 CHWs. The Village had 10 CHWs. Thus, 44 CHWs were trained
Number of facility-based staff trained (indicate by health workforce category)	F 8 M 7	June 2019	IMCHA Project implementation Reports	In each health facility we engaged in-charge of the facility throughout the project. It is important to note that not all villages had health facility. Health care

				providers were only obtained in the Villages which had health facility
Number of people (women, men, traditional leaders, youth, etc.) reached by health promotion and education activities during IMCHA implementation Home Visits Religious Leaders Community Leaders Health Committee Members Teachers Male Champions Women Champions District Leaders	F M F 1946 (through home visits) M 1250 (through home visits) 37 religious leaders 161 community leaders 80 health committee members 22 teachers 200 male champions	June 2019	IMCHA Project implementation Reports	*Please specify the categories of people reached (including age disaggregation); separate the numbers for different types of interventions (mass media, SMS, theatre, home visits).*

	400 women group members 30 district leaders			
Other – If your research has reached other people, directly, not captured above, please add this information here. (Add rows to the table as needed)	F M			

C. Number of people <u>indirectly</u> reached by your project

Indicator	Baseline (indicate year)	Most recent data (indicate year)	Catchment area population count	Data source	Explanation of how the project contributed / other notes
Number of women attending 1st ANC visit *Kilolo District* *Mufindi District*	 1,767 (2016) 2,032 (2016)	 1,599 (2019) 2,315 (2019)	 52,769 (2012) 65,768 (2012)	Health Facility registers	
Number of women attending 1st ANC visit within 12 weeks				Health Facility registers	

Kilolo District *Mufindi District*	605 (2016) 342 (2016)	930 (2019) 815 (2019)	52,769 (2012) 65,768 (2012)		
Number of women attending 4+ ANC Kilolo District Mufundi District	682 (2016) 1,005 (2016)	793 (2019) 1,408 (2019)		Health Facility registers	
Number of Couples Attending ANC *Kilolo District* *Mufindi District*	703 (2016) 862 (2016)	767 (2019) 1196 (2019)	105,856 (2012) 125,896 (2012)	Health Facility registers	
Number facility-based deliveries *Kilolo District* *Mufindi District*	1,085 (2016) 1,238 (2016)	927 (2019) 2,148 (2019)		Health Facility registers	
Number of deliveries assisted by a skilled birth attendant *Kilolo District* *Mufindi District*	876 (2016) 930 (2016)	816 (2019) 1,887 (2019)		Health Facility registers	
Women who received postnatal care with 48hrs *Kilolo District* *Mufindi District*	914 (2016) 1,167 (2016)	866 (2019) 1,964 (2019)		Health Facility registers	

Number of new women registered for family planning services					
Kilolo District	4,739 (2016)	6,407 (2019)		Health Facility registers	
Mufindi District	4,114 (2016)	14,246 (2019)		Health Facility registers	
Infant mortality rate per 1000 live births *Kilolo District* *Mufindi District*	 0.2% (2016) 1.4% (2016)	 0.9% (2019) 0.3% (2019)		 District Data	
Under-five mortality rate per 1000 live births *Kilolo District* *Mufindi District*	 5.5% (2016) 14.9% (2016)	 2.1% (2019) 2.5% (2019)		 District Data	