



FAMILY MEMBER PARTICIPATION IN
COMMUNITY HEALTH WORKER INTERVENTION
AND MATERNAL HEALTH BEHAVIOR
A STUDY OF WORLD VISION'S TIMED AND TARGETED COUNSELING
FROM CAMBODIA, GUATEMALA, KENYA, AND ZAMBIA

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Abstract

Community Health Worker (CHW) interventions are widely used to improve maternal and child health outcomes in developing countries. They are a part of the core child and maternal strategy of World Vision, a Christian relief and development organization operating in nearly 100 countries across the world. World Vision uses CHWs to carry out its timed and targeted counseling (ttC) program, which involves CHWs regularly visiting homes of expectant mothers during pregnancy and also post-pregnancy during the first two years of the baby's life. CHWs provide health information and support to women and invite influential family members, such as husbands and mother-in-laws, to join the counseling sessions. World Vision currently carries out ttC programs in 28 countries, 7 of which have adopted ttC as a national government-led approach to improving maternal, neonatal, and child health outcomes. This paper examines the impact family member involvement in ttC sessions have on maternal health behavior in four countries: Cambodia, Guatemala, Kenya, and Zambia.

Abbreviations

CHNIS: Child Health and Nutrition Impact Study

CHW: Community Health Worker

COMM: Community Health Committee

CVA: Citizen Voice and Action

LQAS: Lot Quality Assurance Sampling

MDG: Millennium Development Goals

MNCH: Maternal, Newborn, and Child Health

MNH: Maternal and Newborn Health

MTR: Mid-Term Review of CHNIS

PMTCT: Prevention of Mother-to-Child Transmission (of HIV)

ttC: Timed and Targeted Counseling

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Chapter 1: Introduction

Background and Child Health and Nutrition Impact Study

In October 2012, World Vision launched a multi-country research collaboration, called Child Health and Nutrition Impact Study (CHNIS), with Johns Hopkins Bloomberg School of Public Health to evaluate the impact and cost-effectiveness of World Vision's package of interventions on the health and nutrition of mothers, newborns, and children under the age of five. Specifically, the purpose of the study was to examine World Vision's three core intervention programs: timed and targeted counseling (ttC), Community Health Committees (COMM), and Citizen Voice and Action (CVA).

A brief description of each of the three interventions is as follows: “[timed and targeted counseling deploys] community health workers and community volunteers trained in behavior-change communication to engage families in dialogue, counseling and negotiation for better health practices. Visits are targeted to times in pregnancy and early childhood when these health messages are most important; Community Health Committees empower community groups to support health practice change, [which] could include providing a support system for community health workers, and assessing and addressing barriers to health; Citizen Voice and Action empowers people to monitor health services and build relationships with local governments in order to hold government accountable for the quality of health services offered” (World Vision International, p. 1).

World Vision operates its health programs in many countries, and four representative countries were chosen for evaluation under CHNIS. They were Cambodia, Guatemala, Kenya, and Zambia. The four countries were selected for having capacity to host and carry out this study

and also for being representative of other countries where WV’s three interventions are implemented.

Each country had two Intervention Areas and two Comparison Areas. The Intervention Areas received the integrated package of all three interventions (ttC, COMM, CVA) whereas the Comparison Areas received COMM plus any existing minimal health programming that was already in place. Baseline and endline assessments were conducted in both Intervention and Comparison Areas to measure the impact of World Vision’s Core Intervention Programs, or the value added of ttC and CVA. In each country, World Vision and Johns Hopkins University formed partnerships with local academic institutions. Thus, the design of CHNIS is a two-arm, quasi-experimental evaluation using both qualitative and quantitative research methods (World Vision International, p. 1). Below is a figure capturing the design of CHNIS.

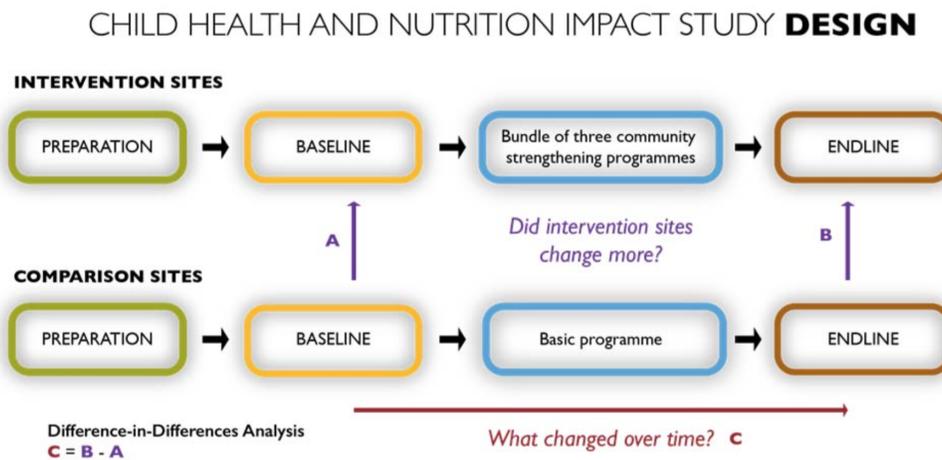


Figure 1: CHNIS Design

World Vision’s motivation to undertake CHNIS came from a need to have high quality evidence on the impact of its community health programs, especially since donors increasingly expected rigorous evaluation and evidence of impact. Lasting six years with a total cost of about

\$6 million, CHNIS has been the most comprehensive evaluation of World Vision's health programs to date.

The author's involvement with CHNIS began during her summer internship in 2017 with World Vision International in Washington, D.C. She worked as a Child Health Impact Study Intern and her internship was extended the following fall semester into a part-time position, in which she was able to work remotely from Ithaca, New York.

Purpose and Significance

Community Health Workers play an important role in providing healthcare to underserved populations, particularly those in rural areas with few, if any, health care facilities and suffering from a shortage of professional health workers. There are many CHW programs targeting maternal, newborn, and child health (MNCH) and there is evidence from numerous studies that support the effectiveness of these programs, for example, by reducing maternal mortality rates and increasing the number of birth deliveries under skilled attendance. A systematic review found that CHWs can be effective at providing basic curative and preventive MNCH interventions in developing countries (Bigirwa, 2009).

A general consensus among researchers and practitioners is that male involvement, commonly referring to husbands, in MNCH programs lead to better health outcomes for mothers and their babies (Davis J. , Vyankandondera, Luchters, Simon, & Holmes, 2016; Ivanova, 2015). This is because men tend to be the heads of the family in many societies and thus, they make decisions regarding health seeking or treatment for pregnant women in their households (Aborigo, Reidpath, Oduro, & Allotey, 2018). Involving men in CHW interventions help them make better decisions and provide support for the women and children.

Although there are numerous studies examining the role men play in maternal health, particularly in CHW interventions, there are very few studies looking more holistically at the impact of family member involvement in CHW interventions on MNCH outcomes. This is important because women's ability to receive healthcare during and post pregnancy is often dependent on whether or not they receive support from their family, particularly from those who have significant control over family resources. It is important to realize that influential family members are not just husbands, but can instead be also mothers-in-law, fathers-in-law, or simply the oldest family member, such as grandmother or grandfather. Gender norms vary across cultures and can affect households' decision-making dynamics on healthcare (Self-Care: A Cost Effective Solution for Maternal, Newborn & Child Health for All). Even in patriarchal societies, it may not be men who yield the most influence over whether or not pregnant women in their households receive healthcare and what type of healthcare. Instead, such decisions may be made by the most senior females in the households, who are usually mothers-in-law. Therefore, this project contributes to the literature by examining the impact of influential family member involvement in World Vision's Community Health Worker ttC programs on women's health behavior and knowledge.

In addition, findings from this project could provide useful information to World Vision, which is committed to achieving the maternal and child health targets of the Sustainable Development Goals. In fact, it pledged to invest US \$3 billion towards these goals in 2016 (World Vision International, 2017). World Vision operates CHW programs for pregnant women in 33 countries and supports maternal health programs in 48 countries (Allison, et al., 2017, p. 11). Therefore, if there is evidence suggesting involvement of influential family member results in better MNCH outcomes, World Vision could use that information to make improvements in

its CHW and other community-based programs. Such changes will most likely have a ripple effect on CHW programs of other organizations and government agencies. This is because as the 10th largest nonprofit organization in the world, World Vision yields considerable influence in the field of development internationally (Briner, 2015).

Furthermore, CHNIS collected data from Cambodia, Guatemala, Kenya, and Zambia – four countries that are different from one another and from different regions of the world. Thus, comparison of findings from this project could potentially reveal differences in gender dynamics in these countries. This is especially because World Vision’s CHW programs in these four countries all have a similar level of standardization that makes comparison feasible. This would be insightful as there are numerous variations of CHW programs worldwide, ranging from large-scale, national programs to small-scale, community-based initiatives that makes comparison between different CHW programs difficult.

Project Overview

This project seeks to answer the following research question: *Does influential family member involvement in World Vision’s Community Health Worker timed and targeted counseling program have impact on women’s health behavior and knowledge in Cambodia, Guatemala, Kenya, and Zambia?* Existing literature on the topic strongly suggests there would be an impact as women are often not the final decision makers of their own health.

The project uses quantitative data from the Mid-Term Review of CHNIS. The following indicators are used to measure women’s health behavior and knowledge:

- Taking iron tablet for more than 90 days during pregnancy
- Sleeping under insecticide treated mosquito net during last pregnancy

- PMTCT (composite indicator for HIV/AIDS testing)
- Can name at least 4 out of 5 danger signs and symptoms during pregnancy that indicate the need to seek urgent care
- Location of birth

The author expects the indicators' averages for women with family member participation to be higher than for women that did not have family member participation. Chapter 4 provides details on the data that was used and the analysis.

Chapter 2: Literature Review

Overview of Community Health Workers

First, an understanding of the term “Community Health Worker” (CHW) is needed. Due to the enormous diversity in the roles and activities of CHWs, it is difficult to arrive at a specific definition (Lehmann & Sanders, 2007, p. 5). However, one definition that is generally accepted is “Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers” (Lehmann & Sanders, 2007, p. 3).

It is difficult to make generalizations about the profile of CHWs as they vary in terms of gender, age, status, and education, but they should be able to respond to cultural norms and customs of their communities (Lehmann & Sanders, 2007, p. 5). Their roles and responsibilities also vary considerably according to the community and circumstances (Kahssay, Taylor, & Berman, 1998, p. 4). CHWs are also known by other terms, such as Basic Health Worker, Community Health Agent, Health Promoter, and Village Health Helper. CHWs could be volunteers or be paid for their work. But, while monetary incentives can increase retention rates of CHW, it has been found that “non-monetary incentives are critical to the success of any CHW [program]” (Bhattacharyya, Winch, LeBan, & Tien).

CHW initiatives have been driven by both governments and nonprofit organizations, particularly in developing countries where CHWs are seen as a cost-effective tool for providing healthcare to people living in rural areas and addressing the shortage of professional health workers in many developing countries. In particular, CHWs in developing countries serve as a

bridge between their communities and formal health services. The following quote from a WHO publication on CHWs explains:

“CHW programs have a role to play that can be fulfilled neither by formal health services nor by communities alone. Ideally, the CHW combines service functions and developmental/promotional functions that are, also ideally, not just in the field of health....Perhaps the most important developmental or promotional role of the CHW is to act as a bridge between the community and the formal health services in all aspects of health development....the bridging activities of CHWs may provide opportunities to increase both the effectiveness of curative and preventive services and, perhaps more importantly, community management and ownership of health-related programs... CHWs may be the only feasible and acceptable link between the health sector and the community that can be developed to meet the goal of improved health in the near term” (Kahssay, Taylor, & Berman, 1998).

The rest of this section provides a literature review of Community Health Worker programs targeting maternal, newborn, and child health and the impact of family member involvement in these CHW programs.

Community Health Workers and Maternal, Newborn, and Child Health

Despite progress made towards achieving the Millennium Development Goals 4 and 5, which targeted reducing child mortality and improving maternal health, respectively, maternal and child mortality rates still remain high today (Gilmore & McAuliffe, 2013). In 2015 alone, there was approximately 300,000 maternal deaths that could have been prevented with adequate care. About 99 percent of this estimated global maternal deaths occurred in developing regions

with sub-Saharan Africa accounting for 66 percent (Trends in maternal mortality: 1990 to 2015, 2015). In 2016, the global neonatal deaths numbered 2.6 million and the under-five mortality rate was 41 deaths per 1,000 live births (Neonatal Mortality, 2018; Under-Five Mortality, 2018). This means that about 7,000 newborn babies died every day in 2016 (Hug, Sharrow, & You, 2017). Nearly 80 percent of the total newborn deaths occurred in the regions of South Asia and sub-Saharan Africa (Hug, Sharrow, & You, 2017). Many developing countries continue to struggle to provide basic maternal, newborn and child health services.

One popular way low- and middle-income countries try to improve MNCH outcomes is by using CHWs. CHWs are widely used in these countries to provide basic maternal, newborn, and child health care for women and children. Many of these countries suffer from a high shortage of health professionals, which means that CHWs are often the only providers of basic health services. As such, CHWs play a crucial role in these countries, “[acting] as a mitigating factor to the [severe shortage of human resources for health] by providing essential [MNCH] care at the household and community level, reducing inequalities in health care for marginalized populations, providing education and mainly curative health services, and having the essential role of liaising between the community and more skilled workers and facility-based services” (Gilmore & McAuliffe, 2013). CHWs can help overcome socio-cultural barriers to utilizing maternal health services.

Although the design, implementation, and scale of CHW interventions targeting MNCH vary depending on their context and circumstances, they generally aim to improve MNCH outcomes through disease management, preventative interventions, and community mobilization. For example, the Afghanistan CHW program, which is a crucial component of primary health care services in the country and has significantly contributed to the country’s health

improvements since its launch in 2003, delivers a comprehensive set of services, including management of acute childhood illness, such as pneumonia, diarrhea, and malaria (Perry, et al., 2017, p. 2). The Afghanistan CHWs are also active in health promotion activities through both individual and group settings that address topics such as safe water and sanitation, use of insecticide-treated nets, safe pregnancy, and pregnancy and child nutrition (Perry, et al., 2017, p. 4). CHWs in many countries also provide timely referrals to professional health care providers that help ensure that women and children get the necessary advanced treatment (Kayemba, et al., 2013; Adam, et al., 2014).

There have been numerous studies on examining the effectiveness of various CHW programs for improving MNCH. The evidence shows that CHWs are generally effective at reducing maternal, child and infant mortality rates by providing low-cost interventions for common maternal and pediatric health problems, such as “pneumonia, diarrhea, undernutrition, malaria, human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) and measles” (McCord, Liu, & Singh, 2013; Perry, Freeman, Gupta, & Rassekh, 2009). A systematic review conducted in 2013 found moderate evidence that CHWs “are effective in delivering preventive interventions for maternal and child health in low- and middle-income countries” (Gilmore & McAuliffe, 2013).

In Bangladesh, a randomized controlled trial showed that CHWs can be more effective than hospitals at increasing the practice of exclusive breastfeeding among mothers. Counseling provided through CHWs significantly increased the practice of exclusive breastfeeding for the recommended duration of 5 months. The intervention group had an exclusive breastfeeding rate of 70 percent while it was just 6 percent for the control group (Haider, Ashworth, Kabir, & Huttly, 2000). In India, a study found CHWs to increase the acceptability of skin-to-skin care

(STSC), which involves newborn infants having skin-to-skin contact with their mothers for a variable duration, in Uttar Pradesh by introducing the practice through appropriate cultural paradigms (Darmstadt, et al., 2006). Another study from Uttar Pradesh, India used a cluster-randomized controlled trial to evaluate the effectiveness of CHWs on reducing neonatal mortality. It found that CHW intervention helped to reduce neonatal mortality by 54 percent through substantial behavioral modification, such as improvements in birth preparedness, hygienic delivery, thermal care, and breastfeeding (Kumar, et al., 2008). In Nigeria, a CHW-based program aimed to improve access to malaria prevention in pregnancy produced results where an increase of 7.4 percent of pregnant women slept under an insecticide-treated nets (ITNs) and 8.5 percent slept under an ITN after delivery (Okeibunor, et al., 2011).

One reason why CHW programs are effective at delivering MNCH services is that CHWs can reach women in rural areas who are outside the reach of professional health facilities and services. In the Afghanistan CHW program described earlier, its success can be attributed to the fact that community-based programs increase accessibility to health services in countries like Afghanistan, where much of the “population is scattered across deserts, and another major portion of the population lives in remote mountain valleys that are usually cut off for several months during winter” (Perry, et al., 2017, p. 3).

In addition, CHW programs generally yield improvements in MNCH outcomes because they are usually operating in areas with limited, if not zero, access to formal health care. An example of this is a CHW program launched in Liberia. In 2012, the Health Ministry of Liberia formed a partnership with Last Mile Health, a nongovernmental organization, to create a CHW-based health care program for remote populations of the country. The goal of the program was to increase coverage of essential maternal and child health services to people living farther than 5

kilometers or a one-hour walk from the nearest health facility through the utilization of CHWs. The CHWs were recruited and received a two-week training in the district capital and then received weekly supervision visits in their communities. After three years, two significant results were identified from this program: 1) there was a significant increase in the proportion of children receiving health care for childhood illnesses from formal providers due to CHW referrals, and 2) there was an increase of 28.2 percentage points in the number of facility-based birth delivery (Luckow, et al., 2017).

The popularity of CHW programs in low- and middle-income countries is primarily due to financial considerations: CHW programs are significantly less costly than other ways of providing health care to rural communities. This is because CHWs receive considerably shorter trainings compared to professional health workers, nurses, or doctors, who generally require many years of training. In comparison, the duration of CHW training is usually several weeks with some supervised field training. Also, professional health workers require much higher salaries than CHWs, many of whom perform their services voluntarily. For example, in Brazil, there are over 260,000 volunteer CHWs (Perry, et al., 2017, p. 21). Studies show that volunteer CHWs are motivated by intrinsic factors, such as social respect and moral duty, and work environment (Glenton, et al., 2010; Franco, Bennett, Kanfer, & Stubblebine, 2004).

Furthermore, CHW programs have the attractive advantage of being highly localized to their specific environments. “The marked diversity of CHW programs... make it very clear that CHW programs arise from the national socio-cultural context and the long-term evolution of primary health care programs within the national context. Each country manages to find its own path, although experiences on other countries often have been informative” (Perry, et al., 2017, p. 1).

Family Member Involvement in CHW Programs and MNCH Outcomes

In recent years, many NGOs and governments have started to promote family member involvement in their CHW programs aimed at improving MNCH outcomes. This is due to the increasing recognition that women in developing countries often have limited control over their own health decisions and thus, women's uptake of maternal health services and practices is considerably influenced by intra-familial power dynamics and gender norms in their societies. Moreover, literature on child health shows that mothers in developing countries face constraints from familial and social hierarchies when making decisions about their children's health care (Desai & Johnson, 2005, p. 56). For example, a study from Gujarat, India found that about 50 percent of women "do not feel free to take a sick child to doctor without the approval of their husband or parent-in-law" (Desai & Johnson, 2005, p. 56). Another study from Southern Ethiopia determined that 40.9 percent of women interviewed reported that their health care decisions were made by their husbands (Alemayehu & Meskele, 2017).

While age, education, and income are factors that affect women's decision-making autonomy generally across countries and cultures, women in developing countries face additional limitations that further restrain their autonomy. The status of women is lower in many developing countries due to the existence of "strong social structures that rigidly define the roles of men and women, usually encoded in religious, tribal, and social traditions" (Osamor & Grady, 2016). Such social norms also impose constraints on women's physical mobility by promoting female seclusion. "This seclusion involves the veiling of head and face in some instances, as well as restrictions on unaccompanied travel to such places as shops, pharmacies, or hospitals, and limits on direct contact with unrelated males" (Desai & Johnson, 2005, p. 56).

Therefore, recognizing women's dependency on other family members, especially their husbands or mothers-in-law, many CHW programs have incorporated family member engagement and participation into their maternal and child healthcare services (Desai & Johnson, 2005, p. 56; Kululanga, Sundby, Malata, & Chirwa, 2011; Turinawe, et al., 2016; August, Pembe, Mpembeni, Axemo, & Darj, 2016; Bougangué & Ling, 2017). A common strategy CHW programs use to engage with family members is by simply providing information on MNCH to family members of expectant or new mothers. Sometimes this may require using male CHWs to target men. For example, in 2012, the Indian government launched the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) Strategy, which included the recruitment and training of male CHWs to improve reaching husbands of expectant women. This was because given the existing gender norms and hierarchies, male CHWs would be more effective at giving husbands with information on MNCH care and family planning (Fotso, Higgins-Steele, & Mohanty, 2015). A similar program that gave husbands educational materials on safe motherhood and family planning was also implemented in Pakistan (Midhet & Becker, 2010). Dissemination of educational materials can be carried out by inviting family members of mothers to join or participate in home visits and group discussions facilitated by CHWs.

Additionally, this approach of providing a more holistic intervention for improving MNCH outcomes by engaging with other family members is generally supported and recommended by practitioners and policymakers. In 2015, the World Health Organization recommended actively involving men in interventions for improved maternal and newborn health (MNH) outcomes because men are often “gatekeepers and decision-makers for prompt access to MNH services both at the household and community levels” (World Health Organization, 2015, p. 3). Also, an in-depth interview with policymakers and practitioners from

the five countries of the Pacific region (Cook Islands, Fiji, Papua New Guinea, Solomon Islands, and Vanuatu) found that the general consensus among the group is that “greater men’s involvement [in maternal and child health programs] would result in a range of benefits for maternal and child health, primarily through greater access to services and interventions for women and children” (Davis J. , Vyankandondera, Luchters, Simon, & Holmes, 2015)

Evaluation of Family Member Involvement in CHW Programs and MNCH Outcomes

Given that many women in developing countries have limited decision-making autonomy over their own health and their children’s health and are dependent on other family members for their health care services, it is not surprising that numerous evaluations and research studies have found family member participation in CHW interventions to produce improvements in MNCH outcomes.

A number of studies have found positive impact on MNCH health outcomes from engagement with husbands in a wide range of contexts. Men can provide substantial support to women and children seeking healthcare and encourage the adoption of health-promoting behaviors in households (Tokhi, et al., 2018). Researchers analyzed a national dataset from the Kenya Demographic and Health Survey and found that women whose husbands attended at least one antenatal care (ANC) visit were more likely to use skilled birth attendants than those whose husbands did not attend any ANC visits (Mangeni, Mwangi, Mbugua, & Mukthar). A smaller-scale study examined women in urban Nepal and showed that women who received antenatal health education with their husbands were found to be more likely to attend a postpartum visit than women who received the same education alone (Mullany, Becker, & Hindin, 2007). Women in Vietnam whose husbands received education materials on the importance of early

breastfeeding, counseling services and household visits were over twice more likely to practice breastfeeding compared to the control group (Bich, et al., 2016). There is also evidence that increasing male partner involvement in programs aimed at preventing mother-to-child transmission (PMTCT) of HIV can improve the health of women and children (Berg, et al., 2015). The review of literature clearly demonstrates the importance of male involvement in MNCH healthcare.

There is substantial empirical evidence supporting the importance of engaging with family members to improve MNCH outcomes, but much of the existing literature on the topic focuses on husbands even though other family members, such as mothers-in-law, have considerable influence on women's decision and ability to get health care for themselves and their children. For example, A study from Nepal found that mothers-in-law have a strong negative influence on their daughters-in-law's uptake of ANC because mothers-in-law did not use ANC in their own past experiences and thus, did not perceive it to be useful (Simkhada, Porter, & van Teijlingen, 2010). Similar findings were found in a study from Mali (White, Dynes, Rubardt, Sissoko, & Stephenson, 2013). A study from Ghana reported that in 16.2 percent and 12.4 percent of cases in which women said they were unable to access maternal health care services during their last pregnancy, it was due to their mothers-in-law and husband plus mothers-in-law, respectively. In just 2.7 percent of cases were the women themselves the final decision-makers (Ganle, et al., 2015). Currently, there are only a few studies that examine the role and influence of mothers-in-law in maternal and child healthcare.

Chapter 3: Overview of World Vision’s Community Health Worker Program

World Vision is committed to supporting and strengthening Community Health Worker programming, which is a central component of World Vision’s work in areas of maternal, newborn and child health. World Vision currently supports approximately 220,370 CHWs worldwide and this number is expected to increase as CHW programs scale up. World Vision directly implements about a quarter of the CHW programs and supports other CHW programs primarily through the provision of technical assistance and capacity building. In about 80 percent of World Vision’s CHW programs, Timed and Targeted Counseling (ttC) or another form of essential newborn care is implemented. World Vision has made global commitments to support CHW programming and strengthen community health systems (Cisney, 2016, pp. 1-2).



Figure 2: Jahantab, World Vision CHW in Afghanistan for over 12 years
(Cisney, 2016, p. 6)

In 2015, World Vision conducted a global consensus of CHW programming activities in its national offices, using the following definition of CHW from the International Labour Organization (Cisney, 2016, p. 7):

“Community health workers provide health education and referrals for a wide range of services, and provide support and assistance to communities, families and individuals with preventive health measures and gaining access to appropriate curative health and social services. They create a bridge between providers of health, social and community services and communities that may have difficulty in accessing these services.”

Forty-eight World Vision national offices responded out of the total 65 that were contacted for the consensus. The map below shows the reach of CHW programming within World Vision’s operational areas. Zambia reported the highest number of CHWs with 48,500. Cambodia reported 2,826; Guatemala 1,650; and Kenya 4,725 CHWs (Cisney, 2016, pp. 19-20).

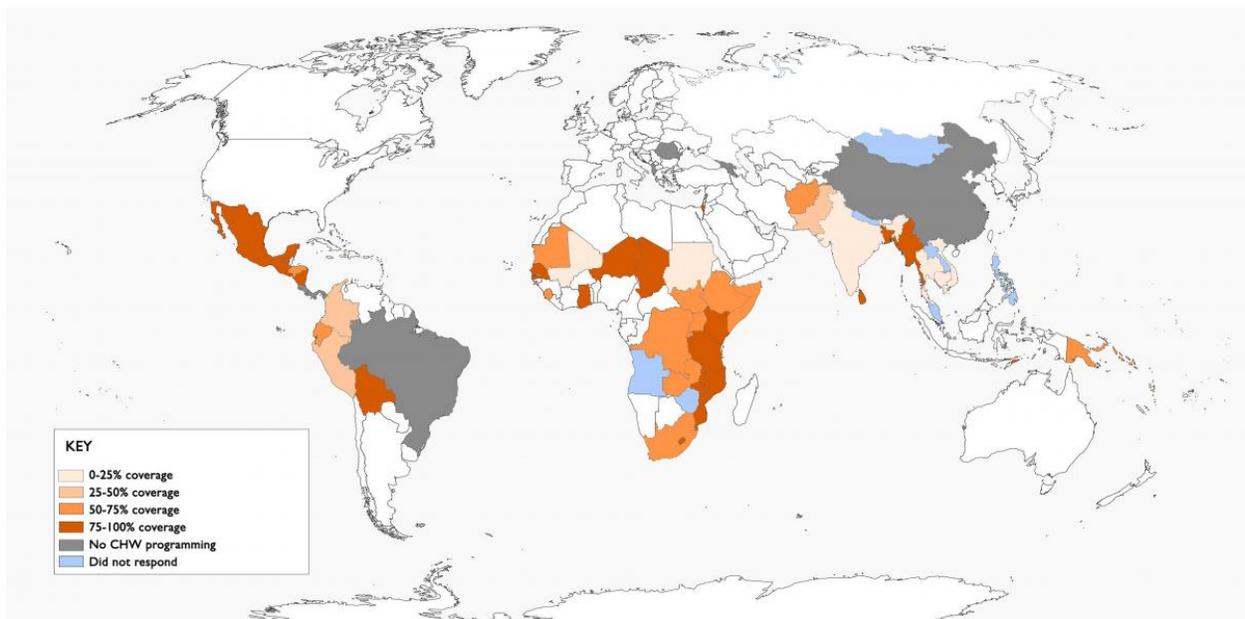


Figure 3: World Vision’s Reach of CHW Programming
(Cisney, 2016, p. 10)

Activities performed by World Vision CHWs vary depending on the country they operate in, with most national offices providing or supporting curative and preventive care. Preventive care includes “all activities in which CHWs engage households in behavior change dialogue, health information giving and service demand creation activities” (Cisney, 2016, p. 12). Examples of maternal and child health and nutrition project models supported by World Vision are Community-Based Management of Acute Malnutrition (CMAM), Community Prevention of Mother-to-Child Transmission (c-PMTCT) of HIV, and Timed and Targeted Counseling (ttC), which is the focus of this project. See Appendix A for current activities of World Vision-supported CHWs.

Chapter 4: Methodology

Data

This project uses data from World Vision’s CHNIS Mid-Term Review (MTR), which was conducted between July and October 2015. Although CHNIS collected baseline and end-line data as well, the end-line data was still in the process of being gathered cleaned when the author started this project in fall semester of 2017. Thus, due to availability and time constraints, the data from MTR was used for this project. MTR was conducted about a year and half after the baseline data was collected, which occurred between December 2013 and January 2014 (World Vision Cambodia, 2016, p. 5). The purpose of conducting MTR was to assess the program implementation fidelity and to improve program performance in the remaining time of CHNIS (World Vision Kenya, 2016, p. 1; World Vision Cambodia, 2016, p. 5).

The main and quantitative component of MTR was the Lot Quality Assurance Sampling (LQAS), which is “a method for assessing a program by analyzing the data produced by a small sample” (World Vision Kenya, 2016, p. 2). LQAS “provides information on whether sub-areas or “lots” are performing at an “acceptable” or “not acceptable” level according to pre-determined targets. Samples from each lot can be aggregated to provide coverage estimates for the entire study area. LQAS can thus be a useful monitoring tool to assess service coverage and health outcomes and behaviors at the district and sub-district level” (MEASURE Evaluation, 2012). In addition to LQAS, MTR also included qualitative research methods, such as case study and direct observation, that varied depending on the country (World Vision Cambodia, 2016, p. 8).

A LQAS of individuals who were receiving World Vision’s timed and targeted counseling (ttC) intervention was conducted in two Intervention Areas of each of the four countries to assess the impact of the ttC program on intermediate outcome indicators. Each

Intervention Area was divided into four or five supervisory areas, depending on the country. A random sample of eligible women were selected and interviewed from each supervisory area. Eligible women were beneficiaries of ttC intervention (visited by Community Health Workers) and had a live birth between June 1, 2014 and June 1, 2015. The LQAS survey examined two sets of age groups: mothers of children aged 0 to 6 months and mothers of children aged 6 to 12 months (World Vision Kenya, 2016, pp. 2-3). “A total of 32 indicators focused on pregnancy and care seeking behavior during the first 6 months of [baby’s] life were assessed” (World Vision Kenya, 2016, p. 2). For the group with children aged 0 to 6 months the following indicators were measured: maternal health, birth preparedness, behaviors during pregnancy, ANC, PNC, essential newborn care and care seeking for a sick newborn, breastfeeding, satisfaction with health services, knowledge of COMM and CVA. The same indicators were measured for the other group with children aged 6 to 12 months with the addition of indicators on appropriate minimum diet for child (World Vision Kenya, 2016, p. 3). All four countries used the same set of questions with few minor differences. The surveys used in Cambodia, Kenya, and Zambia were in English whereas the survey used in Guatemala was in Spanish. The surveys used in Kenya is shown in Appendix B and C as examples.

Indicators

The following indicators were selected out of the total 32 indicators measured in the surveys:

- Took iron tablet for more than 90 days during pregnancy
- Slept under insecticide treated mosquito net during last pregnancy

- PMTCT - Prevention of mother-to-child transmission of HIV (composite indicator for HIV/AIDS testing)
- Can name at least 4 out of 5 danger signs and symptoms during pregnancy that indicate the need to seek urgent care
- Location of birth delivery was where there was at minimum a nurse to assist with the birth (such as government health clinic, government hospital, private health clinic/hospital, dispensary)

PMTCT is a composite indicator for HIV/AIDS testing. It is checked yes only if all of the following four conditions are met:

1. Mother was informed about babies getting HIV/AIDS from their mothers during antenatal visits
2. Mother was offered a test for the HIV/AIDS virus as part of her antenatal care
3. Mother was tested for HIV/AIDS virus as part of her antenatal care
4. Mother received the results of the HIV/AIDS virus test

The five indicators were selected for this project for three reasons: 1) exiting research suggest the five indicators are reasonable indicator for measuring women's health behavior and knowledge of MNCH, 2) the indicators are important factors that influence MNCH outcomes; and 3) the indicators may be most influenced by other family members' participation in ttC program.

Analysis

Survey data from each of the four countries was analyzed by calculating the averages of the selected indicators for women who indicated key family members participated and for women who indicated they did not participate in the following categories: 0-6 months group, 6-12 months group, 0-12 months group, and all surveys. The number of surveys for 0-12 months group and all surveys group should be the same for all countries, but some surveys were missing the age of baby information, which is why these groups are separate.

The five indicators haven been given the following abbreviated names to simplify the presentation of findings:

Indicator Name	Indicator Description
<i>iron</i>	Took iron tablet for more than 90 days during pregnancy
<i>itn</i>	Slept under insecticide treated mosquito net during last pregnancy
<i>pmtct</i>	Prevention of mother-to-child transmission of HIV
<i>namesx</i>	Can name at least 4 out of the 5 danger signs and symptoms during pregnancy that indicate the need to seek urgent care
<i>birthloc</i>	Location of birth delivery was where there was at minimum a nurse to assist with the birth (such as government health clinic, government hospital, private health clinic/hospital, dispensary)

The averages of each of the five indicators for each group and whether or not family member participated are presented in tables by country in the following Chapter 5. The percentages are rounded to the nearest tenth. Due to missing observations, the total for each group does not always match the combined number of women with family member participation and women without family member participation.

Chapter 5: Results

Findings

The tables below present findings from analyzing LQAS data. The averages of each of the five indicators for each group and whether or not family member participated are presented in tables below by country. Note that “Yes FM” indicates that family member participated in the ttC intervention and “No FM” indicates that there was no family member participation. The percentages are rounded to the nearest tenth.

Cambodia Results

0-6 Months Group	
Number of women in 0-6 months group	190
Number of women in 0-6 months group in Yes FM category	140
Number of women in 0-6 months group in No FM category	50
6-12 Months Group	
Number of women in 6-12 months group	191*
Number of women in 6-12 months group in Yes FM category	142
Number of women in 6-12 months group in No FM category	48
0-12 Months Combined Group	
Number of women in 0-12 months	381*
Number of women in 0-12 months in Yes FM category	282
Number of women in 0-12 months in No FM category	98
Total	
Total number of women surveyed	381*
Total number of women in Yes FM category	282
Total number of women in No FM category	98

*The total number is higher than the combined number of women in Yes FM and No FM categories due to missing observations.

	<i>iron</i>		<i>itn</i>		<i>pmtct</i>		<i>namesx</i>		<i>birthloc</i>	
	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM
0-6 Months	95.7%	88.0%	16.4%	16.0%	57.9%	48.0%	34.3%	14.0%	97.9%	96.0%
6-12 Months	88.0%	87.5%	21.8%	18.8%	55.6%	70.8%	22.5%	31.3%	96.5%	95.8%
0-12 Months	91.8%	87.8%	19.1%	17.3%	56.7%	59.2%	28.4%	22.4%	97.2%	95.9%
All Surveys	91.8%	87.8%	19.1%	17.3%	56.7%	59.2%	28.4%	22.4%	97.2%	95.9%
All Surveys	90.8%		18.6%		57.5%		26.8%		96.9%	

Guatemala Results

Data from Guatemala had limitations. There was a total of 136 observations, but only 81 of them had indicated the age of the child and 129 indicated whether or not key family members participated. Also, there was just four observations for women in 6-12 months group in No FM category, which is too small of a sample to make the study of this group meaningful. Therefore, results from this group are presented with strikethrough to denote their insignificance. Guatemala data is also missing data on *itn* indicator.

0-6 Months Group	
Number of women in 0-6 months group	66
Number of women in 0-6 months group in Yes FM category	33
Number of women in 0-6 months group in No FM category	33
6-12 Months Group	
Number of women in 6-12 months group	15
Number of women in 6-12 months group in Yes FM category	11
Number of women in 6-12 months group in No FM category	4
0-12 Months Combined Group	
Number of women in 0-12 months	81
Number of women in 0-12 months in Yes FM category	44
Number of women in 0-12 months in No FM category	37
Total	
Total number of women surveyed	136*
Total number of women in Yes FM category	82
Total number of women in No FM category	47

*The total number is higher than the combined number of women in Yes FM and No FM categories due to missing observations.

	<i>iron</i>		<i>itn</i>		<i>pmtct</i>		<i>namesx</i>		<i>birthloc</i>	
	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM
0-6 Months	75.8%	57.6%			75.8%	33.3%	18.2%	12.1%	60.6%	60.6%
6-12 Months	45.5%	100%			63.6%	50.0%	9.1%	50.0%	11%	50.0%
0-12 Months	68.2%	62.2%			72.7%	35.1%	15.9%	16.2%	70.5%	59.5%
All Surveys	61.0%	61.7%			63.4%	36.2%	11.0%	17.0%	39.0%	46.8%
All Surveys	58.1%				50.7%		12.5%		39.7%	

Kenya Results

0-6 Months Group	
Number of women in 0-6 months group	225*
Number of women in 0-6 months group in Yes FM category	89
Number of women in 0-6 months group in No FM category	131
6-12 Months Group	
Number of women in 6-12 months group	223*
Number of women in 6-12 months group in Yes FM category	79
Number of women in 6-12 months group in No FM category	134
0-12 Months Combined Group	
Number of women in 0-12 months	448*
Number of women in 0-12 months in Yes FM category	168
Number of women in 0-12 months in No FM category	265
Total	
Total number of women surveyed	448*
Total number of women in Yes FM category	168
Total number of women in No FM category	265

*The total number is higher than the combined number of women in Yes FM and No FM categories due to missing observations.

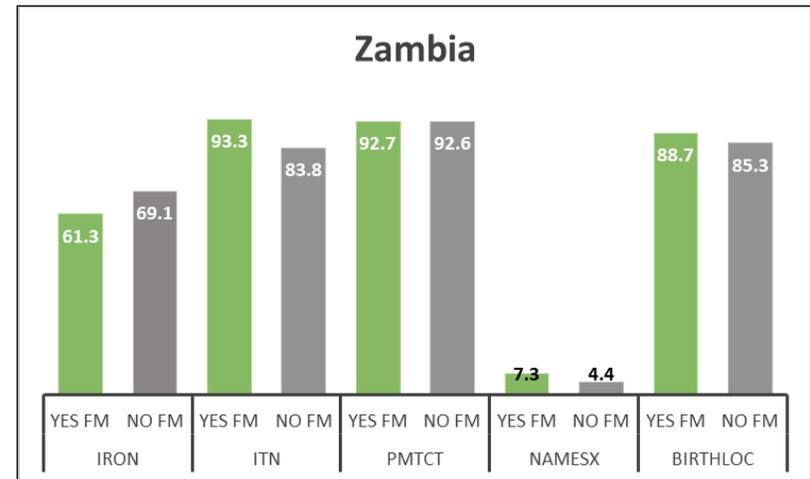
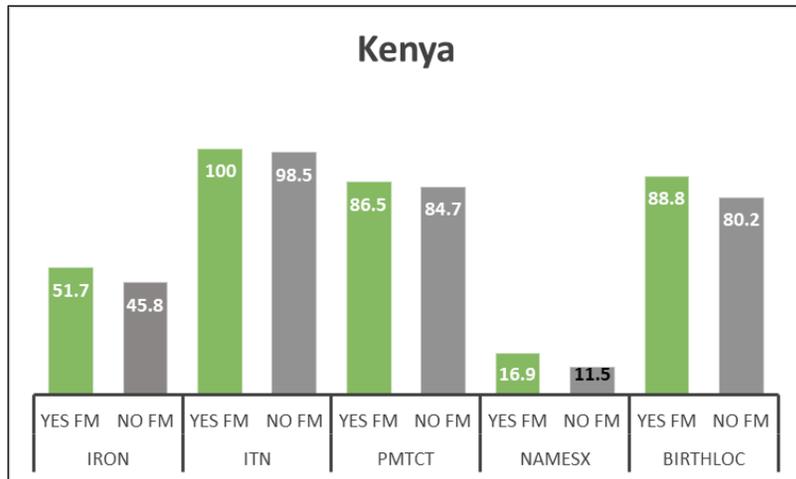
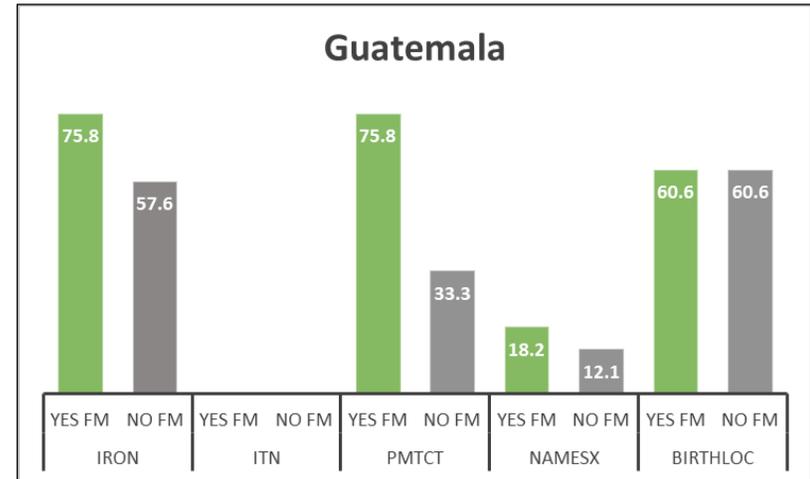
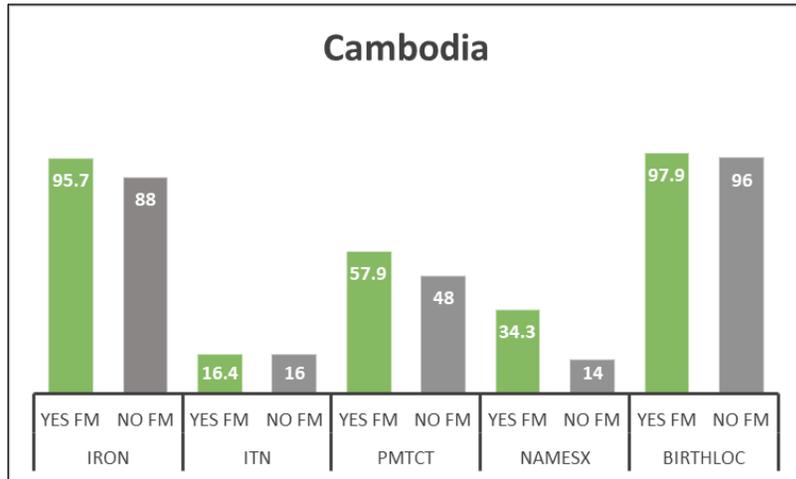
	<i>iron</i>		<i>itn</i>		<i>pmtct</i>		<i>namesx</i>		<i>birthloc</i>	
	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM
0-6 Months	51.7%	45.8%	100%	98.5%	86.5%	84.7%	16.9%	11.5%	88.8%	80.2%
6-12 Months	53.2%	42.5%	97.5%	99.3%	84.8%	80.6%	12.6%	11.9%	84.8%	79.1%
0-12 Months	52.4%	44.2%	98.8%	98.9%	85.7%	82.6%	14.9%	11.7%	86.9%	79.6%
All Surveys	52.4%	44.2%	98.8%	98.9%	85.7%	82.6%	14.9%	11.7%	86.9%	79.6%
All Surveys	48.9%		98.9%		82.8%		14.3%		82.4%	

Zambia Results

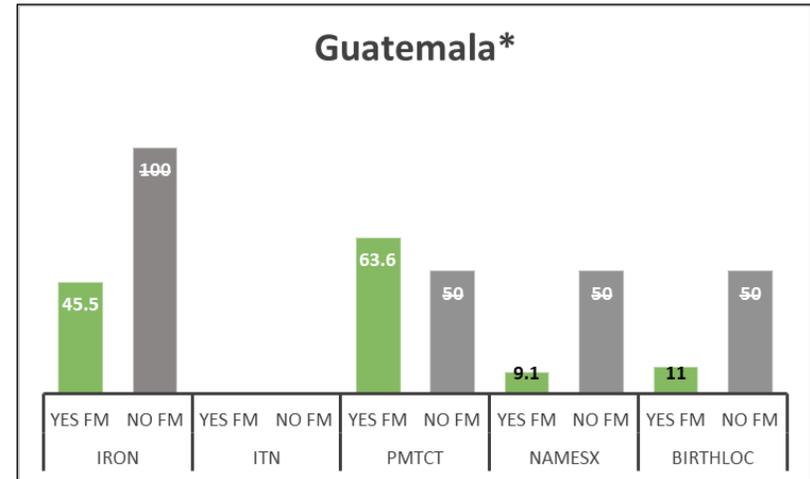
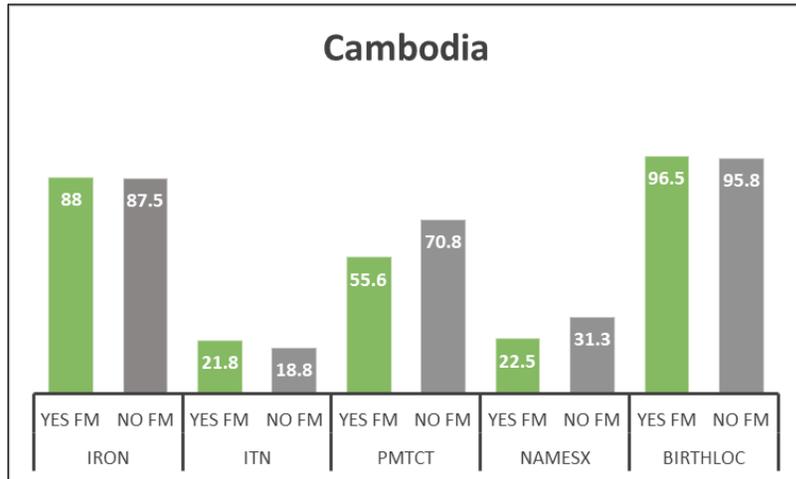
0-6 Months Group	
Number of women in 0-6 months group	218
Number of women in 0-6 months group in Yes FM category	150
Number of women in 0-6 months group in No FM category	68
6-12 Months Group	
Number of women in 6-12 months group	199
Number of women in 6-12 months group in Yes FM category	148
Number of women in 6-12 months group in No FM category	51
0-12 Months Combined Group	
Number of women in 0-12 months	417
Number of women in 0-12 months in Yes FM category	298
Number of women in 0-12 months in No FM category	119
Total	
Total number of women surveyed	417
Total number of women in Yes FM category	298
Total number of women in No FM category	119

	<i>iron</i>		<i>itn</i>		<i>pmtct</i>		<i>namesx</i>		<i>birthloc</i>	
	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM	Yes FM	No FM
0-6 Months	61.3%	69.1%	93.3%	83.8%	92.7%	92.6%	7.3%	4.4%	88.7%	85.3%
6-12 Months	41.2%	41.2%	96.6%	96.1%	94.6%	94.1%	11.5%	11.8%	94.6%	88.2%
0-12 Months	51.3%	57.1%	95.0%	89.1%	93.6%	93.3%	9.4%	7.6%	91.6%	86.6%
All Surveys	51.3%	57.1%	95.0%	89.1%	93.6%	93.3%	9.4%	7.6%	91.6%	86.6%
All Surveys	53.0%		93.3%		93.5%		8.9%		90.2%	

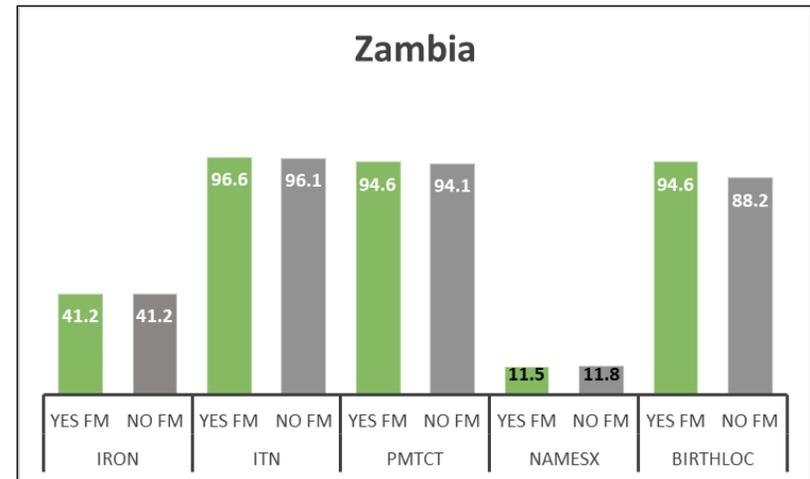
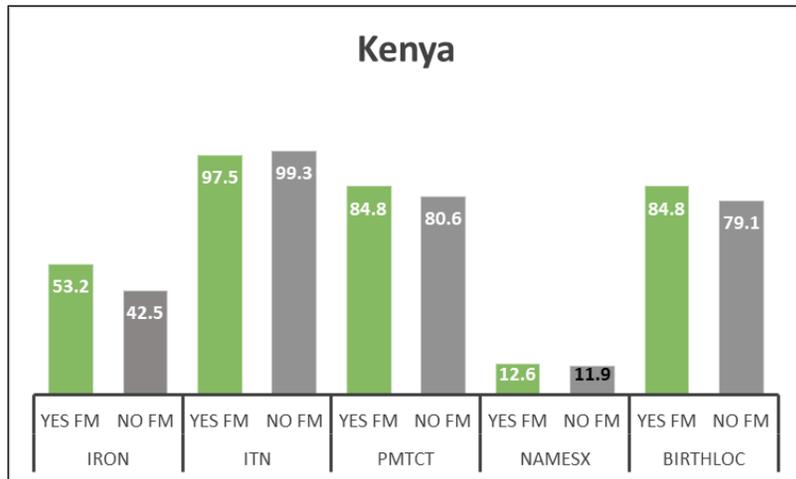
Averages from 0-6 Months by Country



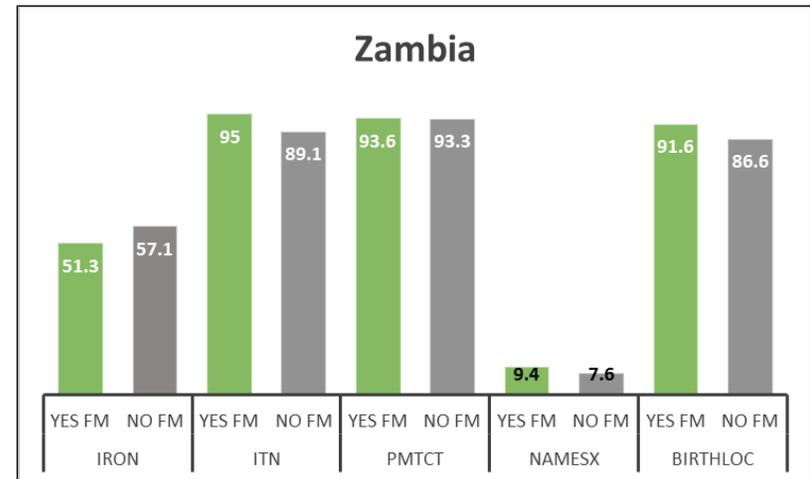
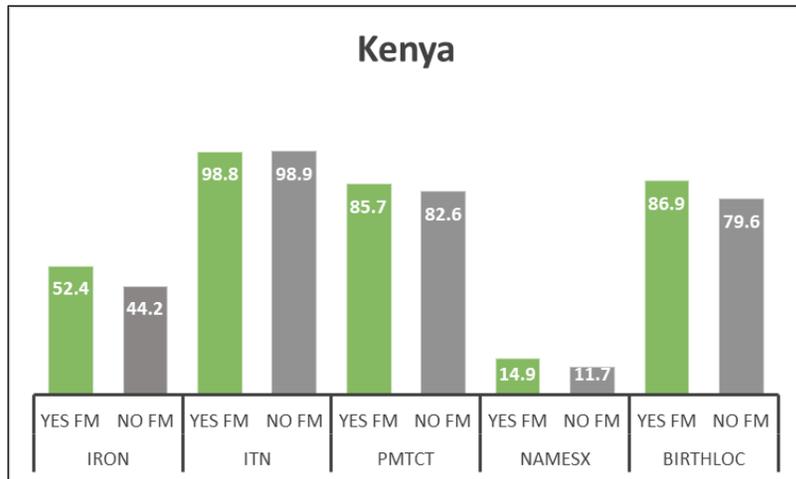
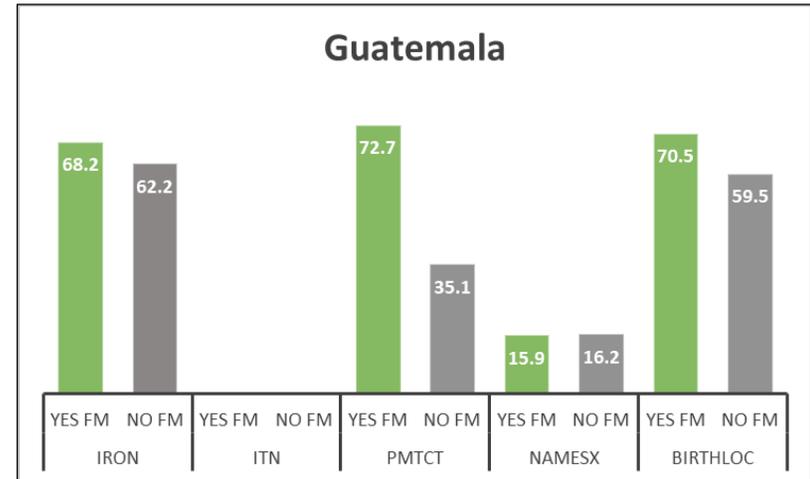
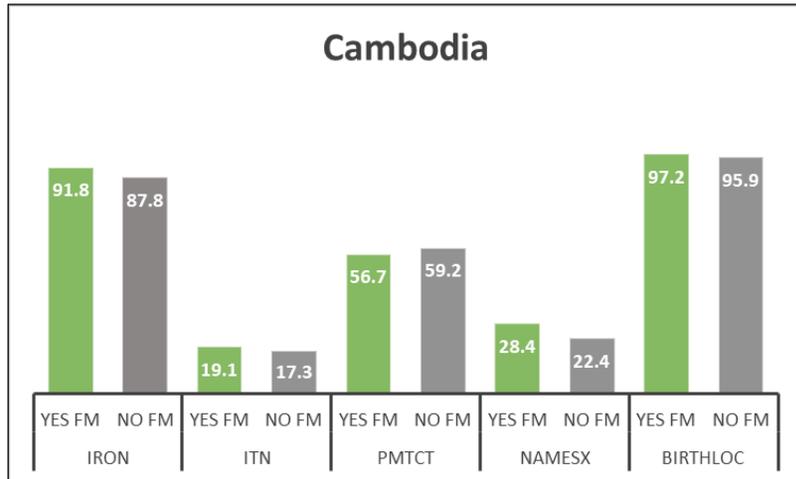
Averages from 6-12 Months by Country



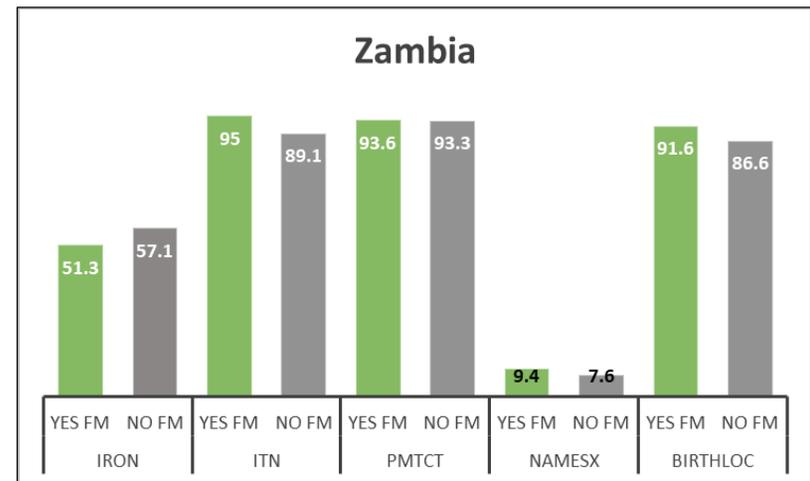
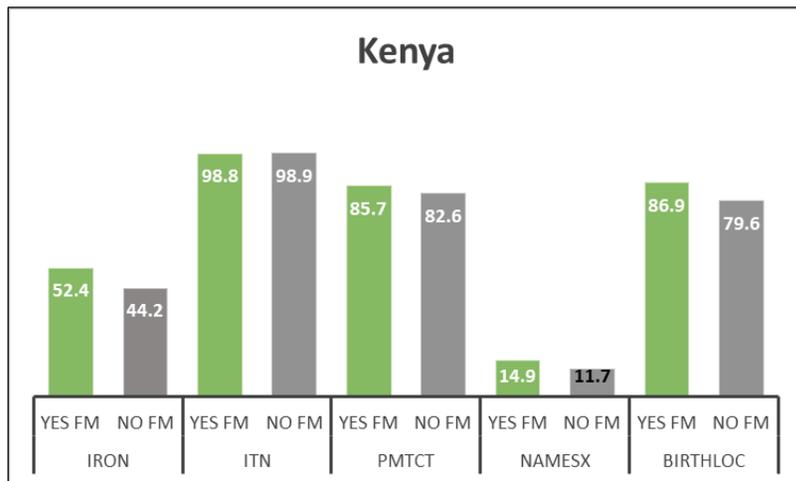
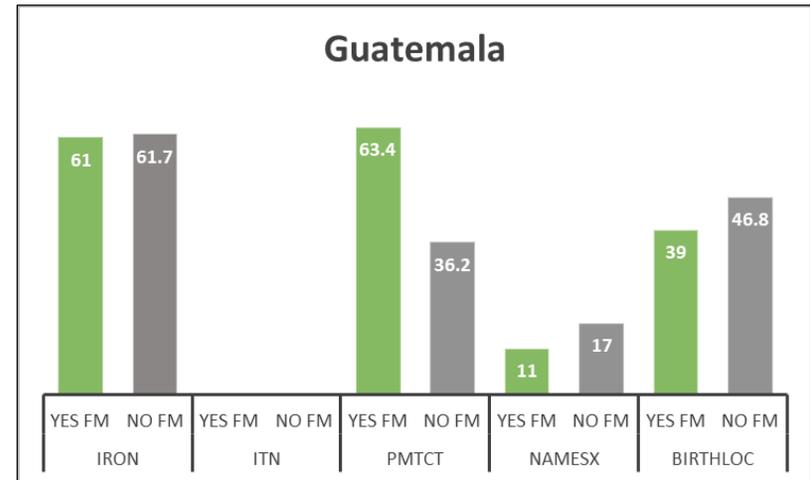
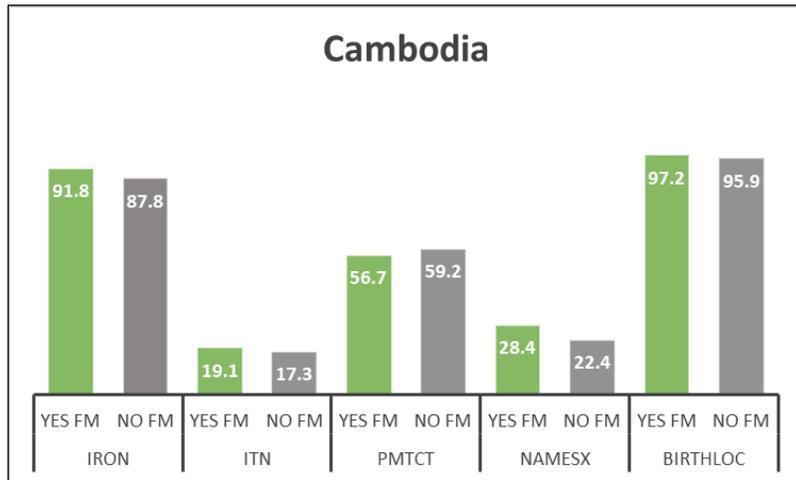
*Sample from No FM category too small (strikethrough)



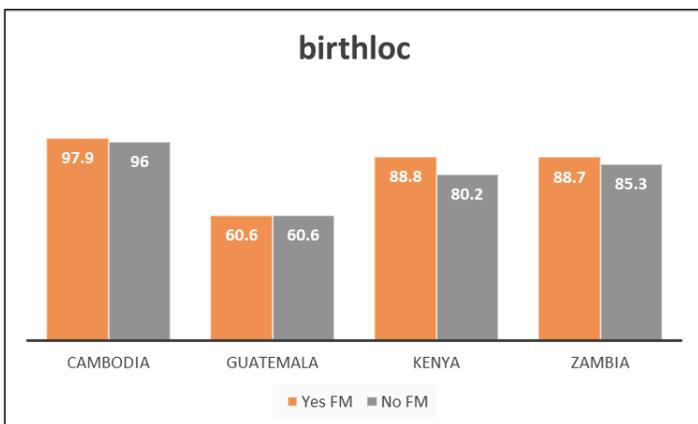
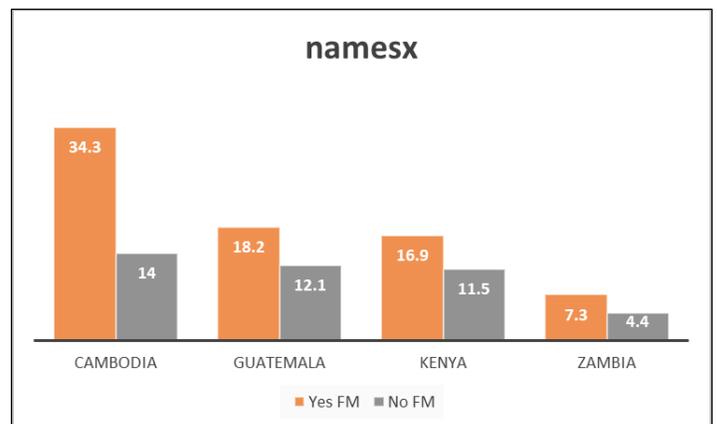
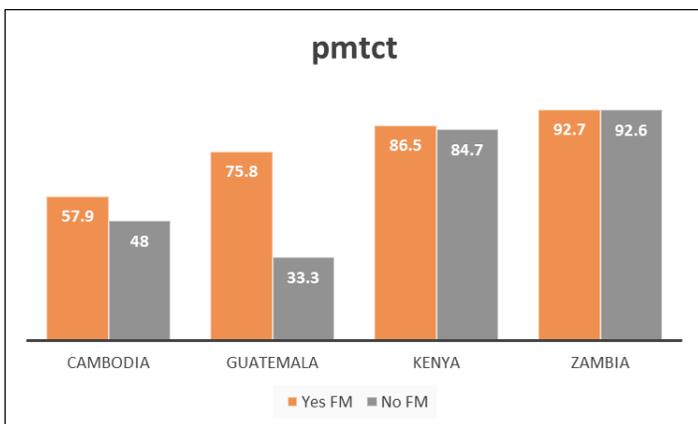
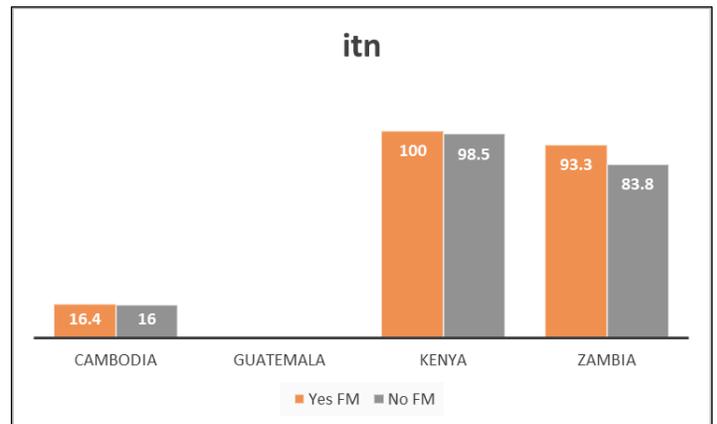
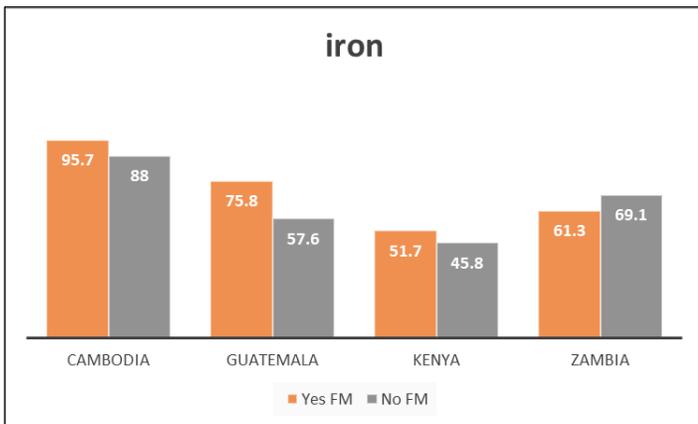
Averages from 0-12 Months by Country



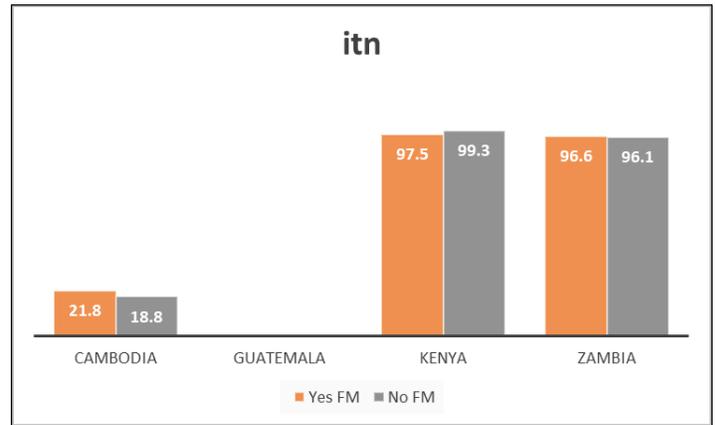
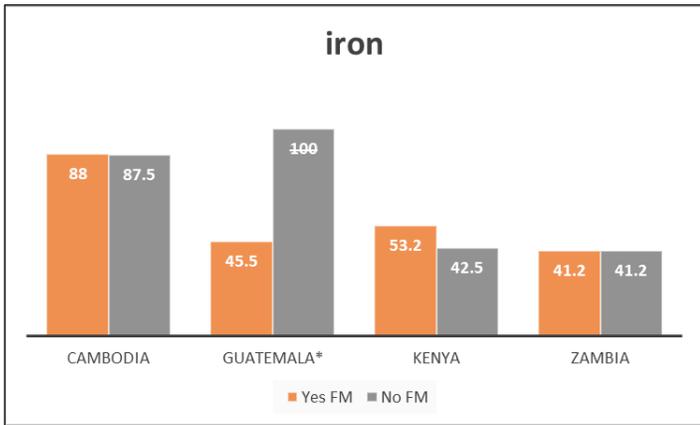
Averages from All Surveys by Country



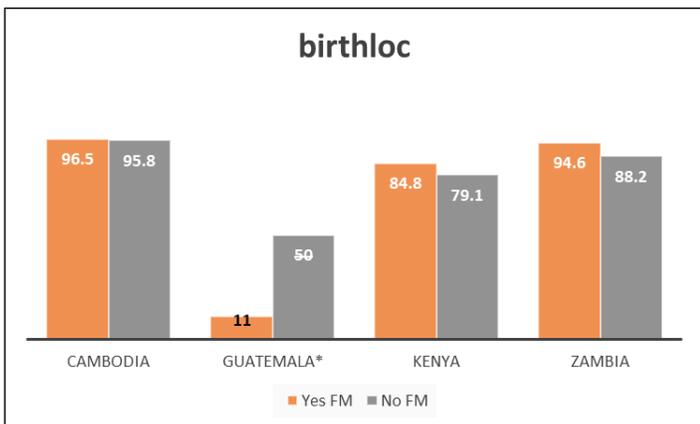
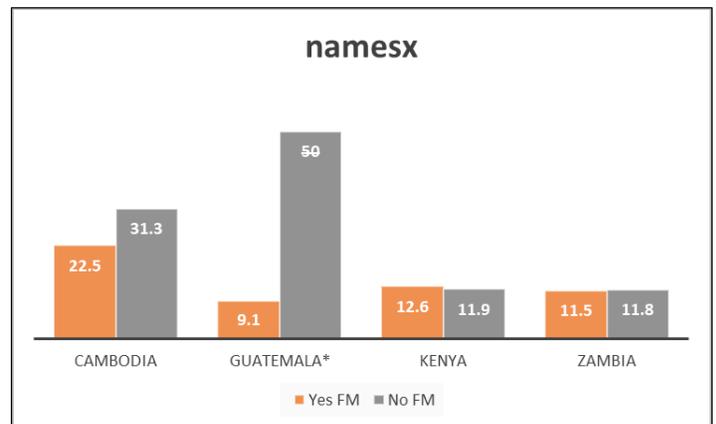
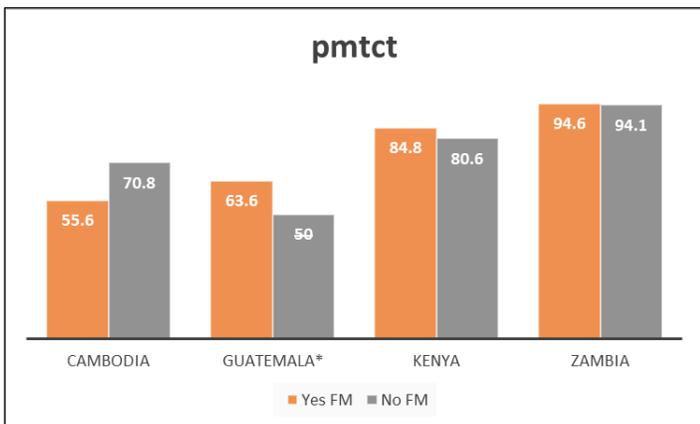
Averages from 0-6 Months by Indicator



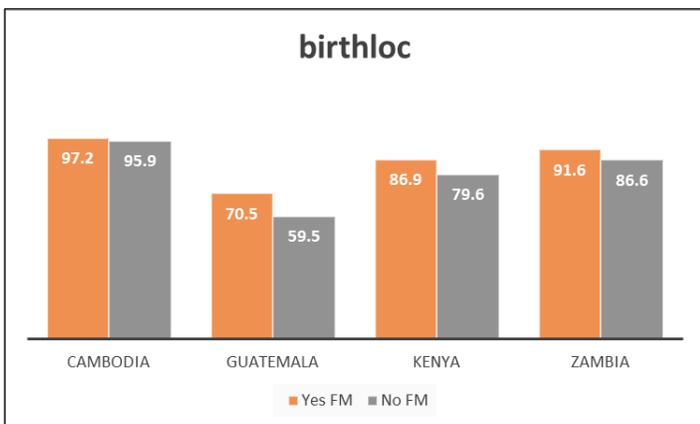
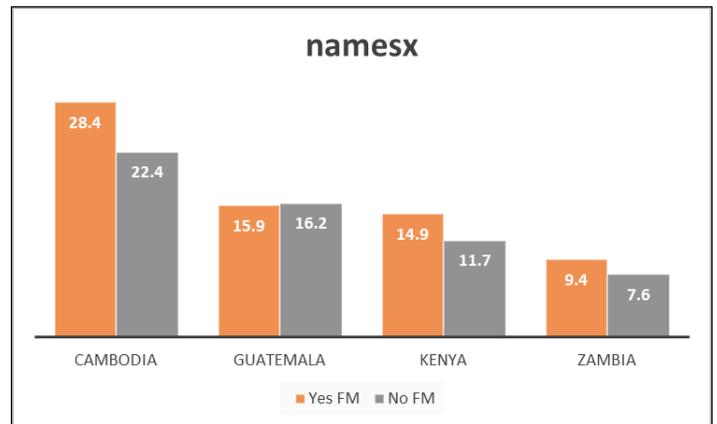
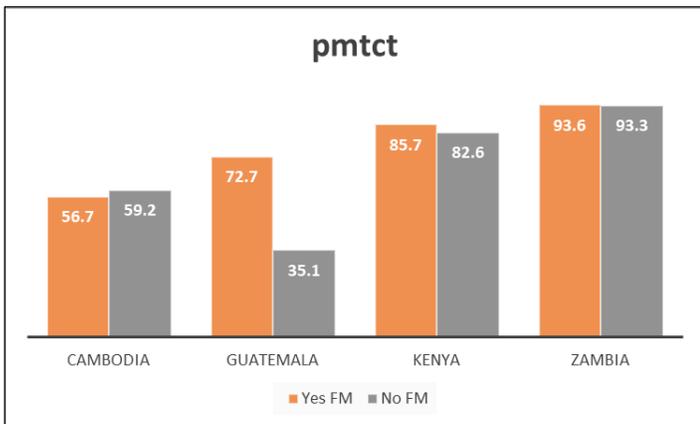
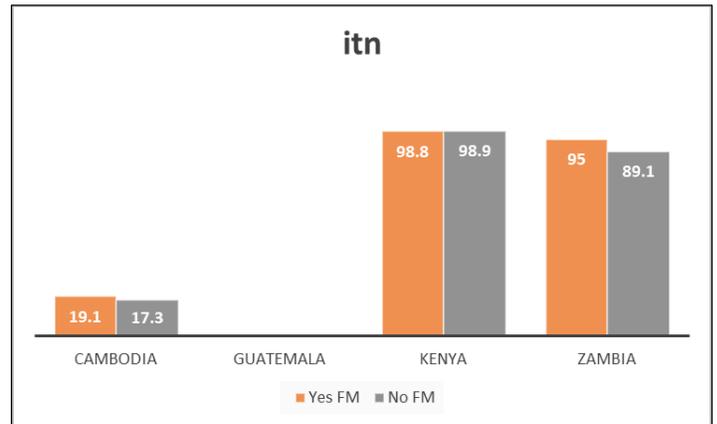
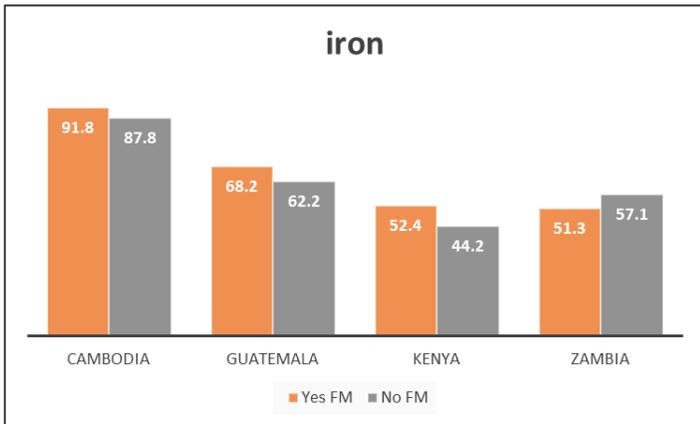
Averages from 6-12 Months by Indicator



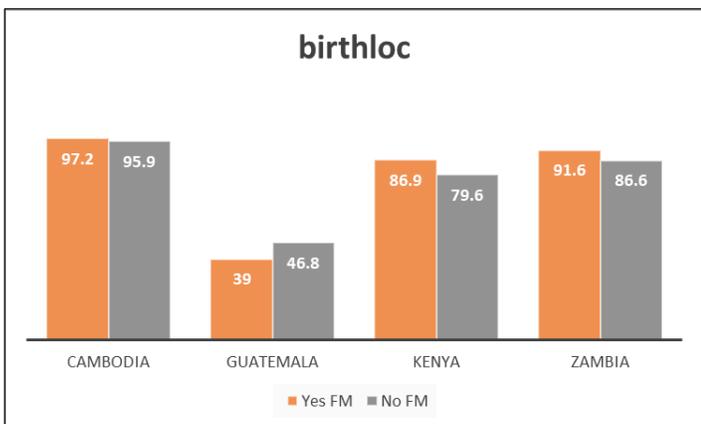
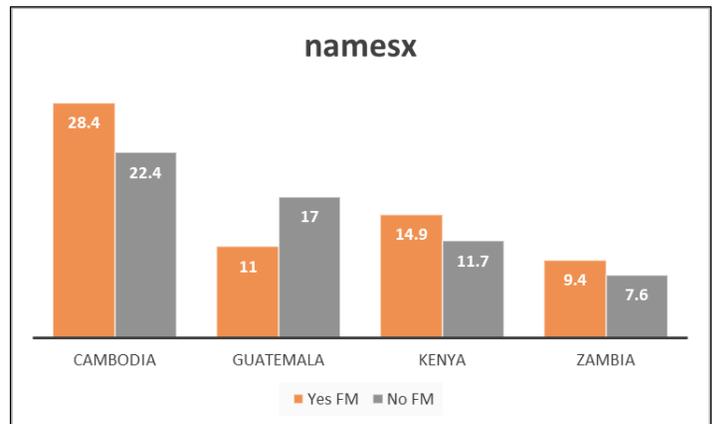
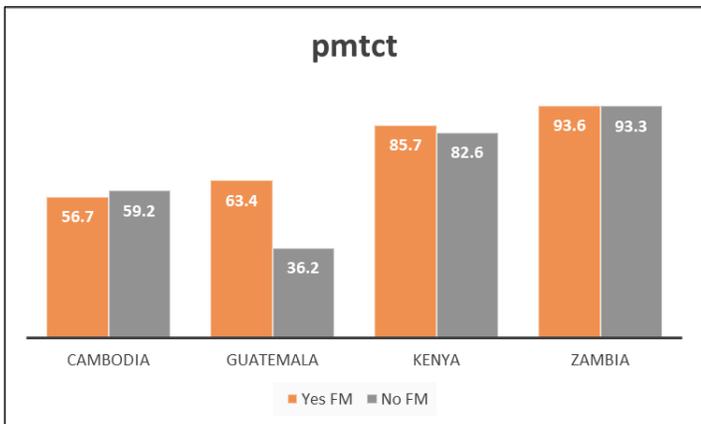
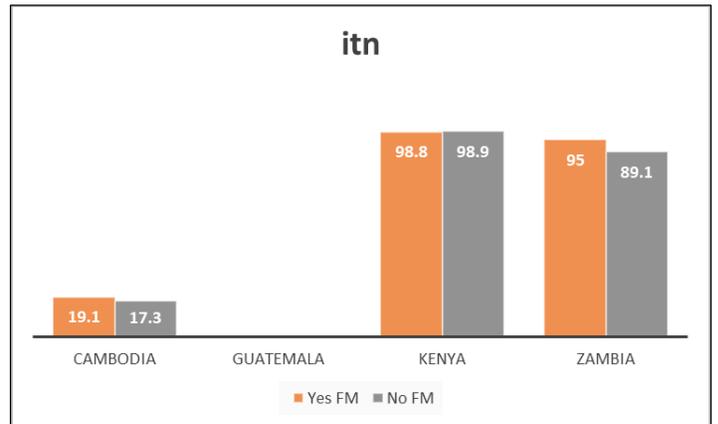
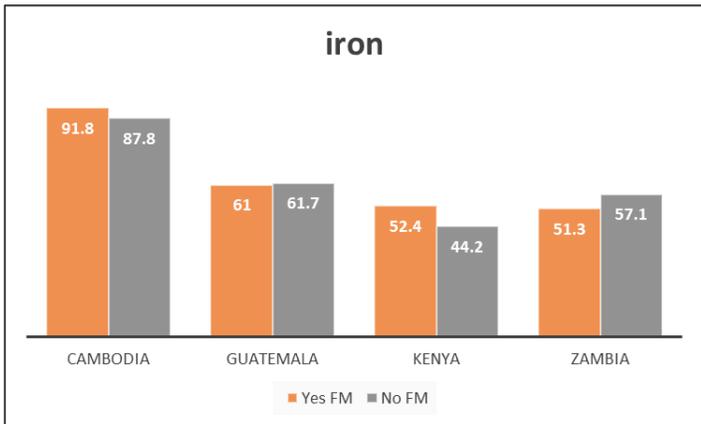
*Sample from No FM category too small (strikethrough)



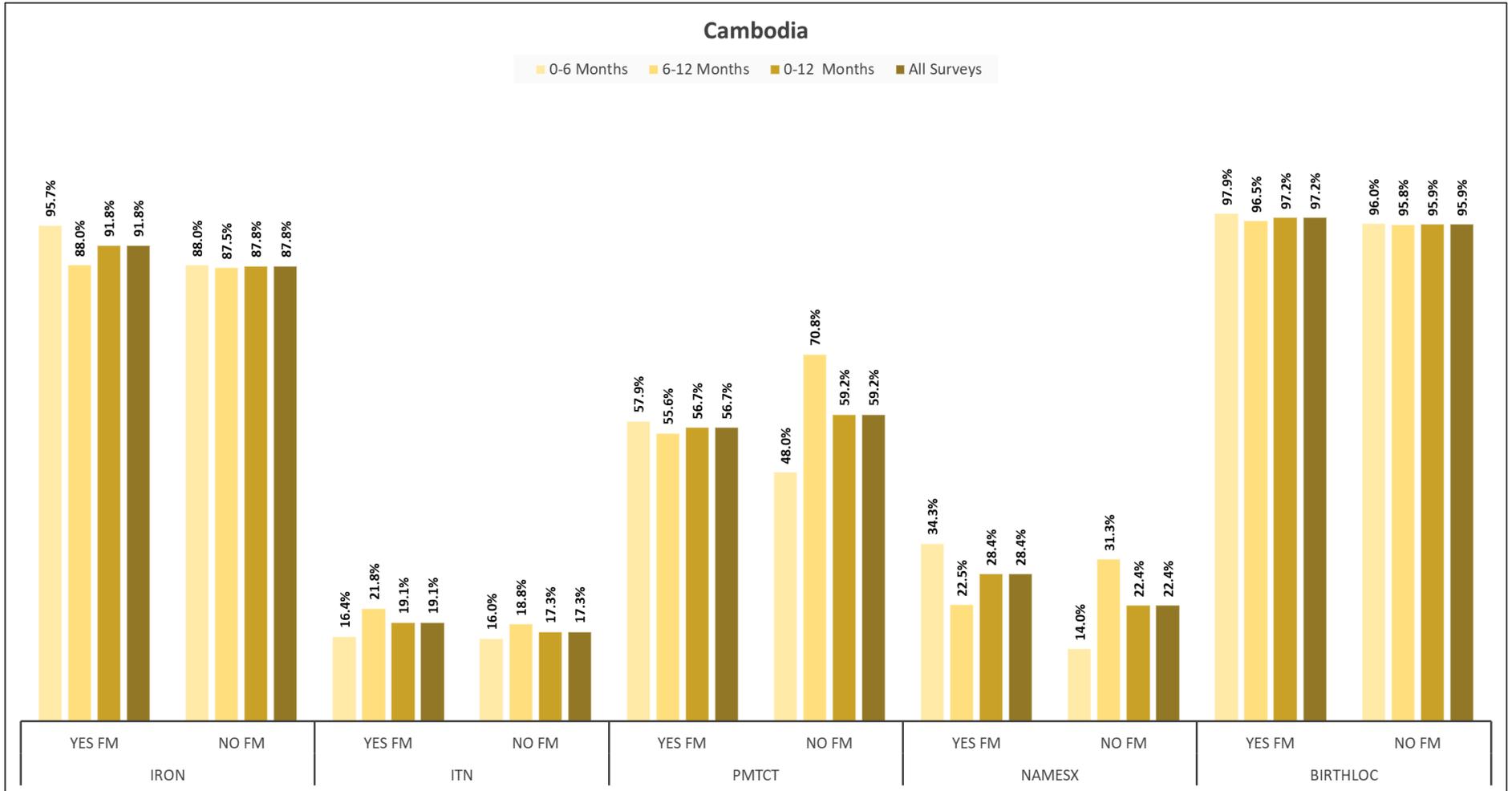
Averages from 0-12 Months by Indicator



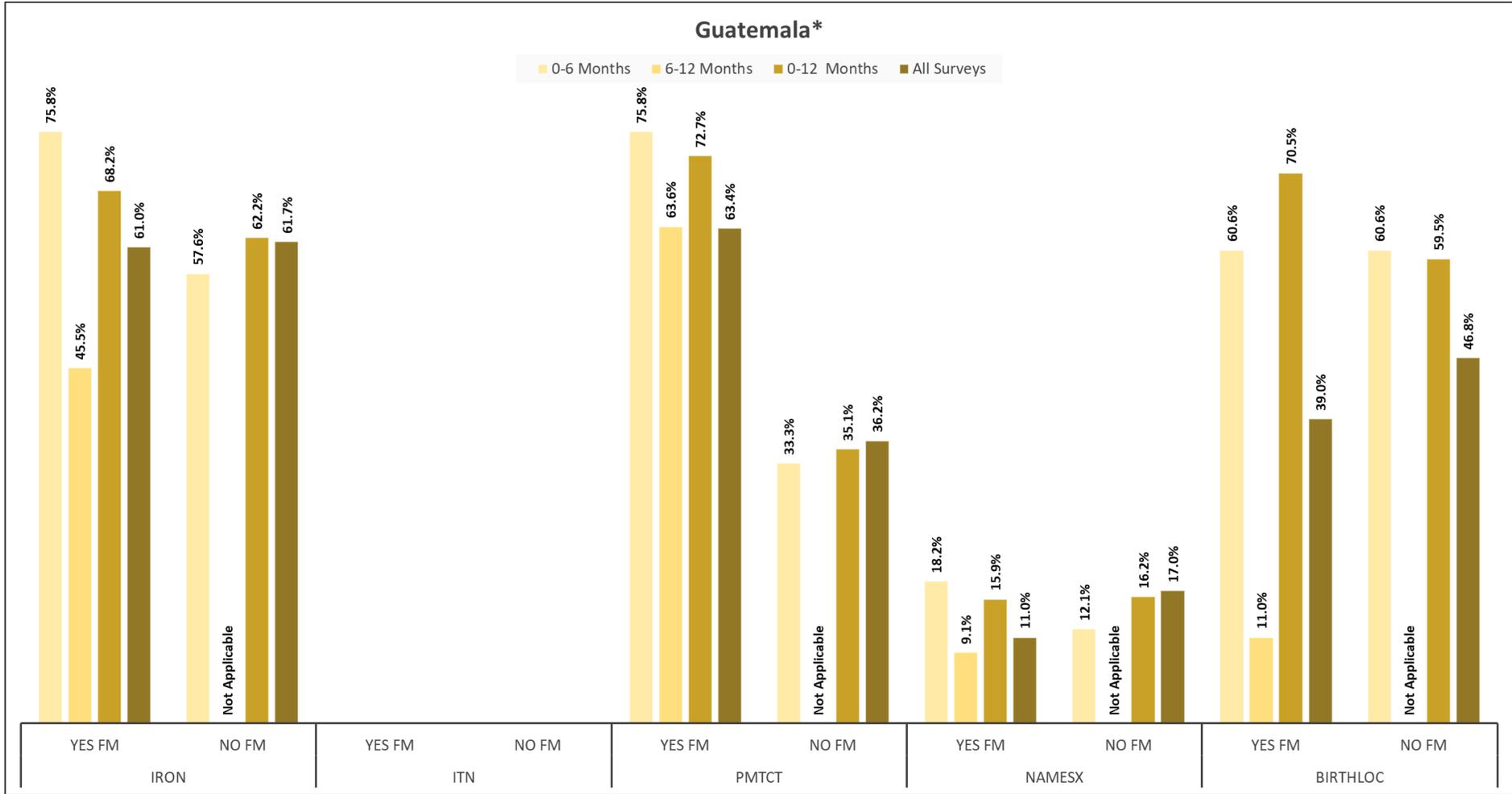
Averages from All Surveys by Indicator



Cambodia's Averages for All Groups

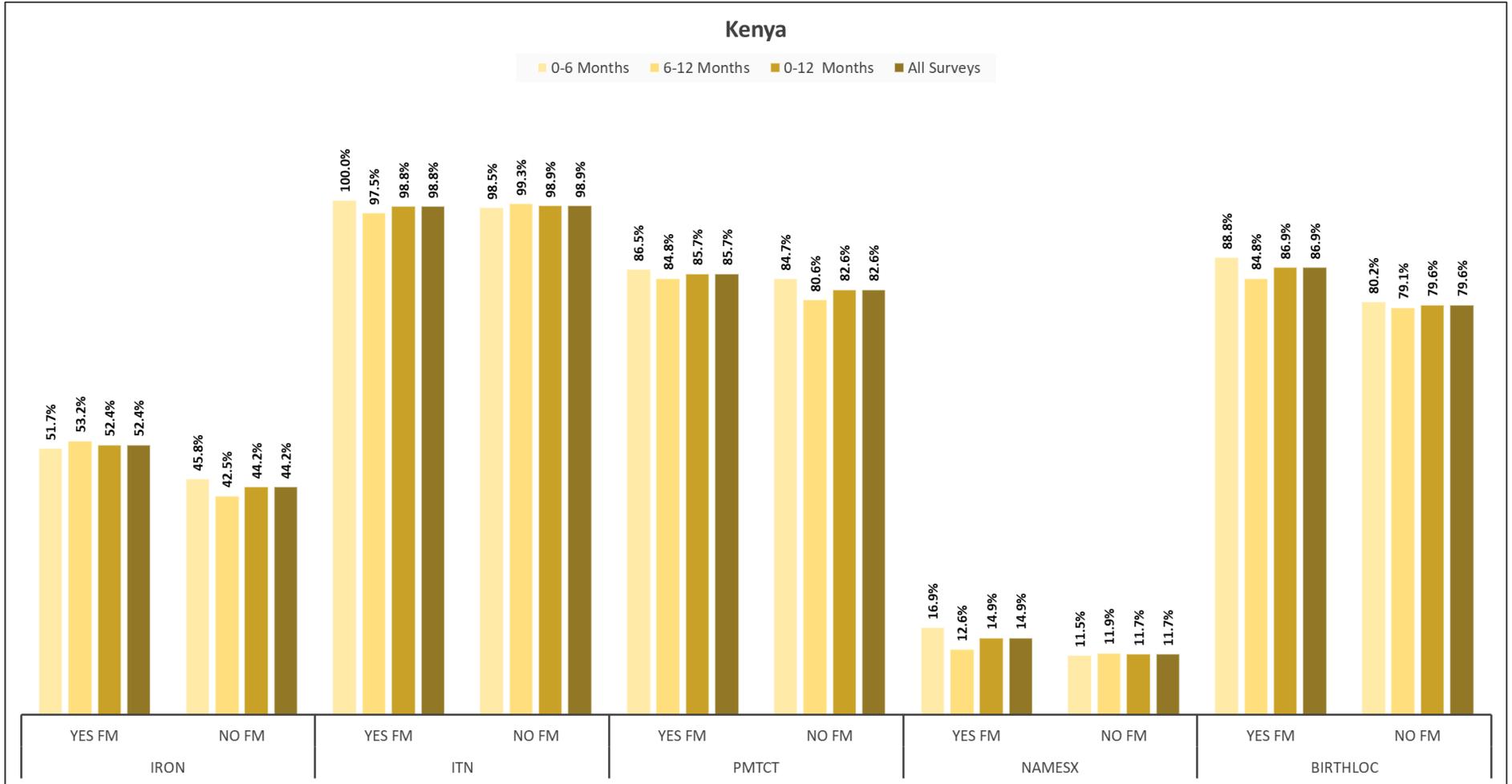


Guatemala's Averages for All Groups

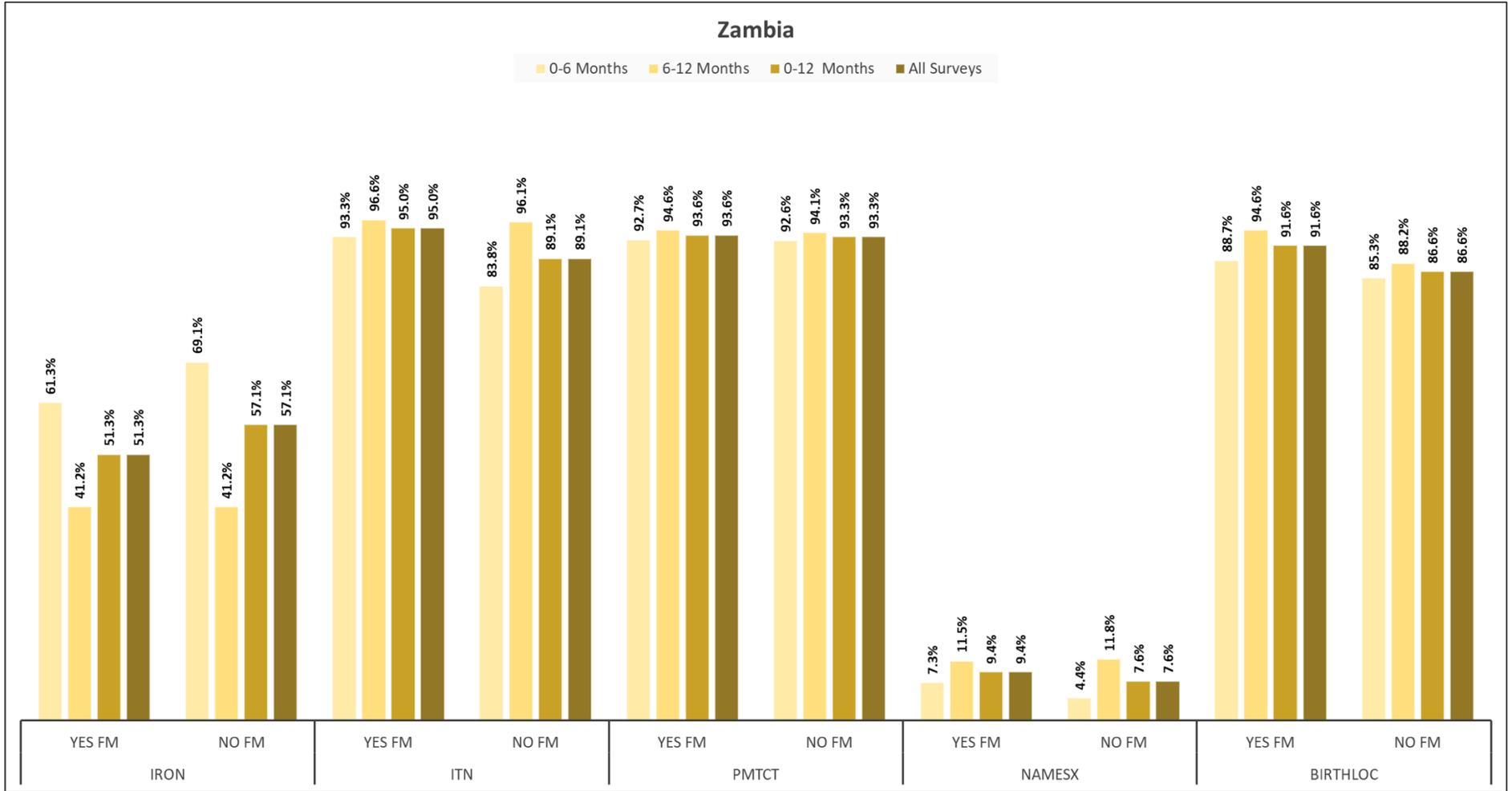


*Data from women in 6-12 months group in No FM category were excluded ("Not Applicable") due to there being just 4 observations.

Kenya's Averages for All Groups



Zambia's Averages for All Groups



Chapter 6: Discussion

The findings for most indicators are as predicted with women in Yes FM category performing better than women in No FM category. However, the differences are generally not significant and there exist some variation in differences across groups and countries. This may be due to limitations in the LQAS data that was analyzed. Specifically, there was no information on the types of family members that was involved in CHW ttC intervention. Data only indicated whether or not there was family member participation and did not present any additional information on who they were. Additionally, the data lacked information on the gender of CHWs. The gender of CHWs is likely to have affected whether or not family members participated and the women's performance on the indicators as gender norms and social hierarchies might make male CHWs more effective at engaging with other family members. (Fotso, Higgins-Steele, & Mohanty, 2015; Midhet & Becker, 2010).

It is worth noting that *birthloc* averages for women in Yes FM groups were higher than for women in No FM groups for all countries except for Guatemala. This finding provides some support to the argument that women face physical mobility constraints that affect their ability to make their own healthcare decisions (Desai & Johnson, 2005, p. 56). There may be cultural or physical differences between Guatemala and the other three countries that could explain why the *birthloc* indicator findings differed. However, Guatemala data also had the most missing observations which could have affected the findings.

Missing observations in Guatemala data might also explain why findings from Guatemala had the largest average differences. For instance, averages for *iron* and *pmtct* indicators from women in 0-6 months group in Yes FM category are 18.2 and 42.5 percentage points higher, respectively, than averages from the same group in No FM category.

Furthermore, the differences between Yes FM and No FM categories tend to be greater for women in 0-6 months groups than for women in 6-12 months group. It is unclear from the data why this is so, but this may be due to differences in CHW ttC intervention programming for women with younger babies or simply due to the fact that women with younger babies have had shorter time period between when they gave birth and thus, they may remember information better and more accurately.

Findings from the data also reveal that there may be significant variations among World Vision's CHW programs in different countries. They may be due to cultural or contextual factors. For example, averages for *itn* indicator from Kenya and Zambia is between 83.8 and 100 percent but for Cambodia, it is between 16 to 21.8 percent (data on *itn* is missing for Guatemala). The lower usage of insecticide treated mosquito net in Cambodia is probably because the risk of malaria is lower and less widespread compared to Kenya and Zambia (Tan, Arguin, & Steele, Chater 3: Infectious Disease Related to Travel - Cambodia, 2018; Tan, Arguin, & Steele, Chater 3: Infectious Disease Related to Travel - Kenya, 2018; Tan, Arguin, & Steele, Chater 3: Infections Diseases Related to Travel - Zambia, 2018). The variations in findings from four countries could also be due to disparities in CHW programming or implementation fidelity. For example, Cambodia's averages for *iron* indicator is nearly double those of Kenya and Zambia and about 25 percent higher than those of Zambia. Also, while averages for *namesx* indicator are generally low for all four countries, they are much lower for Zambia.

Chapter 7: Implications

The data shows a slight advantage of promoting family member participation in World Vision's CHW ttC intervention, but the differences are not large enough to make significant changes to World Vision's current CHW programs without further research. The differences are meaningful enough to warrant a more careful examination of the impact of family member participation in CHW programs on MNCH outcomes. Analyzing a larger dataset with more indicators and additional information, including the type of family members who participated, gender of CHWs, strategies used to promote family member participation, whether or not women have given birth to other children and the number of other children, women's relationship status, performance of CHWs, and household socioeconomic level would provide more useful insights that could help improve the effectiveness of World Vision's CHW programs.

Nonetheless, the findings affirm that World Vision should continue promoting other family members to participate in their CHW programs and contribute to the existing literature by providing evidence to support the benefits of using a wider, family-oriented approach to improve MNCH in developing countries.

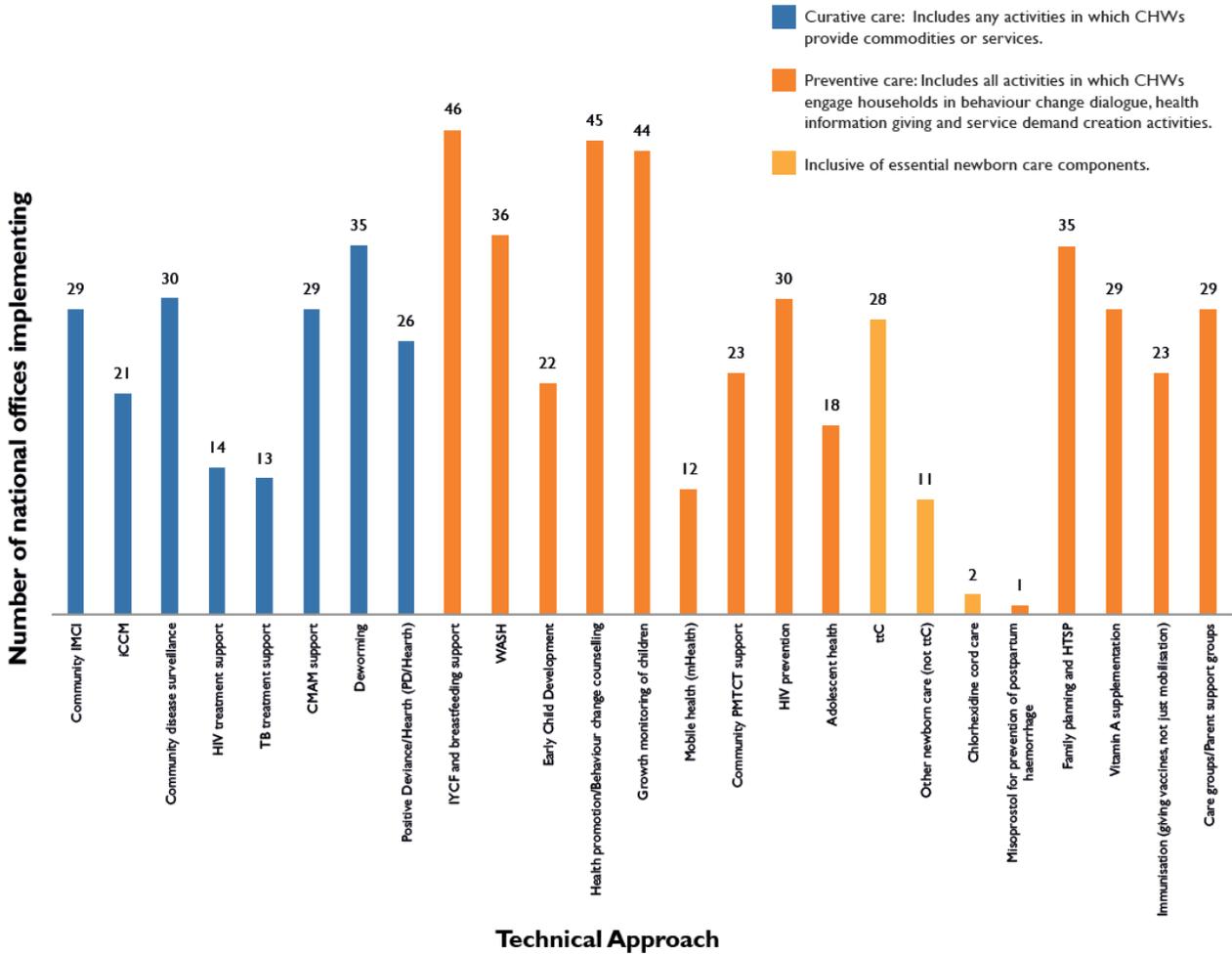
Chapter 8: Conclusion

Community Health Workers make important contributions to improving MNCH in developing countries and help vulnerable people who live in communities with weak or inaccessible healthcare systems. One of the reasons why CHW programs are effective is because they are generally designed specifically for communities they operate in and accommodate the communities' different contextual and social factors. The literature review clearly shows that CHWs can enhance their effectiveness by considering gender norms and hierarchies in their communities and recognizing that women and children's healthcare decisions are often made by other family members, such as husbands and mothers-in-law. The findings from this project supports this argument by showing there is a slight advantage of having family member participation in World Vision's CHW ttC intervention.

Nevertheless, although CHWs play a central role in delivering healthcare in many countries, it should be noted that they "are not a panacea for weak health systems" (Haines, et al., 2007). CHWs are a practical solution in countries with a shortage of professional health workers and limited capital and resources to meet the healthcare needs of their populations. It is important to strengthen capacity and accessibility of healthcare systems in these countries to make significant and lasting reductions in maternal, newborn, and child mortality rates.

Appendices

Appendix A – Current Activities of World Vision-Supported CHWs



Appendix B – 0-6 Months Survey used in Kenya

Page 1 of 12

0-5.9 Months Survey

Child Health Targets Impact Study: Midterm Review Beneficiary Survey

Reference Group: ttC Client Women Ages 15-49 years who had a live birth in the last 12months

Check before you begin

1. Check that the questionnaire has all the pages (12 pages with 53 Qn's)
2. Confirm the woman is still alive with the CHW
3. Speak to the woman to check that the name of the CHV visiting her matches the information you've been given on your list.
4. Speak to the woman to check that her name matches the information you've been given on your list.
5. Confirm the age of youngest child of the woman is **0-5.9 months old**
6. Record the information below

Identification	
Names of Enumerators	&
Interview Date	____/____/____ Day / Month / Year
ADP Name	
Supervision Area Number	
Village Name	
Name of CHV who visits Mother	
Household Number	
Name of Mother	
Age of Child	____/____/____ Day / Month / Year
Questionnaire Number	____ out of ____
Result Code*	
*Result Codes: 1. Completed 2. Partially Complete 3. Woman Died	4. Respondent not at home 5. Refused 6. Other _____

Informed Consent

Purpose of the Research Project

Hello. My name is _____ and I am working with World Vision Kenya. We are working with your community to improve maternal and child health. We are conducting a short survey in this area about pregnancy, childbirth, and health care related health issues in this community. We would very much appreciate your participation in this survey. This interview should take about 30 minutes. We would like to ask you questions about any pregnancy and birth related health services you might have received. We would like to ask you about your health and the health of your youngest child under the age of one. The information you provide will help us work with the local organizations and government to see how health services in your area can be improved.

Risks/discomforts

There is minimal risk in participating in this study. All research projects carry some risk that information about you may become known to people outside of the study. We will try our best to keep the information you provide safe. You may feel slight discomfort in sharing certain information about your health. If you do feel uncomfortable, let us know and we will skip that question.

Protecting Data Confidentiality

During the interview, we will collect your name. But we will scratch it after the interview is over so that your name cannot be made out on the survey sheet. The information we collect from you will be stored in a safe place under lock and key.

Benefits

There is no direct benefit to you from participating in this study. However your responses will be helpful in improving health care services in this area.

Payment

There is no payment for participation in this study.

Voluntary Participation

Participation in this study is completely voluntary and no one will bother you if you choose not to participate. You may refuse to answer any question or choose to stop the interview at any time. Do you have any questions about the survey? Please feel free to contact World Vision with any questions.

Do I have your agreement to proceed? Yes/No

Guidance: If client is unable to write, use the ink pad and ask respondent to provide a finger print signature.

Obtain Consent if respondent is OVER 18 years of age:

May I begin the interview? Yes/No

Permission to Proceed

I give permission to conduct this survey.

Name of the Respondent

Signature of the Respondent

Date

Obtain Assent if respondent is UNDER 18 years of age

For participants under 18 years of age, read the following to obtain assent:

You do not have to join this study. It is up to you. You can say okay now, and you can change your mind later. All you have to do is tell us. No one will be mad at you if you change your mind. May I begin the interview?

Woman under 18 agrees to be interviewed.....1

Woman under 18 does not agree to be interviewed.....2

Name of Minor

Signature of the Minor

Date

PARENTAL -PERMISSION

If woman respondent is under 18, permission received from parent/guardian.....1

If woman respondent is under 18, permission not received from parent/guardian.....2

This research study has been explained to my child in my presence in language my child can understand. He/She has been encouraged to ask questions about the study, now and in the future.

Name of Parent/Guardian

Signature of Parent/Guardian

Date

Name of the Witness

Signature of the Witness

Date

Name of Person Obtaining Consent

Signature of person Obtaining Consent

Date

No.	Questions and Filters	Coding Categories	Instructions
Basic Information			
1	Are you pregnant now?	YES 1 NO 2 NOT SURE..... 3	
2	Have you given birth in the last 12 months?	YES 1 NO 2	If no end interview
3	Is the child still alive?	YES 1 NO 2	If response is no then end interview
4	What is the name, sex, date of birth of your youngest child that you gave birth to?	<p style="text-align: center;"><u>YOUNGEST CHILD</u></p> NAME _____ <p style="text-align: center;"><u>SEX</u></p> MALE.....1 FEMALE.....2 <p style="text-align: center;"><u>DATE OF BIRTH</u></p> DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	

No.	Questions and Filters	Coding Categories	Instructions
Maternal and Newborn Care Now, we will talk about your pregnancy with (Name)			
5	During your pregnancy with (Name), how many times did you receive antenatal care?	NONE.....0 ONE.....1 TWO.....2 THREE3 FOUR.....4 FIVE OR MORE.....5 DON'T KNOW.....999	
6	During your pregnancy with (Name) did you receive an injection in the arm to prevent the baby from getting tetanus (convulsions after birth)?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 8
7	While pregnant with (name), how many times did you receive such an injection?	ONE.....1 TWO.....2 THREE OR MORE.....3 DON'T KNOW.....999 Not applicable.....888	
8	During this pregnancy, were you given or did you buy any iron tablets like these or iron syrup?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 10
9	How many days did you take iron tablets?	More than 90 days1 Less than 90 days2 Don't know.....999 Not applicable888	
10	Do you have an Insecticide treated mosquito net?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 12

No.	Questions and Filters	Coding Categories	Instructions
11	Did you sleep under this net during your last pregnancy?	YES.....1 NO.....2 DON'T KNOW.....999 Not applicable.....888	
12	During any of your antenatal visits, did anyone talk to you about babies getting the HIV/AIDS virus from their mother?	YES.....1 NO.....2	
13	Were you offered a test for the HIV/AIDS virus as part of your antenatal care?	YES.....1 NO.....2	If no skip to Question 16
14	I don't want to know the results, but were you tested for the HIV/AIDS virus as part of your antenatal care?	YES.....1 NO.....2 Not Applicable.....888	If no skip to Question 16
15	I don't want to know the results, but did you get the results of the test?	YES.....1 NO.....2 Not Applicable.....888	
16	During your pregnancy, how many meals did you eat every day on average?	1 time per day.....1 2 times per day.....2 3 times per day.....3 4 times per day4 ≥5 times per day5	Probe to see if the stated number is more than usual, less than usual or same as usual
17	Do you know symptoms during pregnancy that indicate the need to seek immediate care?	YES.....1 NO.....2	

No.	Questions and Filters	Coding Categories	Instructions
18	<p>Can you name these signs or symptoms that indicate the need for you to seek urgent care?</p> <p>DO NOT READ OUT</p>	FEVER..... A BLEEDING..... B SWELLING OF BODY/HANDS/FACE C HEADACHES D CONVULSIONS..... E OTHER.....777	RECORD ALL MENTIONED
19	<p>During your pregnancy, did you experience any of these symptoms – FEVER, BLEEDING, SWELLING OF BODY/HANDS/FACE; HEADACHES, CONVULSIONS</p>	YES.....1 NO.....2 DON'T KNOW.....999	Read Options If no or don't know skip to Question 12
20	<p>When you experienced these symptoms were you referred to the health clinic by the CHV who visits you?</p>	YES.....1 NO.....2 DON'T KNOW.....999 Not applicable.....888	
21	<p>Who assisted with the delivery of (Name)?</p> <p>IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.</p>	DOCTOR..... A NURSE..... B MIDWIFE..... C OTHER HEALTH STAFF ("Sister") D TRADITIONAL BIRTH ATTENDANT..... E COMMUNITY HEALTH WORKER..... F RELATIVE/FRIEND..... G NO ONE..... H	PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED

No.	Questions and Filters	Coding Categories	Instructions
22	Where did you give birth to (Name)	GOVT. HEALTH CLINIC..... 1 GOVT. HOSPITAL..... 2 PRIVATE HEALTH CLINIC/HOSPITAL..... 3 CHW'S HOUSE..... 4 HOME..... 5 DISPENSARY..... 6 OTHER777	
23	Immediately after (NAME) was born, was s/he dried and wrapped in a warm cloth or blanket?	YES.....1 NO.....2 DON'T KNOW.....999	
24	Immediately after (NAME) was born, was the child's cord kept clean and dry?	YES.....1 NO.....2 DON'T KNOW.....999	
25	After (Name) was born, did any health care provider or CHV examine (Name's) health?	YES.....1 NO.....2	If no skip to Question 28
26	How many hours, days or weeks after the birth of (Name) did the first check take place?	HOURS 0 <input type="text"/> <input type="text"/> DAYS 1 <input type="text"/> <input type="text"/> WEEKS 2 <input type="text"/> <input type="text"/> DON'T KNOW.....999 Not applicable.....888	If less than one day, then circle 0 and record the number of hours. If one to six days circle 1 and record number of days...
27	Who checked on (Name's) health at that time?	HEALTH CLINIC or HOSPITAL STAFF..... A TRADITIONAL BIRTH ATTENDANT..... E COMMUNITY HEALTH WORKER..... F NO ONE..... H	Probe for the most qualified person and record all mentioned

No.	Questions and Filters	Coding Categories	Instructions
28	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2	If no skip to Question 30
29	If yes, which method do you use? Circle all that apply	Pill 1 IUD 2 Injection 3 Diaphragm/Foam/Jelly/Cream 4 Condom 5 Ligation/Female Sterilization 6 Vasectomy/Male Sterilization 7 Calendar/Rhythm/Periodic Abstinence ... 8 Mucus/Billings/Ovulation 9 Thermometer/Basal Body Temperature 10 Lactational Amenorrhea Method (LAM) 11 Withdrawal 12 Other (specify) 777 Not Applicable.....888	
Breastfeeding & Infant and Young Child Feeding			
30	Has (name) ever been breastfed	YES.....1 NO.....2	
31	Are you still breastfeeding (name)?	YES.....1 NO.....2	
32	Now I would like to ask you about liquids or foods (NAME) had yesterday during the day or at night		
	Did (NAME) drink/eat	YES NO Don't Know	Read the list of liquids (A-E) beginning with breast milk
	A. Breast milk?	1 2 9	
	B. Plain water?	1 2 9	
	C. Commercially produced infant formula? [e.g. Nan]?	1 2 9	

No.	Questions and Filters	Coding Categories	Instructions
	D. Any fortified, commercially available infant and young child food" [e.g. Cerelac, wheatabix]	1 2 9	
	E. Any (other) porridge or gruel?	1 2 9	
Hygiene and Sanitation Practices			
33	When do you wash hands?	After Latrine use.....1 After child cleaning (defecation).....2 Before preparing food.....3 Before breastfeeding or feeding child....4 Before eating.....5 After handling of animals.....6 Other777 Don't Wash hands8	Circle all mentioned
34	What do you use to wash your hands?	Water + Soap..... 1 Water + Ash..... 2 Water only..... 3 Other.....777	Circle all mentioned
Service Awareness & Satisfaction			
35	Have you visited the health clinic in the last 6 months?	YES.....1 NO.....2	If no skip to Question 37
36	Can you share with us your level of satisfaction with the health clinic services you received in the last 6 months?	Very Satisfied4 Satisfied.....3 Neutral.....2 Unsatisfied.....1 Very unsatisfied.....0	
37	Have you heard of the Community Health Committee?	YES.....1 NO.....2	
38	Have you participated in a community dialogue day or a community health action day?	YES.....1 NO.....2	

39	Have you heard of the Citizen Voice and Action Group?	YES.....1 NO.....2	
40	Have you participated in community meetings to discuss the service of your health clinic?	YES.....1 NO.....2	
No.	Questions and Filters	Coding Categories	Instructions
CHV Visits Now we'd like to ask you a few questions about your experiences when CHV visits your home.			
41	When you were pregnant with [child_name] during which month of your pregnancy were you first visited by a CHV	2-3m1 3-4m.....2 4-5m.....3 6-7m.....4 8-9m.....5	
42	Where has the CHV counseled you	At home.....1 At home and outside the home.....2 Outside the home.....3	
43	During your pregnancy with [child_name] how many times did a CHV visit you?	0 visit.....1 1 visit.....2 2 visits.....3 3 visits.....4 4 visits.....5 5 or more.....6	
44	How many times has a CHV visited you since you had [child_name]?	0 visit.....1 1 visit.....2 2 visits.....3 3 visits.....4 4 visits.....5 5 or more.....6	
45	When was the last time a CHV visited?	_____/_____/_____ Day /Month /Year	

46	Did the CHV establish good communication, did they listen well, and engage well during the visit?	No, Communication is not good 0 Communication is okay1 Yes, communication is good 2	
47	Did the CHV discuss any difficulties you were having in doing the recommended practices?	No discussion of difficulties 0 Yes, discussed possible difficulties, but none identified1 Yes, discussed possible difficulties, and some identified2	
48	Did the CHV try to help you finding solutions to the problems you have identified?	No, nothing attempted0 Yes2	
49	Did the CHV encourage influential family members to participate in discussions?	No, Key members not invited0 Yes, Key members invited2	
50	At any time did the CHV check you or [child name] and ask about any health complications you or the [child name] experienced recently? If so, did they help you to access treatment you needed?	CHV did not enquire or check0 Yes, and they referred me/child.....1 They enquired, but we had no health problems or didn't need referral2	If did not need referral (answers 0 or 2) skip to Question 52
51	If you were referred at any time by the CHV did they also return to visit you after you returned from the facility?	No follow up was done.....0 CHV returned to visit/follow up after referral.....1	
52	Did the CHV treat you well, act supportively?	No0 It was okay.....1 Yes.....2	
53	Were you satisfied with the CHV services?	Unsatisfied0 It was okay1 Satisfied.....2	

Appendix C – 6-12 Months Survey used in Kenya

Page 1 of 15

6-12 Months Survey

Child Health Targets Impact Study: Midterm Review Beneficiary Survey

Reference Group: ttC Client Women Ages 15-49 years who had a live birth in the last 12months

Check before you begin

1. Check that the questionnaire has all the pages (15 pages with 57 Qn's)
2. Confirm the woman is still alive with the CHW
3. Speak to the woman to check that the name of the CHV visiting her matches the information you've been given on your list.
4. Speak to the woman to check that her name matches the information you've been given on your list.
5. Confirm the age of youngest child of the woman is **6-12 months old**
6. Record the information below

Identification	
Names of Enumerators	_____ & _____
Interview Date	_____/_____/_____ Day / Month / Year
ADP Name	_____
Supervision Area Number	_____
Village Name	_____
Name of CHV who visits Mother	_____
Household Number	_____
Name of Mother	_____
Age of Child	_____/_____/_____ Day / Month / Year
Questionnaire Number	_____ out of _____
Result Code*	
*Result Codes: 1. Completed 2. Partially Complete 3. Woman Died	4. Respondent not at home 5. Refused 6. Other _____

Informed Consent

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Risks/discomforts

There is minimal risk in participating in this study. All research projects carry some risk that information about you may become known to people outside of the study. We will try our best to keep the information you provide safe. You may feel slight discomfort in sharing certain information about your health. If you do feel uncomfortable, let us know and we will skip that question.

Protecting Data Confidentiality

During the interview, we will collect your name. But we will scratch it after the interview is over so that your name cannot be made out on the survey sheet. The information we collect from you will be stored in a safe place under lock and key.

Benefits

There is no direct benefit to you from participating in this study. However your responses will be helpful in improving health care services in this area.

Payment

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Voluntary Participation

Participation in this study is completely voluntary and no one will bother you if you choose not to participate. You may refuse to answer any question or choose to stop the interview at any time. Do you have any questions about the survey? Please feel free to contact World Vision with any questions.

Do I have your agreement to proceed? Yes/No

Guidance: If client is unable to write, use the ink pad and ask respondent to provide a finger print signature.

Obtain Consent if respondent is OVER 18 years of age:

May I begin the interview? Yes/No		
Permission to Proceed		
I give permission to conduct this survey.		
_____	_____	_____
Name of the Respondent	Signature of the Respondent	Date

Obtain Assent if respondent is UNDER 18 years of age

For participants under 18 years of age, read the following to obtain assent:		
You do not have to join this study. It is up to you. You can say okay now, and you can change your mind later. All you have to do is tell us. No one will be mad at you if you change your mind. May I begin the interview?		
Woman under 18 agrees to be interviewed.....1		
Woman under 18 does not agree to be interviewed.....2		
_____	_____	_____
Name of Minor	Signature of the Minor	Date

PARENTAL -PERMISSION		
If woman respondent is under 18, permission received from parent/guardian.....1		
If woman respondent is under 18, permission not received from parent/guardian.....2		
This research study has been explained to my child in my presence in language my child can understand. He/She has been encouraged to ask questions about the study, now and in the future.		
_____	_____	_____
Name of Parent/Guardian	Signature of Parent/Guardian	Date
_____	_____	_____
Name of the Witness	Signature of the Witness	Date

Name of Person Obtaining Consent Signature of person Obtaining Consent Date

No.	Questions and Filters	Coding Categories	Instructions
Basic Information			
1	Are you pregnant now?	YES 1 NO 2 NOT SURE 3	
2	Have you given birth in the last 12 months?	YES 1 NO 2	If no end interview
3	Is the child still alive?	YES 1 NO 2	If response is no then end interview
4	What is the name, sex, date of birth of your youngest child that you gave birth to?	<p style="text-align: center;"><u>YOUNGEST CHILD</u></p> NAME _____ <p style="text-align: center;"><u>SEX</u></p> MALE 1 FEMALE 2 <p style="text-align: center;"><u>DATE OF BIRTH</u></p> DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	

No.	Questions and Filters	Coding Categories	Instructions
Maternal and Newborn Care Now, we will talk about your pregnancy with (Name)			
5	During your pregnancy with (Name), how many times did you receive antenatal care?	NONE.....0 ONE.....1 TWO.....2 THREE3 FOUR.....4 FIVE OR MORE.....5 DON'T KNOW.....999	
6	During your pregnancy with (Name) did you receive an injection in the arm to prevent the baby from getting tetanus (convulsions after birth)?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 8
7	While pregnant with (name), how many times did you receive such an injection?	ONE.....1 TWO.....2 THREE OR MORE.....3 DON'T KNOW.....999 Not applicable.....888	
8	During this pregnancy, were you given or did you buy any iron tablets like these or iron syrup?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 10
9	How many days did you take iron tablets?	More than 90 days1 Less than 90 days2 Don't know.....999 Not applicable888	
10	Do you have an Insecticide treated mosquito net?	YES.....1 NO.....2 DON'T KNOW.....999	If no or don't know skip to Question 12

No.	Questions and Filters	Coding Categories	Instructions
11	Did you sleep under this net during your last pregnancy?	YES.....1 NO.....2 DON'T KNOW.....999 Not applicable.....888	
12	During any of your antenatal visits, did anyone talk to you about babies getting the HIV/AIDS virus from their mother?	YES.....1 NO.....2	
13	Were you offered a test for the HIV/AIDS virus as part of your antenatal care?	YES.....1 NO.....2	If no skip to Question 16
14	I don't want to know the results, but were you tested for the HIV/AIDS virus as part of your antenatal care?	YES.....1 NO.....2 Not Applicable.....888	If no skip to Question 16
15	I don't want to know the results, but did you get the results of the test?	YES.....1 NO.....2 Not Applicable.....888	
16	During your pregnancy, how many meals did you eat every day on average?	1 time per day.....1 2 times per day.....2 3 times per day.....3 4 times per day4 ≥5 times per day5	Probe to see if the stated number is more than usual, less than usual or same as usual
17	Do you know symptoms during pregnancy that indicate the need to seek immediate care?	YES.....1 NO.....2	

No.	Questions and Filters	Coding Categories	Instructions
18	<p>Can you name these signs or symptoms that indicate the need for you to seek urgent care?</p> <p>DO NOT READ OUT</p>	<p>FEVER.....A BLEEDING..... B SWELLING OF BODY/HANDS/FACE C HEADACHES D CONVULSIONS..... E OTHER.....777</p>	RECORD ALL MENTIONED
19	<p>During your pregnancy, did you experience any of these symptoms – FEVER, BLEEDING, SWELLING OF BODY/HANDS/FACE; HEADACHES, CONVULSIONS</p>	<p>YES.....1 NO.....2 DON'T KNOW.....999</p>	<p>Read Options</p> <p>If no or don't know skip to Question 21</p>
20	<p>When you experienced these symptoms were you referred to the health clinic by the CHV who visits you?</p>	<p>YES.....1 NO.....2 DON'T KNOW.....999 Not applicable.....888</p>	
21	<p>Who assisted with the delivery of (Name)?</p> <p>IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.</p>	<p>DOCTOR..... A NURSE..... B MIDWIFE..... C OTHER HEALTH STAFF ("Sister") D TRADITIONAL BIRTH ATTENDANT..... E COMMUNITY HEALTH WORKER..... F RELATIVE/FRIEND..... G NO ONE..... H</p>	PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED

No.	Questions and Filters	Coding Categories	Instructions
22	Where did you give birth to (Name)	GOVT. HEALTH CLINIC1 GOVT. HOSPITAL2 PRIVATE HEALTH CLINIC/HOSPITAL.....3 CHW'S HOUSE4 HOME5 DISPENSARY.....6 OTHER777	
23	Immediately after (NAME) was born, was s/he dried and wrapped in a warm cloth or blanket?	YES.....1 NO.....2 DON'T KNOW.....999	
24	Immediately after (NAME) was born, was the child's cord kept clean and dry?	YES.....1 NO.....2 DON'T KNOW.....999	
25	After (Name) was born, did any health care provider or CHV examine (Name's) health?	YES.....1 NO.....2	If no skip to Question 28
26	How many hours, days or weeks after the birth of (Name) did the first check take place?	HOURS 0 <input type="text"/> <input type="text"/> DAYS 1 <input type="text"/> <input type="text"/> WEEKS 2 <input type="text"/> <input type="text"/> DON'T KNOW.....999 Not applicable.....888	If less than one day, then circle 0 and record the number of hours. If one to six days circle 1 and record number of days...
27	Who checked on (Name's) health at that time?	HEALTH CLINIC or HOSPITAL STAFF..... A TRADITIONAL BIRTH ATTENDANT..... E COMMUNITY HEALTH WORKER..... F NO ONE..... H	Probe for the most qualified person and record all mentioned

No.	Questions and Filters	Coding Categories	Instructions
28	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2	If no skip to Question 30
29	If yes, which method do you use? <i>Circle all that apply</i>	Pill 1 IUD 2 Injection 3 Diaphragm/Foam/Jelly/Cream 4 Condom 5 Ligation/Female Sterilization 6 Vasectomy/Male Sterilization 7 Calendar/Rhythm/Periodic Abstinence .. 8 Mucus/Billings/Ovulation 9 Thermometer/Basal Body Temperature 10 Lactational Amenorrhea Method (LAM) 11 Withdrawal 12 Other (specify) 777 Not Applicable.....888	

No.	Questions and Filters	Coding Categories	Instructions
Breastfeeding & Infant and Young Child Feeding			
30	Has (name) ever been breastfed	YES.....1 NO.....2	
31	Are you still breastfeeding (name)?	YES.....1 NO.....2	
32	Now I would like to ask you about liquids or foods (NAME) had yesterday during the day or at night		
	Did (NAME) drink/eat	YES NO Don't Know	Read the list of liquids (A-E) beginning with breast milk
	A. Breast milk?	1 2 9	
	B. Plain water?	1 2 9	
	C. Commercially produced infant formula? [e.g. Nan]?	1 2 9	
	D. Any fortified, commercially available infant and young child food" [e.g. Cerelac, wheatabix]	1 2 9	
	E. Any (other) porridge or gruel?	1 2 9	
33	Now I would like to ask you about (other) liquids or foods that (NAME) may have had yesterday during the day or at night. I am interested in whether your child had the item even if it was combined with other foods.		
	Did (NAME) drink/eat -		
	GROUP 1:DAIRY	YES NO Don't know	
	A. Commercially produced infant formula? [e.g. Nan]?	1 2 999	CHECK Q 32C – IF YES, CIRCLE YES HERE
	B. Milk such as tinned, powdered, or fresh animal milk?	1 2 999	
	C. Cheese, yogurt, or other milk products?	1 2 999	
	GROUP 2: GRAIN	YES NO Don't know	

No.	Questions and Filters	Coding Categories			Instructions
	D. Any fortified, commercially available infant and young Child food [e.g. Cerelac, wheatabix]	1	2	999	CHECK Q 32D – IF YES, CIRCLE YES HERE
33 cont.	E. Any (other) porridge or gruel?	1	2	999	CHECK Q 32E – IF YES, CIRCLE YES HERE
	F. Bread, rice, noodles, or other foods made from grains?	1	2	999	
	G. White potatoes, white yams, manioc, cassava, or any other foods made from roots?	1	2	999	
	GROUP 3: VITAMIN A RICH VEGETABLES	YES	NO	Don't know	
	H. Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside?	1	2	999	
	I. Any dark green leafy vegetables?	1	2	999	
	J. Ripe mangoes, papayas or tomatoes?	1	2	999	
	GROUP 4: OTHER FRUITS/VEGETABLES	YES	NO	Don't know	
	K. Any other fruits or vegetables like oranges, grapefruit or pineapple?	1	2	999	
	GROUP 5: EGGS	YES	NO	Don't know	
	L. Eggs?	1	2	999	
	GROUP 6: MEAT, POULTRY, FISH	YES	NO	Don't know	
	M. Liver, kidney, heart or other organ meats?	1	2	999	
	N. Any meat, such as beef, pork, lamb, goat, chicken, or duck?	1	2	999	
	O. Fresh or dried fish or shellfish?	1	2	999	

No.	Questions and Filters	Coding Categories	Instructions
	P. Grubs, snails, insects, other small protein food?	1 2 999	
	GROUP 7: LEGUMES/NUTS	YES NO Don't know	
33 cont.	Q. Any foods made from beans, peas, lentils, ground nuts or other nuts?	1 2 999	
	GROUP 8: OILS/FATS	YES NO Don't know	
	R. Any oils, fats, or butter, or foods made with any of these?	1 2 999	
34	S. Count the number of food groups circled above by checking Q 33A – Q33S	Number* of Groups <input type="text"/> *Maximum number = 8	HOW MANY FOOD GROUPS (GROUPS 1-8 IN ABOVE TABLE) HAVE AT LEAST 1 'YES' CIRCLED?
	GROUP 9: OTHER FOODS	YES NO Don't know	
35	T. Tea or coffee?	1 2 999	
	U. Any other liquids?	1 2 999	
	V. Any sugary foods, such as chocolates, candy, sweets, pastries, cakes, or biscuits?	1 2 999	
	W. Any other solid or soft food?	1 2 999	
36	How many times did (Child NAME) eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night? [We want the find out how many time the child ate enough to be full. Small snacks and small feeds such as one or two bites of mother's or sister's food should not be counted.]	NUMBER OF TIMES <input type="text"/> DON'T KNOW.....999 IF CAREGIVER ANSWERS SEVEN OR MORE TIMES, RECORD "7"	Use probing questions to help the respondent remember all the times the child ate yesterday *Liquids, thin soups, broth, watery gruel do not count for this question.

No.	Questions and Filters	Coding Categories	Instructions
Hygiene and Sanitation Practices			
37	When do you wash hands?	After Latrine use.....1 After child cleaning (defecation).....2 Before preparing food.....3 Before breastfeeding or feeding child....4 Before eating.....5 After handling of animals.....6 Other777 Don't Wash hands8	Circle all mentioned
38	What do you use to wash your hands?	Water + Soap..... 1 Water + Ash..... 2 Water only..... 3 Other.....777	Circle all mentioned
Service Awareness & Satisfaction			
39	Have you visited the health clinic in the last 6 months?	YES.....1 NO.....2	If no skip to Question 41
40	Can you share with us your level of satisfaction with the health clinic services you received in the last 6 months?	Very Satisfied4 Satisfied.....3 Neutral.....2 Unsatisfied.....1 Very unsatisfied.....0	
41	Have you heard of the Community Health Committee?	YES.....1 NO.....2	
42	Have you participated in a community dialogue day or a community health action day?	YES.....1 NO.....2	
43	Have you heard of the Citizen Voice and Action Group?	YES.....1 NO.....2	
44	Have you participated in community meetings to discuss the service of your health clinic?	YES.....1 NO.....2	

No.	Questions and Filters	Coding Categories	Instructions
CHV Visits Now we'd like to ask you a few questions about your experiences when CHV visits your home.			
45	When you were pregnant with [child_name] during which month of your pregnancy were you first visited by a CHV	2-3m1 3-4m.....2 4-5m.....3 6-7m.....4 8-9m.....5	
46	Where has the CHV counseled you	At home.....1 At home and outside the home.....2 Outside the home.....3	
47	During your pregnancy with [child_name] how many times did a CHV visit you?	0 visit.....1 1 visit.....2 2 visits.....3 3 visits.....4 4 visits.....5 5 or more.....6	
48	How many times has a CHV visited you since you had [child_name]?	0 visit.....1 1 visit.....2 2 visits.....3 3 visits.....4 4 visits.....5 5 or more.....6	
49	When was the last time a CHV visited?	_____/_____/_____ Day /Month /Year	
50	Did the CHV establish good communication, did they listen well, and engage well during the visit?	No, Communication is not good 0 Communication is okay1 Yes, communication is good 2	

51	Did the CHV discuss any difficulties you were having in doing the recommended practices?	No discussion of difficulties 0 Yes, discussed possible difficulties, but none identified1 Yes, discussed possible difficulties, and some identified2	
52	Did the CHV try to help you finding solutions to the problems you have identified?	No, nothing attempted0 Yes2	
53	Did the CHV encourage influential family members to participate in discussions?	No, Key members not invited0 Yes, Key members invited2	
54	At any time did the CHV check you or [child name] and ask about any complications you or the [child name] experienced recently? If so, did they help you to access treatment you needed?	CHV did not enquire or check0 Yes, and they referred me/child.....1 They enquired, but we had no health problems or didn't need referral2	If did not need referral (answers 0 or 2) skip to Question 56
55	If you were referred at any time by the CHV did they also return to visit you after you returned from the facility?	No follow up was done.....0 CHV returned to visit/follow up after referral.....1	
56	Did the CHV treat you well, act supportively?	No0 It was okay.....1 Yes.....2	
57	Were you satisfied with the CHV services?	Unsatisfied0 It was okay1 Satisfied.....2	

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