MUSKOKA INITIATIVE CONSORTIUM – KNOWLEDGE MANAGEMENT INITIATIVE:

ENDLINE REPORT

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Credits

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Contributions

The collection of individual-level data summarized within this report was coordinated by the Muskoka Initiative Consortium NGOs (CARE Canada, Plan Canada, Save the Children Canada, and World Vision Canada), their in-country offices, and consultants. Jo-Anna Baxter and Stanley Zlotkin designed the endline analytic plan, with guidance from Nadia Akseer. Jo-Anna Baxter performed all statistical analyses with the assistance of Sahra Nathoo. DHS/MICS estimates were compiled by Nadia Akseer and Sahra Nathoo. Sahra Nathoo and Jo-Anna Baxter prepared all tables and figures, with guidance from Stanley Zlotkin. Jo-Anna Baxter and Stanley Zlotkin primarily wrote the report, with assistance from Rupinder Chera and Tyler Vaivada. Rupinder Chera and Tyler Vaivada wrote the Change Pathways section of the report, with the assistance of Jo-Anna Baxter and Stanley Zlotkin. Stanley Zlotkin had primary responsibility for the final content. All authors read and approved the final document.

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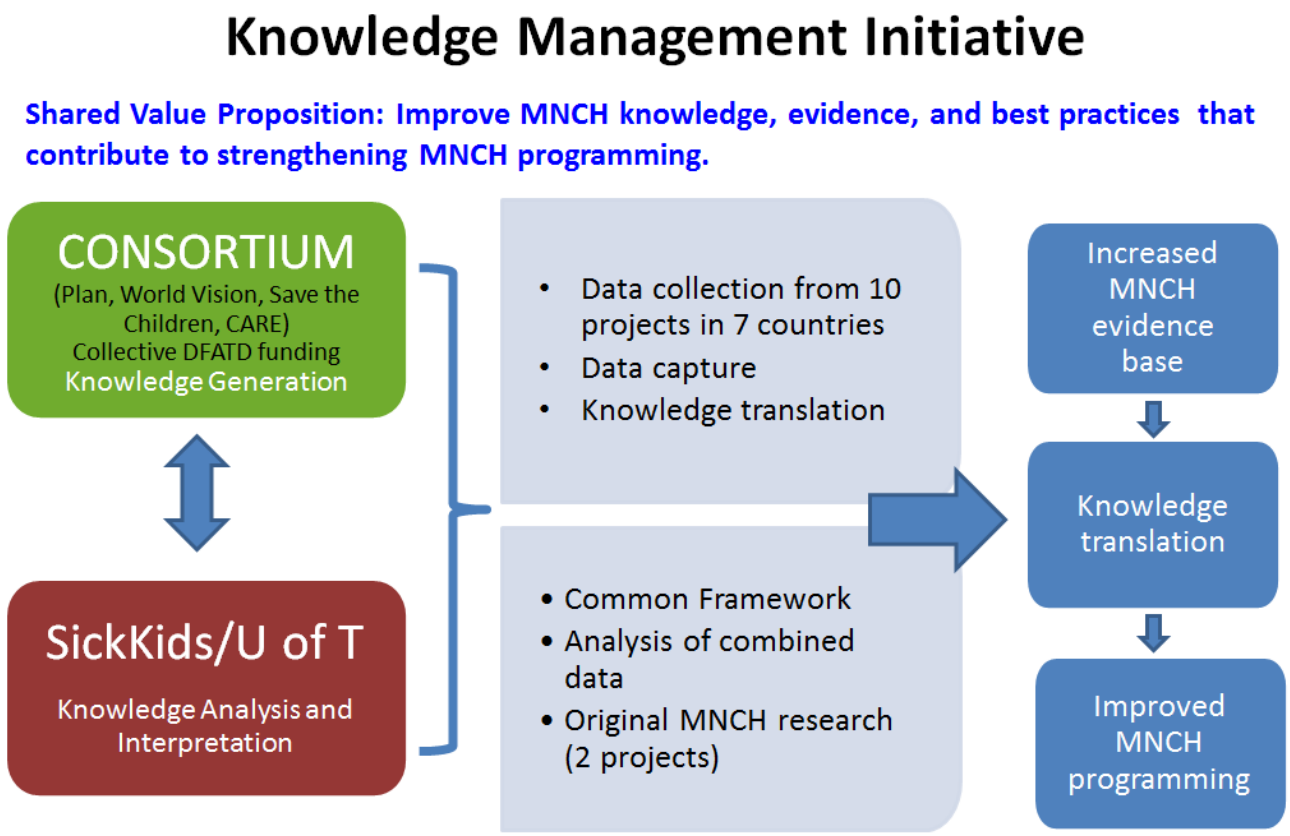
MUSKOKA INITIATIVE CONSORTIUM – KNOWLEDGE MANAGEMENT INITIATIVE

Endline Report

Executive Summary

Each year, an estimated 289,000 women die in childbirth, nearly 2.9 million newborns do not survive the first month of life and 6.3 million children die before 5 years of age (WHO & UNICEF 2014; UNICEF et al. 2014). Most of these deaths occur in resource-limited settings found in low- and middle-income countries (LMICs), and most are preventable. In 2000, the 'Millennium Development Goals' (MDGs) were developed as part of a global commitment to reduce poverty and improve the health and well-being of those in such settings by 2015. Saving the lives of women and children in the world's poorest countries has since become an international priority among many governments, organizations, leaders and funders.

In 2012 a group of international non-government organizations (NGOs), including CARE Canada, Plan Canada, Save the Children Canada, and World Vision Canada, each with funding through the Muskoka Initiative Partnership Program, came together to form the Muskoka Initiative Consortium (MIC). The 10 MIC projects were based in seven low and lower-middle-income countries within Asia and Africa: Bangladesh, Ethiopia, Ghana, Mali, Pakistan, Tanzania, and Zimbabwe. In that same year, the MIC partnered with The Hospital for Sick Children (SickKids) Centre for Global Child Health and the Munk School of Global Affairs at the University of Toronto to develop a knowledge management/knowledge translation strategy. This partnership is known as the Muskoka Initiative Consortium Knowledge Management Initiative (MIC-KMI).



The ultimate goal of the MIC-KMI was to increase knowledge around maternal, newborn and child health (MNCH), develop evidence-based strategies for improving the lives of mothers and children and identify and communicate best practices for strengthening programming in the seven project countries. The role of SickKids/U of T in MIC-KMI included:

1. Coordinating the overall MIC-KMI (in which gender equality was mainstreamed);
2. Developing an overarching KM and KT strategy that captured and described the overarching approach to the acquisition and dissemination of the project's learnings;
3. Designing a Common Framework (CF) of selected indicators and conducting a combined analysis of data generated among MIC projects for those indicators;
4. Conducting two research projects related to key MNCH areas, in close consultation with the Partners;
5. Developing a communication and dissemination plan (KT Plan) that included the identification of relevant opportunities and methods to share the research findings, as well as best practices with targeted audiences; and
6. Organizing a conference to bring together the MIC and key partners from the field as well as relevant Canadian institutions to share learnings, best practices and research findings.

This report pertains to the achievement of item #3, "Designing a Common Framework (CF) of selected indicators and conducting a combined analysis of data generated among MIC projects for those indicators."

The Muskoka Initiative outlined three priority paths for the advancement of MNCH: (1) strengthening health systems; (2) reducing the burden of diseases; and (3) improving nutrition. Within the MIC projects, it was possible to identify four themes where the NGOs focused their work: maternal health; maternal and child nutrition; child health; and health system strengthening. These themes and the combined results pertaining to these themes were used to structure the description and analysis included in this report.

The CF of selected indicators provides a consistent approach to analyzing and interpreting selected indicators across the ten MIC projects. The design of the CF and the combined analysis of data generated among the ten NGO projects allowed for broader interpretations than could be achieved by examining each project individually.

An initial examination of the individual project PMFs and baseline questionnaires revealed that only one indicator was common to all 10 projects, while a few more indicators were common across eight of the 10 projects. Thus, a minimum inclusion criteria approach was used to guide the review and identification of indicators to include in the CF. These criteria included:

- An indicator had to be proposed by a minimum of two organizations and three projects; and
- An indicator had to appear in the NGOs PMFs.

Indicators that met these minimum inclusion criteria were then further examined using additional criteria before being included in the CF. Included indicators must be:

- Valid (accurate and reliable);
- Meaningful in that they are relevant to project activities;
- Feasible for measurement; and
- Consistent with global standards.

Finally, for an indicator to be included from an individual NGO project, it had to have been collected both at baseline and endline in a similar way with a large enough sample size to be meaningful.

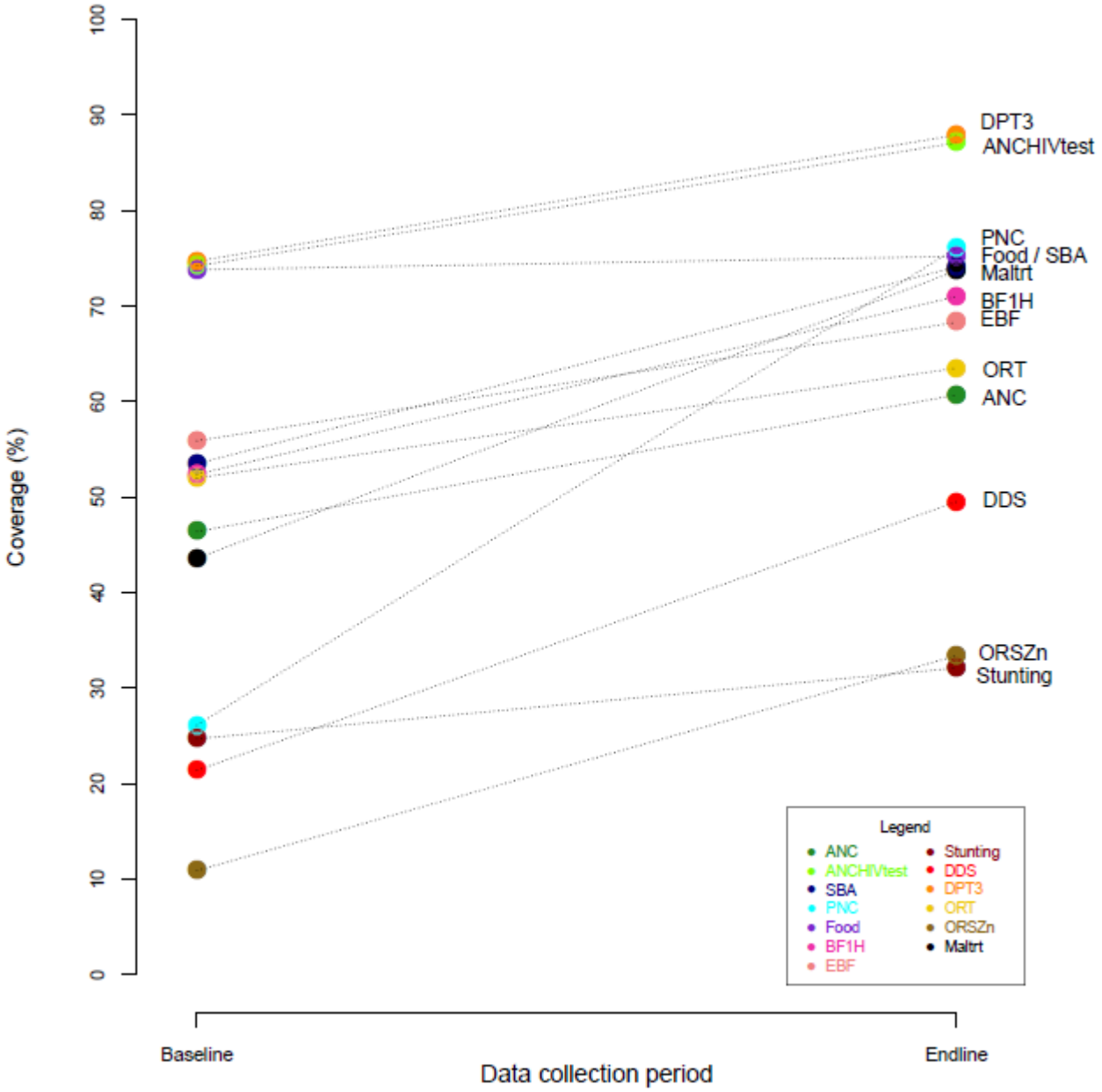
To conduct the combined analysis of the CF indicators from the NGO-collected, individual-level household data, a common definition for each indicator was generated. To the best extent possible, indicator definitions were kept consistent with definitions use by the World Health Organization (WHO) or the United Nations (UN). Age-related restrictions also had to be established to generate the common definitions, as the different NGO projects collected survey data for different maternal and child age ranges. By subjecting all NGO datasets to these strict criteria, a common pool of data was generated. It should be noted, however, that combined estimates as presented in this report do not necessarily represent all data collected within the NGO projects. As such, the combined estimates as presented may not match the endline estimates reported in individual NGO's endline report submissions to DFATD.

A total of 27 indicators were initially prospectively identified after a review of the NGOs' Performance Management Frameworks (PMFs) in 2012. These indicators were reviewed again after data was collected from baseline household surveys in 2013 and once again after data was collected from the endline household surveys in 2015. Thirteen indicators remained in the final CF indicator list (see below). The challenge of coming up with 'common' indicators was evident from the start of the project. This is largely because MIC-KMI project began after each of the NGOs had written their project PMFs independent of one another and had planned their baseline surveys without cross-consultation. Notwithstanding this hurdle, the 13 common indicators provided a useable framework to analyze and comment on the combined MIC results.

Common Framework (13 indicators)

WV Tanzania	Care Ethiopia	Care Zimbabwe	Save Mali	Save Pakistan	Plan Bangladesh	Plan Ethiopia	Plan Ghana	Plan Mali	Plan Zimbabwe	Indicators
Maternal health										
●					●	●	●	●	●	Percentage of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
●						●	●			Percentage of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
●					●	●	●	●	●	Percentage of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
			●		●	●	●	●	●	Percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
●	●	●								Percentage of mothers 15-49 years who make decisions on purchases (food)
Child Health										
●	●		●	●	●			●	●	Percentage of living children 0-5 months who were breastfed within 1 hour of birth
●	●		●	●		●		●		Percentage of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
●						●		●	●	Percentage of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine
			●	●	●					Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
●			●	●	●					Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received ORS and zinc
●			●	●						Percentage of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs
●	●	●								Percentage of children 6-23 months who are stunted (<-2 LAZ)
●	●	●								Percentage of children 6-23 months with adequate dietary diversity scores (4 or more food groups)

Results: As shown in the figure below, across the thematic areas for which indicator data was collected (maternal health; maternal and child nutrition; and child health) there was an overall increase in coverage from baseline to endline in all 13 indicators. This reflects an improvement in coverage, with the exception of stunting where an increase suggests a worsening of stunting. The magnitude of change for indicators differed among the individual NGO projects. Without a control group for comparison, it is not possible to attribute causal change to specific implemented activities, although it appears that the observed changes, for many of the indicators, was likely associated with the combined NGO activities. This statement is based on the fact that the observed increases in indicator coverage were larger than what would be expected from secular public health trends had no activities been conducted. All data were disaggregated and reanalyzed for sex and age effects. Unfortunately, too few adolescents were included to come to any conclusions pertaining to adolescent coverage.



Unweighted overall coverage estimates for all Common Framework indicators (n = 13) from baseline to endline. Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

Originally it had been hypothesized that if changes were to be observed, then for those indicators that had high coverage at baseline, the change in coverage would be low; and similarly, projects with lower starting baseline values appeared more likely to experience a greater increase in coverage. Consistent with what had been expected, greater change in coverage was observed among those indicators with lower coverage at baseline.

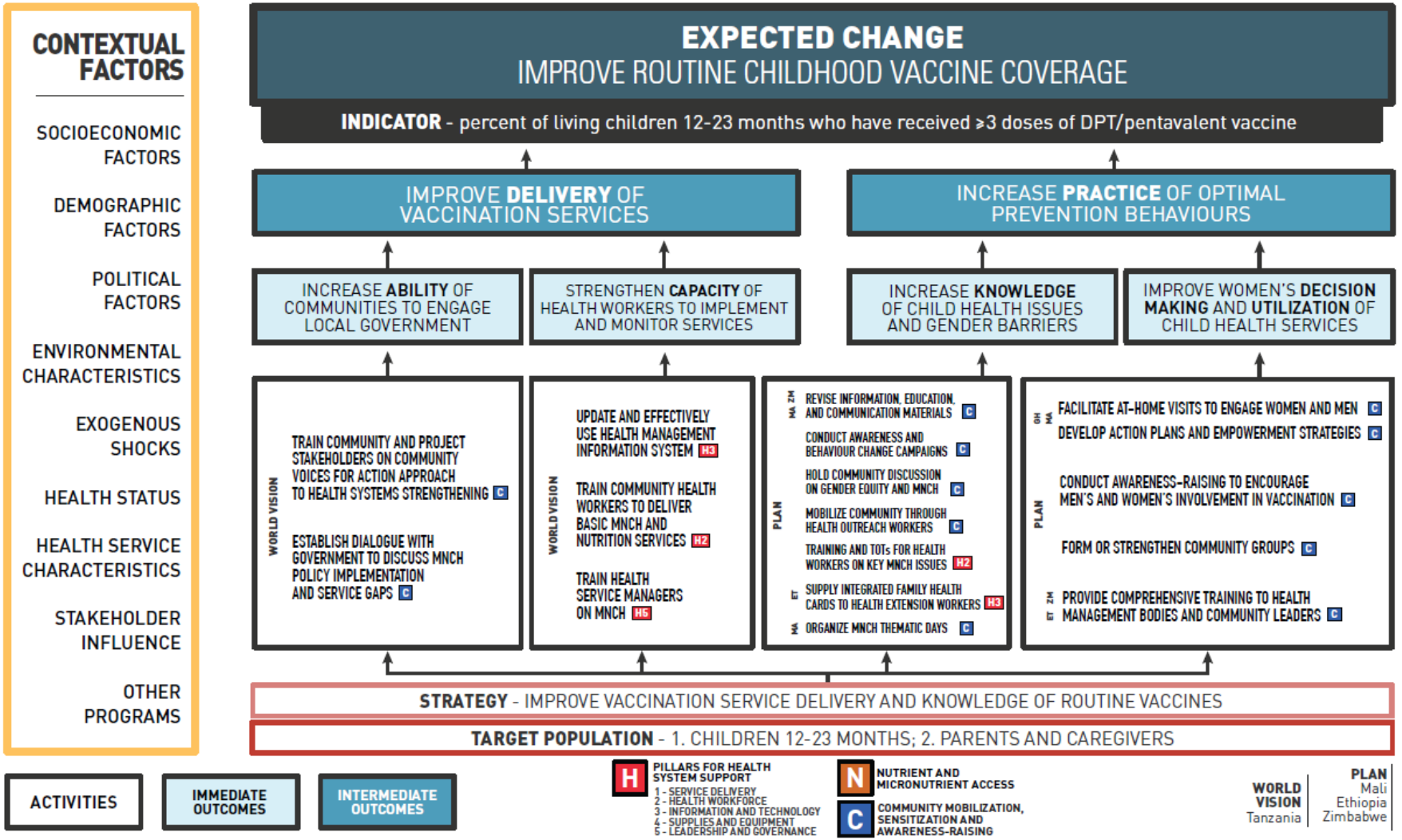
To better understand the relationship between the activities implemented by the NGOs and the change in coverage, 'change pathways' were developed based on the original performance

measurement frameworks (PMF) for each of the indicators. These change pathways allowed us to identify and communicate the multiple activities that likely contributed to the changes observed. By documenting and understanding the activities that were implemented by the NGOs, we were in a better position to understand and potentially explain the association between the activities and the changes in coverage. As an example, the change pathway for DPT (diphtheria, pertussis, tetanus)/pentavalent vaccine coverage is shown below. The change pathway visually demonstrates the many activities that influence both the demand and supply side of vaccine coverage, including strengthening capacity of local health workers, engagement of local communities, increased knowledge of child health issues and the role of improved decision making by women. The change pathway format importantly allows for the display of multiple activities and outcomes conducted among the NGOs within a unified framework..

The ability to relate specific implemented activities to change in indicator coverage is limited given the nature of the data collected and the lack of a cross-organizational analytic plan prior to project commencement. The limitations that affect the comparability and interpretability of the combined indicator findings have been noted in the report.

This project has provided an excellent opportunity to foster collaboration between academia and NGOs. There has been substantial bi-directional learning, as NGOs offer the ability to implement and reach individuals, while academia offers rigorous methodology to accurately assess progress in achieving the stated aims. Looking back, it has been possible to identify several methodological areas in which the collaborative NGO-academic partnership approach might be further refined and improved. Additionally, it should be noted that there is substantial benefit to determining these items early, during the project design phase, and appropriately mapping project aims well in advance of the start of the project. If developed and employed appropriately, recommendations related to data collection and methodology of survey conduction could lead to increased understanding of change over time, and the identification of interventions with the greatest potential impact for improving maternal and child health.

Overall, the MIC-KMI partnership was a success. It has allowed for collaboration between academia and four NGOs with a common goal of reporting the collective results of the NGOs ten projects in seven countries to improve maternal and child health and to learn from the experience.



Change pathway created for the indicator assessing DPT/pentavalent coverage. Included in the framework are the target population, strategy, implemented activities, immediate outcomes, intermediate outcomes, expected change, and broad contextual factors that can affect implementation at any point during the project.

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal care
ARNI	African Regional Nutrition Initiative
BCC	Behaviour change communication
BCG	Behavioural change group
BEmONC	Basic emergency obstetric and neonatal care
BFHI	Baby friendly health initiative
CA	Community agent
CAC	Community awareness campaigns
CCG	Community care groups
CCM	Community case management
CDG	Community discussion group
CF	Common framework
CF	Community facilitator
CG	Community group
CHA	Community health agent
CHC	Community health centre
CHCP	Clinic health care personnel
CHIS	Community health information system
CHMT	Council health management team
CHS	Community health staff
CHW	Community health worker
CI	Confidence interval
CIDA	Canadian International Development Agency
CL	Community leader
CM	Community mobilizer
CMG	Community mobilization group
CORP	Community own resource persons
CSBA	Community skilled birth attendants
CSG	Community support group
CVA	Community voice action
DDS	Dietary diversity scores
DFATD	Department of Foreign Affairs, Trade and Development Canada
DHS	Demographic and health survey
DNA	Data not available
DPT	Diphtheria, tetanus toxoid and pertussis
EBF	Exclusive breastfeeding
EMC	Emergency obstetric care
ENC	Emergency neonatal care

ETAT	Emergency triage assessment and treatment
FP	Family planning
FWC	Family welfare centre
GE	Gender equality
GHW	Government health worker
HA	Health agent
HC	Health centre
HCC	Health care centre
HCF	Health care facility
HCP	Health centre personnel
HCS	Health centre staff
HDA	Health development army
HEW	Health extension worker
HF	Health facility
HFC	Health facility coordinator
HFS	Health facility staff
HH	Household
HIV	Human Immunodeficiency Virus
HMIS	Health management information system
HSM	Health service manager
HSS	Health system strengthening
HW	Health worker
ICCM	Integrated community case management
ICH	Improving community health
IEC	Information, education, communication
IMCI	Integrated management of childhood illnesses
IYCF	Infant and young child feeding
KL	Kebele leader
KT	Knowledge translation
LAZ	Length for age z-score
LHS	Lady health supervisor
LHW	Lady health worker
LM	Logic model
LMIC	Low and middle-income countries
M2M	Mother to mother
MDG	Millennium Development Goals
mHealth	Mobile health
MIC	Muskoka Initiative Consortium
MIC-KMI	Muskoka Initiative Consortium-Knowledge Management Initiative
MICS	Multiple indicator cluster survey
MIPP	Muskoka Initiative Partnership Program
MNCH	Maternal, newborn and child health

N/D	Non-discernable
N/R	Not reported
NGO	Non-government organization
ORS	Oral rehydration solution
ORT	Oral rehydration therapy
PCP	Primary care providers
PE	Peer educator
PMF	Performance measurement framework
PMNCH	Partnership for Maternal, Newborn, and Child Health
PMTCT	Prevention of mother to mother transmission
PNC	Postnatal care
PPS	Probability proportional to size
RCH	Reproductive child health
RFP	Request for proposals
SAA	Social analysis and action
SBA	Skilled birth attendant
SCA	Social change agent
SDG	Sustainable Development Goals
SG	Support group
SickKids	The Hospital for Sick Children
SSS	Sugar/salt solution
SUSTAIN	Supporting Systems to Achieve Improved Nutrition, Maternal, Newborn and Child Health
TBA	Traditional birth attendant
ToT	Training of trainers
TT	Tetanus toxoid
UH	Upazila health
UNICEF	United Nations Children's Fund
UN-IGME	United Nations Inter-agency Group for Child Mortality Estimation
UN-MMEIG	United Nations Maternal Mortality Estimation Inter-agency Group
UT	University of Toronto
VCT	Voluntary counseling and testing
VHC	Village health committee
VHW	Village health workers
VSLA	Village savings and loans
VSLA	Village saving loan association
WATCH	Women And Their Children's Health
WHO	World Health Organization

Common Framework Indicator Abbreviations

ANC	Percentage of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
ANCHIVtest	Percentage of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
BF1H	Percentage of living children 0-5 months who were breastfed within 1 hour of birth
DDS	Percentage of children 6-23 months with adequate dietary diversity scores (4 or more food groups)
DPT3	Percentage of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine
EBF	Percentage of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
Food	Percentage of mothers 15-49 years who make decisions on purchases (food)
Maltrt	Percentage of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs
ORSZn	Percentage of children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc
ORT	Percentage of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
PNC	Percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
SBA	Percentage of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
Stunting	Percentage of children 6-23 months who are stunted (<-2 LAZ)

Chapter 1 – Background

In 2012 a group of non-government organizations (NGOs), including CARE Canada, Plan Canada, Save the Children Canada, and World Vision Canada, each which had received project funding through the Muskoka Initiative Partnership Program (MIPP), came together to form the Muskoka Initiative Consortium (MIC).

Also in 2012, MIC partnered with The Hospital for Sick Children (SickKids) and the Monk School of Global Affairs at the University of Toronto (UT) to develop a knowledge management (KM)/knowledge translation (KT) strategy for data collected from the 10 projects; and to conduct two independent research projects. This partnership is referred to as the MIC – Knowledge Management Initiative (MIC-KMI). The partnership leverages the research KM and KT expertise within SickKids/UT, while offering external validation through an independent analysis of the data collected within the MIC's projects.

1.1 Description of project themes within the MIC

The overall goal of the MIC is to improve maternal, newborn, and child health (MNCH). The specific themes of the gender integrated projects designed by the NGOs within the MIC, as per the original Canadian International Development Agency (CIDA) request for proposals (RFP) for MIPP funding, included the following:

1. ***Strengthening health systems*** to improve service delivery to MNCH at the local level by training more health workers and increasing access to adequately equipped local health centres. This includes:
    a. Supporting national plans and priorities regarding MNCH;
    b. Filling gaps in health systems (for example, by training more health workers, by increasing access to health facilities, by ensuring health facilities and personnel are sufficiently equipped, and by implementing monitoring and evaluation mechanisms); and
    c. Expanding access to services.
2. ***Reducing the burden of diseases*** that are killing mothers and children. This includes the provision of medicines, vaccines, and actions needed to prevent and treat the prevalent diseases and illnesses that are the main causes of maternal and child mortality.
3. ***Improving nutrition*** by increasing access to healthful and nutritious food and essential micronutrient supplements that improve and save lives. This includes initiatives that improve nutritional health by:
    a. Improving infant and child feeding practices;
    b. Promoting exclusive breast-feeding; and
    c. Providing ready-to-use therapeutic foods and key vitamins and minerals, including vitamin A supplements and iodized salt

The MIC projects were based in seven low and lower-middle-income countries within Asia and Africa: Bangladesh, Ethiopia, Ghana, Mali, Pakistan, Tanzania, and Zimbabwe (Figure 1).

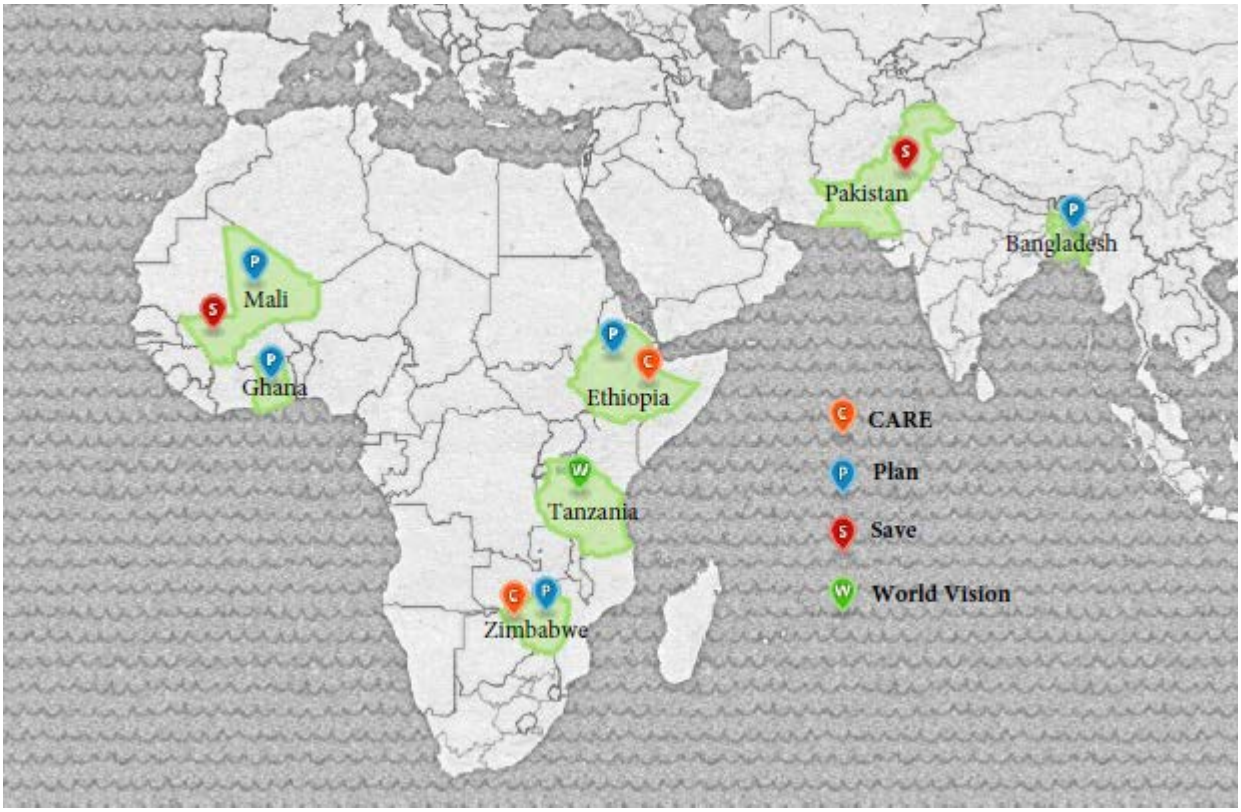


Figure 1. Map showing the ten MIC NGO projects conducted in seven different countries.

1.2 Goals of the MIC-KMI

The ultimate goal of the MIC-KMI was to increase knowledge around MNCH, develop evidence-based strategies for improving the lives of mothers and children, and identify best practices for strengthening programming in the seven project countries. The role of SickKids/UT in MIC-KMI has specifically included

1. Coordinating the overall MIC-KMI (in which gender equality is mainstreamed);
2. Developing an overarching KM and KT strategy that captures and describes the overarching approach to the acquisition and dissemination of the project's learnings;
3. Designing a Common Framework (CF) of selected indicators and conducting a combined analysis of data generated among MIC projects for those indicators;
4. Conducting two research projects related to key MNCH areas, in close consultation with the MIC;
5. Developing a communication and dissemination plan (KT Plan) that includes the identification of relevant opportunities and methods to share the research findings, as well as best practices with targeted audiences; and
6. Organizing a conference to bring together the MIC and key partners from the field as well as relevant Canadian institutions to share learnings, best practices, and research findings.

This report pertains to the achievement of item #3.

Chapter 2 – Introduction

This chapter details the areas of focus for MIC projects in the context of the combined analysis.

2.1 Worldwide focus on improving maternal and child health

Each year, an estimated 289,000 women die in childbirth, nearly 2.9 million newborns do not survive the first month of life, and 6.3 million children die before 5 years of age (WHO & UNICEF 2014; UNICEF et al. 2014). Most of these deaths occur in resource-limited settings found in low- and middle-income countries (LMICs), and most are preventable. In 2000, the 'Millennium Development Goals' (MDGs) were developed as part of a global commitment to reduce poverty and improve the health and well-being of those in such settings by 2015. Saving the lives of women and children in the world's poorest countries has since become an international priority among many governments, organizations, leaders and funders. Now, in 2015, a set of 'Sustainable Development Goals' (SDGs) are being proposed to build upon MDGs and converge with the post-2015 development agenda. With the passing of time, it has become apparent that no single intervention will avert the preventable deaths cited above. Rather, to advance maternal, newborn, and child health (MNCH) several integrated packages of interventions providing efficacious, low-cost community-based services, encompassing the continuum of care, and improving access to basic, quality healthcare services are required.

2.2 Priority areas

In Canada, improving MNCH in countries where maternal and child mortality is highest is a top development priority articulated through the Muskoka Initiative. The Muskoka Initiative outlines three priority paths for the advancement of MNCH: (1) strengthening health systems; (2) reducing the burden of diseases; and (3) improving nutrition. Within the MIC projects, it is possible to identify four themes where the NGOs focus their work: maternal health; maternal and child nutrition; child health; and health system strengthening. These themes and the combined results pertaining to these themes are used to structure the description and analysis of this report.

2.2.1 Maternal health

In the context of reproductive, maternal, newborn and child health, the 'continuum of care' model for reproductive, maternal, newborn, and child health integrates service delivery for mothers and children from pre-pregnancy to delivery, the immediate postnatal period, and childhood (PMNCH 2011). The continuum of care links access to care through outreach, outpatient, and clinical services, such that individuals might be reached at various levels of facility including the home, community, and health facility (Kerber et al 2007). Ultimately, the focus is on linking interventions to facilitate efficiency, increased uptake, and improved opportunity to promote related elements of healthcare, thus building a comprehensive and

responsive health system. Within the continuum of care's integrated service strategy, eight packages have been developed to outline interventions reducing maternal and newborn deaths in resource-limited settings (Kerber et al. 2007). To have an impact on MNCH, the continuum of care must result in effective care in health facilities, promotion of healthy behaviours at home, and early care seeking in the case of illness (PMNCH 2006).

With the continuum of care in mind, in the context of this report of the combined analysis of MIC project data, intervention packages on antenatal care, childbirth care (labour and delivery), and postnatal care are of particular interest given that the risk to mothers and newborns is greatest during birth and the first few days of life (Lawn et al 2005). This information has been captured within indicators that measure the aspects of antenatal care; immunization; delivery services provided by skilled birth attendants; and postnatal care.

2.2.2 Maternal and child nutrition

Malnutrition is characterized by insufficient, excessive, or imbalanced consumption of nutrients. Malnutrition affects susceptibility to disease at all ages and growth in infants, children, and adolescents. There are several possible causes of malnutrition and factors that can lead to its exacerbation (Black et al. 2013). The prevention of malnutrition is important because poor nutrition has both short and long term consequences for maternal and child health and well-being.

The first 1000 days of life, or the time from conception to a child's second birthday, is considered a critical period for maintaining a child's nutritional status (Black et al 2008). Other periods where good nutrition is important include adolescence and the peri-conception period (Black et al. 2013). If a pregnant woman is malnourished during either of these periods, as is commonly observed in LMICs, she is at greater risk for mortality and nutrition-associated morbidities. As well, she is more likely to give birth to a health-compromised infant. A malnourished child is at greater risk of disease and of physical and mental developmental delays. Thus, improving the nutrition of pregnant and lactating women and children remains a key priority (Black et al. 2013).

Both nutrition specific and nutrition sensitive interventions and programmes are known to affect maternal and child malnutrition (Ruel et al. 2013). Nutrition specific factors pertain to immediate determinants of nutrition and development, including adequate food and micronutrient intake; appropriate feeding, caregiving, and parental practices; and a low burden of infectious diseases. Examples of nutrition specific interventions are breastfeeding within an hour of birth and exclusive breastfeeding for the first six months of life (two common indicators among the majority of the MIC projects). Nutrition sensitive factors are associated with underlying determinants of nutrition and development, including food security; adequate caregiving resources at the maternal, household, and community levels; and a safe and hygienic environment. An example of a nutrition sensitive intervention is increasing one's knowledge around infant and young child feeding (IYCF) practices. The effects of nutrition sensitive and specific factors are not independent, as nutrition sensitive interventions can work through biologically plausible pathways and care practices. As such, nutrition sensitive programmes can often serve as a delivery platform for nutrition specific interventions,

potentially increasing their scale, coverage, and effectiveness to prevent and reduce malnutrition.

To have an impact on improving the nutrition of mothers and children in LMICs, there should be continued investment in nutrition specific interventions to prevent maternal and child undernutrition and micronutrient deficiencies. Several such interventions have been detailed in the 2013 *Lancet* Nutrition Series (Bhutta et al. 2013). The greatest effect would be achieved through community engagement and use of delivery strategies to reach those who are at the greatest risk, thus linking access to nutrition sensitive approaches, and would be further complemented by appropriate political and policy progress (Gillespie et al. 2013).

2.2.3 Child health

2.2.3.1 Immunization

In 2012, 6.6 million children under-five died, and nearly three-quarters of those deaths could have been prevented (UNICEF 2012). Two strategies with the potential to save children's lives from preventable diseases include vaccination and community case management of key illnesses such as diarrhea, malaria, and pneumonia.

Vaccination is one of the most highly cost-effective health interventions, and is ultimately cost-saving to governments (Andre et al. 2008). Routine immunization against vaccine-preventable childhood diseases such as diphtheria, pertussis, tetanus, measles, hepatitis B, and *Haemophilius influenzae* type b is widely recognized as one of the most cost-effective public health interventions. The infection of a child with the bacteria, virus, or parasite responsible for the aforementioned diseases listed above could be fatal or result in long-term disability, which is burdensome to the whole family (mother, father, and other children). Although not true for all diseases, when a disease is contracted through direct contact, the more children in a community who are vaccinated the less likely it is that any child including those who have not been immunized will get sick given the prevalence of fewer hosts for the infectious vectors. This is observed, for instance, in the context of measles, as immunization of 90-95% of infants can protect a community from measles. Collectively, this makes child vaccination of great importance.

2.2.3.2 Preventing childhood illness

Community case management (CCM) is a strategy in which case management of selected childhood illnesses is extended beyond health facilities, such that more children might have timely access to potentially life-saving treatments. This is of great advantage to marginalized children without access to health facilities. Although a CCM package can differ based on the setting, it most commonly includes strategies for preventing and treating diarrhea, pneumonia, and malaria. Within the CCM model community health workers (CHWs) are trained to diagnose and treat key childhood illnesses, as well as to identify children who should be referred to a health facility when necessary. To be able to work effectively, CHWs must be trained, supervised, and supported with supplies and equipment. Implementing an effective CCM strategy is further complemented by having appropriate and targeted health interventions, availabile of health care providers to offer support, and proper care policies in place.

2.2.4 Health system strengthening

In order to achieve any improvement in MNCH-related health outcomes, underlying health systems and services must be functional, effective, and well-resourced. A functioning health system includes not only conventional care facilities, but also collaboration with institutions, organizations, and resource providers to promote and deliver health services (Mills 2014). Fundamental weaknesses within the health care systems of LMICs include lack of skilled health personnel, lack of efficient referral mechanisms, and lack of financial protection for health care costs (WHO 2012; WHO & UNICEF 2013). To improve unacceptably poor health outcomes and lessen the inequalities in health status within LMIC health systems, key guiding principles are needed. The WHO (2007) proposes six 'building blocks' that make up desirable attributes and essential functions of health systems:

- service delivery (provision of effective, safe, quality personal and non-personal health interventions);
- health workforce (competent, responsive, and productive staff);
- information (production, analysis, dissemination, and use of reliable and timely information on health);
- medical products, vaccines and technologies (equitable access to safe, efficacious, and cost effective supplies);
- financing (adequate funds for health to ensure those who need services might receive them); and
- leadership and governance (strategic policy frameworks, combined with effective oversight, regulations, and accountability).

Ultimately, promoting adaption of such changes takes substantial time and effort, making the improvement of the global health system multifaceted and complex.

2.3 Contextual factors

Contextual factors, broadly defined as any factor that might be expected to affect the outcome or success of an intervention, can have an effect on the overall delivery of an intervention and the final outcome at the national, community, and individual level. They can act to enhance or inhibit interventional success depending on whether they are facilitators or barriers. Five relevant and broad contextual factor categories are presented throughout this report, including factors related to politics; environment; health systems; socioeconomics; and stakeholder influence and other programming (Victora et al 2005; Bryce et al. 2013). Political contextual factors include political stability; election cycles; government priorities; policies (e.g., policy relating to health, education, gender equality, agri-food and trade); and government financial systems. Environmental contextual factors include climate change; built environment (urban/rural design and land use); demographics (population density, urbanization); disasters and crisis (disease outbreaks); road conditions; and water, sanitation, and hygiene. Health systems-related contextual factors strongly relate to the structure and functioning of a country's health system, and can influence the accessibility, availability, and utilization of quality health services. These include availability (number of facilities, service hours, types of services, supply availability); accessibility (ease of access, road transportation, distance/time

to travel); utilization of services; public/private insurance; qualifications and skills of healthcare professionals; relationships between healthcare providers and patients; economic incentives for health service providers (paid/unpaid); and the overall quality of care. Socioeconomic contextual factors include those factors related to a household's assets; income; education; occupation; employment; land tenure; ethnicity; and human development index. They can have an effect on whether or not individuals are able to access or utilize services, and there are different schemas at the national, community, or individual level. Stakeholder influence and concurrent programming include initiatives that were similar to the project interventions being implemented in the same regions or areas.

Chapter 3 – Project Context

This chapter summarizes details about each of the 10 NGO projects, as well as mortality estimates for each NGO project country.

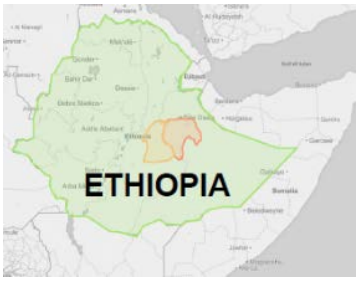
3.1 Project Synopses

3.1.1 CARE Ethiopia

Program: African Regional Nutrition Initiative (ARNI)

Regions/districts: East Hararghe and West Hararghe Zones

Timeline: December 2011 to April 2015



Setting/context:

- Northern area of region considered highly vulnerable to heavy rain fall, affecting food insecurity

Project focus:

Goal: To improve the nutritional status of girls and boys under two years of age and pregnant and lactating women living in selected areas of Ethiopia

- To improve under two child feeding practices by mothers and caregivers
- To improve equitable consumption of healthy and nutritious foods by men, women, boys and girls
- To increase the use of nutrition and health services by women, girls and boys
- To improve household hygiene and sanitation practices by men, women, boys and girls

Key interventions implemented:

- Community based maternal nutrition and IYCF education and counselling through mother to mother groups (M2M), Health Extension Workers (HEWs)
- Health facility based maternal nutrition and IYCF education and counselling
- Gender equity and women's empowerment through village savings and loans (VSLA) groups and community dialogues
- Community led hygiene and sanitation efforts were applied to promote improved hygiene practices and sanitation conditions

- Nutrition sensitive agriculture training and support through Agricultural Extension Workers

Outcome indicators measured:

- Percent of living children 0-5 months who were breastfed within 1 hour of birth
- Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
- Percent of children 6-23 months who are stunted (< -2 LAZ)
- Percent of children 6-23 months with adequate dietary diversity scores (4 or more food groups)
- Percent of mothers 15-49 years who make decision on purchases (food)

3.1.2 CARE Zimbabwe

Program: African Regional Nutrition Initiative (ARNI)

Regions/Districts: Gweru and Zaka districts

Timeline: December 2011 to April 2015

Setting/context:

- Climate change has had a negative impact on agriculture
- Limited rainfall has also affected crop production

Project focus: **Goal:** To improve the nutritional status of girls and boys under two years of age and pregnant and lactating women living in selected areas of Zimbabwe

- To improve under two child feeding practices by mothers and caregivers
- To improve equitable consumption of healthy and nutritious foods by men, women, boys and girls
- To increase the use of nutrition and health services by women, girls and boys
- To improve household hygiene and sanitation practices by men, women, boys and girls

Key interventions implemented:	• Community based maternal nutrition and IYCF education and counselling through M2M groups and Village Health Workers (VHWs) • Health facility based maternal nutrition and IYCF education and counselling • Gender equity and women's empowerment through VSLA groups and community dialogues • Community led hygiene and sanitation efforts were applied to promote improved hygiene practices and sanitation conditions • Nutrition sensitive agriculture training and support through Agricultural Extension Workers
Outcome indicators measured:	• Percent of children 6-23 months who are stunted (< -2 LAZ) • Percent of children 6-23 months with adequate dietary diversity scores (4 or more food groups) • Percent of mothers 15-49 years who make decision on purchases (food)

3.1.3 Plan Bangladesh

Program:	Women and Their Children's Health (WATCH)
Regions/districts:	Nilphamari, Dinajipur, Lalmonirhat, and Barguna districts
Timeline:	November 2011 to March 2015

Setting/context:	• Political instability and violent strikes in 2012 and 2013 due to the general election • Area vulnerable to natural disasters such as flooding and cyclone emergencies • Prone to water-borne disease outbreaks
Project focus:	**Two –pronged approach:** *'Demand Side'* • Increasing awareness on importance of accessing quality health care by men, women and children • Adopting behavioural change in MNCH care-seeking • Improving the community health management structures at the community and household level

'Supply Side'

- Improving the quality of health services by strengthening government health systems by renovating and equipping health facilities
- Training health care providers at various levels on MNCH skills
- Improving the outreach capacity of health facilities

Key interventions implemented:

- Community mobilization through a variety of channels, including change makers, support groups, and theatre for development
- Training community health workers and community mobilizers. on gender-sensitive behaviour change communications modules and tools on MNCH various topics: antenatal care, skilled delivery, post natal care, immunization for pregnant women and children
- Reactivation of health facilities to provide 24/7 services
- Community skilled birth attendants (CSBAs) were trained and provided appropriate care to mothers and their newborns during the prenatal, natal and postnatal period
- Health care providers and district level representatives are trained to and provide supportive supervision
- Gender equality and maternal, newborn and child health messaging disseminated through health campaigns at local and national levels
- Increasing women's effective representation and participation in community health committees

Outcome indicators measured:

- Percent of mothers 15-49 years who received antenatal care ≥ 4 times during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
- Percent of living children 0-5 months who were breastfed within 1 hour of birth
- Percent of living children 12-23 months who received >1 dose of measles vaccine
- Percent of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): oral rehydration solution (ORS) and/or sugar-salt solution (SSS)
- Percent of children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc

3.1.4 Plan Ethiopia

Program: Women and Their Children's Health (WATCH)

Regions/districts: Amhara, Oromia, and SNNP regions

Timeline: November 2011 to March 2015

Project focus: (See Plan Bangladesh description)

Setting/context:

- Government change over during project duration
- Malaria and meningitis outbreaks during project implementation

Key interventions implemented:

- Community mobilization initiatives to increase awareness of key MNCH and gender equality issues and promote best practices on MNCH
- Improving the knowledge and importance of MNCH for various community support groups
- Promoting gender responsive safe and clean delivery at health posts and skilled delivery at health centres through the Basic Emergency Obstetric and Newborn Care (BEmONC)
- Increasing access to and uptake of integrated community case management at community and facility levels
- Strengthening prevention of mother-to-child transmission (PMTCT) of HIV through antenatal care, delivery, and postnatal care
- Integrating IYCF through the integrated community case management
- Training on various MNCH topics for health professionals
- Increasing women's effective representation and participation in community health workers committees
- Providing MNCH material and equipment for health facilities

Outcome indicators measured:

- Percent of mothers 15-49 years who received antenatal care ≥ 4 times during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of mothers 15-49 years who received postnatal care (for

self or infant) within 3 days of birth with their youngest living child 0-23 months
- Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
- Percent of living children 12-23 months who received ≥3 doses of DPT/pentavalent vaccine

3.1.5 Plan Ghana

Program: Women and Their Children's Health (WATCH)

Regions/districts: Eastern (Akwapim North, Upper Manya, and Lower Manya Krobo districts) and Volta (South Tongu, Hohoe, and Kadjebi districts) Regions

Timeline: November 2011 to March 2015

Project focus: (See Plan Bangladesh description)

Setting/context:
- Relative political stability

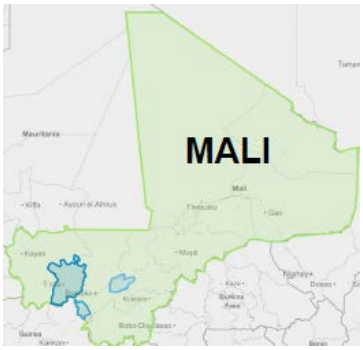
Key interventions implemented:
- Providing health facilities with adequate MNCH material, supplies and equipment
- Improving the knowledge and skills of health care providers on gender-responsive MNCH services, including integrated management of childhood illnesses, prevention of mother-to-child transmission of HIV, BEmONC and family planning
- Improving the knowledge of CHWs on quality outreach services delivery, such as PNC and immunization
- Supporting timely referrals for MNCH emergencies
- Increasing community members' awareness on MNCH and gender equality issues
- Promoting gender equality in MNCH through mother support groups, Daddies' Clubs, and Gender Equality champions
- Encouraging women and men to save for MNCH services and medical emergencies through VSLAs
- Increasing women's effective representation and participation in community health committees

Outcome indicators measured:
- Percent of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months

- Percent of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months

3.1.6 Plan Mali

Program: Women and Their Children's Health (WATCH)



Regions/districts: Barouéli, Kangaba, and Kita districts

Timeline: November 2011 to March 2015

Project focus: (See Plan Bangladesh description)

Setting/context:

- Political instability
- Geographical landscape limits access to facilities, as well as lack of roads and poor road conditions
- Affected by Ebola outbreak

Key interventions implemented:

- Strengthening gender responsive referral system of MNCH emergencies
- Supporting the national policy to recruit, train and deploy community health workers locally, who provide community case management (CCM) care at the village level
- Training of health care providers on various MNCH topics
- Promoting essential MNCH practices by engaging male and female community support groups, leaders, and community health volunteers
- Ensuring gender equality is integrated into MNCH care through training of health workers and community change agents
- Provided equipment, including improving immunization coverage through quality cold chain by providing solar–powered refrigerators
- Increasing women's effective representation and participation in community health committees

Outcome indicators measured:

- Percent of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
- Percent of living children 0-5 months who were breastfed within 1 hour of birth
- Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
- Percent of living children 12-23 months who received ≥3 doses of DPT/pentavalent vaccine

3.1.7 Plan Zimbabwe

Program: Women and Their Children's Health (WATCH)

Regions/districts: Mutare, Mutasa, and Chipinge districts

Timeline: November 2011 to March 2015

Project focus: (See Plan Bangladesh description)

Setting/context:

- National election in 2013
- Extreme weather conditions
- Poor road conditions

Key interventions implemented:

- Providing of MNCH materials and supplies to health facilities
- Constructing and rehabilitating maternity waiting homes alongside health centres
- Improving the knowledge and skills of health service providers in gender responsive management of childhood illnesses, adolescent sexual and reproductive health, and BEmONC
- Improving the knowledge of various community health workers
- Raising community awareness on MNCH and gender equality issues through Village health workers, care groups, and male engagement
- Encouraging women and men to save for MNCH services through VSLAs

- Increasing women's effective representation and participation in community health committees

Outcome indicators measured:

- Percent of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
- Percent of living children 0-5 months who were breastfed within 1 hour of birth based on a 24 hour recall period
- Percent of living children 12-23 months who received ≥3 doses of DPT/pentavalent vaccine

3.1.8 Save Mali

Program: Improving Community Health (ICH)

Regions/districts: Sikasso, Koutiala, Kadiolo, and Kignan regions

Timeline: January 2012 to November 2014

Setting/context:

- Politically instable, with coup in 2012
- Lack of funding to CHWs from the government
- Affected by Ebola crisis

Project focus:

- To increase the use of quality, high impact health, nutrition and family planning services for newborns, children under five, and women of reproductive age
- To improve acceptance and practice of key health, nutrition, and family planning behaviours by caretakers and family members
- To strengthen the social and policy environment to sustain and scale-up health, nutrition, and family planning services for newborns, children under five, and women of reproductive age

Key interventions implemented:

- CCM of malaria, pneumonia, and diarrhea
- Essential newborn care
- Antenatal care
- Postnatal care

- Family planning services

Outcome indicators measured:

- Percent of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
- Percent of living children 0-5 months who were breastfed within 1 hour of birth
- Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
- Percent of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS
- Percent of children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc
- Percent of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs

3.1.9 Save Pakistan

Program: Improving Community Health (ICH)

Regions/districts: Swabi district

Timeline: January 2012 to May 2015

Setting/context:

- Country is crisis prone with lack of economic stability
- Manmade disasters are common
- Militancy and military operations have temporarily displaced people and led to strikes and demonstrations
- Lack of resources and insufficient systems
- Security risks and threats made against lady health workers (LHW) in the project area

Project focus:

- To increase the use of quality, high impact health, nutrition, and family planning services for newborns, children under five, and women of reproductive age.
- To improve acceptance and practice key health, nutrition, and family planning behaviours by caretakers and family members.
- To strengthen the social and policy environment to sustain and scale-up health, nutrition, and family planning services for newborns, children under five, and women of reproductive age

Key interventions implemented:	• CCM of malaria, pneumonia, and diarrhea • Community management of malnutrition • Infant and young child feeding • Community-based management of acute malnutrition
Outcome indicators measured:	• Percent of living children 0-5 months who were breastfed within 1 hour of birth • Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period • Percent of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS • Percent of children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc • Percent of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs

3.1.10 World Vision Tanzania

Program:	Supporting Systems to Achieve Improved Nutrition, Maternal, Newborn and Child Health (SUSTAIN)
Regions/districts:	Iramba and Singida district
Timeline:	January 2012 to April 2015

Setting/context:	• Relatively stable government • Vulnerable to climate change • Region known to be a drought prone, with prolonged droughts leading to food insecurity
Project focus:	• To improve utilization of maternal, newborn and child health and nutrition services • To enhance household nutrition practices • To improve utilization of key disease prevention and treatment measures, with a focus on malaria, diarrhoea, pneumonia, and parent-to-child transmission of HIV/AIDS
Key interventions implemented:	• Strengthening the capacity of local health managers to plan, budget and manage the MNCH program • Improving the health information system and the use of information in planning and decision making

- Strengthening the clinical capacity of health care worker to manage pregnancy, labour, delivery and childhood illnesses
- Counselling and educating pregnant and parents on appropriate infant and young child feeding practices and home care for childhood illnesses
- Supported clinical outreach, immunization and Vitamin A supplementation campaigns in hard to reach communities
- Empowered communities to engage with local government on MNCH issues

Outcome indicators measured:

- Percent of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
- Percent of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
- Percent of living children 0-5 months who were breastfed within 1 hour of birth
- Percent of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
- Percent of living children 12-23 months who received ≥3 doses of DPT/pentavalent vaccine
- Percent of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
- Percent of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs
- Percent of children 6-23 months who are stunted (<-2 LAZ)
- Percent of children 6-23 months with adequate dietary diversity scores (4 or more food groups)
- Percent of women 15-49 years who make decision on purchases (food)

3.2 Mortality estimates by NGO project country

Maternal, neonatal, and under five child mortality have been summarized for each of the seven NGO project country for the years 2011 to 2014 to the extent that the data were available (Table 1).

Table 1. Mortality estimates by country from the United Nations Inter-agency Group for Child Mortality Estimation (UN-IGME) and Maternal Mortality Estimation Inter-agency Group (UN-MMEIG) over time.

Country	Maternal mortality[1] (per 100 000 live births)				Neonatal mortality[2] (deaths per 1000 live births)				Under 5 mortality (deaths per 1000 live births)			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Bangladesh	DNA[3]	DNA	170	DNA	46.1	43.4	41.1	DNA	46.1	43.4	41.1	DNA
Ethiopia	DNA	DNA	420	DNA	29.5	28.4	27.5	DNA	71.3	67.6	64.4	DNA
Ghana	DNA	DNA	380	DNA	30.1	29.7	29.3	DNA	81.7	80.2	78.4	DNA
Mali	DNA	DNA	550	DNA	41.9	41.1	40.2	DNA	132	127.5	122.7	DNA
Pakistan	DNA	DNA	170	DNA	43.4	42.7	42.0	DNA	89.9	87.8	85.5	DNA
Tanzania	DNA	DNA	410	DNA	57.2	53.9	51.8	DNA	57.2	53.9	51.8	DNA
Zimbabwe	DNA	DNA	470	DNA	39.1	38.7	39.2	DNA	94	88.5	88.5	DNA

[1]Total maternal deaths while pregnant or within 42 days of termination of pregnancy.
[2]Total neonatal (<1 month) mortality rate.
[3]DNA: Data not available for time period of interest.

Chapter 4 – Methodology

This chapter details the methodology used to develop and revise a 'Common Framework (CF) of Indicators,' and the process employed to generate baseline and endline coverage estimates.

4.1 Common Framework

The CF provides a consistent approach to analyzing and interpreting selected indicators across the NGO projects. The term indicator is used here to mean "a quantitative measurement that produces results that are comparable across various contexts and over time" (Bryce et al. 2011).

4.1.1 Approach taken in generating Common Framework

A minimum inclusion criteria approach was established to guide the review and identification of indicators to include in the CF from the 10 NGO projects. The criteria employed in this process are described below, and included the application of two 'base' criterions, as well as additional criteria.

4.1.1.1 Base criterion 1 for inclusion of indicators within the Common Framework
To be considered a part of the CF, an indicator had to be proposed by a minimum of two NGOs and three NGO projects.

4.1.1.2 Base criterion 2 for inclusion of NGO projects within the Common Framework
For an indicator to be reported for an individual NGO project, the indicator had to have been collected both at baseline and endline in a similar way with a large enough sample size to be meaningful, and the indicator had to appear in the NGO performance management framework (PMF)[1].

4.1.1.3 Additional criteria for inclusion of indicators in the Common Framework
Indicators which met the two base inclusion criteria were further examined by applying the following criteria (Bryce et al. 2011):

- valid (accurate and reliable);
- meaningful in that they are relevant to project activities;
- feasible for measurement; and
- consistent with global standards.

[1] That an indicator had to be listed in a NGO project's PMF was added as a criterion for inclusion of the project in the final Common Framework following thorough discussion and review with the MIC.

4.1.2 Final list of Common Framework indicators

Specific details pertaining to iterative process around the identification and refinement of the CF indicator list at the beginning of the project is described in full in the Common Framework Report document (completed April 23, 2013) and the Baseline Analysis Report document (completed February 14, 2014). These have been attached as Appendices 3 and 4, respectively. In short, following a thorough review of the NGOs' PMFs in 2012, a total of 27 indicators were prospectively identified for consideration in the Common Framework (CF). Certain indicators were then added, removed, or revised following review of the indicator data actually collected within the NGO baseline household surveys, such that the revised list included 26 indicators in 2013.

As extensively detailed in the following sections this report, upon further review of the data collected within the NGO endline household surveys compared to baseline, only 13 indicators remain in the final CF indicator list (Table 2). Eight former CF indicators were removed, and 5 will be reported on separately from the CF (see Section 4.1.4.3). All rationale behind the removal of indicators from the CF, or removal of indicators for specific NGO projects have been summarized in Sections 4.1.4.1 and 4.1.4.2, respectively.

Table 2. Revised final Common Framework indicator list, including 13 indicators.

WV Tanzania	Care Ethiopia	Care Zimbabwe	Save Mali	Save Pakistan	Plan Bangladesh	Plan Ethiopia	Plan Ghana	Plan Mali	Plan Zimbabwe	Indicators
Maternal health										
●					●	●	●	●	●	Percentage of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months
●						●	●			Percentage of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months
●					●	●	●	●	●	Percentage of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel
			●		●	●	●	●	●	Percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months
Maternal and child nutrition										
●	●		●	●	●			●	●	Percentage of living children 0-5 months who were breastfed within 1 hour of birth

WV Tanzania	Care Ethiopia	Care Zimbabwe	Save Mali	Save Pakistan	Plan Bangladesh	Plan Ethiopia	Plan Ghana	Plan Mali	Plan Zimbabwe	Indicators
●	●		●	●		●		●		Percentage of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period
●	●	●								Percentage of children 6-23 months who are stunted (<-2 LAZ)
●	●	●								Percentage of children 6-23 months with adequate dietary diversity scores (4 or more food groups)
●	●	●								Percentage of mothers 15-49 years who make decisions on purchases (food)
Child health										
●						●		●	●	Percentage of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine
●			●	●	●					Percentage of children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS
			●	●	●					Percentage of children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc
●			●	●						Percentage of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs

4.1.3 Definitions of Common Framework indicators

In order conduct a combined analysis of the CF indicators from the NGO collected data, a common definition for each indicator was generated. To the best extent possible, indicator definitions were kept consistent with the definition use by the WHO or UN. Age-related restrictions also had to be established to generate the common definitions, as the different NGO projects collected survey data for different maternal and child age ranges. The NGO baseline and endline survey age ranges are summarized in Table 3. A summary of the age ranges for each indicator as collected by each NGO project is provided in Appendix 1.

Table 3. Maternal and child age ranges for survey data collected within the 10 NGO projects.

Project	Baseline		Endline	
	Maternal age range (years)	**Child age range** (months)	**Maternal age range** (years)	**Child age range** (months)
CARE Ethiopia	15-49	0-23	15-49	0-23
CARE Zimbabwe	15-49	0-23	15-49	0-23
Plan Bangladesh	15-49	0-36	15-49	0-36
Plan Ethiopia	15-49	0-23	15-49	0-23
Plan Ghana	15-49	0-23	15-49	0-23
Plan Mali	15-49	0-23	15-49	0-23
Plan Zimbabwe	15-49	0-23	15-49	0-23
Save Mali	≥15	0-59	≥15	0-59
Save Pakistan	≥15	0-59	≥15	0-59
World Vision Tanzania	15-49	0-59	15-49	0-59

The final definitions and age-related restrictions used in generating each of the 13 CF indicators are summarized in Tables 4 (maternal health), 5 (maternal and child nutrition), and 6 (child health).

Table 4. Definition of Common Framework indicators related to maternal health.

Acronym	Common Framework Indicator	Explanation of key characteristics	Age inclusions
ANC	Percentage of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months[1,2]	• WHO recommends a minimum of 4 antenatal care visits during pregnancy.	Mother: 15 – 49 years Child: 0 – 5 months
ANCHIVtest	Percentage of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months[2]	• Only mothers who reported attending ANC were included in assessing whether an HIV test was conducted during pregnancy.	Mother: 15 – 49 years Child: 0 – 5 months
SBA	Percentage of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel[1,2]	• Skilled health personnel were considered accredited health professionals, such as a midwife, doctor, or nurse (WHO 2004).	Mother: 15 – 49 years Child: 0 – 5 months
PNC	Percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months[1]	• WHO-based indicator assesses PNC within 2 days of birth (WHO 2014), but to include the greatest amount of NGO-reported data, a period of 3 days has been used.	Mother: 15 – 49 years Child: 0 – 23 months

[1] Denotes indicator is part of the prioritized Muskoka indicators.
[2] Only assessed among living children <6 months of age are considered (1) so that there is commonality across NGO projects; and (2) given the chance of recall bias.

Table 5. Definition of Common Framework indicators related to maternal and child nutrition.

Acronym	Common Framework Indicator	Explanation of key characteristics	Age inclusions
BF1H	Percentage of living children 0-5 months who were breastfed within 1 hour of birth[1,2]	• Those who initiated breastfeeding in <1 hour.	Mother: 15 – 49 years Child: 0 – 5 months
EBF	Percentage of living children 0-5 months who were exclusively breastfed based on a 24 hour recall period[1]	• Children who were reported as (1) still breastfeeding and (2) not having consumed any foods other than breast milk in the past 24 hours.	Mother: 15 – 49 years Child: 0 – 5 months
Stunted	Percentage of children 6-23 months who are stunted (<-2 LAZ)	• Length-for-age z-scores determined using WHO Anthro from length and age measures.	Mother: 15 – 49 years Child: 6 – 23 months
DDS	Percentage of children 6-23 months with adequate dietary diversity scores (4 or more food groups)	• Children reported as having consumed 4 or more food groups from a 24 hour food recall. • Food groups included: (1) grains, roots, and tubers; (2) legumes and nuts; (3) dairy; (4) flesh food (meat, fish, poultry, organs); (5) eggs; (6) vitamin A rich fruits/vegetables; and (7) other fruits and vegetables.	Mother: 15 – 49 years Child: 6 – 23 months
Food	Percentage of mothers 15-49 years who make decisions on purchases (food)	• Mothers who reported deciding what foods to buy their family independently or with their husbands.	Mother: 15 – 49 years Child: Not applicable

[1] Denotes indicator is part of the prioritized Muskoka indicators.
[2] Only assessed among living children <6 months of age are considered (1) so that there is commonality across NGO projects; and (2) given the chance of recall bias.

Table 6. Definition of Common Framework indicators related to child health.

Acronym	Common Framework Indicator	Definition of key terms	Age inclusions
DPT3	Percentage of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine[1]	• WHO recommends 3 doses of DPT by a child's first birthday. • Either DPT (diphtheria, tetanus toxoid and pertussis) or pentavalent (DTP, hepatitis B, and *Haemophilius influenzae* type b) vaccination among one year olds was considered.	Mother: 15 – 49 years Child: 12 – 23 months
ORT	Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS	• Mother had to report child as having had diarrhea in the past 2 weeks and given the child ORS and/or SSS.	Mother: 15 – 49 years Child: 0 – 59 months
ORSZn	Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received ORS and zinc[1]	• Mother had to report child as having had diarrhea in the past 2 weeks and given the child ORS and zinc.	Mother: 15 – 49 years Child: 0 – 59 months
MalTrt	Percentage of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs	• Mother had to report child as having had malaria or malaria-like symptoms (fever) in the past 2 weeks and giving anti-malaria medication.	Mother: 15 – 49 years Child: 0 – 59 months

[1] Denotes indicator is part of the prioritized Muskoka indicators.

4.1.4 Revisions to the final Common Framework

Several revisions were made to the CF devised at baseline to generate a final CF that was reflective of the endline data. Possible revisions included exclusion of indicators (see Section 4.1.4.1), exclusion of projects for which indicators were previously reported (see Section 4.1.4.2), and description of how previously included CF indicators would be alternatively presented outside of the CF analysis (see Section 4.1.4.3).

4.1.4.1 Exclusion of indicators from the Common Framework

Following a comprehensive review of the NGO endline household surveys, five indicators were excluded from the baseline version of the CF as they no longer met the criteria for inclusion. The rationale for the exclusion of each indicator is described below.

- Percentage of mothers 15-49 years who received ≥2 doses of tetanus toxoid during pregnancy with their youngest living child 0-5 months
  After the exclusion of one project because it did not appear in the project PMF, although it had been reported on at baseline, the indicator no long met the criteria for inclusion in the CF as it was only reported on by one NGO.

- Percent of women 15-49 years who are using modern contraceptive method
  As per the CF criteria, if at endline the criteria for inclusion of an indicator was not met (i.e., indicator is reported by at least two NGOs and at least three projects), then the indicator was to be excluded from the CF. At endline, modern contraceptive method was only reported on by two NGOs, thus the criteria for retention in the CF were not met.
- Percentage of living children 12-23 months who have received ≥1 dose of measles vaccine
  After the exclusion of one project because it did not appear in the project PMF, although it had been reported on at baseline, the indicator no long met the criteria for inclusion in the CF as it was only reported on by one NGO.
- Percentage of mothers 15-49 years who received preventive malaria treatment during pregnancy with their youngest living child 0-5 months
  After the exclusion of one project because it did not appear in the project PMF, although it had been reported on at baseline, the indicator no long met the criteria for inclusion in the CF as it was only reported on by two NGOs for two projects.
- Percentage of mothers 15-49 years who know all 3 modes of mother-to-child transmission of HIV
  The manner in which the question used to assess knowledge of modes of mother-to-child transmission of HIV differed among NGOs. After lengthy discussion among the MIC members, this indicator was removed from the CF.
- Percentage of children 0-59 months with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider
  Three NGOs did not assess this indicator at endline and too few pneumonia-like cases were observed for one NGO at endline, thus the criteria for inclusion of the indicator in the CF were not met.
- Percentage of children 0-59 months with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider
  Two NGOs did not assess this indicator at endline and too few pneumonia-like cases were observed for one NGO at endline, thus the criteria for inclusion of the indicator in the CF were not met.

4.1.4.2 Removal of projects for specific indicators within the Common Framework

Specific reasons why data for NGO projects no longer appear in the CF have been summarized for each indicator in Table 7. The following reasons account for the removal of NGO projects from the CF:

1) If a project no longer collected information specific to a CF indicator that had been collected at baseline, the project was removed in relation to the respective indicator in the CF.
2) If a project collected information on an indicator within the baseline and endline surveys, but the indicator was not listed in the project's PMF, it was removed from the CF.
3) If it was determined that implemented activities were not specific to a previously reported on CF indicator, the project was removed for the respective indicator in the CF.

Table 7. Summary of specific changes to the Common Framework following review of the NGO endline household surveys.

Indicator	No. of projects at baseline	No. of projects at endline	Reason for exclusion of project from Common Framework
Maternal health			
Percentage of mothers 15-49 years who received antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months	8	6	• CARE Ethiopia: Because the project activities implemented by CARE were not specific to improving ANC attendance, this indicator has not been reported for this project. • CARE Zimbabwe: Because the project activities implemented by CARE were not specific to improving ANC attendance, this indicator has not been reported for this project.
Percentage of mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months	4	3	• Plan Zimbabwe: Indicator does not appear in the PMF.
Percentage of mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel	8	6	• CARE Ethiopia: Because the project activities implemented by CARE were not specific to delivery using a SBA, this indicator has not been reported for this project. • CARE Zimbabwe: Because the project activities implemented by CARE were not specific to delivery using a SBA, this indicator has not been reported for this project.
Percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months	6	6	• No projects removed.
Maternal and child nutrition			
Percentage of living children 0-5 months who were breastfed within 1 hour of birth	10	7	• CARE Zimbabwe: Insufficient sample size to assess indicator at endline. • Plan Ethiopia: Indicator does not appear in PMF. • Plan Ghana: Indicator does not appear in PMF.
Percentage of living children 0-5 months who are exclusively breastfed based on a 24 hour recall period	7	6	• CARE Zimbabwe: Insufficient sample size to assess indicator at endline.
Percentage of children 6-23 months who are stunted (<-2 LAZ)	4	3	• Save Mali: Indicator does not appear in PMF.

Indicator	No. of projects at baseline	No. of projects at endline	Reason for exclusion of project from Common Framework
Percentage of children 6-23 months with adequate dietary diversity scores (4 or more food groups	3	3	• No projects removed.
Percentage of mothers 15-49 years who make decisions on purchases (food)	3	3	• No projects removed.
Child health			
Percentage of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine	7	4	• Save Pakistan: Indicator assessed at baseline but not at endline. • Plan Bangladesh: Indicator does not appear in PMF. • Plan Ghana: Indicator does not appear in PMF.
Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution	9	4	• CARE Ethiopia: Indicator does not appear in PMF. • CARE Zimbabwe: Indicator assessed at baseline but not at endline. • Plan Ghana: Indicator does not appear in PMF. • Plan Mali: Indicator does not appear in PMF. • Plan Zimbabwe: Indicator does not appear in PMF.
Percentage of children 0-59 months with diarrhoea in the previous 2 weeks who received ORS and zinc	7	3	• CARE Ethiopia: Indicator assessed at baseline but not at endline. • CARE Zimbabwe: Indicator assessed at baseline but not at endline. • Plan Mali: Indicator does not appear in PMF. • World Vision Tanzania: Indicator does not appear in the PMF.
Percentage of children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs	4	3	• Plan Zimbabwe: Indicator assessed at baseline but not at endline.

4.1.4.3 Alternative presentation of previously reported Common Framework indicators

After comprehensive discussion and review with the MIC, it was decided that indicators related to mortality and training/participation would be presented separately from the CF. The reason for this decision related to how the data was collected. For the mortality-related indicators (maternal, newborn, and child mortality rate), data was not collected to assess these indicators within the projects. Alternatively, this data has been summarized from estimates generated by the United Nations and Maternal Mortality Estimation Inter-agency Group (UN-MMEIG) and Inter-agency Group for Child Mortality Estimation (UN-IGME). This information has been

presented with the Project Context in Section 3.2. For the training/participation related indicators, the tools and methods used to collect this data varied greatly between the NGOs, thus it is presented in the Results in Section 5.2, using a table meant to appropriately capture all factors associated with the NGOs data collection process. All numbers provided in this table are as reported by the NGOs for their respective projects.

4.2 Survey tools and sample techniques

4.2.1 NGO project data used to assess indicator coverage estimates

All survey-related tools and sampling techniques were determined by each NGO independently, and all household data was collected by each NGO. Thus the NGOs did not consult each other and SickKids was not involved in the development or choice of tools and techniques.

To assess indicator coverage, the NGOs employed cross-sectional household surveys for each of their projects at two time points: baseline and endline. The time (months) between the baseline and endline surveys differed among each of the 10 projects, and the seasons during which the baseline and endline surveys were conducted also differed within projects. Characteristics of the baseline and endline household survey samples are summarized by NGO in Tables 8 (CARE), 9 (Plan), 10 (Save the Children), and 11 (World Vision).

Table 8. Characteristics of baseline and endline household survey samples for projects conducted by CARE.

Project	Fieldwork dates	Sampling methodology	Household eligibility criteria	No. of recruited households	No. of women interviewed	No. of index children
CARE Ethiopia						
Baseline	Apr 1-6, 2012	Two stage sampling: randomly selected 16 Kebeles and then randomly selecting 4 villages from each Kebele; 20 households were randomly selected from each village from a list.	Had at least one woman with at least one child 0-23m.	954	954	954
Endline	Jan 19 - Feb 5, 2015	Multi-stage sampling: randomly selected 26 geographically accessible kebeles using lottery method; proportion of individuals sampled from each kebele determined using probability sampling technique; households were recruited using a simple random sampling technique.	Same as baseline.	1077	1077	1077
CARE Zimbabwe						
Baseline	Mar 17-23, 2012	Households were randomly selected using the 'bottle or pen' method. 40 households per ward were interviewed.	Had at least one woman with at least one child 0-23m.	495	468	468
Endline	Jan 1 - Feb 12, 2015	Sampling from both districts. Single stage sampling frame was used from selected wards. Households were randomly selected using 'bottle or pen' method, with 8 household per starting point.	Same as baseline.	1231	1231	1231

Table 9. Characteristics of baseline and endline household survey samples for projects conducted by Plan.

Project	Fieldwork dates	Sampling methodology	Household eligibility criteria	No. of recruited households	No. of women interviewed	No. of index children
Plan Bangladesh						
Baseline	Jun 19 - Jul 10, 2012	Two stage sampling: random sampling of villages, then interviews from random starting point.	Had a currently married woman with a child under 3 years and her husband was available for interview.	1200	1200	630
Endline	Dec 17-27, 2014	Same as baseline.	Had a woman with a child 0-35m.	2400	2400	2400
Plan Ethiopia						
Baseline	Jun 1-16, 2012	Two stage sampling: 3 kebeles were selected from each woreda using PPS and the number of households from each kebele was determined using the probability proportional to size (PPS) technique.	Had at least one child aged 0-23m.	1144	1144	1144
Endline	Mar 1-17, 2015	Same as baseline.	Had a woman with a child 0-23m.	1153	1153	1153
Plan Ghana						
Baseline	Apr-May 2012	Two stage sampling: communities were selected from a list at random, and households were then selected by starting at a random location in the community and then moving systematically from that point until the quota was reached.	Had at least one woman 15-49y with at least one child 0-23m.	659	659	659
Endline	Jan 19 - Feb 4, 2015	Same as baseline.	Same as baseline.	662	662	662

Project	Fieldwork dates	Sampling methodology	Household eligibility criteria	No. of recruited households	No. of women interviewed	No. of index children
Plan Mali						
Baseline	Spring 2013	Three stage sampling, the first two being geographical, proportional to the population size. Third stage sampling of random households.	Had at least one parent present and one child 0-23m.	840	840	840
Endline	Dec 25, 2014 - Jan 9, 2015	Same as baseline.	Same as baseline.	841	841	841
Plan Zimbabwe						
Baseline	May 10-29, 2012	Three stage sampling using the Ward and village as the first two sampling units, and the household as the third. The number of households was proportionate to the size of the village. Households were randomly selected using a random walk method from the center of the village.	Has at least one woman 15-49y with at least one child 0-23m.	796	796	796
Endline	Jan 21 - Feb 8, 2015	Same as baseline.	Same as baseline.	817	817	817

Table 10. Characteristics of baseline and endline household survey samples for projects conducted by Save the Children.

Project	Fieldwork dates	Sampling methodology	Household eligibility criteria	No. of recruited households	No. of women interviewed	No. of index children
Save Mali						
Baseline	May 2-11, 2012	Two stage sampling: 30 villages were selected using Probability Proportional to Size technique, and then every third household starting from a central location and moving in one randomly selected direction, until 15 households were reached.	Had at least one child 0-59m.	450	449	449
Endline	Sep 21-30, 2014	Same as baseline.	Same as baseline.	450	450	450
Save Pakistan[1]						
Baseline	Jun 2012	Two stage sampling: 61 villages were selected using PPS technique, and then 20 households were randomly sampled from the LHW household lists.	Had at least one woman with at least one child 0-59m.	750	1220	1703
Endline	Mar 25-31, 2015	Multi-stage sampling: 61 villages were selected using Probability Proportional to Size (PPS) technique from 4 tehsils; LHWs were then randomly selected; and then every third household was randomly sampled from the LHW's health house village.	Same as baseline.	1269	1269	1756

[1]Within Save Pakistan data, it was possible to collect data from two reference children within the same household.

Table 11. Characteristics of baseline and endline household survey samples for project conducted by World Vision.

Project	Fieldwork dates	Sampling methodology	Household eligibility criteria	No. of recruited households	No. of women interviewed	No. of index children
World Vision Tanzania						
Baseline	Jun 2012	1/3 of villages were randomly selected in each ward from the 14 selected divisions. A random household from a randomly selected enumerated section of the village was the starting point, from which households were selected based on their proximity to the first household.	Had at least one child in the target age groups: 0-6m, 12-23m, or 6-59m.	1,260, plus 206 for anthropometry only	1260	0-6m: 420 12-23m: 420 6-59m: 420 + 206 additionally recruited for anthropometry only
Endline	Nov 20 - Dec 20, 2014	Two stage sampling: 60 villages were selected using Probability Proportional to Size technique, and then households using a random walk method, until 26 households (13 for age group 0-5 m and 13 for age group 6-59 m) were interviewed.	Had at least one child in target age groups: 0-5m or 6-59m.	1660	1660	0-5m: 836 6-59m: 824

4.2.2 Publically available data used to generate comparable indicator coverage estimates at baseline

Publically available datasets that included indicator data representative at the national or district level for the NGO countries were explored. Specific details pertaining to this process are further described in Section 4.4.1. To generate the estimates provided with the indicator estimates from the NGO surveys found in the results, the following surveys were used for each NGO project:

- CARE Ethiopia: Ethiopia 2011 DHS Report (estimate for Oromia region, when possible)
- CARE Zimbabwe: Zimbabwe 2010-2011 DHS Report (average of estimates for Midland and Masvingo regions, when possible)
- Plan Bangladesh: Bangladesh 2011 DHS Report (average of estimates for Barisal and Rangpur regions, when possible)
- Plan Ethiopia (Ethiopia 2011 DHS Report (average of estimates for Amhara, Oromia and SNNP regions, when possible)
- Plan Ghana: Ghana 2011 MICS Report (average of estimates for Volta and Eastern regions, when possible)
- Plan Mali: Mali 2012-2013 DHS Report (average of estimates for Kayes, Koulikoro and Ségou regions, when possible)
- Plan Zimbabwe: Zimbabwe 2010-2011 DHS Report (estimate for Manicaland region, when possible)
- Save Mali: Mali 2012-2013 DHS Report (estimate for Sikasso region, when possible)
- Save Pakistan: Pakistan 2012-2013 DHS Report (used estimate for Khyber Pakhtunkhwa region, when possible)
- World Vision Tanzania 2010 DHS Report (used estimate for Singida region, when possible)

4.3 Data management, cleaning, and harmonization

Prior to the analysis of any data, each NGO's baseline and endline surveys were reviewed and compared for consistency. This was an important step, as within any given MIC project the manner in which data was collected and treated at endline had to mirror that at baseline (see Section 4.3.1).

In order to facilitate the combined analysis of the indicators that appear within the CF, all datasets had to be consistently treated to create a common pool of data. Datasets were first checked to ensure that duplicate entry of respondent data had not occurred. The eligibility of respondents for inclusion in the combined analysis was then assessed (see Section 4.3.2).

For the generation of estimates for the CF indicators, the distribution of responses was checked to observe data flow and to identify any missing data. When there were questions about the coding of the data, queries were sent to the appropriate member of the MIC Technical Working Group (TWG) and the responses were incorporated into the analyses. Survey respondents' responses to questions pertaining to the generation of estimates for the CF indicators were then assessed, and a common rule set was applied (see Section 4.3.3).

Indicator coverage estimates were summarized as proportions with 95% confidence intervals (CIs).

All individual-level data provided by the NGOs was transferred into a Stata file format using Stat/Transfer 11 (Circle Systems, Seattle, Washington). Checks were done to ensure that all variables and records were maintained. All data were analyzed using StataSE 12.0 (Stata Corporation, College Station, Texas), and *P* values of <0.05 were considered to be statistically significant. The WHO growth reference standards were used to classify participants' growth by applying the publicly available WHO igrowup package for Stata to participant anthropometric data to determine z-scores for stunting using the WHO Child Growth Standards. All graphs were generated with the use of R 3.1.1 (R Foundation for Statistical Computing, Vienna, Austria).

4.3.1 Rules for baseline and endline survey review

Within an individual NGO project, the baseline and endline survey questions used to generate indicator estimates had to be comparable. If the question/response pairing at baseline differed from the question/response pairing at endline, but the difference was not significant to the point that two were non-comparable, then the data was included. If the data was no longer comparable at baseline and endline, then the data was no longer eligible. The analytic approach used at baseline to generate proportions was consistently applied at endline.

4.3.2 Rules for inclusion of respondent data within the analysis

To be included in the analysis, participants had to meet the common age and participation requirements. These were established by assessing the commonalities within collected data between the NGO projects. Age-specific inclusions and exclusions have been summarized in Table 12.

The following are rules that had to be satisfied for inclusion in the combined analysis:

1. Respondents in each NGO survey had to meet the eligibility criteria for survey participation for the respective survey.
    - Any respondents who were inappropriately recruited to participate in a survey based on an individual NGO's stated criteria for survey eligibility were not included in the common analysis.
        - Example: To be eligible for participation in NGO A's survey, a woman had to have a living child 0-23 months of age (reference child). If the woman's child was entered as being 35 months of age in NGO A's dataset, all of her information was excluded as the woman was not eligible according to NGO A's eligibility criteria.

2. Mothers and children had to have an age within a dataset.
    - Any mothers or children who did not have a listed age (i.e., age was missing) were not included in the analysis given that age criteria were a part of the CF indicators.

3. Women respondents had to be the mother of the reference child.
    - Because several questions were directly related to a woman's care during the pre- and post-natal period, only mothers of the reference child were considered in the combined analysis when discernable. This is reflected in the CF indicators as stated.

4. Reference children had to be living.
    - If the reference child was reported as no longer living, he or she was not included in the analysis.

5. Respondents had to meet the CF age eligibility criteria for inclusion in the CF combined analysis.
    - Any surveyed mothers or children who did not meet the common age requirements for inclusion based from the Common Framework indicator definitions were not included in the combined analysis.
        - Example: A woman was eligible to participate in NGO B's survey if she was 15 years age or more. For the combined analysis, women had to be 15-49 years of age. As such, any women greater than 49 years of age were excluded as she did not meet the common analysis eligibility criteria.

Table 12. Exclusions at baseline and endline due to age-related criteria for combined analysis.

NGO	Survey period	Exclusions due to maternal age-related criteria	Exclusions due to child age-related criteria	Final no. children 0-59m included	Final no. children 0-5m included	Final no. children 6-23m included	Final no. children 12-23m included
CARE Ethiopia	Baseline	3	1	950	172	778	549
	Endline	15	28	1034	267	818	526
CARE Zimbabwe	Baseline	0	0	468	91	377	238
	Endline	21[1]	18	1192	15	1178	739
Plan Bangladesh	Baseline	0	25[2]	605	77	348	225
	Endline	10	1	2389	506	1303	830
Plan Ethiopia	Baseline	0	0	1144	234	910	567
	Endline	63	0	1090	272	818	493
Plan Ghana	Baseline	2	22	635	258	377	216
	Endline	29	0	633	231	402	219
Plan Mali	Baseline	N/D[3]	0	840	224	616	359
	Endline	9	0	832	269	563	293
Plan Zimbabwe	Baseline	43	3	750	N/D	N/D	N/D
	Endline	0	0	817	204	613	407
Save Mali	Baseline	0	6[2]	444	121	239	156
	Endline	1	4[2]	445	101	239	133
Save Pakistan	Baseline	1	0	749	N/D	N/D	N/D
	Endline	3	0	1756	N/D	N/D	N/D
World Vision Tanzania	Baseline	N/D	N/D	1257	N/D	N/D	420
	Endline	1	0	1659	836	361	239

[1]This number also includes those who were not the reference child's mother.
[2]This number is inclusive of those reference children who are no longer living (no age).
[3]N/D: Non-discernable. Given the manner in which the data was collected, this could not be assessed as a continuous variable, thus age-related exclusions could not be applied and/or number of children for certain age categories could not be listed in this table.

4.3.3 Rules for Common Framework indicator generation

To be consistent between NGO projects, the following rules were applied in generating the coverage estimates for each indicator.

1. Because all NGO surveys did not have the option for a 'do not know' response, all 'do not know' responses were treated as missing data and data was not imputed (the process by which missing data are replaced with a substituted values).

2. Where questions cascaded from a general to a more detailed question, but a respondent's response conflicted, the response from the more detailed question was selected.

3. Missing responses to questions were coded as missing in the generation of all proportions, and data was not imputed from other questions.

4.4 Data analysis

4.4.1 Generation of nationally or regionally comparable baseline indicator estimates

To assess whether the baseline data collected in the 10 NGO projects' household surveys was reflective of similar data collected for that area, nationally or regionally comparable baseline indicators estimates were generated for each NGO project by examining all DHS and Multiple Indicator Cluster Surveys (MICS) assessments completed between 2008 and 2013.

In selecting the representative findings presented in Chapter 5 (Results), the following approach was employed:

1. The national or regional survey indicator had to be the same or very similar to the CF definition for the indicator. Any differences have been noted.

2. Preference was given to DHS or MICS surveys collected at the closest date to the time period of interest for the respective NGO baseline survey and that included data disaggregated by region.
    a. When an NGO project was conducted in multiple regions, an average of the indicator coverage in the respective project implementation regions was generated. No weighting was applied to reflect the representation of project implementation in each region.

3. When it was not possible to obtain regional indicator coverage estimates, the national estimate was reported.

4. When national data was not available, or the CF indicator definition differed too greatly, a value of 'DNA' was applied, indicating that the data was not available for the time period of interest.

4.4.2 Comparison of baseline and endline indicator findings

To assess whether there was a significant change between the coverage of indicators at baseline and endline within an NGO project, a Chi-square test was conducted. Given the limited demographic data collected within the NGO's cross-sectional surveys at baseline and endline, it was not possible to assess whether the same participants were sampled at both time points. However, it is expected that any correlation between the two samples would be negligible given the wide catchment area and relatively small sample size.

4.4.3 Generation of weighted and unweighted overall indicator coverage estimates

The overall indicator coverage estimates reflect a combined estimate from all NGO projects for which indicator data was collected. These were calculated in two ways: (1) weighted estimates (a proportion generated from all NGO project indicator data); and (2) unweighted estimates (average of project indicator proportions). A statistical evaluation of the differences between baseline and endline estimates for weighted and unweighted data was not conducted because the manner in which data was collected across NGO projects differed, and studies were not powered to conduct such an analysis.

4.4.3.1 Weighted overall indicator coverage estimates

To generate a weighted overall indicator coverage estimate, a proportion of the sum of all of the numerators to the sum of all of the denominators was determined for each project that collected data on the indicator of interest. This formula is shown below. Weighted indicator coverage estimates have been presented as proportions with 95% CIs.

$$Weighted\ coverage\ estimate = \frac{\Sigma\ (\text{NGO project numerators for indicator of interest})}{\Sigma\ (\text{NGO project denominators for indicator of interest})}\ \text{x}\ 100\%$$

The value of calculating weighted indicator coverage estimates is that the NGO projects with the largest number of surveyed participants contributed more information to the coverage estimate.

4.4.3.2 Unweighted overall indicator estimates

To generate an unweighted overall indicator coverage estimate, the mean coverage was determined from the coverages of the projects that collected data on the indicator of interest. This formula is shown below. Unweighted indicator coverage estimates have been presented as proportions with 95% CIs.

$$Unweighted\ coverage\ estimate = \frac{\Sigma\ (\text{NGO project coverage estimates for indicator of interest})}{(\text{number of NGO projects for indicator of interest})}$$

The unweighted indicator coverage estimates allows for the presentation of the average coverage observed across the NGO projects that collected the associated data.

4.5 Change Pathways

To graphically depict the anticipated path of change from activities to outcomes within the NGO projects, a framework tool was generated and applied for prioritized CF indicators. These tools, termed 'change pathways,' were informed by the NGO-generated PMFs, logic models, and other documents. They provide an overview of the activities implemented within the NGO projects and outcomes intended to be affected within the NGO projects at several levels. Information describing the methodology employed to produce the change pathways, general framework, and the generated change pathways for prioritized indicators can be found in Appendix 2.

Chapter 5 – Results

All numbers reported within this chapter have been generated for the purpose of conducting a combined analysis of the CF indicators. As such, the estimates presented here may differ from that presented for individual NGO projects given the previously described steps taken in generating (1) a common definition for each CF indicator; and (2) datasets comprised of comparable survey respondents.

This chapter presents the baseline and endline CF indicator coverage estimates for each of the NGO projects, as well as the change observed from baseline to endline and disaggregation by age and sex (see Section 5.1). Each indicator is included in a subsection. Additionally, training of health facility personnel and CHWs is summarized for each NGO project (see Section 5.2).

In aggregate, combining all CF indicators (n = 13) and all NGO projects, based on the unweighted indicator coverage estimates at baseline and endline, an overall increase in coverage was observed (Figure 2; separation by maternal and child health-related indicators in Figures 3 and 4, respectively).

It is important to note that the observed increase in the ratio of change in coverage varied across the indicators (Figure 5). Greater change in coverage was observed among those indicators with lower coverage at baseline, while those indicators with a greater starting value were less likely to observe a large increase at endline.

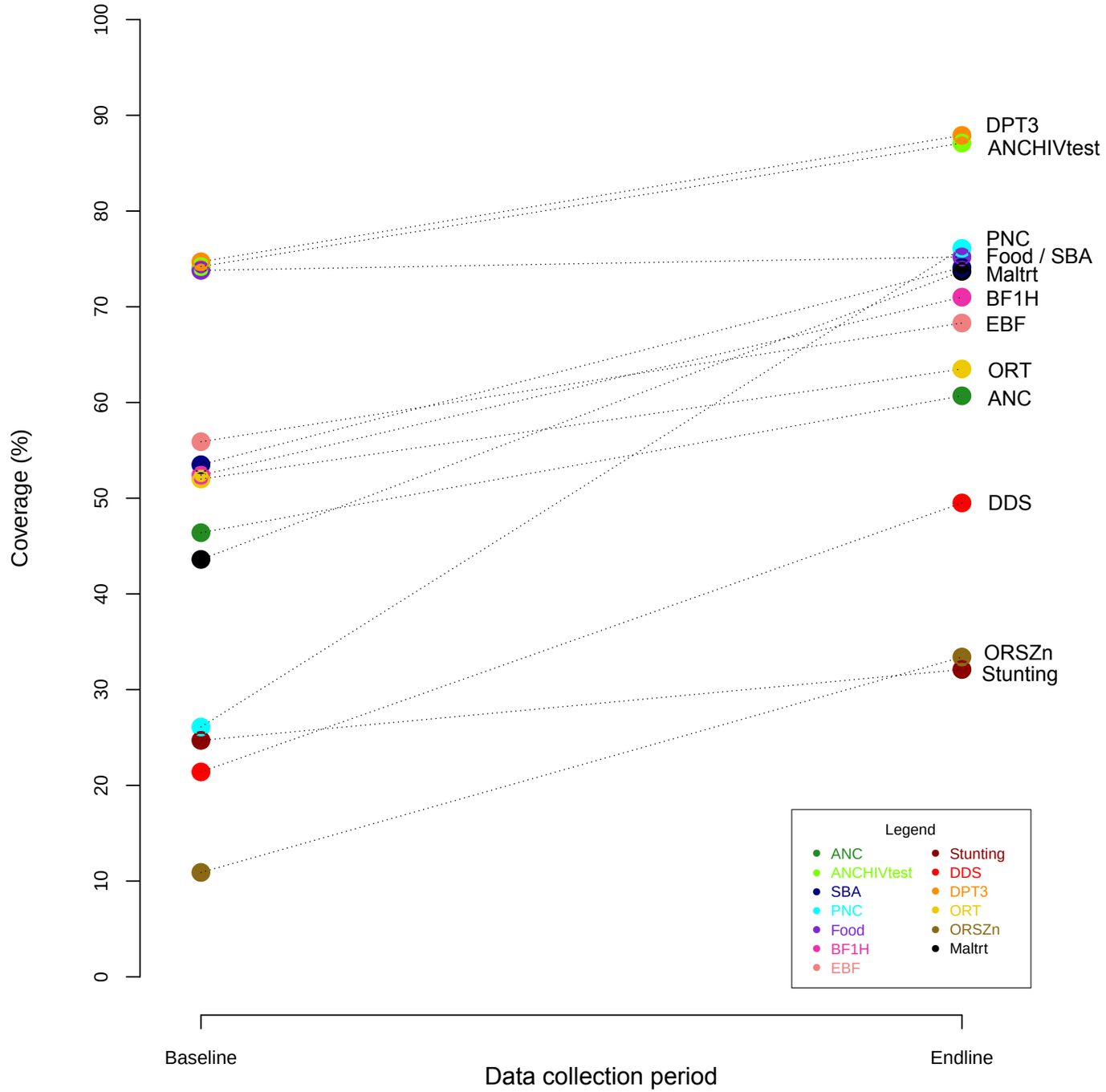


Figure 2. Unweighted overall coverage estimates for all Common Framework indicators (n = 13) from baseline to endline. Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

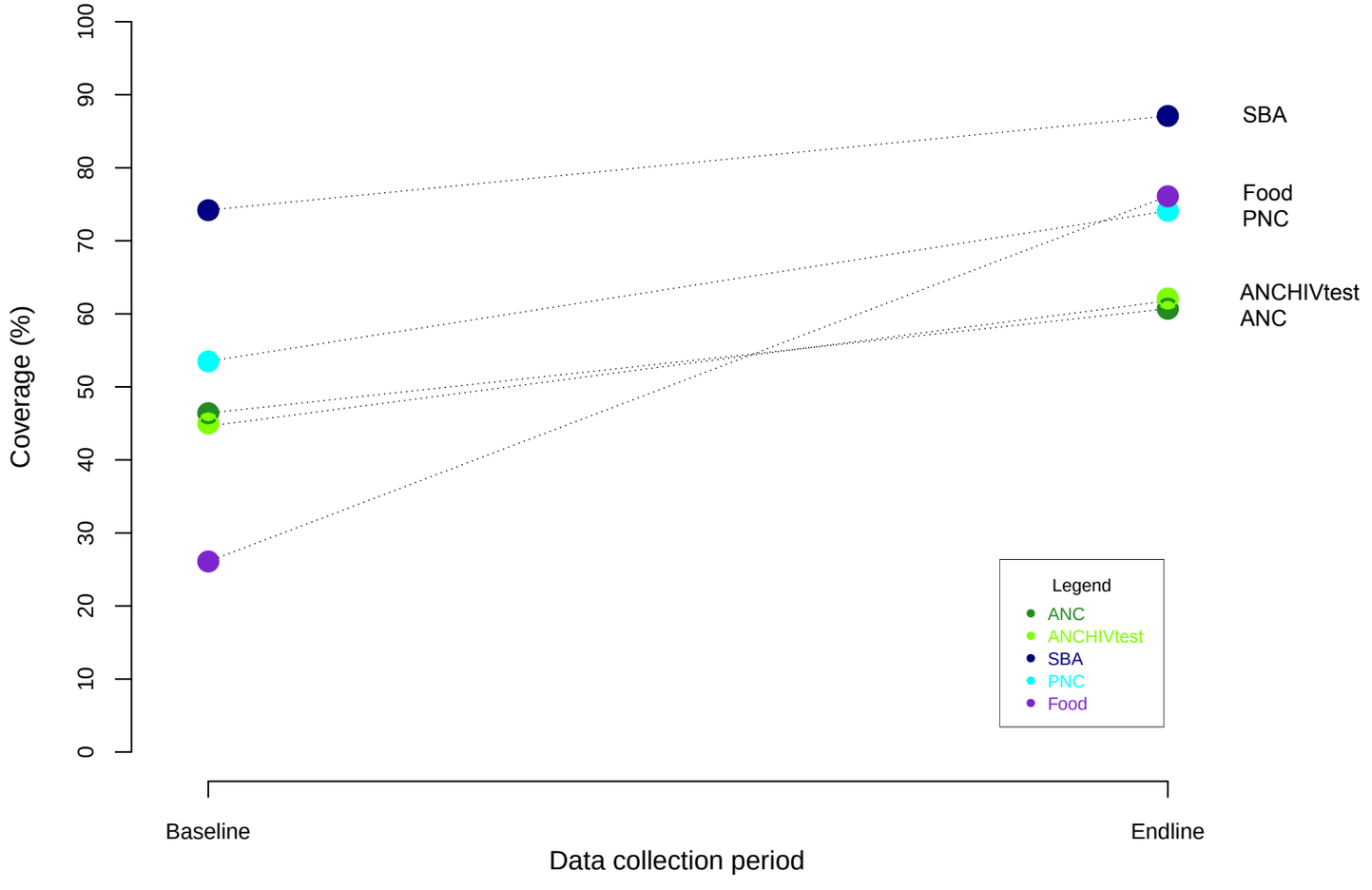


Figure 3. Unweighted overall coverage estimates for all Common Framework maternal health-related indicators (n = 5) from baseline to endline. Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

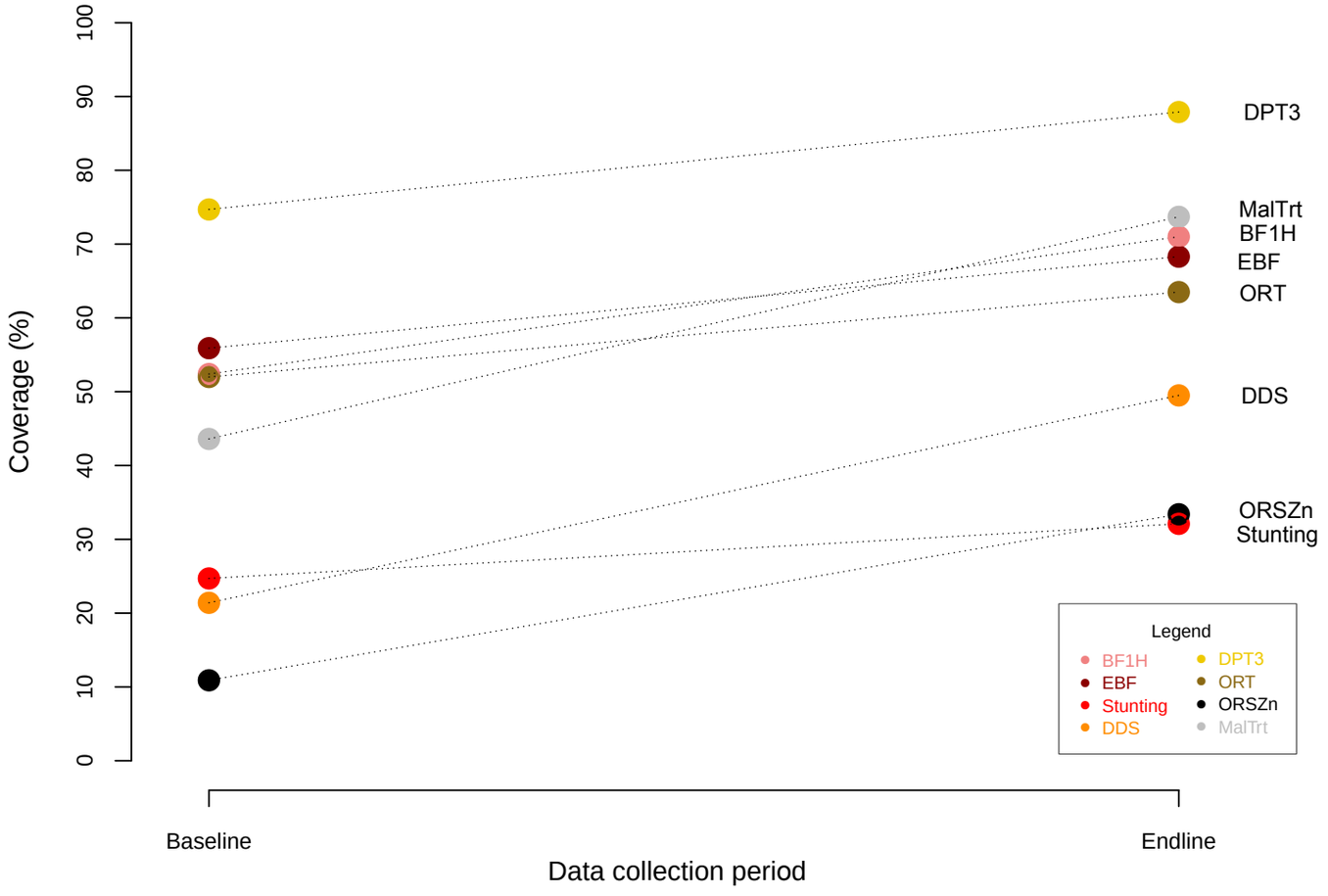


Figure 4. Unweighted overall coverage estimates for all Common Framework child health-related indicators (n = 8) from baseline to endline. Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

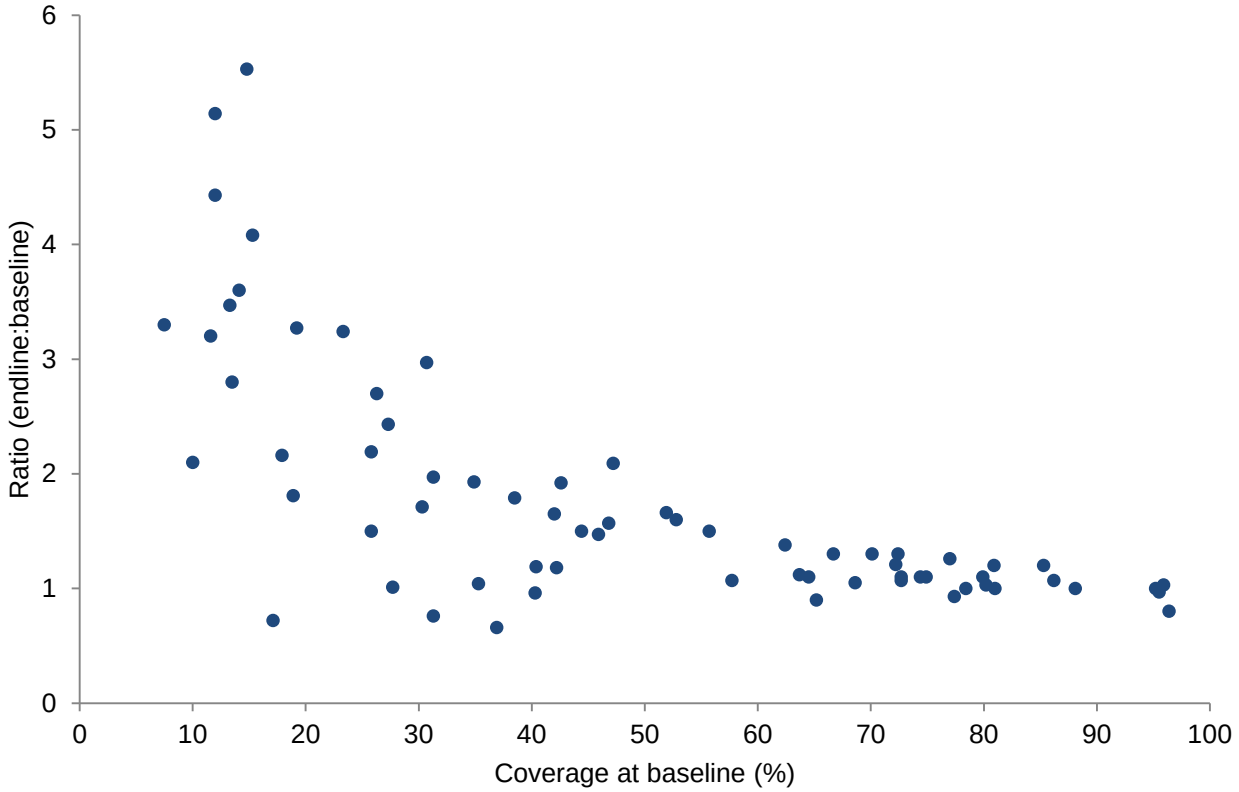


Figure 5. Comparison of indicator coverage estimates at baseline to the observed ratio of change (endline:baseline). Each dot is represents a NGO project indicator.

5.1 Baseline and endline findings by Common Framework indicator

5.1.1 Maternal health-related indicators

For the maternal health-related CF indicators, which included assessment of ANC, ANCHIVtest, SBA, and PNC, in general there appeared to be an overall increase observed among weighted and unweighted coverage estimates from baseline to endline (All: Figure 6; ANC: Table 13; ANCHIVtest: Table 16; SBA: Table 19; PNC: Table 22). The extent to which individual project baseline coverage estimates were similar to comparable DHS-reported values varied by country and indicator.

The observed increase in the magnitude of change varied among projects with low (<50%), medium (50-79%), and high (>79%) baseline coverage estimates (ANC: Table 14; ANCHIVtest: Table 17; SBA: Table 20; PNC: Table 23). In general, projects in which the greatest absolute difference was observed were those that had a low baseline coverage estimate, while projects with high baseline coverage appear to be less likely to observe a change.

At endline, there did not generally appear to be a substantive difference in coverage for ANC, ANCHIVtest, SBA, or PNC among mothers <20 and 20-49 years of age (ANC: Table 15; ANCHIVtest: Table 18; SBA: Table 21; PNC: Table 24). There did not appear to be a difference in PNC coverage estimates for girl and boy children (Table 25).

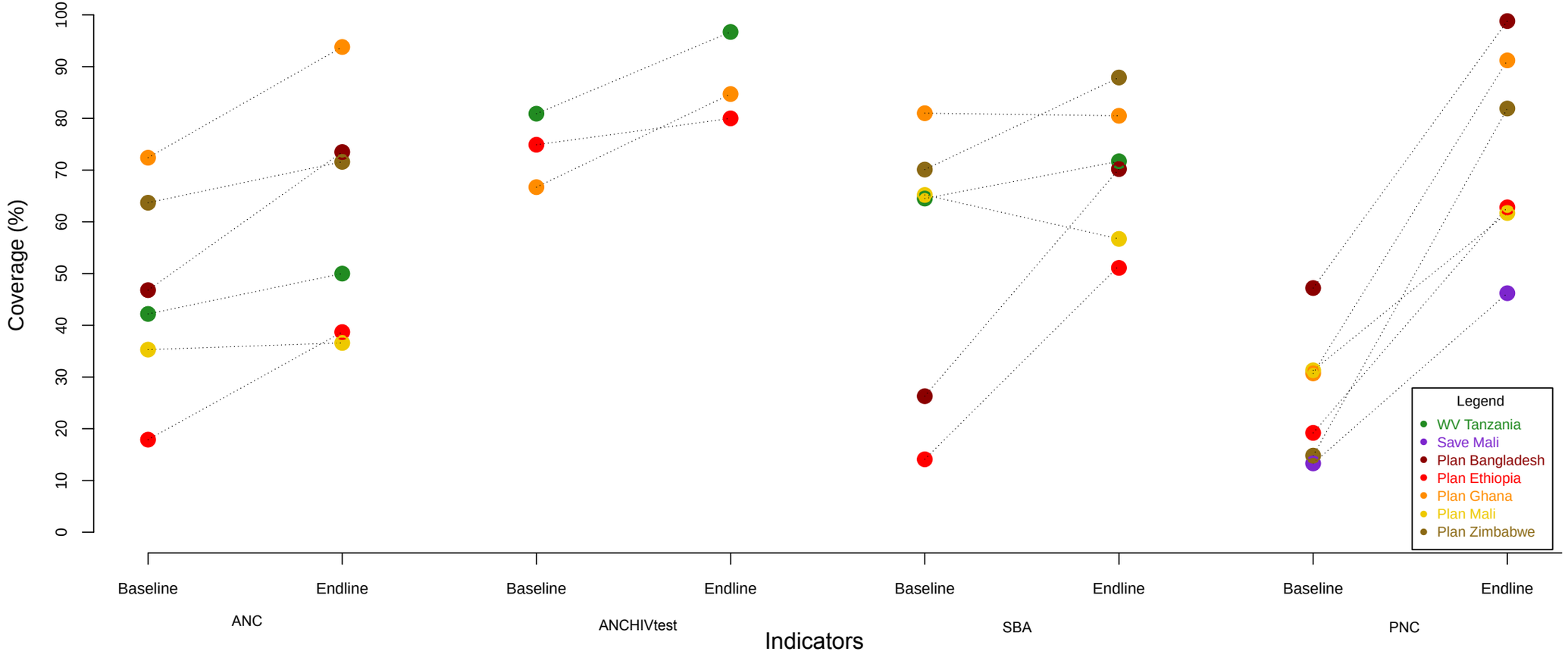


Figure 6. Coverage estimates for Common Framework indicators related to maternal health outcomes from baseline to endline (ANC: antenatal care; ANCHIVtest: tested for HIV in ANC visit; SBA: skilled birth attendance; PNC: postnatal care). Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

5.1.1.1 Antenatal care

Data was collected on the number of women who attended ANC at least four times during their last pregnancy at baseline and endline for 6 NGO projects (Table 13). The overall weighted and unweighted indicator estimates suggest that the proportion of women who attend four or more ANC visits increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Plan Bangladesh, Plan Ethiopia, Plan Ghana, and World Vision Tanzania; coverage did not significantly increase or decrease for Plan Mali and Plan Zimbabwe.

The magnitude of the change in ANC coverage (absolute difference) from baseline to endline differed among the projects. Differences greater than 20% were observed for Plan Bangladesh (46.8 to 73.5%; absolute difference: 26.7%); Plan Ghana (72.4 to 93.8%; absolute difference: 21.4%), and Plan Ethiopia (17.9 to 38.7%; absolute difference: 20.8%) (Table 14).

All ANC coverage data were disaggregated for maternal age, although few young mothers were observed in the sample (Table 15). Among mothers 15-19 and 20-49 years, the findings for ANC coverage varied by project. There appeared to be higher coverage among older mothers for 3 NGO projects, while 2 projects appear to have higher coverage among young mothers. There was no difference observed between younger and older mothers for one project.

Table 13. Comparison from baseline to endline of coverage estimates for mothers 15-49 years who attended antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months.

Project	Baseline				Endline			*P*-value[2]
	DHS/ MICS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	25.2	77	46.8	(35.4 , 58.2)	501	73.5	(69.6 , 77.3)	0.001
Plan Ethiopia	19.1	234	17.9	(13.0 , 22.9)	271	38.7	(32.9 , 44.6)	0.001
Plan Ghana	86.6	254	72.4	(66.9 , 78.0)	226	93.8	(90.6 , 97.0)	0.001
Plan Mali	41.2	221	35.3	(28.9 , 41.6)	268	36.6	(30.8 , 42.4)	0.770
Plan Zimbabwe[4]	64.8	182	63.7	(56.7 , 70.8)	204	71.6	(65.3 , 77.8)	0.150
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[4,5]	95.9	417	42.2	(37.4 , 47.0)	836	50.0	(46.4 , 53.6)	0.003
Overall (weighted)[6]	-	*1385*	*45.6*	*(43.0 , 48.3)*	*2306*	*58.8*	*(56.7 , 60.8)*	*Δ = +13.2*
Overall (unweighted)[7]	-	-	*46.4*	*(6.5 , 86.3)*	-	*60.7*	*(21.6 , 100)*	*Δ = +14.3*

[1]DHS/MICS values are for ≥1 ANC visits and have been taken from the following sources: Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Ethiopia 2011 DHS Report (average of Amhara, Oromia and SNNP regions); Ghana 2011 MICS Report (average of Volta and Eastern Regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions); Zimbabwe 2010-2011 DHS Report (Manicaland region); Tanzania 2010 DHS Report (national average).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At baseline, child age range was 0-6 months inclusive.
[5]At endline, coverage estimates were weighted given oversampling in some regions.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 14. Change in coverage observed from baseline to endline among mothers 15-49 years who attended antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Plan Ethiopia	17.9	38.7	20.8	2.16	increase
Plan Mali	35.3	36.6	1.3	1.04	no change
World Vision Tanzania	42.2	50.0	7.8	1.18	increase
Plan Bangladesh	46.8	73.5	26.7	1.57	increase
Medium baseline coverage (50-79%)					
Plan Zimbabwe	63.7	71.6	7.9	1.12	no change
Plan Ghana	72.4	93.8	21.4	1.30	increase
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline ($P<0.05$); no change = non-significant increase or decrease from baseline to endline.

Table 15. Disaggregation by maternal age of baseline to endline of coverage estimates for mothers 15-49 years who attended antenatal care ≥4 times during pregnancy with their youngest living child 0-5 months.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Bangladesh	77	46.8	(35.4 , 58.2)	501	73.5	(70 , 77.3)
15 - 19 years	22	54.5	(31.9 , 77.1)	98	74.5	(65.7 , 83.3)
20 - 49 years	55	43.6	(30.1 , 57.2)	403	73.2	(68.9 , 80.3)
Plan Ethiopia	234	17.9	(13.0 , 22.9)	271	38.7	(33.0 , 44.6)
15 - 19 years	10	10.0	(0 , 32.6)	22	31.8	(10.7 , 53.0)
20 - 49 years	224	18.3	(13.2 , 23.4)	249	39.4	(33.2 , 45.5)
Plan Ghana	254	72.4	(66.9 , 78.0)	226	93.8	(91.0 , 97.0
15 - 19 years	38	60.5	(44.2 , 76.8)	28	89.3	(77.1 , 100)
20 - 49 years	216	74.5	(68.7 , 80.4)	198	94.4	(91.2 , 97.7)
Plan Mali	221	35.3	(28.9 , 41.6)	268	36.6	(31.0 , 42.4)
15 - 19 years	N/D[1]	N/D	(- , -)	59	49.2	(36.0 , 62.3)
20 - 49 years	N/D	N/D	(- , -)	209	33.0	(26.6 , 39.4)
Plan Zimbabwe[2]	182	63.7	(56.7 , 70.8)	204	71.6	(65.0 , 77.8)
15 - 19 years	12	66.7	(35.8 , 98.0)	47	61.7	(47.3 , 76.1)
20 - 49 years	170	63.5	(56.2 , 70.8)	157	74.5	(67.6 , 81.4)
World Vision Tanzania	417	42.2	(37.4 , 47.0)	836	50.0	(46.4 , 53.6)
15 - 19 years	N/D	N/D	(- , -)	90	61.1	(50.8 , 71.4)
20 - 49 years	N/D	N/D	(- , -)	746	49.7	(46.1 , 53.3)
CARE Ethiopia	-	-	(- , -)	-	-	(- , -)
CARE Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.
[2]Maternal age disaggregations are less than 18 years of age and greater than 18 years of age at baseline.

5.1.1.2 HIV test in ANC

Data was collected on the number of women who had an HIV test during their most recent pregnancy among those women who attended ANC at baseline and endline for three NGO projects (Table 16). The overall weighted and unweighted indicator estimates suggest that the proportion of women who received an HIV test in ANC increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Plan Ghana and World Vision Tanzania, while there was no significant increase or decrease observed for Plan Ethiopia.

The magnitude of the absolute difference from baseline to endline differed among the projects. The greatest difference was observed for World Vision Tanzania (80.9 to 96.7%; absolute difference: 15.8%) (Table 17).

Indicator data was disaggregated for maternal age (Table 18), although few young mothers were observed in the sample. For all projects, the difference in coverage between 15-19 and 20-49 year old mothers was very small (≤2.2%).

Table 16. Comparison from baseline to endline of coverage estimates for mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months.

Project	Baseline				Endline				*P*-value[1]
	DHS	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI		
CARE Ethiopia	NR[2]	-	-	(- , -)	-	-	(- , -)		-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Bangladesh	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Ethiopia	DNA[3]	183	74.9	(68.5 , 81.2)	235	80.0	(74.8 , 85.2)		0.210
Plan Ghana	DNA	237	66.7	(60.6 , 72.7)	229	84.7	(80.0 , 89.4)		0.001
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Zimbabwe[4]	NR	-	-	(- , -)	-	-	(- , -)		-
Save Mali	NR	-	-	(- , -)	-	-	(- , -)		-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)		-
World Vision Tanzania[4,5]	DNA	404	80.9	(77.1 , 84.9)	829	96.7	(95.5 , 98.0)		0.001
Overall (weighted)[6]	-	*824*	*78.6*	*(72.4 , 78.4)*	*1293*	*91.5*	*(89.8 , 93.0)*		*Δ = +12.9*
Overall (unweighted)[7]	-	-	*74.2*	*(24.7 , 100)*	-	*87.1*	*(49.2 , 100)*		*Δ = +12.9*

[1]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[2]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[3]DNA: Data not available for time period of interest.
[4]At baseline child age range was 0-6 months inclusive.
[5]At endline, coverage estimates were weighted given oversampling in some regions.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 17. Change in coverage observed from baseline to endline among mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Medium baseline coverage (50-79%)					
Plan Ghana	66.7	84.7	18	1.3	increase
Plan Ethiopia	74.9	80	5.1	1.1	no change
High baseline coverage (≥80%)					
World Vision Tanzania	80.9	96.7	15.8	1.2	increase
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Plan Bangladesh	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline ($P<0.05$); no change = non-significant increase or decrease from baseline to endline.

Table 18. Disaggregation by maternal age of baseline to endline of coverage estimates for mothers 15-49 years who were tested for HIV in ANC during pregnancy with their youngest living child 0-5 months.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Ethiopia	183	74.9	(13.0 , 22.9)	271	38.7	(33.0 , 44.6)
15 - 19 years	7	100	(- , -)	19	78.9	(58.8 , 99.1)
20 - 49 years	176	73.9	(67.3 , 80.4)	216	80.1	(74.7 , 85.5)
Plan Ghana	237	66.7	(60.6 , 72.7)	229	84.7	(80.0 , 89.4)
15 - 19 years	33	75.8	(62.4 , 85.1)	29	82.8	(68.1 , 97.4)
20 - 49 years	204	65.2	(58.6 , 71.8)	200	85.0	(80.0 , 90.0)
World Vision Tanzania	404	80.9	(77.1 , 84.9)	829	96.7	(95.5 , 98.0)
15 - 19 years	N/D[1]	N/D	(- , -)	89	95.5	(91.1 , 99.9)
20 - 49 years	N/D	N/D	(- , -)	740	96.8	(95.5 , 98.0)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

5.1.1.3 Delivery by skilled health personnel

Data was collected on delivery by skilled health personnel at baseline and endline for six NGO projects (Table 19). The overall weighted and unweighted indicator estimates suggest that skilled birth attendance coverage increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Plan Bangladesh, Plan Ethiopia, Plan Zimbabwe, and World Vision Tanzania, while coverage decreased, but not significantly, for Plan Mali and Plan Ghana.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 20). The greatest difference was observed for Plan Bangladesh (26.3 to 70.2%; absolute difference: 43.9%).

Indicator data was disaggregated for maternal age (Table 21), although few young mothers were observed in the sample. Among mothers 15-19 and 20-49 years, the findings for delivery by skilled health personnel varied by project. It appeared the proportion of young mothers who delivered using a skilled health attendant was slightly larger (≤6.5%) for four of the six projects.

Table 19. Comparison from baseline to endline of coverage estimates for mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel.

Project	Baseline				Endline				*P*-value[2]
	DHS/ MICS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	28.6	76	26.3	(16.2 , 36.4)	506	70.2	(66.2 , 74.2)	0.001
Plan Ethiopia	8.1	234	14.1	(9.6 , 18.6)	268	51.1	(45.1 , 57.1)	0.012
Plan Ghana	71.2	247	81.0	(76.0 , 85.9)	231	80.5	(75.4 , 85.7)	0.900
Plan Mali	54.4	224	65.2	(58.6 , 71.5)	268	56.7	(50.7 , 62.7)	0.056
Plan Zimbabwe[4]	60.5	194	70.1	(63.4 , 76.6)	198	87.9	(83.3 , 92.5)	0.034
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[4,5]	48.5	408	64.5	(59.8 , 69.1)	825	71.7	(68.4 , 75.0)	0.003
Overall (weighted)[6]	-	*1383*	*57.7*	*(55.0 , 60.3)*	*2620*	*73.5*	*(71.8 , 75.2)*	*Δ = +15.8*
Overall (unweighted)[7]	-	-	*53.5*	*(13.6 , 93.4)*	-	*74.1*	*(39.0 , 100)*	*Δ = +20.6*

[1]DHS/MICS values have been taken from the following sources: Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Ethiopia 2011 DHS Report (average of Amhara, Oromia and SNNP regions); Ghana 2011 MICS Report (average of Eastern and Volta regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions); Zimbabwe 2010-2011 DHS Report (Manicaland region); and Tanzania 2010 DHS Report (Singida region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At baseline child age range was 0-6 months inclusive.
[5]At endline, coverage estimates were weighted given oversampling in some regions.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 20. Change in coverage observed from baseline to endline among mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Plan Ethiopia	14.1	51.1	37	3.6	increase
Plan Bangladesh	26.3	70.2	43.9	2.7	increase
Medium baseline coverage (50-79%)					
World Vision Tanzania	64.5	71.7	7.2	1.1	increase
Plan Mali	65.2	56.7	-8.5	0.9	no change
Plan Zimbabwe	70.1	87.9	17.8	1.3	increase
High baseline coverage (≥80%)					
Plan Ghana	81.0	80.5	-0.5	1.0	no change
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 21. Disaggregation by maternal age of baseline to endline of coverage estimates for mothers 15-49 years whose youngest living child 0-5 months was delivered by skilled health personnel.

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95 CI**
Plan Bangladesh	76	26.3	(16.2 , 36.4)	506	70.2	(66.2 , 74.2)
15 - 19 years	21	28.6	(7.5 , 49.6)	99	73.7	(64.9 , 82.6)
20 - 49 years	55	25.5	(13.6 , 37.3)	407	69.3	(64.8 , 73.8)
Plan Ethiopia	234	14.1	(9.6 , 18.6)	268	51.1	(45.1 , 57.1)
15 - 19 years	10	0	(- , -)	22	54.5	(31.9 , 77.4)
20 - 49 years	224	14.7	(10.1 , 19.4)	246	50.8	(44.5 , 57.1)
Plan Ghana	247	81.0	(76.0 , 85.9)	231	80.5	(75.4 , 85.7)
15 - 19 years	37	81.1	(67.8 , 94.3)	29	86.2	(72.9 , 99.6)
20 - 49 years	210	81.0	(75.6 , 86.3)	202	79.7	(74.1 , 86.0)
Plan Mali	224	65.2	(58.6 , 71.5)	268	56.7	(50.7 , 62.7)
15 - 19 years	N/D[1]	N/D	(- , -)	58	55.2	(42.0 , 68.4)
20 - 49 years	N/D	N/D	(- , -)	210	57.1	(50.4 , 63.9)
Plan Zimbabwe[2]	194	70.1	(63.4 , 76.6)	198	87.9	(83.3 , 92.5)
15 - 19 years	12	58.3	(25.6 , 91.1)	45	84.4	(73.4 , 95.5)
20 - 49 years	182	70.9	(64.2 , 77.5)	153	88.9	(83.9 , 93.9)
World Vision Tanzania	408	64.5	(59.8 , 69.1)	825	71.7	(68.4 , 75.0)
15 - 19 years	N/D	N/D	(- , -)	87	78.2	(69.3 , 87.0)
20 - 49 years	N/D	N/D	(- , -)	738	72.0	(68.7 , 75.2)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.
[2]Maternal age disaggregations are less than 18 years of age and greater than 18 years of age at baseline.

5.1.1.4 Postnatal care

Data was collected on postnatal care for mothers or infants within 3 days of birth at baseline and endline for six NGO projects (Table 22). The overall weighted and unweighted indicator estimates suggest that postnatal care coverage increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for all NGOs.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 23). The observed increase ranged from 30.4 to 67.1%. All projects had a low baseline coverage value (i.e., <50%).

Indicator data was disaggregated for maternal age (Table 24), although few young mothers were observed in the sample, and child sex (Table 25). Among mothers 15-19 and 20-49 years, the findings for PNC coverage varied depending on the NGO project. Among boys and girls, no differences >4.7% were observed for any NGOs.

Table 22. Comparison from baseline to endline of coverage estimates for mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months.

Project	Baseline				Endline			*P*-value[2]
	DHS/ MICS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	22.8	415	47.2	(42.4 , 52.1)	1522	98.8	(98.2 , 99.3)	0.001
Plan Ethiopia	5.2	1144	19.2	(16.9 , 21.5)	1090	62.8	(59.9 , 65.6)	0.001
Plan Ghana	77.3	587	30.7	(26.9 , 34.4)	633	91.2	(88.9 , 93.4)	0.001
Plan Mali	35.8	840	31.3	(28.2 , 34.5)	832	61.7	(58.3 , 65.0)	0.001
Plan Zimbabwe[4]	19.4	750	14.8	(12.3 , 17.3)	816	81.9	(79.2 , 84.5)	0.001
Save Mali	43.9	353	13.3	(9.8 , 16.9)	333	46.2	(40.9 , 51.6)	0.001
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania	NR	-	-	(- , -)	-	-	(- , -)	-
Overall (weighted)[5]	-	*4089*	*24.9*	*(23.6 , 26.2)*	*5104*	*80.3*	*(79.2 , 81.4)*	*Δ = +55.4*
Overall (unweighted)[6]	-	-	*26.1*	*(0 , 61.2)*	-	*76.1*	*(42.0 , 100)*	*Δ = +50.0*

[1]DHS/MICS values have been taken from the following sources: Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Ethiopia 2011 DHS Report (average of Amhara, Oromia and SNNP regions; for PNC within 2 days); Ghana 2011 MICS Report (average of Eastern and Volta regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions; Plan Mali only); Mali 2012-2013 DHS Report (Sikasso region; Save Mali only;) and Zimbabwe 2010-2011 DHS Report (Manicaland region; for PNC within 2 days).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At baseline child age range was 0-24 months inclusive.
[5]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[6]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 23. Change in coverage observed from baseline to endline among mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	13.3	46.2	32.9	3.47	increase
Plan Zimbabwe	14.8	81.9	67.1	5.53	increase
Plan Ethiopia	19.2	62.8	43.6	3.27	increase
Plan Ghana	30.7	91.2	60.5	2.97	increase
Plan Mali	31.3	61.7	30.4	1.97	increase
Plan Bangladesh	47.2	98.8	51.6	2.09	increase
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Save Pakistan	-	-	-	-	-
World Vision Tanzania	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05).

Table 24. Disaggregation by maternal age of baseline to endline of coverage estimates for mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months.

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
Plan Bangladesh	415	47.2	(42.4 , 52.1)	1522	98.8	(98.2 , 99.3)
15 - 19 years	80	50.0	(38.8 , 61.2)	237	99.6	(98.7 , 100)
20 - 49 years	335	46.6	(41.2 , 51.9)	1285	98.6	(98.0 , 99.2)
Plan Ethiopia	1144	19.2	(16.9 , 21.5)	1090	62.8	(59.9 , 65.6)
15 - 19 years	46	17.4	(6.0 , 28.8)	66	74.2	(63.4 , 85.1)
20 - 49 years	1098	19.3	(17.0 , 21.6)	1024	62.0	(59.0 , 65.0)
Plan Ghana	587	30.7	(26.9 , 34.4)	633	91.2	(88.9 , 93.4)
15 - 19 years	66	33.3	(21.7 , 45.0)	70	92.9	(86.7 , 99.0)
20 - 49 years	521	30.3	(26.4 , 34.3)	563	90.9	(88.6 , 93.3)
Plan Mali	840	31.3	(28.2 , 34.5)	832	61.7	(58.3 , 65.0)
15 - 19 years	N/D[1]	N/D	(- , -)	163	61.3	(53.8 , 68.9)
20 - 49 years	N/D	N/D	(- , -)	669	61.7	(58.0 , 65.4)
Plan Zimbabwe[2]	750	14.8	(12.3 , 17.3)	816	81.9	(79.2 , 84.5)
15 - 19 years	35	17.1	(4.0 , 30.3)	114	77.2	(69.4 , 85.0)
20 - 49 years	715	14.7	(12.1 , 17.3)	702	82.6	(79.8 , 85.4)
Save Mali	353	13.3	(9.8 , 16.9)	333	46.2	(40.9 , 51.6)
15 - 19 years	42	14.3	(3.2 , 25.3)	35	34.3	(17.7 , 50.8)
20 - 49 years	311	13.2	(9.4 , 17.0)	298	47.7	(41.9 , 53.4)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)
World Vision Tanzania	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Child gender was not assessed within the baseline questionnaire.
[2]Maternal age disaggregations are less than 18 years of age and greater than 18 years of age at baseline.

Table 25. Disaggregation by child sex of baseline to endline of coverage estimates for mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth with their youngest living child 0-23 months.[1]

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
Plan Bangladesh	415	47.2	(42.4 , 52.1)	1522	98.8	(98.2 , 99.3)
Male	224	48.2	(41.6 , 54.8)	*802*	99.0	(98.3 , 99.7)
Female	191	46.1	(38.9 , 53.2)	*698*	98.4	(97.5 , 99.4)
Plan Ethiopia	1144	19.2	(16.9 , 21.5)	1090	62.8	(59.9 , 65.6)
Male	582	19.6	(16.4 , 22.8)	564	63.1	(59.1 , 67.1)
Female	562	18.9	(15.6 , 22.1)	526	62.4	(58.2 , 66.5)
Plan Ghana	587	30.7	(26.9 , 34.4)	633	91.2	(88.9 , 93.4)
Male	N/D[1]	N/D	(- , -)	323	90.4	(87.2 , 93.6)
Female	N/D	N/D	(- , -)	310	91.9	(88.9 , 95.0)
Plan Mali	840	31.3	(28.2 , 34.5)	832	61.7	(58.3 , 65.0)
Male	419	33.9	(29.3 , 38.4)	*430*	62.8	(58.2 , 67.4)
Female	421	28.7	(24.4 , 33.1)	*401*	60.6	(55.8 , 65.4)
Plan Zimbabwe	750	14.8	(12.3 , 17.3)	816	81.9	(79.2 , 84.5)
Male	N/D[2]	N/D	(- , -)	405	84.4	(80.9 , 88.0)
Female	N/D	N/D	(- , -)	409	79.7	(75.8 , 83.6)
Save Mali	353	13.3	(9.8 , 16.9)	333	46.2	(40.9 , 51.6)
Male	195	12.8	(8.1 , 17.6)	177	44.6	(37.2 , 52.0)
Female	158	13.9	(8.5 , 19.4)	156	48.1	(40.1 , 56.0)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)
World Vision Tanzania	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants at endline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.

[2]N/D: Non-discernible. Child gender was not assessed within the baseline questionnaire.

5.1.2 Maternal and child nutrition-related indicators

For the maternal and child nutrition-related indicators, which included assessment of BF1H, EBF, stunting, DDS, and Food, findings differed by indicator and NGO project (Figure 7). There appeared to be an overall increase observed among weighted and unweighted coverage estimates for BF1H, EBF, and DDS from baseline to endline (Tables 26, 30, and 37, respectively). There was a small increase in both the overall weighted and unweighted estimates for stunting from baseline to endline, suggesting that there were more children who were stunted at endline than there were at baseline (Table 34). There appeared to be no difference in the overall weighted and unweighted estimates for Food from baseline to endline (Table 41).

The extent to which NGO project baseline coverage estimates were similar to comparable DHS-reported values varied by country and indicator. The magnitude of change observed from baseline to endline varied between NGO projects with low (<50%) and medium (50-79%) baseline coverage estimates. In general, NGO projects with low or medium baseline coverage estimates appear to be more likely to have increased from baseline to endline for BF1H and EBF (Tables 27 and 31, respectively). However, this trend was not necessarily observed for stunting, DDS, and Food, where the findings were variable by NGO project and country (Tables 35, 38, and 42, respectively).

At endline, whether there appeared to be a difference in coverage for BF1H and EBF estimates among mothers <20 years and 20-49 years of age varied by project (Tables 28 and 32, respectively). There appeared to be a variable difference in coverage for child sex for the BF1H and EBF indicators by project (Tables 29 and 33, respectively). For stunting, it was observed that there was a greater incidence of stunting among male children in two projects (CARE Ethiopia and CARE Zimbabwe; Table 36). DDS at endline appeared to have improved more for girls relative to boys in two projects (CARE Zimbabwe and World Vision Tanzania; Table 40), although there was no clear trend for maternal age (Table 39). It was observed that there was increased food purchasing decision making among older mothers (20-49 years) relative to younger mothers in two projects (CARE Zimbabwe and World Vision Tanzania; Table 43).

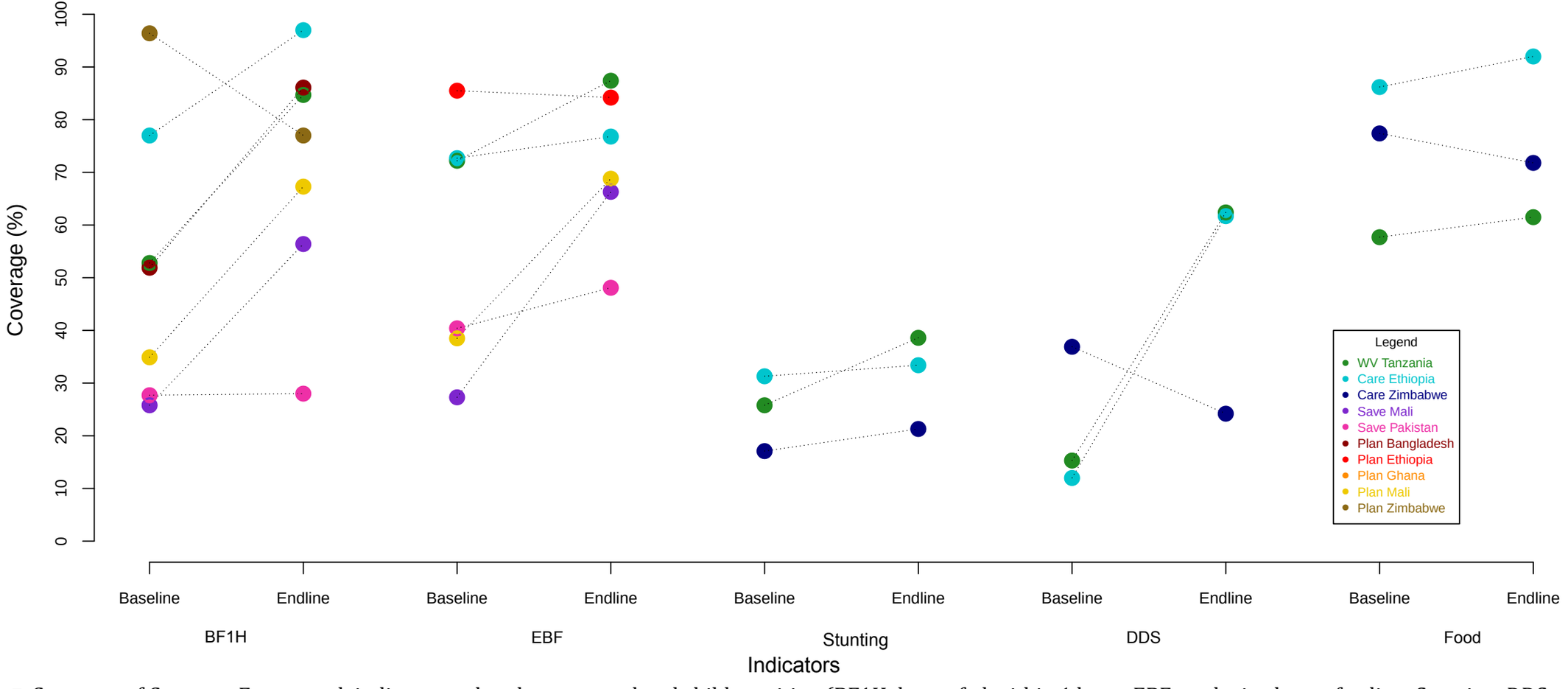


Figure 7. Coverage of Common Framework indicators related to maternal and child nutrition (BF1H: breastfed within 1 hour; EBF: exclusive breastfeeding; Stunting; DDS: dietary diversity score; Food: maternal food purchasing). Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

5.1.2.1 Breastfeeding within one hour of birth

Data was collected on breastfeeding within one hour of birth at baseline and endline for seven NGO projects (Table 26). The overall weighted and unweighted indicator estimates suggest that the proportion of infants breastfed within one hour of birth increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for CARE Ethiopia, Plan Bangladesh, Plan Mali, Save Mali, and World Vision Tanzania; significantly decrease for Plan Zimbabwe; and did not significantly increase or decrease for Save Pakistan.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 27). An increase from baseline to endline ≥20% was observed for CARE Ethiopia, Plan Bangladesh, Save Mali, and World Vision Tanzania. Coverage decreased from 96.4 to 77.0% (absolute difference: -19.4%) for Plan Zimbabwe, although the endline value is more similar to the DHS reported value of 61.3% for the associated region in 2010.

Indicator data was disaggregated for maternal age, although few young mothers were observed in the sample (Table 28), and child sex (Table 29). Among mothers 15-19 and 20-49 years, whether increased coverage for immediate breastfeeding was observed for younger or older mothers varied by project. This was also true when comparing the findings for immediate breastfeeding between boys and girls among the NGO projects.

Table 26. Comparison from baseline to endline of coverage estimates for living children 0-5 months who were breastfed within 1 hour of birth.

Project	Baseline				Endline				*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI		
CARE Ethiopia	52.6	165	77.0	(70.5 , 83.5)	267	97.0	(94.9 , 99.1)		0.001
CARE Zimbabwe	NR[3]	-	-	(- , -)	-	-	(- , -)		-
Plan Bangladesh	47.2	77	51.9	(40.5 , 63.4)	505	86.1	(83.1 , 89.2)		0.001
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Mali	55.9	218	34.9	(28.5 , 41.2)	263	67.3	(61.6 , 73.0)		0.001
Plan Zimbabwe[4]	61.3	193	96.4	(93.7 , 99.0)	204	77.0	(71.1 , 82.8)		0.001
Save Mali	70.5	120	25.8	(17.9 , 33.8)	101	56.4	(46.6 , 66.3)		0.001
Save Pakistan	26.4	159	27.7	(20.6 , 34.4)	82	28.0	(18.1 , 38.0)		0.495
World Vision Tanzania[4,5]	31.2	413	52.8	(47.9 , 57.6)	833	84.7	(82.1 , 87.3)		0.001
Overall (weighted)[6]	-	*1345*	*53.7*	*(51.0 , 56.4)*	*2255*	*80.4*	*(78.7 , 82.0)*		*Δ = +26.7*
Overall (unweighted)[7]	-	-	*52.4*	*(15.4 , 89.4)*	-	*71.0*	*(37.4 , 100)*		*Δ = +18.6*

[1]DHS values have been taken from the following sources: Ethiopia 2011 DHS Report (Oromia region; CARE Ethiopia only); Zimbabwe 2010-2011 DHS Report (average of Midland and Masvingo regions; CARE Zimbabwe only); Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Ethiopia 2011 DHS Report (average of Amhara, Oromia and SNNP regions; Plan Ethiopia only); Ghana 2011 DHS Report (average of Volta and Eastern regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions; Plan Mali only); Zimbabwe 2010-2011 DHS Report (Manicaland region; Plan Zimbabwe only); Mali 2012-2013 DHS Report (Sikasso region; Save Mali only); Save Pakistan 2012-2013 DHS Report (national average); and World Vision Tanzania 2010 DHS Report (national average).

[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.

[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.

[4]At baseline child age range was 0-6 months inclusive.

[5]At endline, coverage estimates were weighted given oversampling in some regions.

[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.

[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 27. Change in coverage observed from baseline to endline among living children 0-5 months who were breastfed within 1 hour of birth.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	25.8	56.4	30.6	2.19	increase
Save Pakistan	27.7	28.0	0.3	1.01	no change
Plan Mali	34.9	67.3	32.4	1.93	increase
Medium baseline coverage (50-79%)					
Plan Bangladesh	51.9	86.1	34.2	1.66	increase
World Vision Tanzania	52.8	84.7	31.9	1.60	increase
CARE Ethiopia	77.0	97.0	20.0	1.26	increase
High baseline coverage (≥80%)					
Plan Zimbabwe	96.4	77.0	-19.4	0.80	decrease
Coverage data not collected					
CARE Zimbabwe	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); decrease = significant decrease in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 28. Disaggregation by maternal age of baseline to endline of coverage estimates for living children 0-5 months who were breastfed within 1 hour of birth.

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
CARE Ethiopia	165	77.0	(70.5 , 83.5)	267	97.0	(94.9 , 99.1)
15 - 19 years	19	73.7	(51.9 , 95.5)	27	96.3	(88.7 , 100)
20 - 49 years	146	77.4	(70.5 , 84.3)	240	97.1	(94.9 , 99.2)
Plan Bangladesh	77	51.9	(40.5 , 63.4)	505	86.1	(83.1 , 89.2)
15 - 19 years	22	59.1	(36.8 , 81.4)	99	87.9	(81.3 , 94.4)
20 - 49 years	55	49.1	(35.5 , 62.7)	406	85.7	(82.3 , 89.1)
Plan Mali	218	34.9	(28.5 , 41.2)	263	67.3	(61.6 , 73.0)
15 - 19 years	N/D[1]	N/D	(- , -)	58	70.7	(58.6 , 82.8)
20 - 49 years	N/D	N/D	(- , -)	205	66.3	(59.8 , 72.9)
Plan Zimbabwe[2]	193	96.4	(93.7 , 99.0)	204	77.0	(71.1 , 82.8)
15 - 19 years	12	100	(- , -)	47	76.6	(64.0 , 89.2)
20 - 49 years	181	96.1	(93.3 , 99.0)	157	77.1	(70.4 , 83.7)
Save Mali	120	25.8	(17.9 , 33.8)	101	56.4	(46.6 , 66.3)
15 - 19 years	20	10.0	(0 , 24.4)	12	66.7	(35.4 , 98.0)
20 - 49 years	100	29.0	(20.0 , 38.0)	89	55.1	(44.5 , 65.6)
Save Pakistan	159	27.7	(20.6 , 34.4)	82	28.0	(18.1 , 38.0)
15 - 19 years	9	0	(- , -)	3	33.3	(0 , 100)
20 - 49 years	150	29.3	(22.0 , 36.7)	79	27.8	(17.7 , 38.0)
World Vision Tanzania	413	52.8	(47.9 , 57.6)	833	84.7	(82.1 , 87.3)
15 - 19 years	N/D	N/D	(- , -)	90	81.1	(72.9 , 89.4)
20 - 49 years	N/D	N/D	(- , -)	743	85.1	(82.5 , 87.6)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Child gender was not assessed within the baseline questionnaire.
[2]Maternal age disaggregations are less than 18 years of age and greater than 18 years of age at baseline.

Table 29. Disaggregation by child sex of baseline to endline of coverage estimates for living children 0-5 months who were breastfed within 1 hour of birth.[1]

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
CARE Ethiopia	165	77.0	(70.5 , 83.5)	267	97.0	(94.9 , 99.1)
Male	93	74.2	(65.1 , 83.3)	*137*	97.8	(95.3 , 100)
Female	72	80.6	(71.2 , 89.9)	*129*	96.1	(92.3 , 99.5)
Plan Bangladesh	77	51.9	(40.5 , 63.4)	505	86.1	(83.1 , 89.2)
Male	41	46.3	(30.4 , 62.3)	*251*	85.7	(81.3 , 90.0)
Female	36	58.3	(41.4 , 75.3)	*246*	86.6	(82.3 , 90.9)
Plan Mali	218	34.9	(28.5 , 41.2)	263	67.3	(61.6 , 73.0)
Male	112	30.4	(21.7 , 39.0)	142	64.1	(56.1 , 72.1)
Female	106	39.6	(30.2 , 49.1)	121	71.1	(62.9 , 79.3)
Plan Zimbabwe	193	96.4	(93.7 , 99.0)	204	77.0	(71.1 , 82.8)
Male	N/D[2]	N/D	(- , -)	100	77.0	(68.6 , 85.4)
Female	N/D	N/D	(- , -)	103	77.7	(69.5 , 85.5)
Save Mali	120	25.8	(17.9 , 33.8)	101	56.4	(46.6 , 66.3)
Male	68	26.5	(15.7 , 37.2)	56	57.1	(43.8 , 70.5)
Female	52	25.0	(12.8 , 37.2)	45	55.6	(40.5 , 70.7)
Save Pakistan	159	27.7	(20.6 , 34.4)	82	28.0	(18.1 , 38.0)
Male	82	31.7	(21.4 , 42.0)	49	32.7	(19.0 , 46.3)
Female	77	23.4	(13.7 , 33.0)	33	21.2	(6.5 , 35.9)
World Vision Tanzania	413	52.8	(47.9 , 57.6)	833	84.7	(82.1 , 87.3)
Male	209	53.1	(46.3 , 60.0)	428	84.1	(80.6 , 87.6)
Female	204	52.5	(45.5 , 59.4)	405	85.2	(81.7 , 88.7)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants endline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.
[2]N/D: Non-discernible. Child gender was not assessed within the baseline questionnaire.

5.1.2.2 Exclusive breastfeeding

Data was collected on exclusive breastfeed among children 0-5 months of age at baseline and endline for six NGO projects (Table 30). The overall weighted and unweighted indicator estimates suggest that exclusive breastfeeding coverage increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Plan Mali, Save Mali, and World Vision Tanzania. Exclusive breastfeeding coverage did not significantly increase for CARE Ethiopia and Save Pakistan, and did not change for Plan Ethiopia.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 31). The greatest increase in coverage was observed for Plan Mali and Save Mali, both of which had baseline coverage values ≤40%.

Indicator data was disaggregated for maternal age (Table 32) and child sex (Table 33). Whether there was a difference in exclusive breastfeeding coverage between 15-19 and 20-49 year old mothers varied by project, although few young mothers were observed in the sample. Whether more boys or girls were exclusively breastfed also varied by project.

Table 30. Comparison from baseline to endline of coverage estimates for living children 0-5 months who are exclusively breastfed.

Project	Baseline				Endline				*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI		
CARE Ethiopia	52.0	165	71.5	(64.6 , 78.5)	267	76.8	(71.7 , 81.9)		0.343
CARE Zimbabwe	NR[3]	-	-	(- , -)	-	-	(- , -)		-
Plan Bangladesh	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Ethiopia	52.0	234	85.5	(80.9 , 90.0)	272	84.2	(79.8 , 88.6)		0.690
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)		-
Plan Mali	32.9	221	38.5	(32.0 , 44.9)	266	68.8	(63.2 , 74.4)		0.001
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)		-
Save Mali	32.9	121	27.3	(19.2 , 35.3)	101	66.3	(57.0 , 75.7)		0.001
Save Pakistan	37.7	203	40.4	(33.6 , 47.2)	81	48.1	(37.0 , 59.3)		0.233
World Vision Tanzania[4,5]	49.8	418	72.2	(67.9 , 76.6)	836	87.4	(84.9 , 89.8)		0.001
Overall (weighted)[6]	-	*1362*	*60.2*	*(57.5 , 62.8)*	*1823*	*76.9*	*(74.8 , 78.8)*		*Δ = +16.7*
Overall (unweighted)[7]	-	-	*55.9*	*(16.2 , 95.6)*	-	*68.3*	*(31.1 , 100)*		*Δ = +12.4*

[1]DHS values have been taken from the following sources: Ethiopia 2011 DHS Report (national average); Zimbabwe 2010-2011 DHS Report (national average); Mali 2012-2013 DHS Report (national average); and World Vision Tanzania 2010 DHS Report (national average).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At baseline child age range was 0-6 months inclusive.
[5]At endline, coverage estimates were weighted given oversampling in some regions.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 31. Change in coverage observed from baseline to endline among living children 0-5 months who are exclusively breastfed.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	27.3	66.3	39.0	2.43	increase
Plan Mali	38.5	68.8	30.3	1.79	increase
Save Pakistan	40.4	48.1	7.7	1.19	no change
Medium baseline coverage (50-79%)					
CARE Ethiopia	72.7	76.8	5.3	1.07	no change
World Vision Tanzania	72.2	87.4	15.2	1.21	increase
High baseline coverage (>80%)					
Plan Ethiopia	85.5	84.2	-1.3	0.98	no change
Coverage data not collected					
CARE Zimbabwe	-	-	-	-	-
Plan Bangladesh	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 32. Disaggregation by maternal age of baseline to endline of coverage estimates for living children 0-5 months who are exclusively breastfed.

	Baseline					Endline				
Project	**N**	**Coverage (%)**	**95% CI**			**N**	**Coverage (%)**	**95% CI**		
CARE Ethiopia	165	72.7	(65.9 ,	79.6)		267	76.8	(71.7 ,	81.9)	
15 - 19 years	19	84.2	(66.2 ,	100)		27	37.0	(17.6 ,	56.5)	
20 - 49 years	146	71.2	(63.8 ,	78.7)		240	57.1	(50.8 ,	63.3)	
Plan Ethiopia	234	85.5	(80.9 ,	90.0)		272	84.2	(79.8 ,	88.6)	
15 - 19 years	10	0.7	(35.4 ,	100)		22	86.4	(70.8 ,	100)	
20 - 49 years	224	86.6	(81.6 ,	90.7)		250	84.0	(79.4 ,	88.6)	
Plan Mali	221	38.5	(32.0 ,	44.9)		266	68.8	(63.2 ,	74.4)	
15 - 19 years	N/D[1]	N/D	(- ,	-)		59	67.8	(55.5 ,	80.1)	
20 - 49 years	N/D	N/D	(- ,	-)		207	69.1	(62.7 ,	75.4)	
Save Mali	121	27.3	(19.2 ,	35.3)		101	66.3	(57.0 ,	75.7)	
15 - 19 years	20	30.0	(8.0 ,	52.0)		12	66.7	(35.4 ,	98.0)	
20 - 49 years	101	26.7	(18.0 ,	35.5)		89	66.3	(56.3 ,	76.3)	
Save Pakistan	203	40.4	(33.6 ,	47.2)		81	48.1	(37.0 ,	59.3)	
15 - 19 years	10	10.0	(0 ,	32.6)		3	33.3	(0 ,	100)	
20 - 49 years	193	42.0	(34.9 ,	49.0)		78	48.7	(37.4 ,	60.1)	
World Vision Tanzania	418	72.2	(67.9 ,	76.6)		836	87.4	(84.9 ,	89.8)	
15 - 19 years	N/D	N/D	(- ,	-)		90	93.3	(88.1 ,	98.6)	
20 - 49 years	N/D	N/D	(- ,	-)		746	87.4	(85.0 ,	89.8)	
Care Zimbabwe	-	-	(- ,	-)		-	-	(- ,	-)	
Plan Bangladesh	-	-	(- ,	-)		-	-	(- ,	-)	
Plan Ethiopia	-	-	(- ,	-)		-	-	(- ,	-)	
Plan Ghana	-	-	(- ,	-)		-	-	(- ,	-)	
Plan Zimbabwe	-	-	(- ,	-)		-	-	(- ,	-)	

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

Table 33. Disaggregation by child sex of baseline to endline of coverage estimates for living children 0-5 months who are exclusively breastfed.[1]

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
CARE Ethiopia	165	72.7	(65.9 , 79.6)	267	76.8	(71.7 , 81.9)
Male	93	75.3	(66.3 , 84.2)	*137*	76.6	(69.5 , 83.8)
Female	72	69.4	(58.5 , 80.3)	*129*	76.7	(69.4 , 84.1)
Plan Ethiopia	234	85.5	(80.9 , 90.0)	272	84.2	(79.8 , 88.6)
Male	122	82.8	(76.0 , 89.6)	143	84.6	(78.6 , 90.6)
Female	112	88.4	(82.4 , 94.4)	129	83.7	(77.3 , 90.2)
Plan Mali	221	38.5	(32.0 , 44.9)	266	68.8	(63.2 , 74.4)
Male	118	36.4	(27.6 , 45.3)	144	67.4	(59.6 , 75.1)
Female	103	40.8	(31.1 , 50.4)	122	70.5	(65.3 , 78.7)
Save Mali	121	27.3	(19.2 , 35.3)	101	66.3	(57.0 , 75.7)
Male	69	24.6	(14.2 , 35.1)	56	64.3	(51.3 , 77.2)
Female	52	30.8	(17.8 , 43.7)	45	68.9	(54.8 , 83.0)
Save Pakistan	203	40.4	(33.6 , 47.2)	81	48.1	(37.0 , 59.3)
Male	104	38.5	(29.0 , 48.0)	49	42.9	(28.5 , 57.2)
Female	99	42.4	(32.5 , 52.3)	32	56.3	(38.1 , 74.4)
World Vision Tanzania	418	72.2	(67.9 , 76.6)	836	87.4	(84.9 , 89.8)
Male	211	72.0	(65.9 , 78.1)	428	90.0	(87.1 , 92.8)
Female	207	72.5	(66.3 , 78.6)	408	86.0	(82.7 , 89.4)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants endline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.

5.1.2.3 Stunting

Data was collected on stunting (<2 LAZ) at baseline and endline for three NGO projects (Table 34). The overall weighted and unweighted indicator estimates suggest that stunting increased overall from baseline to endline, meaning that there were more children who were stunted at the end of the project than at the beginning. Stunting was found to increase among all of the individual projects, although a statistically significant increase was only observed for World Vision Tanzania.

The magnitude of the absolute increase in stunting from baseline to endline differed among the projects (Table 35).

Indicator data was disaggregated for child sex, and more boys appeared to be stunted than girls for all NGO projects (Table 36).

Table 34. Comparison from baseline to endline of coverage estimates for children 6-23 months who were stunted (<2 LAZ).

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	44.2	724	31.3	(28.0 , 34.7)	718	33.4	(28.6 , 34.5)	0.400
CARE Zimbabwe	33.7	375	17.1	(13.2 , 20.3)	1074	21.3	(21.8 , 26.6)	0.077
Plan Bangladesh	NR[3]	-	-	(- , -)	-	-	(- , -)	-
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[4]	39.0	186	25.8	(19.5 , 32.2)	360	38.6	(33.6 , 43.7)	0.003
Overall (weighted)[5]	-	*1285*	*26.4*	*(24.0 , 28.9)*	*2255*	*29.4*	*(27.6 , 31.4)*	*Δ = +3.0*
Overall (unweighted)[6]	-	-	*24.7*	*(0 , 73.5)*	-	*32.1*	*(0 , 84.9)*	*Δ = +7.4*

[1]DHS values have been taken from the following sources: Ethiopia 2011 DHS Report; Zimbabwe 2010-2011 DHS Report (average of Midland and Masvingo regions); Mali 2012-2013 DHS Report (Sikasso region); and Tanzania 2010 DHS Report (Singida region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At endline, coverage estimates were weighted given oversampling in some regions.
[5]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[6]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 35. Change in coverage observed from baseline to endline among children 6-23 months who are stunted (<2 LAZ).

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
CARE Zimbabwe	17.1	21.3	4.2	1.25	no change
World Vision Tanzania	25.8	38.6	12.8	1.50	increase
CARE Ethiopia	31.3	33.4	2.1	1.07	no change
Coverage data not collected					
Plan Bangladesh	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 36. Disaggregation by child sex of baseline to endline of coverage estimates for children 6-23 months who are stunted (<2 LAZ).

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
CARE Ethiopia	724	31.3	(28.0 , 34.7)	718	33.4	(28.6 , 34.5)
Male	365	35.1	(30.2 , 40.0)	395	36.7	(31.9 , 41.0)
Female	359	27.6	(22.9 , 32.2)	323	29.4	(24.4 , 34.4)
CARE Zimbabwe	375	17.1	(13.2 , 20.3)	1074	21.3	(21.8 , 26.6)
Male	183	19.1	(13.4 , 24.9)	571	27.1	(23.5 , 30.8)
Female	192	15.1	(10.0 , 20.2)	503	14.7	(11.6 , 17.8)
World Vision Tanzania	186	25.8	(19.5 , 32.2)	360	38.6	(33.6 , 43.7)
Male	96	30.2	(20.9 , 39.6)	183	39.3	(32.2 , 46.5)
Female	90	21.1	(12.5 , 29.7)	177	37.9	(30.6 , 45.1)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

5.1.2.4 Dietary diversity score

Data was collected on dietary diversity score (≥4 food groups consumed in the past 24 hours) at baseline and endline for three NGO projects (Table 37). The overall weighted and unweighted indicator estimates suggest that there was increased dietary diversity from baseline to endline. Among the individual projects, coverage was found to significantly increase for CARE Ethiopia and World Vision Tanzania, while it significantly decreased for CARE Zimbabwe.

The magnitude of the absolute difference in dietary diversity score from baseline to endline differed among the projects. CARE Ethiopia and World Vision Tanzania both increases in coverage correspond with an absolute difference of 49.7 and 47.1%, respectively (Table 38). An absolute decrease of 12.7% was observed for CARE Zimbabwe.

Indicator data was disaggregated for maternal age (Table 39) and child sex (Table 40). Among mothers 15-19 and 20-49 years, there were few mothers 15-19 years of age, and the observed coverage varied by project. For child sex, in two of the three projects more girls appeared to have a higher dietary diversity score than boys.

Table 37. Comparison from baseline to endline of coverage estimates for children 6-23 months with adequate dietary scores (≥4 food groups).

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	DNA[3]	778	12.0	(9.7 , 14.2)	767	61.7	(58.2 , 65.1)	0.001
CARE Zimbabwe	25.7	377	36.9	(32.0 , 41.8)	1177	24.2	(21.8 , 26.7)	0.001
Plan Bangladesh	NR[4]	-	-	(- , -)	-	-	(- , -)	-
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[5]	32.0	838	15.3	(12.8 , 17.8)	361	62.4	(56.7 , 68.1)	0.001
Overall (weighted)[6]	-	*1953*	*18.4*	*(16.7 , 20.2)*	*2321*	*43.0*	*(41.0 , 45.1)*	*Δ = +24.6*
Overall (unweighted)[7]	-	-	*21.4*	*(0 , 67.8)*	-	*49.5*	*(0 , 100)*	*Δ = +28.1*

[1]DHS values have been taken from the following sources: Zimbabwe 2010-2011 DHS Report (average of Midland and Masvingo regions) and Tanzania 2010 DHS Report (national average).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]DNA: Data not available for time period of interest.
[4]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[5]At endline, coverage estimates were weighted given oversampling in some regions. At baseline child age range was 6-59 months inclusive.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 38. Change in coverage observed from baseline to endline among children 6-23 months with adequate dietary scores (≥4 food groups).

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
CARE Ethiopia	12.0	61.7	49.7	5.14	increase
World Vision Tanzania	15.3	62.4	47.1	4.08	increase
CARE Zimbabwe	36.9	24.2	-12.7	0.66	decrease
Coverage data not collected					
Plan Bangladesh	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); decrease = significant decrease in indicator coverage from baseline to endline (P<0.05).

Table 39. Disaggregation by maternal age of baseline to endline of coverage estimates for children 6-23 months with adequate dietary scores (≥4 food groups).

Project	Baseline					Endline				
	N	Coverage (%)	95% CI			N	Coverage (%)	95% CI		
CARE Ethiopia	778	12.0	(9.7	,	14.2)	767	61.7	(58.2	,	65.1)
15 - 19 years	45	13.3	(3.0	,	23.7)	36	64.1	(48.8	,	79.9)
20 - 49 years	733	11.9	(9.5	,	14.2)	731	61.7	(56.9	,	66.7)
CARE Zimbabwe	377	36.9	(32.0	,	41.8)	1177	24.2	(21.8	,	26.6)
15 - 19 years	20	25.0	(4.2	,	45.8)	87	19.5	(11.0	,	28.0)
20 - 49 years	357	37.5	(32.5	,	42.6)	1090	24.8	(22.2	,	27.3)
World Vision Tanzania	838	15.3	(12.8	,	17.8)	361	62.4	(56.7	,	68.1)
15 - 19 years	N/D[1]	N/D	(-	,	-)	26	65.4	(45.8	,	85.0)
20 - 49 years	N/D	N/D	(-	,	-)	335	63.6	(58.4	,	68.8)
Plan Bangladesh	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ethiopia	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ghana	-	-	(-	,	-)	-	-	(-	,	-)
Plan Mali	-	-	(-	,	-)	-	-	(-	,	-)
Plan Zimbabwe	-	-	(-	,	-)	-	-	(-	,	-)
Save Mali	-	-	(-	,	-)	-	-	(-	,	-)
Save Pakistan	-	-	(-	,	-)	-	-	(-	,	-)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

Table 40. Disaggregation by child sex of baseline to endline of coverage estimates for children 6-23 months with adequate dietary scores (≥4 food groups).[1]

	Baseline			Endline		
Project	**N**	**Coverage (%)**	**95% CI**	**N**	**Coverage (%)**	**95% CI**
CARE Ethiopia	778	12.0	(9.7 , 14.2)	767	61.7	(58.2 , 65.1)
Male	398	14.1	(10.6 , 17.5)	*423*	58.4	(53.7 , 63.1)
Female	380	9.7	(6.7 , 12.7)	*338*	65.7	(60.6 , 70.8)
CARE Zimbabwe	377	36.9	(32.0 , 41.8)	1177	24.2	(21.8 , 26.6)
Male	184	34.2	(27.3 , 41.2)	628	25.3	(21.9 , 28.7)
Female	193	39.4	(32.4 , 46.3)	549	23.0	(19.4 , 26.5)
World Vision Tanzania	838	15.3	(12.8 , 17.8)	361	62.4	(56.7 , 68.1)
Male	400	15.3	(11.7 , 18.8)	183	59.0	(51.8 , 66.2)
Female	438	15.3	(11.9 , 18.7)	178	68.5	(61.7 , 75.4)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants endline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.

5.1.2.5 Food purchasing power

Data was collected on food purchasing power among mothers at baseline and endline for three NGO projects (Table 41). The overall weighted indicator estimates suggested a small decrease (1.3%), while the unweighted indicator estimates suggested a small increase (1.4%) in food purchasing power from baseline to endline. Among the individual projects, coverage was found to significantly increase for CARE Ethiopia; a significant decrease was observed for CARE Zimbabwe; and coverage did not significantly increase for World Vision Tanzania.

The magnitude of the absolute difference from baseline to endline differed among the projects, although all differences were <6% (Table 42).

Indicator data was disaggregated for maternal age (Table 43). Although few mothers 15-19 years were observed in the sample, the findings for maternal purchasing power coverage varied by project. For both CARE Zimbabwe and World Vision Tanzania the proportion of mothers 20-49 years who made decisions on food purchasing was approximately 20% greater than mothers 15-19 years of age.

Table 41. Comparison from baseline to endline of coverage estimates for women 15-49 years who make decisions on food purchases.

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	DNA[3]	950	86.2	(84.0 , 88.4)	1033	92.0	(90.3 , 93.6)	0.001
CARE Zimbabwe	89.4	468	77.4	(73.5 , 81.2)	1191	71.8	(69.2 , 74.3)	0.021
Plan Bangladesh	NR[4]	-	-	(- , -)	-	-	(- , -)	-
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[5]	54.4	416	57.7	(52.9 , 62.5)	823	61.5	(57.8 , 65.2)	0.146
Overall (weighted)[6]	-	*1835*	*77.5*	*(75.5 , 79.4)*	*3108*	*76.2*	*(74.6 , 77.6)*	*Δ = -1.3*
Overall (unweighted)[7]	-	-	*73.8*	*(24.0 , 100)*	-	*75.2*	*(26.3 , 100)*	*Δ = +1.4*

[1]DHS values have been taken from the following sources: Zimbabwe 2010-2011 DHS Report (average of Midland and Masvingo regions; only assesses decision making) and Tanzania 2010 DHS Report (Singida region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]DNA: Data not available for time period of interest.
[4]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[5]At endline, coverage estimates were weighted given oversampling in some regions.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 42. Change in coverage observed from baseline to endline among women 15-49 years who make decisions on food purchases.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Medium baseline coverage (50-79%)					
World Vision Tanzania	57.7	61.5	3.8	1.07	no change
CARE Zimbabwe	77.4	71.8	-5.5	0.93	decrease
CARE Ethiopia	86.2	92.0	5.8	1.07	increase
Coverage data not collected					
Plan Bangladesh	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); decrease = significant decrease in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 43. Disaggregation by maternal age of baseline to endline of coverage estimates for women 15-49 years who make decisions on food purchases.

Project	Baseline						Endline					
	N	Coverage (%)	95% CI				N	Coverage (%)	95% CI			
CARE Ethiopia	950	86.2	(	84.0	,	88.1)	1033	92.0	(	90.3	,	93.6)
15 - 19 years	65	87.7	(	79.5	,	95.9)	63	92.1	(	85.2	,	98.9)
20 - 49 years	885	86.1	(	83.8	,	88.4)	970	92.0	(	90.2	,	93.7)
CARE Zimbabwe	468	77.4	(	73.5	,	81.2)	1191	71.8	(	69.2	,	74.3)
15 - 19 years	31	54.8	(	36.3	,	73.4)	89	55.1	(	44.5	,	65.6)
20 - 49 years	437	78.9	(	75.1	,	82.8)	1102	73.1	(	70.5	,	75.8)
World Vision Tanzania	416	57.7	(	52.9	,	62.5)	823	61.5	(	57.8	,	65.2)
15 - 19 years	N/D[1]	N/D	(	-	,	-)	27	44.4	(	24.1	,	64.5)
20 - 49 years	N/D	N/D	(	-	,	-)	796	62.6	(	59.2	,	65.9)
Plan Bangladesh	-	-	(	-	,	-)	-	-	(	-	,	-)
Plan Ethiopia	-	-	(	-	,	-)	-	-	(	-	,	-)
Plan Ghana	-	-	(	-	,	-)	-	-	(	-	,	-)
Plan Mali	-	-	(	-	,	-)	-	-	(	-	,	-)
Plan Zimbabwe	-	-	(	-	,	-)	-	-	(	-	,	-)
Save Mali	-	-	(	-	,	-)	-	-	(	-	,	-)
Save Pakistan	-	-	(	-	,	-)	-	-	(	-	,	-)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

5.1.3 Child health-related indicators

For the child health-related indicators, which included assessment of DPT3, ORT, ORSZn, and MalTrt, findings differed by indicator and NGO project (Figure 8).

5.1.3.1 Immunization-related indicator

For the DPT/pentavalent vaccination indicator, there appeared to be an overall increase observed among weighted and unweighted coverage estimates from baseline to endline (Tables 44). The extent to which NGO project baseline coverage estimates were similar to comparable DHS-reported values varied by country, but in general appeared to be quite similar.

The magnitude of the difference from baseline to endline was greater among NGO projects with medium baseline coverage estimates, while there was generally no significant change in those NGO projects with high baseline coverage (Table 45). Few NGO projects had greater than 95% coverage at endline. In some NGO projects, it did appear that mothers <20 years were more likely to have fully vaccinated children; however, the sample size of mothers <20 was much smaller than that for mothers 20-49 years (Table 46). In general there did not appear to be a difference in vaccination coverage estimates at endline between girls and boys (Table 47).

5.1.3.2 Childhood illness-related indicators

Among the childhood illness-related indicators, which included consumption of ORT or ORS and zinc among children with reported diarrhea and children with malarial-like symptoms who received anti-malarial drugs, there appeared to be an overall increase observed for the weighted and unweighted coverage estimates from baseline to endline (ORT: Table 48; ORSZn: Table 53; MalTrt: Table 58). The extent to which NGO project baseline coverage estimates were similar to comparable DHS-reported values varied by country and indicator.

The greatest magnitude of difference from baseline to endline for childhood illness-related indicators was observed among NGO projects with a low baseline coverage value (ORT: Table 49; ORSZn: Table 54; MalTrt: Table 59). There was a very small sample of women <20 years old for each of childhood illness-related indicators, thus whether maternal age appeared to be more or less associated with respective indicators could not be determined (ORT: Table 50; ORSZn: Table 55; MalTrt: Table 60). There did not appear to be a clear trend towards increased or decreased coverage in relation to child sex across projects (ORT: Table 51; ORSZn: Table 56; MalTrt: Table 61). It was hard to draw any conclusions for the childhood illness-related indicators around child age, as the number of incident cases for respective age groups greatly varied (ORT: Table 52; ORSZn: Table 57; MalTrt: Table 62).

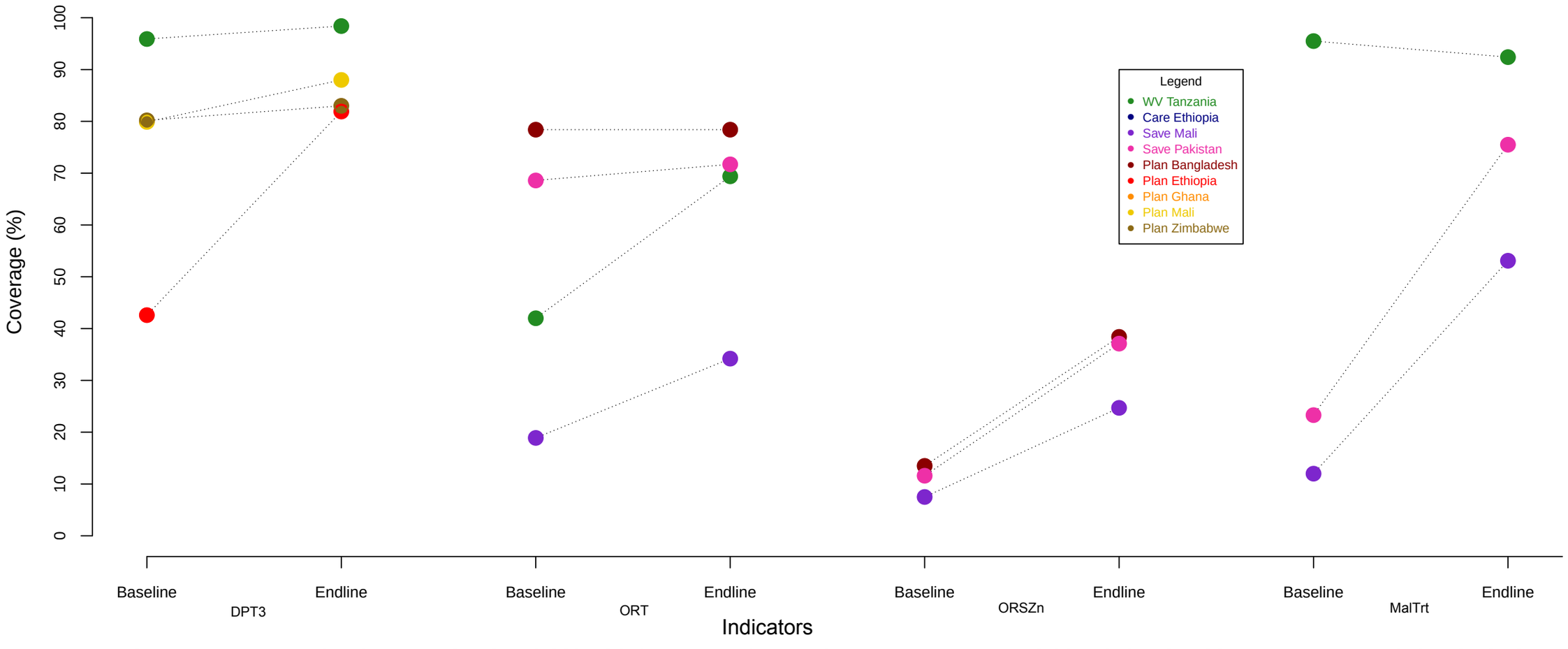


Figure 8. Coverage of Common Framework indicators related to child health (DPT3: DPT/pentavalent vaccination; ORT: child with diarrhea-like symptoms provided oral rehydration therapy; ORSZn: child with diarrhea-like symptoms provided ORS and zinc; MalTrt: child with malaria-like symptoms received malaria medication). Each coloured circle represents a mean coverage value at baseline and endline among the NGO projects that collected associated indicator data, while the dotted lines between circles are indicative of the direction of change.

5.1.3.3 DPT vaccination

Data was collected on DPT/pentavalent at baseline and endline for four NGO projects (Table 44). The overall weighted and unweighted indicator estimates suggest that DPT vaccination coverage increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Plan Ethiopia, Plan Mali, and World Vision Tanzania, while it did not significantly increase for Plan Zimbabwe.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 45). The greatest increase was observed for Plan Ethiopia (42.6 to 81.9%; absolute difference: 39.3%).

Indicator data was disaggregated for maternal age (Table 46) and child sex (Table 47). Among mothers 15-19 and 20-49 years, the findings for DPT3 coverage varied by project, although few young mothers were observed in the sample. The difference in DPT3 coverage between boys and girls was <5% for all projects.

Table 44. Comparison from baseline to endline of coverage estimates for living children 12-23 months who have received ≥3 doses of DTP/pentavalent vaccine.

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ethiopia	34.5	345	42.6	(37.4 , 47.9)	493	81.9	(78.5 , 85.4)	0.001
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	DNA[4]	359	79.9	(75.8 , 84.1)	292	88.0	(84.3 , 91.8)	0.006
Plan Zimbabwe[5]	87.1	378	80.2	(76.1 , 84.2)	407	83.0	(79.4 , 86.7)	0.296
Save Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Save Pakistan	NR	-	-	(- , -)	-	-	(- , -)	-
World Vision Tanzania[6]	94.8	416	95.9	(94.0 , 97.8)	235	98.4	(96.4 , 100)	0.098
Overall (weighted)[7]	-	*1498*	*75.8*	*(73.6 , 80.8)*	*1427*	*86.2*	*(84.3 , 87.9)*	*Δ = +10.4*
Overall (unweighted)[8]	-	-	*74.7*	*(32.1 , 100)*	-	*87.9*	*(55.9 , 100)*	*Δ = +13.2*

[1]DHS values have been taken from the following sources: Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Ethiopia 2011 DHS Report (average of Amhara, Oromia and SNNP regions); Zimbabwe 2010-2011 DHS Report (Manicaland region); Pakistan 2012-2013 DHS Report (Khyber Pakhtunkhwa region); and Tanzania 2010 DHS Report (Singida region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]DNA: Data not available for time period of interest.
[5]At baseline child age range was 13-24 months inclusive.
[6]At endline, coverage estimates were weighted given oversampling in some regions.
[7]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[8]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 45. Change in coverage observed from baseline to endline among living children 12-23 months who have received ≥3 doses of DTP/pentavalent vaccine.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Medium baseline coverage (50-79%)					
Plan Ethiopia	42.6	81.9	39.3	1.92	increase
Plan Mali	79.9	88.0	8.1	1.10	increase
High baseline coverage (≥80%)					
Plan Zimbabwe	80.2	83.0	2.8	1.03	no change
World Vision Tanzania	95.9	98.4	2.5	1.03	no change
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Plan Bangladesh	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Save Mali	-	-	-	-	-
Save Pakistan	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline ($P<0.05$); no change = non-significant increase or decrease from baseline to endline.

Table 46. Disaggregation by maternal age of baseline to endline of coverage estimates for living children 12-23 months who have received ≥3 doses of DTP/pentavalent vaccine.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Ethiopia	345	42.6	(37.4 , 47.9)	493	81.9	(78.5 , 85.4)
15 - 19 years	10	30.0	(0 , 64.6)	23	100	(- , -)
20 - 49 years	335	43.0	(37.7 , 48.3)	470	81.1	(77.5 , 84.6)
Plan Mali	359	79.9	(75.8 , 84.1)	292	88.0	(84.3 , 91.8)
15 - 19 years	N/D[1]	N/D	(- , -)	45	82.2	(70.6 , 93.8)
20 - 49 years	N/D	N/D	(- , -)	247	89.1	(85.2 , 93.0)
Plan Zimbabwe[2]	378	80.2	(76.1 , 84.2)	407	83.0	(79.4 , 86.7)
15 - 19 years	13	92.3	(75.5 , 100)	37	89.2	(78.7 , 99.7)
20 - 49 years	365	79.7	(75.6 , 83.9)	370	82.4	(78.5 , 86.3)
World Vision Tanzania	416	95.9	(94.0 , 97.8)	235	98.4	(96.4 , 100)
15 - 19 years	N/D[1]	N/D	(- , -)	14	100	(- , -)
20 - 49 years	N/D	N/D	(- , -)	221	98.2	(96.4 , 100)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.
[2]Maternal age disaggregations are less than 18 years of age and greater than 18 years of age at baseline.

Table 47. Disaggregation by child sex of baseline to endline of coverage estimates for living children 12-23 months who have received ≥3 doses of DTP/pentavalent vaccine.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Ethiopia	345	42.6	(37.4 , 47.9)	493	81.9	(78.5 , 85.4)
Male	173	42.3	(35.3 , 50.2)	259	84.9	(80.6 , 89.3)
Female	172	42.4	(35.0 , 49.9)	234	80.6	(80.6 , 89.3)
Plan Mali	359	79.9	(75.8 , 84.1)	292	88.0	(84.3 , 91.8)
Male	174	78.7	(72.6 , 84.9)	148	88.5	(83.3 , 93.7)
Female	185	81.1	(75.4 , 86.8)	144	87.5	(82.0 , 93.0)
Plan Zimbabwe	378	80.2	(76.1 , 84.2)	407	83.0	(79.4 , 86.7)
Male	N/D[1]	N/D	(- , -)	206	85.0	(80.0 , 89.9)
Female	N/D	N/D	(- , -)	201	81.1	(75.6 , 86.6)
World Vision Tanzania	416	95.9	(94.0 , 97.8)	235	98.4	(96.4 , 100)
Male	185	96.8	(94.2 , 99.3)	112	97.3	(94.3 , 100)
Female	231	95.2	(92.5 , 98.0)	123	99.2	(97.8 100)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Save Mali	-	-	(- , -)	-	-	(- , -)
Save Pakistan	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Child gender was not assessed within the baseline questionnaire.

5.1.3.4 Oral rehydration therapy for reported diarrhea

Data was collected on the provision of oral rehydration therapies (either ORS or SSS) to children with reported episodes of diarrhea in the past two weeks at baseline and endline for four NGO projects (Table 48). The overall weighted and unweighted indicator estimates suggest that the provision of ORTs increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Save Mali and World Vision Tanzania, while there was no change for Save Pakistan and Plan Bangladesh.

The magnitude of the absolute difference from baseline to endline differed among the projects (Table 49). The greatest difference was observed for World Vision Tanzania (42.0 to 69.4%; absolute difference: 27.4%) and Save Mali (18.9 to 34.2%; absolute difference: 15.3%); the baseline coverage estimates were lower for these two countries.

Indicator data was disaggregated for maternal age (Table 50), child sex (Table 51), and child age (Table 52). Among mothers 15-19 and 20-49 years, there were very few mothers 15-19 years in the sample. Among the limited number of observations, for three of the four projects it appeared that more young mothers provided their children with ORT during a recent case of diarrhea. There did not appear to be a difference in coverage between boys and girls at endline. The findings for child age were variable, and there were few reported children 0-5 months with reported diarrhea for all projects.

Table 48. Comparison from baseline to endline of coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS.

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	35.5	37	78.4	(64.5 , 92.3)	125	78.4	(71.1 , 85.7)	0.998
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali	3.4	111	18.9	(11.5 , 26.3)	73	34.2	(23.1 , 45.4)	0.019
Save Pakistan	2.3	567	68.6	(64.8 , 72.4)	315	71.7	(66.7 , 76.7)	0.331
World Vision Tanzania[4]	DNA[5]	276	42.0	(36.2 , 47.9)	184	69.4	(51.9 , 76.9)	0.001
Overall (weighted)[6]	-	*991*	*56.0*	*(52.8 , 59.1)*	*697*	*68.3*	*(48.1 , 53.9)*	*Δ = +12.3*
Overall (unweighted)[7]	-	-	*52.0*	*(3.0 , 100)*	-	*63.5*	*(16.3 , 100)*	*Δ = +11.5*

[1]DHS values have been taken from the following sources: Zimbabwe 2010-2011 DHS Report (average of Midland and Masvingo regions; CARE Zimbabwe only); Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions; Plan Mali only); Zimbabwe 2010-2011 DHS Report (Manicaland region; Plan Zimbabwe only); Mali 2012-2013 DHS Report (Sikasso region; Save Mali only); and Pakistan 2012-2013 DHS Report (Khyber Pakhtunkhwa region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At endline, coverage estimates were weighted given oversampling in some regions.
[5]DNA: Data not available for time period of interest.
[6]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[7]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 49. Change in coverage observed from baseline to endline among children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	18.9	34.2	15.3	1.81	increase
World Vision Tanzania	42.0	69.4	27.4	1.65	increase
Medium baseline coverage (50-79%)					
Save Pakistan	68.6	71.7	3.1	1.05	no change
Plan Bangladesh	78.4	78.4	0.0	1.00	no change
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05); no change = non-significant increase or decrease from baseline to endline.

Table 50. Disaggregation by maternal age of baseline to endline of coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS. [1]

Project	Baseline					Endline				
	N	Coverage (%)	95% CI			N	Coverage (%)	95% CI		
Plan Bangladesh	37	78.4	(64.5	,	92.3)	125	78.4	(71.1	,	85.7)
15 - 19 years	6	83.3	(40.5	,	100)	16	87.5	(69.3	,	100)
20 - 49 years	31	77.4	(61.8	,	93.0)	109	77.1	(69.0	,	85.1)
Save Mali	111	18.9	(11.5	,	26.3)	73	34.2	(23.1	,	45.4)
15 - 19 years	13	23.1	(0	,	49.6)	10	40.0	(30.6	,	76.9)
20 - 49 years	98	18.4	(10.6	,	26.2)	63	33.3	(21.4	,	45.3)
Save Pakistan	567	68.6	(64.8	,	72.4)	315	71.7	(66.7	,	76.7)
15 - 19 years	21	66.7	(44.7	,	88.7)	7	71.4	(26.3	,	100)
20 - 49 years	546	68.7	(64.8	,	72.6)	308	71.8	(66.7	,	76.8)
World Vision Tanzania	276	42.0	(36.2	,	47.9)	184	69.4	(51.9	,	76.9)
15 - 19 years	N/D[1]	N/D	(-	,	-)	6	100	(-	,	-)
20 - 49 years	N/D	N/D	(-	,	-)	178	68.0	(61.1	,	74.9)
Care Ethiopia	-	-	(-	,	-)	-	-	(-	,	-)
Care Zimbabwe	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ethiopia	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ghana	-	-	(-	,	-)	-	-	(-	,	-)
Plan Mali	-	-	(-	,	-)	-	-	(-	,	-)
Plan Zimbabwe	-	-	(-	,	-)	-	-	(-	,	-)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

Table 51. Disaggregation by child sex of baseline to endline of coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS.[1]

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Bangladesh	37	78.4	(64.5 , 92.3)	125	78.4	(71.1 , 85.7)
Male	21	71.4	(50.4 , 92.5)	*70*	80.0	(70.4 , 89.6)
Female	16	87.5	(69.3 , 100)	*52*	78.8	(67.4 , 90.3)
Save Mali	111	18.9	(11.5 , 26.3)	73	34.2	(23.1 , 45.4)
Male	69	17.4	(8.2 , 26.6)	47	36.2	(21.9 , 50.4)
Female	42	21.4	(8.5 , 34.4)	26	30.8	(11.8 , 49.8)
Save Pakistan	567	68.6	(64.8 , 72.4)	315	71.7	(66.7 , 76.7)
Male	276	71.0	(65.6 , 76.4)	167	71.9	(65.0 , 78.7)
Female	291	66.4	(60.9 , 71.8)	148	71.6	(64.3 , 79.0)
World Vision Tanzania	276	42.0	(36.2 , 47.9)	184	69.4	(51.9 , 76.9)
Male	134	36.6	(28.3 , 44.8)	98	66.7	(57.2 , 76.1)
Female	142	47.2	(38.9 , 55.5)	86	70.9	(61.1 , 80.7)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants at endline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.

Table 52. Disaggregation by child age of baseline to endline of coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or SSS.

Project	Baseline					Endline				
	N	Coverage (%)	95% CI			N	Coverage (%)	95% CI		
Plan Bangladesh	37	78.4	(64.5	,	92.3)	125	78.4	(71.1	,	85.7)
0 - 5 months	1	0	(-	,	-)	5	40.0	(0	,	100)
6 - 23 months	36	80.6	(67.0	,	94.1)	87	78.2	(69.3	,	87.0)
24 - 59 months	0	0	(-	,	-	33	84.8	(71.9	,	97.8)
Save Mali	111	18.9	(11.5	,	26.3)	73	34.2	(23.1	,	45.4)
0 - 5 months	18	22.2	(0.9	,	43.5)	11	18.2	(0	,	45.4)
6 - 23 months	77	19.5	(10.4	,	28.5)	49	38.8	(24.6	,	52.9)
24 - 59 months	16	12.5	(0	,	30.7)	13	30.8	(1.7	,	59.8)
Save Pakistan	567	68.6	(64.8	,	72.4)	315	71.7	(66.7	,	76.7)
0 - 5 months	43	46.5	(31.0	,	62.0)	16	43.8	(16.4	,	71.1)
6 - 23 months	266	73.3	(68.0	,	78.7)	164	70.7	(63.7	,	77.8)
24 - 59 months	258	67.4	(61.7	,	73.2)	135	76.3	(69.0	,	83.6)
World Vision Tanzania[1]	276	42.0	(36.2	,	47.9)	184	69.4	(51.9	,	76.9)
0 - 5 months	73	31.5	(20.6	,	42.4)	0	0	(-	,	-)
6 - 23 months	112	47.3	(37.9	,	56.7)	113	69.0	(60.4	,	77.7)
24 - 59 months	91	44.0	(33.6	,	54.3)	71	69.0	(58.0	,	80.0)
Care Ethiopia	-	-	(-	,	-)	-	-	(-	,	-)
Care Zimbabwe	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ethiopia	-	-	(-	,	-)	-	-	(-	,	-)
Plan Ghana	-	-	(-	,	-)	-	-	(-	,	-)
Plan Mali	-	-	(-	,	-)	-	-	(-	,	-)
Plan Zimbabwe	-	-	(-	,	-)	-	-	(-	,	-)

[1]At baseline, child age ranges were 0-6 month, 12-23 months and 0-59 months inclusive.

5.1.3.5 ORS and zinc for reported diarrhea

Data was collected on the provision of ORS and zinc to children with reported episodes of diarrhea in the past two weeks at baseline and endline for three NGO projects (Table 53).

The overall weighted and unweighted indicator estimates suggest that provision of ORS and zinc for recent episodes of diarrhea increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for all of the projects.

All three projects had a baseline coverage estimate <15% at baseline. The absolute difference from baseline to endline varied between 17.2 to 25.5%, corresponding to an approximately 3-fold increase (Table 54).

Indicator data was disaggregated for maternal age (Table 55), child sex (Table 56), and child age (Table 57). Among mothers 15-19 and 20-49 years, there were very few mothers 15-19 years in the sample. Among the limited number of observations, it appeared that for all projects more young mothers provided their children with ORS and zinc during a recent case of diarrhea. There did not appear to be a clear difference between the number of boys and girls at endline who received ORS and zinc. The findings for child age were variable, and there were few observations among children 0-5 months for all projects.

Table 53. Comparison from baseline to endline of coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc.

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	81.1	37	13.5	(2.0 , 25.1)	125	38.4	(29.8 , 47.0)	0.005
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali[4]	43.3	107	7.5	(2.4 , 12.5)	73	24.7	(14.5 , 34.8)	0.001
Save Pakistan	37.6	249	11.6	(7.6 , 15.7)	315	37.1	(31.8 , 42.5)	0.001
World Vision Tanzania	NR	-	-	(- , -)	-	-	(- , -)	-
Overall (weighted)[5]	-	*393*	*10.7*	*(7.8 , 14.2)*	*513*	*35.7*	*(31.5 , 40.0)*	*Δ = +25.0*
Overall (unweighted)[6]	-	-	*10.9*	*(0 , 46.2)*	-	*33.4*	*(0 , 86.8)*	*Δ = +22.5*

[1]DHS values have been taken from the following sources: Bangladesh 2011 DHS Report (average of Barisal and Rangpur regions); Mali 2012-2013 DHS Report (average of Kayes, Koulikoro and Ségou regions; Plan Mali only); Mali 2012-2013 DHS Report (Sikasso region; Save Mali only); and Pakistan 2012-2013 DHS Report (Khyber Pakhtunkhwa region; value is for zinc only, independent of ORS).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]Only those who received zinc have been reported given the nature of the survey.
[5]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[6]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 54. Change in coverage observed from baseline to endline among children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	7.5	24.7	17.2	3.3	increase
Save Pakistan	11.6	37.1	25.5	3.2	increase
Plan Bangladesh	13.5	38.4	24.9	2.8	increase
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-
World Vision Tanzania	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline (P<0.05).

Table 55. Disaggregation by maternal age of baseline to endline coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Bangladesh	37	13.5	(2.0 , 25.1)	125	38.4	(29.8 , 47.0)
15 - 19 years	6	16.7	(0 , 59.5)	16	43.8	(16.4 , 71.1)
20 - 49 years	31	12.9	(0.4 , 25.4)	109	37.6	(28.4 , 46.9)
Save Mali	107	7.5	(2.4 , 12.5)	73	24.7	(14.5 , 34.8)
15 - 19 years	13	7.6	(0 , 2.4)	10	30.0	(0 , 64.6)
20 - 49 years	94	5.3	(0.7 , 9.9)	63	23.8	(13.0 , 34.6)
Save Pakistan	249	11.6	(7.6 , 15.7)	315	37.1	(31.8 , 42.5)
15 - 19 years	6	0	(- , -)	7	71.4	(26.3 , 100)
20 - 49 years	243	11.9	(7.8 , 16.0)	308	36.4	(31.0 , 41.8)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
World Vision Tanzania	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

Table 56. Disaggregation by child sex of baseline to endline coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc.[1]

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Bangladesh	37	13.5	(2.0 , 25.1)	125	38.4	(29.8 , 47.0)
Male	21	19.0	(0.7 , 37.4)	*70*[1]	34.3	(22.9 , 45.7)
Female	16	6.3	(0 , 19.6)	*52*	44.6	(30.3 , 58.2)
Save Mali	107	7.5	(2.4 , 12.5)	73	24.7	(14.5 , 34.8)
Male	66	6.1	(0.1 , 12.0)	47	23.4	(10.8 , 36.0)
Female	41	9.8	(2.7 , 19.2)	26	26.9	(8.7 , 45.2)
Save Pakistan	249	11.6	(7.6 , 15.7)	315	37.1	(31.8 , 42.5)
Male	122	17.2	(10.4 , 24.0)	167	37.1	(29.7 , 44.5)
Female	127	6.3	(2.0 , 10.6)	148	37.2	(29.3 , 45.0)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
World Vision Tanzania	-	-	(- , -)	-	-	(- , -)

[1]Gender was not collected for all participants at baseline, thus gender-related numbers may not add up to the overall denominator. Such instances appear in italics above.

Table 57. Disaggregation by child age of baseline to endline coverage estimates for children 0-59 months with diarrhea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Plan Bangladesh	37	13.5	(2.0 , 25.1)	125	38.4	(29.8 , 47.0)
0 - 5 months	1	0	(- , -)	5	20.0	(0 , 75.5)
6 - 23 months	36	13.9	(2.0 , 25.8)	87	42.5	(31.9 , 53.1)
24 - 59 months	0	0	(- , -)	33	30.3	(13.8 , 46.9)
Save Mali	107	7.5	(2.4 , 12.5)	73	24.7	(14.5 , 34.8)
0 - 5 months	17	0	(- , -)	11	9.1	(0 , 29.3)
6 - 23 months	75	9.3	(2.6 , 16.1)	49	24.5	(12.0 , 37.0)
24 - 59 months	15	6.7	(0 , 21.0)	13	38.5	(7.9 , 69.1)
Save Pakistan	249	11.6	(7.6 , 15.7)	315	37.1	(31.8 , 42.5)
0 - 5 months	23	17.4	(0.6 , 34.2)	16	18.8	(0 , 40.2)
6 - 23 months	109	10.1	(4.3 , 15.8)	164	36.0	(28.6 , 43.4)
24 - 59 months	117	12.0	(6.0 , 17.9)	135	40.7	(32.3 , 49.1)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)
World Vision Tanzania	-	-	(- , -)	-	-	(- , -)

5.1.3.6 Treatment for reported malaria-like symptoms

Data was collected on the number of children who received anti-malarial drugs for reported malaria-like symptoms in the previous two weeks at baseline and endline for three NGO projects (Table 58). The overall weighted and unweighted indicator estimates suggest that the number of children who received treatment when they had malaria-like symptoms increased overall from baseline to endline. Among the individual projects, coverage was found to significantly increase for Save Mali and Save Pakistan, and there was a small significant decrease for World Vision Tanzania.

The magnitude of the absolute difference from baseline to endline differed among the three projects (Table 59). Very large absolute differences were observed in Save Mali and Save Pakistan, where provision of malaria treatment increased from 12.0 to 53.1% (absolute difference: 41.1%) and 23.3 to 75.5% (absolute difference: 52.2%) from baseline to endline for Save Mali and Save Pakistan, respectively.

Indicator data was disaggregated for maternal age (Table 60), child sex (Table 61), and child age (Table 62). Among mothers 15-19 and 20-49 years, the findings for anti-malaria treatment coverage varied by project and very few young mothers were observed in the sample. Provision of anti-malarial drugs to boys versus girls did not appear to differ for two of the three projects, but for one project more girls received treatment than boys (World Vision Tanzania). The findings for child age were variable, and there were few reported children 0-5 months with reported malaria-like symptoms for all projects.

Table 58. Comparison from baseline to endline of coverage estimates for children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs.

Project	Baseline				Endline			*P*-value[2]
	DHS[1]	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI	
CARE Ethiopia	NR[3]	-	-	(- , -)	-	-	(- , -)	-
CARE Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Bangladesh	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ethiopia	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Ghana	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Mali	NR	-	-	(- , -)	-	-	(- , -)	-
Plan Zimbabwe	NR	-	-	(- , -)	-	-	(- , -)	-
Save Mali	23.7	167	12.0	(7.0 , 17.0)	143	53.1	(44.9 , 61.4)	0.001
Save Pakistan	7.5	43	23.3	(10.1 , 36.4)	69	75.5	(64.9 , 85.8)	0.001
World Vision Tanzania[4]	56.7	310	95.5	(93.2 , 97.8)	87	92.4	(87.1 , 97.7)	0.040
Overall (weighted)[5]	-	*520*	*62.7*	*(58.4 , 66.9)*	*299*	*68.9*	*(63.3 , 74.1)*	*Δ = +6.2*
Overall (unweighted)[6]	-	-	*43.6*	*(0 , 99.7)*	-	*73.7*	*(23.9 , 100)*	*Δ = +30.1*

[1]DHS values have been taken from the following sources: Mali 2012-2013 DHS Report (Sikasso region); Pakistan 2012-2013 DHS Report (Khyber Pakhtunkhwa region); and Tanzania 2010 DHS Report (Singida region).
[2]Comparison between the respective project's baseline and endline proportions using a Chi-squared test.
[3]NR: Not reported. This value has not been reported because this project did not collect this indicator data.
[4]At endline, coverage estimates were weighted given oversampling in some regions.
[5]Overall (weighted) coverage estimate is the proportion of the sum of all project numerators to the sum of all project denominators.
[6]Overall (unweighted) coverage estimate is the average of the project coverage estimates.

Table 59. Change in coverage observed from baseline to endline among children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs.

Project	Baseline coverage (%)	Endline coverage (%)	Absolute difference[1] (%)	Ratio[2]	Direction of change from baseline[3]
Low baseline coverage (<50%)					
Save Mali	12.0	53.1	41.1	4.43	increase
Save Pakistan	23.3	75.5	52.2	3.24	increase
High baseline coverage (≥80%)					
World Vision Tanzania	95.5	92.4	-3.1	0.97	decrease
Coverage data not collected					
CARE Ethiopia	-	-	-	-	-
CARE Zimbabwe	-	-	-	-	-
Plan Bangladesh	-	-	-	-	-
Plan Ethiopia	-	-	-	-	-
Plan Ghana	-	-	-	-	-
Plan Mali	-	-	-	-	-
Plan Zimbabwe	-	-	-	-	-

[1]Absolute Difference: Endline coverage minus baseline coverage.
[2]Ratio: Ratio of endline coverage to baseline coverage.
[3]Direction of change descriptors: increase = significant increase in indicator coverage from baseline to endline ($P<0.05$); decrease = significant decrease in indicator coverage from baseline to endline ($P<0.05$).

Table 60. Disaggregation by maternal age of baseline to endline of coverage estimates for children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Save Mali	167	12.0	(7.0 , 17.0)	143	53.1	(44.9 , 61.4)
15 - 19 years	22	4.5	(0 , 14.0)	13	38.5	(7.9 , 69.1)
20 - 49 years	145	13.1	(7.5 , 18.7)	130	54.6	(45.9 , 63.3)
Save Pakistan	43	23.3	(10.1 , 36.4)	69	75.5	(64.9 , 85.8)
15 - 19 years	2	0	(- , -)	2	100	(- , -)
20 - 49 years	41	24.4	(10.7 , 38.1)	67	74.5	(63.9 , 85.3)
World Vision Tanzania	310	95.5	(93.2 , 97.8)	87	92.4	(87.1 , 97.7)
15 - 19 years	N/D[1]	N/D	(- , -)	5	60.0	(0 , 100)
20 - 49 years	N/D	N/D	(- , -)	82	91.5	(85.3 , 97.6)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)

[1]N/D: Non-discernible. Maternal age was not assessed within the baseline questionnaire.

Table 61. Disaggregation by child sex of baseline to endline of coverage estimates for children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs.

Project	Baseline			Endline		
	N	Coverage (%)	95% CI	N	Coverage (%)	95% CI
Save Mali	167	12.0	(7.0 , 17.0)	143	53.1	(44.9 , 61.4)
Male	94	9.6	(3.5 , 15.6)	82	52.4	(41.4 , 63.5)
Female	73	15.1	(6.7 , 23.5)	61	54.1	(41.2 , 67.0)
Save Pakistan	43	23.3	(10.1 , 36.4)	69	75.5	(64.9 , 85.8)
Male	24	33.3	(13.0 , 53.7)	41	75.6	(61.9 , 89.0)
Female	19	10.5	(0 , 25.7)	28	75.0	(57.9 , 92.1)
World Vision Tanzania	310	95.5	(93.2 , 97.8)	87	92.4	(87.1 , 97.7)
Male	153	93.5	(89.5 , 97.4)	43	84.1	(72.8 , 95.3)
Female	157	97.5	(95.0 , 100)	44	95.5	(89.0 , 100)
Care Ethiopia	-	-	(- , -)	-	-	(- , -)
Care Zimbabwe	-	-	(- , -)	-	-	(- , -)
Plan Bangladesh	-	-	(- , -)	-	-	(- , -)
Plan Ethiopia	-	-	(- , -)	-	-	(- , -)
Plan Ghana	-	-	(- , -)	-	-	(- , -)
Plan Mali	-	-	(- , -)	-	-	(- , -)
Plan Zimbabwe	-	-	(- , -)	-	-	(- , -)

Table 62. Disaggregation by child age of baseline to endline of coverage estimates for children 0-59 months with malaria-like symptoms in the previous 2 weeks who received anti-malarial drugs.

Project	Baseline							Endline						
	N	Coverage (%)		95% CI				N	Coverage (%)		95% CI			
Save Mali	167	12.0	(	7.0	,	17.0	)	143	53.1	(	44.9	,	61.4	)
0 - 5 months	32	9.4	(	0	,	20.1	)	18	22.2	(	0.9	,	43.5	)
6 - 23 months	102	11.8	(	5.4	,	18.1	)	83	59.0	(	48.2	,	69.8	)
24 - 59 months	33	15.2	(	2.2	,	28.1	)	42	54.8	(	39.1	,	70.5	)
Save Pakistan	43	23.3	(	10.1	,	36.4	)	69	75.5	(	64.9	,	85.8	)
0 - 5 months	1	0	(	-	,	-	)	2	100	(	-	,	-	)
6 - 23 months	11	36.4	(	2.5	,	70.3	)	27	85.2	(	70.9	,	99.5	)
24 - 59 months	31	19.4	(	4.6	,	34.1	)	40	67.5	(	52.3	,	82.7	)
World Vision Tanzania[1]	310	95.5	(	93.2	,	97.8	)	87	92.4	(	87.1	,	97.7	)
0 - 5 months	55	92.7	(	85.6	,	99.8	)	-	-	(	-	,	-	)
6 - 23 months	141	97.9	(	95.5	,	100	)	43	86.0	(	75.3	,	96.4	)
24 - 59 months	114	93.9	(	89.4	,	98.3	)	44	93.2	(	85.4	,	100	)
Care Ethiopia	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Care Zimbabwe	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Plan Bangladesh	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Plan Ethiopia	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Plan Ghana	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Plan Mali	-	-	(	-	,	-	)	-	-	(	-	,	-	)
Plan Zimbabwe	-	-	(	-	,	-	)	-	-	(	-	,	-	)

[1]At baseline, child age ranges were 0-6 month, 12-23 months and 0-59 months inclusive.

5.2 Training and engagement assessment by NGO project

Table 63. Training of health personnel throughout NGO project duration, as reported by each NGO.

NGO	Project	Proportion of women on local health committees (%)	Number of health facility personnel trained			Number of CHWs trained on MNCH issues			Total trainings
			Total	Women	Men	Total	Women	Men	
CARE	Ethiopia	NR[1]	373	202	171	273	109	164	646[2]
	Zimbabwe	NR	716	483	233	738	519	219	1454
Plan	Bangladesh[3,4]	NR[2]	334	161	173	1620	261	1359	1954
	Ethiopia[3]	NR	500	248	252	56137	55975	162	56637
	Ghana[3]	NR	535	170	365	753	343	410	1288
	Mali[3]	NR	349	154	195	1850	1432	418	2199
	Zimbabwe[3]	NR	214	105	109	2723	572	2151	2913
Save	Mali	35	194	109	85	307	233	74	501
	Pakistan	50	96	48	48	1459	745	714	1555
World Vision	Tanzania	NR	935	637	298	355	164	191	1290
Total	*All projects*	-	*4246*	*2317*	*1929*	*66212*	*61675*	*4540*	*70461*

[1]NR: Not reported.
[2]Only includes training of officially recognized lay health professionals or volunteer workers.
[3]Number as reported reflects repeat training of the same individuals.
[4]Data as presented is inclusive of Health Development Armies (HDA).

Chapter 6 – Discussion

Within this chapter, the results and analysis conducted from the NGO project data are interpreted and discussed. Five principal components have been included

- Goal and key findings of the combined analysis
- Interpretation of findings
- Evidence-based interventions
- Limitations
- Methodologically-related lessons learned

6.1 Goal and key findings of the combined analysis

The primary goal of combined analysis within the MIC-KMI project was to design a CF of selected indicators and conduct a combined analysis of data generated among the ten MIC projects for those indicators. An indicator is a measure that is used to demonstrate change in a situation related to the progress in or the results of an activity, project, or programme. In total, there were 13 MNCH-related indicators found to be 'common' across the NGO projects, when the predetermined, strict criteria for inclusion were applied.

Across the identified thematic areas there was an overall increase in coverage from baseline to endline for all indicators. This reflects an improvement in indicator coverage, with the exception of stunting where an increase means the situation got worse. The magnitude and direction of change for indicators for individual NGO projects differed. However, in general, projects with lower starting baseline values appeared more likely to experience a greater increase in coverage. When considering individual project indicator coverage change, it is important to note that relative change is not a uniform measure of performance. As illustrated in Figure 5, greater change in coverage was observed among those indicators with lower coverage at baseline, and the change observed across indicators was not equal. Those indicators with a greater starting value were less likely to observe an increase at endline. For a starting coverage rate of 90% for example, a two-fold change is not possible. For a starting value of 10%, a two-fold change is quite possible.

Without a control group for comparison, it is not possible to attribute change to implemented activities, although it appears that for many of the indicators the observed change was likely related to the combined NGO activities. This statement is based on the fact that the observed indicator coverage increases were larger than what would be expected from observing secular public health trends had no activities been conducted. For example, coverage estimates for 'children 0-59 months with diarrhea in the previous 2 weeks who received ORS and zinc' significantly increased in all three NGO projects with a mean increase from 10.9% at baseline to 33.4% at endline, an absolute change of 22% and a change ratio of close to three-fold. Secular trends could not explain this 3-fold increase in coverage. The overall positive change in indicator coverage estimates was likely associated with the complex multi-targeted, multifaceted interventions implemented within the NGO project sites.

To examine the path to change, a tool called 'change pathways' was developed to aid the interpretation of factors that influenced the change in coverage and at the same time highlight the complexity required to bring about change. Captured in the change pathways for prioritized indicators is that the NGOs independently planned activities that aimed to improve various components related to MNCH. Depending on the indicator, this could include providing support and education through training to increase the capacity of health providers, communities and local governments; providing supplies; increasing quality provision of MNCH-related activities by heath providers; promoting adoption and utilization of MNCH services in the community; and increasing knowledge and ability of key players. By increasing capacity it was believed that there would be improved ability to deliver essential MNCH services; by increasing adoption, there might be increased utilization of MNCH services; and finally, by increasing knowledge and ability to practice appropriate MNCH behaviours, there might be increased utilization of services. Although the assessed population for the indicators were generally women 15-49 years of age or their children, those targeted within the NGOs' interventions was much broader, and included other family members, mothers-in-law, husbands, and other male family members, recognizing that generating change involves all members of the community.

All of these components are further expanded on and explored in the following sections.

6.2 Interpretation of findings

6.2.1 Maternal health

Providing health services during pregnancy and the postnatal period presents an opportunity for health care workers to ensure routine check-ups, as well as to detect and manage related complications early in order to prevent maternal and child mortality. The general increase in coverage observed across the continuum of care-related indicators suggests that implemented activities led to increased use of pregnancy and perinatal services among mothers in the NGO project areas. Given the manner of data collection, it is not possible to identify which activities were specifically responsible for this change, or whether the impact might be sustained over time.

6.2.1.1 Antenatal care and HIV-testing in the context of antenatal care

The ANC indicator 'percentage of women aged 15-49 years who received ANC ≥4 times during pregnancy with their youngest living child 0-5 months' assesses the number of times a woman visited a health care professional for ANC services during an individual pregnancy. The WHO recommends at least 4 ANC visits during pregnancy to achieve the full life-saving potential of ANC-related health interventions (WHO 2006). ANC also presents an important opportunity to promote the use of a skilled attendant at birth and healthy behaviours such as breastfeeding, early postnatal care, and planning for optimal pregnancy spacing. Although it is important to capture the number of times women are accessing ANC services during pregnancy, there are also noted limitations to using this indicator as a measure of ANC since the indicator does not capture the type of health care personnel providing the service (e.g., skilled or unskilled) or the type, quality, or extent of delivered interventions (WHO 2006).

Among the NGO projects for which ANC indicator was collected, an overall increase in coverage was seen, although findings varied among NGO projects. As demonstrated in the ANC change pathway (Appendix 2, page 181), World Vision and Plan collected information on this indicator within the context of the CF. For World Vision, the primary focus of ANC-related implemented activities included training health personnel and providing appropriate resources to affect capacity and service delivery. Within Plan the primary focus was largely around engaging and working in communities, such that there was ownership and increased knowledge of MNCH, although training for health personnel was also provided. The greatest increases in ANC coverage from baseline to endline were observed for Plan Ethiopia, Ghana, and Bangladesh (all >20%). Within these countries, NGO project activities targeting ANC were complimented by policy intended to improve ANC reach. For example, the government incentivized HEWs to conduct ANC visits in Ethiopia, while in Bangladesh ANC could be provided at either a facility or at home. These policy initiatives, in parallel with the NGO activities, likely led to the observed increased ANC coverage. Alternatively, in considering the Malian government policy recommending only three ANC visits, this could explain why coverage for ANC remained low from baseline to endline in Mali since four or more ANC visits were required within the CF indicator definition. These examples demonstrate the beneficial role of support and appropriate adoption of policies at the government level in line with the implementation of activities.

In examining the indicator for receiving an HIV test within the context of ANC it is possible to further infer about the services offered at ANC visits, since only those who reported having attended ANC at least once were included in the generation of this indicator. At baseline, there had been more ANC attendance observed than HIV tests in ANC, which had suggested that HIV tests were not always being completed. That ANC attendance and receiving an HIV test in ANC correspondingly increased among those NGO projects that collected this information at endline is logical. The greatest difference in receiving an HIV test in pregnancy was observed for World Vision Tanzania, where it was noted that there were substantial efforts going into HIV awareness, thus providing a synergistic effect. It is important to note for all projects that the information used to generate this indicator was self-reported and that there is predictable social desirability bias related to reporting around HIV testing.

6.2.1.2 Skilled birth attendance (SBA)

The SBA indicator 'percentage of women aged 15-49 years whose youngest living child aged 0-5 months was delivered by a skilled health personnel' is intended to assess how many pregnant women had access to an individual with the skills to provide life-saving obstetric care during labour and delivery (WHO 2011). According to WHO, a skilled health worker is an accredited health professional that has been educated and trained with the skills needed to manage uncomplicated pregnancies and child-birth (i.e., midwives, doctors and nurses). Such health professionals are also educated and trained to identify, manage, and refer women to health facilities when complications arise before, during, and after birth, and to provide care during the postnatal period. Limitations associated with this indicator include that it is based on maternal recall, and does not capture the quality of care or services available, particularly in the case of complicated delivery, nor does it depict the availability of necessary supplies and equipment (WHO 2011).

Among the NGO projects that collected data on delivery via a skilled birth attendant, an increase in coverage was observed overall. Information on this indicator was again collected by Plan and World Vision. Between these two NGOs, there was a large focus on training appropriately skilled service providers and improving access to facilities, as shown in the SBA change pathway (Appendix 2, page 182). The greatest increase in coverage was observed in the Plan Bangladesh site, which was described as being due to the ability of SBAs to go out into the community, as opposed to being restricted to a facility. This project was the only project in which SBAs were present in both facilities and communities. The availability of providers has been identified as a key barrier, as noted for the Plan Mali project. Improving access to facilities was identified as an important variable in using a SBA within the NGO projects, both from the perspective of the distance to a facility and any associated geographical challenges. In addition, the condition of the facility and the availability of equipment motivated women and their families to choose to deliver in a facility with a SBA instead of traditionally at home.

6.2.1.3 Postnatal care (PNC)

The PNC indicator 'percentage of mothers 15-49 years who received postnatal care (for self or infant) within 3 days of birth' is used to assess the number of mothers or babies who received postnatal care three days after birth. Postnatal care visits for mothers and newborns offer an important opportunity to identify birth complications, including infections in the mother and newborn, and to provide proven interventions that can save the lives of women and children. According to the WHO guidelines, it is recommended that newborns delivered in health facilities should not be sent home in the first 24 hours of life; alternatively, newborns delivered at home should visit a health facility for postnatal care soon after birth (WHO 2006; WHO 2010). Furthermore, both the WHO and UNICEF recommend that in settings with high maternal and infant mortality and limited health facility access, at least two home visits for all home births should be conducted. The first visit should occur within the first 24 hours after birth and the second on day three, with a possible third visit before the end of the first week of life (WHO 2006; WHO 2010). As with the ANC and SBA indicators, the quality of care was not assessed and the time to PNC was based on maternal self-report.

Among the NGO projects that collected information on PNC for mothers or newborns, a large increase in coverage was observed for all projects. Information on this indicator was collected by Plan and Save. All projects had low baseline PNC coverage estimates (<50%). As with SBA, the activities within the projects that targeted PNC focused primarily on training personnel and improving facilities (e.g., resources, supplies, amenities), as depicted in the PNC change pathway (Appendix 2, page 183). The difference in the magnitude of increase observed between ANC and PNC is likely related to the number of visits to achieve the indicator. One must have multiple visits to achieve the ANC indicator (at least four visits), while only one visit was required for the PNC indicator. Factors which were felt to substantially contribute to the increase in PNC coverage from baseline to endline included policy changes, training and motivation of health workers, engagement of men, and collaboration between individuals in communities to identify pregnant women. Policy changes pertaining to PNC implemented in Ethiopia and Zimbabwe during the project were felt to contribute to improved coverage. In Ethiopia, after women deliver and return home, they customarily do not leave their homes for 40 days. A policy enacted in 2012 allowed for the extension of PNC services to women in their homes in rural settings by HEWs in the first three days post-delivery. In Ethiopia, coverage increased from 19.2 to 62.8%. Similarly, in Zimbabwe, in 2014 the government implemented a

policy whereby women were required to remain near a health facility for the first three days post-delivery. Successful implementation of this policy was complimented by providing maternity waiting homes, either by renovating existing facilities or constructing new, accessible ones. In Zimbabwe coverage increased from 14.8% to 81.9%. In terms of health systems factors, providing additional skills to CHWs was felt to be greatly beneficial across several projects. For example in Mali, a national strategy was in place to provide CHWs with education and training to provide PNC services to pregnant women after delivery, leading to a significant increase in PNC coverage (two- to three-fold) from baseline to endline.

6.2.2 Maternal and child nutrition practices

Malnutrition in mothers and children is closely linked, either directly or indirectly, to major causes of death and disability. Direct causes of malnutrition are related to inadequate dietary intake and disease, while indirect factors include household food security, maternal and child care, health services, and the environment (WHO 2013). The general increase in coverage observed across the maternal and child nutrition-related indicators, with the exception of stunting, suggests that implemented activities led to improved nutritional practices in the NGO project areas. Given the manner of data collection, it is not possible to identify which activities were specifically responsible for this change, or whether the impact might be sustained over time.

6.2.2.1 Breastfeeding-related practices (immediate and exclusive breastfeeding)

For the two breastfeeding-related indicators, the percentage of children within a specified age range (0-5 months) who had engaged in appropriate breastfeeding practices was assessed. For the immediate breastfeeding after delivery indicator, the percentage of children breastfed within one hour of birth was determined. For the EBF indicator, a child was considered to be exclusively breastfed if he or she had had no food or drink in the past 24 hours based on a food recall, with the exception of essential medicines, micronutrient supplements, and ORS. Breast milk is the ideal food for infants under 6 months, as it provides complete nutrition and immune-related benefits. EBF excludes potentially unsafe drinking water and food from the diet during a period when infections causing diarrhea contribute to malnutrition, serious illness, and death (WHO 2002).

Data was collected on these indicators by all four NGOs. The extent to which improvements were observed for BF1H and EBF varied greatly among NGO projects, although observations from the weighted and unweighted mean estimates indicate an overall increase in both practices. Notable for both indicators was that the manner of assessing coverage differed greatly (1) among NGO projects and (2) within NGO projects from baseline to endline. Furthermore for EBF, the comprehensiveness of the question differed by project, with some NGOs employing a traditional 24-hour recall methodology, and others using more simplistic assessments of intake over the prior 24 hours. In the future, a common tool for assessment would greatly benefit the interpretability of this indicator.

As shown in the EBF change pathways (Appendix 2, page 184), the implemented activities intended to have an effect on the practice of exclusive breastfeeding were focused around training health-related personnel on IYCF issues, such that their capacity to delivery of services would improve, and they would inform mothers and relevant family

members on the importance of appropriate feeding. In doing so it was anticipated that mothers would be more likely to practice appropriate child feeding behaviours. It should also be noted that mothers who attended ANC and delivered via a skilled birth attendant would likely have also received some guidance on the benefits of immediate breastfeeding and EBF.

6.2.2.2 Stunting

The stunting indicator measures the proportion of children between 6-23 months of age with linear growth stunting, defined as a height-for-age z-score more than 2 standard deviations below the mean height-for-age on a standard growth chart. Linear growth stunting reflects both nutritional status and infectious disease burden in children within a population, and the physical manifestation of a suboptimal environment for growth and development.

Stunting is considered a key indicator in assessing child undernutrition and its harmful immediate and long-term consequences (WHO & UNICEF 2013). There are a broad range of factors thought to contribute to stunted growth in children, though the largest contributors are recognized to be insufficient macronutrient/micronutrient intake and/or absorption, as well as illness caused by infections during critical periods of growth (Black et al. 2013). These factors create a 'vicious cycle': insufficient nutrient intake and/or absorption weakens the immune response, leads to increased susceptibility, longer duration, increased severity of infection, resulting in reduced appetite, reduced intestinal absorption of nutrients, and possible environmental enteropathy (Black et al. 2013). Many interventions conducted by the NGOs that related back to stunting prevention are presented in the stunting change pathway (Appendix 2, page 185). Consistent with the multiple underlying causes contributing to stunting, interventions were related to improving various components of the health system (e.g., training personnel on appropriate measures for child feeding and disease prevention); community mobilization, sensitization, and awareness-raising; and improving nutrient and micronutrient access.

Of the three NGO projects presented in the results section pertaining to stunting, the results were consistently negative, as there appeared to be more children who were stunted at the end of the project compared to the beginning. Changes in stunting rates at a population level likely take longer than two years to become apparent, so the current results are not unexpected. It is also important to note that measuring child length is difficult in both developed and undeveloped settings, related in part to child non-compliance during measurement and intrinsic measurement error related to measurement devices and having multiple evaluators. That there were higher rates of stunting observed in males compared to females is consistent with findings in the literature (Ruel et al. 2013).

6.2.2.3 Dietary diversity score (DDS) and maternal food purchasing

The DDS indicator 'percentage of children 6-23 months with adequate dietary diversity scores' examined how many children received food from four or more food groups in the past 24 hours. Assessing dietary diversity score serves as a proxy for assessing the potential risk for micronutrient malnutrition in an area. Micronutrient malnutrition is of public health concern given the monotony of diets in developing settings where grains are the dietary staple. A child's probability of having micronutrient malnutrition decreases with an increase in dietary diversity score. It should be noted that while ≥4 food groups is the cut-off employed when

assess dietary diversity, observing an increase in the number of individuals achieving the cut-off should not be the goal of a program. Rather, the promotion of the consumption of a diverse, nutritious diet every day should be the ultimate aim at all times.

Data on DDS was collected by two NGOs, World Vision and CARE. While an increase in DDS coverage was observed in the NGO projects conducted in Tanzania and Ethiopia, for the project conducted in Zimbabwe a decrease in DDS was observed from baseline to endline. This decrease was suggested to be related to the decrease in household income given the overall increase food insecurity and the worsening economic situation experienced in Zimbabwe over the duration of the project. Alternatively, the increase in DDS observed in Ethiopia was described as being related to effective agricultural interventions in the project areas, where community and backyard gardens were promoted. The DDS results as reported could have been affected by seasonality, as the time of year when baseline and endline surveys were conducted differed for nearly all NGO projects that assessed this indicator. Results during the 'hungry season' would be expected to differ greatly from those taken at the end of the rainy season given the availability of food. As collected within the NGO baseline and endline questionnaires, the DDS indicator did not include evaluation of the amount of a food item consumed.

The maternal food purchasing indicator 'percentage of mothers 15-49 years who make decisions on purchases' demonstrates the number of women who made food purchases alone or with their husband. Women's inclusion in making food purchasing decisions is suggested to be closely linked to DDS. The direction of changes observed for maternal food purchasing was comparable to DDS, although the magnitude of change was small (approximately ≤5%). In both Tanzania and Zimbabwe it was noted that because of cultural practices there was limited ability to introduce change around gender equality and men still made many decisions around food purchasing. In Ethiopia, there were more interventions focused on male engagement.

6.2.3 Child health

Childhood disease is another major cause of death and disability in LMICs, yet it can be prevented when appropriate measures are taken. The general increase in coverage for care-seeking behaviours related to disease observed across the child health-related indicators suggests that implemented activities led to improved practices in the NGO project areas. Given the manner of data collection, it is not possible to identify which activities were specifically responsible for this change, or whether the impact might be sustained over time.

6.2.3.1 Immunization

The DPT indicator measures the percentage of children 12-23 months of age who have received 3 or more doses of the DPT or pentavalent vaccine. The 'DPT' vaccine includes diphtheria, pertussis, and tetanus, while the 'pentavalent' vaccine additionally includes *Haemophilus influenzae* type B, and hepatitis B. The vaccine is usually given in 3 or more separate doses as part of a schedule of routine childhood vaccinations for measles, rotavirus, polio, and other serious diseases (WHO 2014). The DPT/pentavalent vaccine is essential for infants and children in all populations to provide individual immunity to serious infectious disease. This indicator allows us to infer the quality of vaccination delivery and uptake in an

area, and can also act as a proxy measure for the potential prevalence or general risk of an outbreak of preventable infectious disease. Immunization coverage has also been found to be an indicator of the overall capacity of a health system to provide priority health services to vulnerable populations, and is related to the density of health workers due to their essential role in administering vaccinations (Bos & Batson 2000; Anand & Bärnighausen 2007).

Overall, there was an average overall increase in DPT/pentavalent vaccination coverage observed across the four NGO projects which collected this data. Although most vaccination estimates at endline were in the medium to high range (around ≥80%), immunization rates >90% were observed for few projects. The change pathway for DPT (Appendix 2, page 186) shows the general activities implemented to improve vaccination coverage within the Plan and World Vision projects. For World Vision, the focus included training community and health personnel about services to increase ability and capacity, such that delivery might improve. For Plan, the focus was more around mobilizing the community to increase knowledge and decision making ability in relation to obtaining vaccinations, such that the practice of optimal preventative behaviours might increase. Success in achieving very high vaccination rates was found to be greatly supplemented by effective policy and available supplies. For instance, there was a strong DPT campaign in place by the ministry of health in the region of the Tanzania project, which very likely contributed to the sustained high coverage rate observed. In Mali, although an approximately 10% increase in coverage was observed from baseline to endline, it was noted that there was limited access to vaccines, as well as problems encountered with packaging and storing. In Ethiopia, where the greatest change in coverage was observed, it was perceived that the provision of appropriate equipment to maintain vaccine storage (e.g., refrigerators) complimented pre-existing government programming which had been hampered by a lack of vaccine availability due to storage-related limitations.

6.2.3.2 Care-seeking related to childhood illness (diarrhea and malaria)

Diarrhea is one of the leading causes of mortality in children under 5 years, and 86% of malaria deaths occur in children under 5 years of age (Walker et al 2013; WHO 2014). Many of these deaths are avoidable when adequate prevention and treatment measures are made available. The indicators for diarrhea and malaria are such that they measure the coverage of specific treatment measures and care-seeking behaviours among reported cases, therefore reflecting the effectiveness of interventions in seeking to reduce the burden of disease. It is important to measure the management of illness and care-seeking behaviours because these are behavioural changes in communities that follow from increased access, quality, and acceptability of services. Efforts to improve coverage for these indicators can impact communities where the burden of diseases is high and the level of care utilization is low. It should be noted that preventative measures for diarrhea and malaria may prompt a decline in the incidence of infections. Accordingly, in evaluating change in these indicators one should dually consider the success of preventative measures within a local context.

From the overall average estimates, there appeared to be an improvement in seeking treatment among children reported as having diarrhea and malaria-like symptoms in the past two weeks. Information was not recorded regarding the severity of the symptoms, nor was the sample from which the indicator estimates were generated powered to detect a significant change in associated care-seeking behaviours.

Data related to providing ORT or ORS/zinc given reported diarrhea was collected within projects conducted by Plan, Save, and World Vision, as shown in the associated change pathway (Appendix 2, page XX). Plan's focus was largely around enhancing decision making ability and increasing knowledge among women and girls; Save focused on improving the availability and quality of CCM services associated with identifying, referring, and providing treatment within the health workforce; and World Vision focused on training health personnel and caregivers to improve knowledge. All of the NGOs sought to increase access and use of available health services. The availability of supplies was felt to be an important inhibitor to improving indicator coverage, as in Tanzania and Mali there could be limited availability of ORS and particularly limited availability of zinc. Alternatively, in Bangladesh ORS/SSS are widely accepted and used within the country. It is also important to note that in Tanzania CHWs are only trained to conduct health education and promotion, since the treatment of diarrhea is conducted at the health facility level.

For the provision of antimalarial drugs given the presentation of malaria-like symptoms, data to inform this indicator was collected by Save and World Vision. The various activities that were implemented within the different projects are depicted in the associated change pathway (Appendix 2, page 187). Within Save's projects, the focus was on improving access to CCM by establishing referral linkages and training the health workforce, such that utilization of services might increase. Within World Vision, the focus was on mobilizing and sensitizing parents and caregivers on illness prevention and appropriate treatment, such that the practice of appropriate preventative and treatment behaviours might increase. In Tanzania, high coverage was observed at baseline and endline because there were pre-existing programs related to malaria, which led to a high level of access to care-seeking.

6.2.4 Health system strengthening

Training health personnel at several levels is an important part of health system strengthening. The number of health-related personnel trained within the NGO programs is shown in Table 63. In the context of this report, there is limited ability to comment on the effect of activities targeted towards health system strengthening as the CF indicators did not directly measure health systems strengthening. However, health system strengthening is implicit to the activities conducted by the NGOs, and broadly captured within the change pathways (Appendix 2). Examination of the change pathways illustrates that several activities were undertaken to improve this dimension of health, including, but not limited to, service delivery; improving the health workforce; updating and improving use of health management information systems; provision of supplies and equipment; and improving leadership and governance. In the future, given the emphasis on health workforce training, the inclusion of an assessment of the training and the impact of that training on the prevention and treatment of morbidities would be important.

6.3 Evidence-based interventions

The following section summarizes 'research-validated best practices,' or programs, activities, and strategies with the highest degree of proven effectiveness supported by objective and

comprehensive research and evaluation in relation to MNCH. Within a research context, interventions are supported by peer-reviewed research. The summaries as presented do not cover all possible interventions, but rather those recommended by the WHO, and supported by Lancet Series, and relevant Cochrane reviews. Many of these interventions were included in the multitude of activities conducted within the NGO projects. An excellent, recently published resource that summarizes this information is the 'WHO recommendations on health promotion interventions for maternal and newborn health 2015' (WHO 2015).

6.3.1 Maternal health-related evidence-based interventions

6.3.1.1 Evidence around antenatal care

In the Every Newborn Lancet Series (2014), recommendations around evidence-based ANC interventions proven to increase maternal and newborn survival are described (Bhutta et al. 2014). Pregnancy-related complications can occur before and during pregnancy, and their potentially harmful effects can be minimized if detected, treated, and managed early on. Recommended interventions relate to maternal nutrition and supplementation (e.g., iron and folic acid supplementation); maternal vaccination (e.g., tetanus toxoid immunization); maternal infection screening and management (e.g., malaria, syphilis, and HIV detection and treatment); and prevention and management of pre-existing chronic disease (e.g., pregnancy-related hypertension, pre-eclampsia and eclampsia, and gestational diabetes). Specific estimates associated with interventions have been summarized in Table 64, where available. Although these recommended interventions will improve maternal and newborn mortality and morbidity, accessing and utilizing ANC services is noted as being a continuing challenge for women in rural and underserviced populations (Bhutta et al. 2014). As noted above, although coverage for 4 ANC visits increased from baseline to endline by 13%, there is limited information on the fidelity of the activities that occurred within the ANC visits. In the future, an indicator of fidelity would be of value.

Table 64. Maternal and neonatal mortality outcomes for antenatal care interventions (adapted from Bhutta et al. 2014 – Supplementary Appendix).

Intervention	Pregnancy and maternal outcomes	Birth outcomes	Neonatal outcomes
Maternal iron supplementation	-	-	Neonatal mortality – RR: 0.90 (95% CI: 0.68 to 1.19) 4 studies
Maternal iron and folic acid supplementation	-	-	Neonatal mortality – RR: 0.81 (95% CI:0.51, 1.30)
Maternal calcium supplementation	Maternal death/severe morbidity – RR: 0.80 (95% CI: 0.65 to 0.97) 2 studies	Perinatal mortality – RR: 0.90 (95% CI: 0.74 to 1.09) 11 studies	Neonatal intensive care unit admissions – RR: 1.09 (95% CI: 0.96 to 1.24) 3 studies Neonatal mortality – RR: 1.07 (95% CI: 0.39 to 2.95) 2 studies

Intervention	Pregnancy and maternal outcomes	Birth outcomes	Neonatal outcomes
Tetanus toxoid vaccine	-	-	Tetanus specific neonatal mortality – RR: 0.06 (95% CI: 0.02 to 0.2) 2 studies Neonatal mortality – RR: 0.38 (95% CI: 0.27 to 0.55) 1 study
Syphilis screening and treatment	-	Perinatal mortality – RR: (95% CI: 0.49 to 0.65) 2 studies	Neonatal mortality – RR: 0.20 (95% CI: 0.13 to 0.32) 5 studies
Intermittent preventative treatment of malaria in pregnancy (IPTp)	Maternal mortality – RR: 0.79 (95% CI: 0.29 to 2.20) 2 studies	Perinatal mortality – RR: 0.83 (95% CI: 0.66 to 1.05) 6 studies	Neonatal mortality – RR: 0.69 (95% CI: 0.49 to 0.98) 5 studies
Antihypertensive drug therapy for mild to moderate hypertension during pregnancy	Maternal death – RR: 2.85 (95% CI: 0.30 to 27.00) 4 studies	Perinatal death – RR: 0.96 (95% CI: 0.60 to1.54) 20 studies	Neonatal mortality – RR: 0.79 (95% CI: 0.14 to 4.34) 4 studies
Preconception diabetic education, and dietary advice for improved maternal and fetal outcomes	-	Perinatal mortality – RR: 0.31 (95% CI: 0.19 to 0.53)	-

6.3.1.2 Evidence around skilled birth attendance

SBA similarly has the potential to affect both maternal and newborn survival. Of the nearly 3 million child deaths that occur in the first month of life, one half of all these deaths occur in the first 24 hours of life (WHO & UNICEF 2014). With the leading causes of neonatal mortality attributed to preterm birth, infections, and asphyxia, appropriate safe delivery could help to alleviate this risk (WHO 2011). The major contributors to maternal mortality at childbirth include hemorrhage, complications around delivery, and obstructed labour (Say et al. 2014). Assisted delivery by a skilled attendant could similarly decrease the risk of mortality. Interventions with the potential to reduce mortality, assuming the provision of adequate care during labour and delivery by a skilled attendant, are described in the Every Newborn Lancet Series (Bhutta et al. 2014). Such interventions include providing obstetric care (e.g., monitoring of labour progression, appropriate planning of vaginal or caesarean section delivery); skilled delivery; hygienic care at birth (e.g., use of clean birthing kits, hand washing with soap and water during delivery); management of preterm and post-term pregnancy (induction of labour, treatment with antenatal steroids, use of antibiotics during premature rupture of membranes); and management of postpartum hemorrhage. Specific estimates, where available, have been summarized in Table 65. In addition to these interventions, it is again important to consider issues related to accessibility, such as whether women are able to access services during labour and delivery, and whether skilled health personnel adequately provide quality health care at birth.

Table 65. Maternal and neonatal mortality outcomes labour and delivery interventions (adapted from Bhutta et al. 2014 – Supplementary Appendix).

Intervention	Pregnancy and maternal outcomes	Birth outcomes	Neonatal outcomes
Planned caesarean section for term breech delivery	-	Perinatal neonatal death – RR: 0.33 (95% CI: 0.19 to 0.56) 1 study	-
Education on use of clean birth kits	Maternal mortality – RR: 0.83 (95% CI: 0.37 to 1.87) 3 studies	Perinatal mortality – RR: 0.86 (95% CI: 0.77 to 0.95) 5 studies	Early neonatal mortality – RR: 0.79 (95% CI: 0.66 to 0.94) 4 studies Late neonatal mortality – RR: 0.85 (95% CI: 0.75 to 0.97) 4 studies Neonatal mortality – RR: 0.79 (95% CI: 0.71 to 0.89) 5 studies
Provision of clean birth kits	-	-	Neonatal mortality – RR: 0.53 (95% CI: 0.19 to 1.47) 4 studies
Impact of hand hygiene, neonatal bathing and skin cleansing practices on neonatal outcomes[1]	-	-	Neonatal mortality – RR: 0.93 (95% CI: 0.85 to 1.01) 3 studies

[1] Hand washing with soap and water vs. no hand washing among TBAs and/or caregivers

6.3.1.3 Evidence around postnatal care

As the majority of neonatal deaths occur in the first 24 hours after birth, it is critical that interventions are immediately available following delivery, regardless of whether one delivers in a health facility or home setting. The Every Newborn Lancet Series (2014) summarizes recommendations on interventions that should be provided to every neonate upon delivery to reduce neonatal mortality. Recommended interventions include promotion of healthy practices post-delivery (e.g., cord care and clamping, early initiation of exclusive breastfeeding, prevention of hypothermia, and vitamin K administration); recognizing danger signs and having a referral system in place; checking the mother and baby prior to discharge; and providing scheduled home visits and/or follow-up visits at a health facility (Bhutta et al. 2014). Specific estimates, where available, have been summarized in Table 65.

Table 65. The maternal and neonatal mortality outcomes based on postnatal care interventions. Adapted from Bhutta et al. (2014 – Supplementary Appendix).

Intervention	Pregnancy and maternal outcomes	Birth outcomes	Neonatal outcomes
Delayed cord clamping term neonates	-	-	Neonatal mortality – RR: 0.37 (95% CI: 0.04 to 3.41) 2 studies
Umbilical cord antiseptics	-	-	All-cause mortality – RR: 0.77 (95% CI: 0.63 to 0.94) 3 studies
Community based resuscitation of newborn	-	Perinatal mortality – RR: 0.89 (95% CI: 0.80 to 0.98) 5 studies	Neonatal mortality – RR: 0.74 (95% CI: 0.59 to 0.92) 4 studies
		Asphyxia specific mortality RR: 0.37 (95% CI: 0.17 to 0.78) 1 study	Early neonatal mortality – RR: 0.85 (95% CI: 0.76 to 0.94) 7 studies
			Late neonatal mortality – RR: 0.84 (95% CI: 0.71 to 1.00) 4 studies

6.3.1.4 Community-based strategies to improve the continuum of care

Employing interventions aimed at building community capacity are important to improve the overall delivery, access, and utilization of key services related to ANC, labour and delivery, and PNC. Building community capacity enhances responsiveness, ownership, and sustainability of community based interventions (McLeroy et al. 2003).

An important systematic review of 25 cluster-randomized and quasi-randomized trials was conducted in 2014 by Bhutta et al (Bhutta et al. 2014). Its goal was to assess the impact of packages of community-based interventions on maternal and newborn mortality and morbidity. The findings were not consistent or conclusive. On average, the intervention packages were found to reduce maternal morbidity by 25% (4 studies, 138,290 women: RR 0.75; 95% CI 0.61 to 0.92; I2 = 28%). However, a non-significant impact was found for maternal mortality. The intervention packages focussed on maternal mortality included developing support groups (6 studies, 101,198 women: average RR 0.83, 95% CI 0.56 to 1.22; I2 = 52%), community mobilization and conducting home visits during antenatal and postnatal periods (3 studies, 43,233 women: average RR 0.72; 95% CI 0.49 to 1.06; I2= 0%); and providing training to TBAs prior to conducting home visits during the antenatal and intra-partum period (2 studies, 22,880 women: average RR 0.74; 95% CI 0.45 to 1.21; I2 = 0%). Alternatively, for the reduction of neonatal mortality rates, intervention packages including building support and advocacy groups was found to significantly reduce mortality by 17% (8 studies, 133,132 infants: RR 0.83; 95% CI 0.72 to 0.95; I2 = 65%). Providing home visits with community mobilization reduced neonatal mortality by 40% (5 studies, 50,052 infants: RR 0.60; 95% CI 0.49 to 0.72; I2 = 85%). A significant impact was also found for intervention packages that provided community mobilization with home-based neonatal treatment (1 study, 4248 infants: RR 0.66; 95% CI 0.47 to 0.93), but no evidence of reduced neonatal mortality was found when home-based neonatal care and sepsis management were delivered

as a part of package (2 studies, 62,567 infants: RR 0.63; 95% CI 0.32 to 1.22; I2 = 87%). A significant impact was similarly not observed for the following interventions: training of TBAs to make home visits (2 studies, 22,860 infants: RR 0.74; 95% CI 0.48 to 1.16; I2 = 67%); provision of health education to mothers in the home (2 studies, 3072 infants: RR 0.80; 95% CI 0.63 to 1.02; I2 = 25%); and use of leaflets and banners (1 study, 4156 infants: RR 1.44; 95% CI 1.23 to 1.69). Overall, the authors concluded that they were uncertain as to the impact of community-based strategies on maternal and newborn care given the inconsistency of the findings.

6.3.2 Maternal and child nutrition-related evidence-based interventions

6.3.2.1 Evidence around breastfeeding-related practices

EBF coverage can be increased through multiple routes at the individual, community, and national level. Several interventions have been shown to significantly increase rates of EBF, including the provision of individual or group counselling by CHWs, peer support, mother-to-mother groups, and the Baby Friendly Hospital Initiative (Haroon et al. 2013). These programs seek to provide knowledge and a supportive environment to new mothers and their infants within communities and health care centres, where there is promotion of optimal feeding behaviours such as EBF. The 2013 'Maternal and Child Nutrition' Lancet Series presents a systematic review of 110 RCTs and quasi-experimental studies in both developing and developed countries examining the effect of breastfeeding promotion interventions. A 90% increase (RR 1.90, 95% CI: 1.54 to 2.34) in EBF rates from 1-6 months was observed (Bhutta et al. 2013). Community-based packages of care were also cited as being effective, with a meta-analysis of 82 studies examining care delivered by lay health workers showing a 178% increase in EBF rates (RR 2.78, 95% CI: 1.74 to 4.44). When the Lives Saved Tool (LiST) was used to model the risk of neonatal mortality due to diarrhea, pneumonia, and sepsis, infants who were exclusively breastfed were in the lowest risk category, with partial non-exclusive breastfeeding increasing the risk of death from diarrhea by 128% (RR 2.28) and from pneumonia and sepsis by 66% (RR 1.66) (Bhutta et al. 2014).

6.3.2.2 Evidence around stunting

Cognitive development, school performance, and work productivity are important longitudinal outcomes that may improve with a reduction in early childhood stunting (Black et al. 2013). Meta-analysis of nutrition education programs in food insecure populations has demonstrated a reduction in stunting prevalence by 32% (RR 0.68, 95% CI 0.60 to 0.76) (Bhutta et al. 2013). Integrated Management of Childhood Illness (IMCI), a package of interventions developed by WHO/UNICEF, includes three components targeted towards stunting: improvements in case management; health systems; and family/community practices. IMCI has been shown to significantly reduce the prevalence of stunting in children aged 24-59 months in Tanzania and Bangladesh (Bhutta et al. 2013). Since the determinants of linear growth are myriad, any intervention that is successful in improving nutrient intake/absorption, and reducing the burden of disease in children may contribute to a reduction in stunting prevalence.

6.3.3 Child health-related evidence-based interventions

6.3.3.1 Evidence around DPT

The WHO IMCI guidelines for routine immunizations provide a standardized protocol detailing the type and frequency of vaccine administration in infants and children, and these have become standard practice in most primary care and referral settings (WHO 2014). While the guidelines are generally accepted by in-country ministries of health, the actual delivery and uptake of childhood vaccines can vary, especially when access to basic health services is lacking. There are multiple levels through which to promote and deliver vaccinations services including patient and community oriented interventions, including health education, redesigned immunization cards, and monetary incentives; health provider interventions, including training of immunization district managers; health system oriented interventions, including home visits; and multi-faceted interventions including combinations of the above interventions. A Cochrane systematic review and meta-analysis of six studies focused on improving coverage of child immunization in LMICs found evidence of moderate quality that evidence-based discussions (e.g., village meetings) may increase DPT coverage by more than two-fold (1 study, 957 participants: RR 2.17, 95% CI 1.80 to 2.61), and that information campaigns may increase vaccine uptake of at least one dose by 43% (1 study, 1025 participants: RR 1.43, 95% CI 1.01 to 2.02) (Oyo-Ita et al. 2011). The mechanism through which this is thought to occur involves an increase in demand from parents for their children to be vaccinated. At the community level, the presence of community health workers delivering packages of child health interventions has been found to improve vaccination uptake (Bhutta et al. 2013).

6.3.3.2 Evidence around diarrhea and malaria

Diarrhea-specific preventative interventions that have been reported in the literature include preventive vaccination against rotavirus and cholera; ORT; zinc supplementation; improved dietary management of diarrhea; and antibiotics for treatment of shigella, cholera, and cryptosporidiosis (Bhutta et al. 2013). More generalized public health strategies that can dually prevent diarrhea include the promotion of optimal breastfeeding practices; improving access and use of water, sanitation, and hygiene (WASH) facilities and practices; and preventive zinc supplementation. Malaria-specific interventions are mainly preventive, including long-lasting insecticidal nets; seasonal malaria chemoprevention for children ages 3 to 59 months in areas with seasonal transmission (e.g. Sahel region of Africa); and intermittent preventive therapy for infants in moderate-to-high transmission areas of sub-Saharan Africa (WHO 2014). Prompt diagnosis and effective treatment of suspected malaria is also necessary.

Several platforms exist to deliver evidence-based interventions to reduce the burden of infectious disease including the promotion of community-based health and behavioural change; financial incentives to promote care seeking; facility-based IMCI; and integrated community case management (iCCM) (Bhutta et al. 2013). Embedded within all of these platforms are components that serve to increase care-seeking behaviour, including education on the importance of prevention and treatment of infectious diseases, reducing barriers to seeking care, as well as improving the quality, access, and coverage of health services provided by community and facility health workers. It has been found that community-based packages of these interventions delivered through community health workers significantly increases care-seeking behaviour by 52% (Bhutta et al. 2013). For diarrhea-related care-seeking,

community-based interventions are associated with a 160% increase (RR 2.60, 95% CI 1.59 to 4.27) in the use of ORT, and the use of ORS has been shown to reduce diarrhoea mortality by 69% (RR 0.31, 95% CI 0.2 to 0.49) (Bhutta et al. 2013). There are concerns with treatment of acute watery diarrhea with antibiotics, leading to the destruction of beneficial gut flora and contributing to widespread antibiotic resistance. However, community-based care has been associated with a 75% decline (RR 0.24, 95% CI 0.12 to 0.51) in the inappropriate use of antibiotics for diarrhea (Bhutta et al. 2013). Effective interventions for improving care-seeking for malaria are less well known, but there is evidence to suggest that prevention and treatment of malaria in a 'public health context' when delivery by CHWs may be effective (Smith et al. 2009; Kamal-Yanni et al. 2012).

6.4 Limitations

There were two high-level limitations that have impacted the interpretation of the combined results. The first is related to causal attribution and the second to analytic challenges.

It was not expected that the MIC projects employ any form of control methodology or demonstrate causality between interventions and outcomes. Accordingly, this methodology was not included for nearly all projects. In the absence of a control population, or methodological approach that allows for the generation of a comparison group, it is not possible to causally link specific programmatic activities to changes in indicator coverage. Although the NGOs promoted efficacious, evidence-based interventions within their projects (e.g., exclusive breastfeeding, DPT vaccination), there was no way to identify which programmatic activities were the most effective in improving the coverage of the life-saving interventions, or packages of interventions, within a population. Therefore, causal attribution of specific implemented programmatic activities to changes in indicator coverage was not possible. Notwithstanding this limitation, the change in indicator coverage observed across the NGO projects was likely associated with the implemented activities since the extent of the change was greater than would be expected over the project implementation period from secular drift. It is important to note that employing appropriate methodology in which a comparison group is included would require a substantial financial commitment, but it would allow for a more robust assessment of the relationship between activities and change in indicator coverage.

Another limitation was related to the collection of the data given the lack of a cross-organizational analytic plan prior to the commencement of the NGO projects. This was complicated by the fact that the 10 projects were designed before the establishment of the MIC in 2012, and thus made the development and interpretation of a 'common' framework of indicators very challenging.

Identified analytic-related challenges that were encountered include the following:

- Survey sample sizes were calculated using different metrics and assumptions between NGO projects, thus limiting the comparability among NGO project samples.
- Some survey sample sizes were not powered to detect differences for all indicators (i.e., there were too few survey respondents enrolled in the survey to accurately assess certain indicators).

- Recruitment criteria for survey participation among and within some NGO projects differed, thus limiting the comparability of findings among NGO projects.
- Different tools (i.e., surveys) were used among and within organizations, thus questions were asked and assessed in differing manners among and within NGO projects, limiting the comparability of survey respondents responses.
- Inability to determine whether there was multiple testing of survey respondents (i.e., whether the same individual was surveyed at baseline and endline), as few demographic characteristics were collected from baseline to endline.
- Surveys were conducted at different times of year from baseline to endline.
- Surveys were conducted at different points during the NGO project completion (e.g., before versus during project close out to accommodate the MIC-KMI project timeline). This would be expected to affect the sustainability of results.
- Consistent data to assess the interaction between survey respondents and program personnel, or access to NGO project services was not collected across projects, thus it is not possible to assess how representative survey respondents are of individuals in the project area.

It should be noted that the DHS estimates that were generated for comparison with the baseline coverage estimates could have limited representativeness since they are averages of regional or national data. They were generated from data collected at the closest point in time available. For some indicators, the DHS indicator definition did not match identically with the corresponding CF indicator definition given the manner in which the DHS survey assessed these indicators. As such, the DHS estimates as shown are not necessarily representative of the NGO project areas.

Given the primary focus on coverage indicators, it is important to note that coverage indicators alone cannot capture the quality of interventions as delivered. Further assessment of intervention quality is essential. Indicator coverage assessment also does not answer questions about why progress was or was not observed. Determining coverage alone is not sufficient to improve newborn and child survival. More comprehensive efforts to monitor aspects of the health system and specific policies, programme management processes, service availability and accessibility as well as utilization and demand are essential supports to decision making in relation to MNCH (UNICEF 2005).

Overall, although these general limitations affected the comparability and interpretability of the indicator findings, they also provide an important case for learning for future projects.

6.5 Methodologically-related lessons learned

This project has provided an excellent opportunity to foster collaboration between academia and NGOs. There has been substantial bi-directional learning, as NGOs provided vast knowledge and experience around program implementation, while academia offered rigorous assessment approaches to assist in the interpretation of indicator outcomes.

Looking back, it has been possible to identify several survey-related methodological areas in which this collaborative NGO-academic partnership approach might have been further refined

and improved. Perhaps most importantly, had all partners worked collaboratively on the overall design of the evaluation framework during the project design phase, before the start of the project, the results and their interpretation would have been much more robust.

The following includes suggestions that might be implemented to better improve collective survey-related data collection and reporting within the context of a future project in which there were multiple partners:

- *A priori* common framework definitions, such that all groups involved might have the same definitions for the relevant indicators.
- Use of a comparison group, either parallel groups or staggered interventions, such that changes in indicator coverage might be attributed to the implemented programs.
- A survey 'tool kit', including a common
    - sample size calculation method powered to appropriately detect change in the project area;
    - standard survey, or pool of standard survey questions that can be adapted as necessary to reflect program focus, and includes standard demographic questions (to better understand sample population compared to the general population) and 'dummy questions' (to assess possible social desirability bias);
    - sampling method; and
    - recruitment criteria.
- Assessment of motivators and barriers to accessing services to better understand contextual factors from the perspective of the survey respondents.
- Assessment of frequency of exposure to implemented project activities among survey respondents to better understand the survey population at endline.
- Assessment of intervention fidelity (i.e., was the intervention delivered as intended).
- Mid-term survey assessment to provide interim data to better understand trends over time.
- Common monitoring data assessment techniques such that monitoring data might be comparable among projects, and lend to greater understanding of trends over time.
- A longer intervention period should be considered for some of the more complex indicators (e.g., stunting).

In the future, it would also be important to conduct the endline analysis at two time points: (1) at the time of project completion; and (2) a later assessment post-project completion (e.g., 6 months, 1 year later). This would provide an evaluation of the post-project sustainability.

Chapter 7 – Conclusion

Overall, the MIC-KMI partnership has allowed for a rich opportunity in which four NGOs were able to collaborate with academia, all with a common goal of improving maternal and child health.

Positive increases in indicator coverage were observed for all indicators (with the exception of stunting) when considered in aggregate, although individual project findings differed. There was an association between the NGO implemented activities and the positive change in indicator coverage. The magnitude of the change for the indicators differed, depending largely on whether the starting coverage was low (<50%) at baseline or high (>79%). This is expected, as it is easier to obtain an increase in coverage when a starting value is low compared to when it is high. It should additionally be noted that the NGOs' projects contributed to the training of thousands of health-related personnel.

Several opportunities to improve future data collection and evaluation have been identified. If developed and employed appropriately, these recommendations could lead to increased understanding of change in indicator coverage over time and the identification of interventions with the greatest impact on improving maternal and child health.

Chapter 8 – References

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Chapter 9 - Appendices

Appendix 1 – Data and Age Ranges Collected by CF Indicator for Each NGO Project

Appendix Table 1. Data collection characteristics for ANC indicator for NGO projects.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	-
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Ghana	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	0-6 months	Baseline:	-
	Endline:	15-49 years	Endline:	0-5 months	Endline:	-

Appendix Table 2. Data collection characteristics for HIV testing in ANC indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Ghana	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	0-6 months	Baseline:	-
	Endline:	15-49 years	Endline:	0-5 months	Endline:	-

Appendix Table 3. Data collection characteristics for SBA indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	-
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Ghana	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	0-6 months	Baseline:	-
	Endline:	15-49 years	Endline:	0-5 months	Endline:	-

Appendix Table 4. Data collection characteristics for PNC indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	less than a day in hours, days (continuous variable)
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	Hours, days (continuous variable)
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Days for home Hours for institution (continuous variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Hours, days (continuous)
Ghana	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Within the first 3 days (categorical variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Hours, days (continuous variable)
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Hours, days (continuous variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Hours, days (continuous variable)
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	3 days (categorical variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Hours, days (continuous variable)
Save the Children						
Mali	Baseline:	15 years and older	Baseline:	Less than 5 years	Baseline:	Hours, days, weeks (continuous variable)
	Endline:	15 years and older	Endline:	0-59 months	Endline:	Hours, days, weeks (continuous variable)
Pakistan	Baseline:	15 years and older	Baseline:	-	Baseline:	-
	Endline:	15 years and older	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-

Appendix Table 5. Data collection characteristics for breastfeeding within one hour indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Immediately, within 1 hour (categorical variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Immediately, within 1 hour (categorical variable)
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	Immediately after delivery (categorical variable)
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	Within __ hours (continuous variable)
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Immediately after birth (categorical variable)
	Endline:	15-59 years	Endline:	Less than 24 months	Endline:	Within __ hours (continuous variable)
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Immediately , Within 1 hour of birth (categorical variable)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	Within __ hours (continuous variable)
Save the Children				NA		
Mali	Baseline:	15 years and older	Baseline:	Less than 60 months	Baseline:	Hours, days (continuous variable)
	Endline:	15 years and older	Endline:	0- 59 months	Endline:	Hours, days (continuous variable)
Pakistan	Baseline:	15 years and older	Baseline:	Less than 24 months	Baseline:	Within 1 hour (categorical variable)
	Endline:	15 years and older	Endline:	Less than 24 months	Endline:	Within 1 hour (categorical variable)
World Vision						
Tanzania	Baseline:	Any	Baseline:	0-6 months	Baseline:	Hours, days (continuous variable)
	Endline:	15-49 years	Endline:	0-5 months	Endline:	Hours, days (continuous variable)

Appendix Table 6. Data collection characteristics for exclusive breastfeeding indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.) and feeding options[1]	
CARE						
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	During the day and night (33 feeding options)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	During the day and night (26 feeding options)
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	Last night (3 feeding options)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	24 hours (4 feeding options)
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	24 hours (7 feeding options)
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	24 hours (4 feeding options)
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	15 years and older	Baseline:	Less than 60 months	Baseline:	24 hours (17 feeding options)
	Endline:	15 years and older	Endline:	0-59 months	Endline:	24 hours (17 feeding options)
Pakistan	Baseline:	15 years and older	Baseline:	Less than 24 months	Baseline:	Last night and day (9 feeding options)
	Endline:	15 years and older	Endline:	Less than 24 months	Endline:	Last night and day (9 feeding options)
World Vision						
Tanzania	Baseline:	Any	Baseline:	0-6 months	Baseline:	During the day or at night (4 feeding options)
	Endline:	15-49 years	Endline:	0-5 months	Endline:	During the day or night (7 feeding options)

[1]Feeding options refers to either the number of feeding practices or food options used to determine exclusive breastfeeding

Appendix Table 7. Data collection characteristics for stunting indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	6-59 months	Baseline:	-
	Endline:	15-49 years	Endline:	6-59 months	Endline:	-

Appendix Table 8. Data collection characteristics for dietary diversity score indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	6-59 months	Baseline:	-
	Endline:	15-49 years	Endline:	6-59 months	Endline:	-

Appendix Table 9. Data collection characteristics for dietary diversity score indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	15-49 years	Baseline:	NA	Baseline:	-
	Endline:	15-49 years	Endline:	NA	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	NA	Baseline:	-
	Endline:	15-49 years	Endline:	NA	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	NA	Baseline:	-
	Endline:	15-49 years	Endline:	NA	Endline:	-

Appendix Table 10. Data collection characteristics for DPT/pentavalent vaccination indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	15-49 years	Baseline:	12-23 months	Baseline:	-
	Endline:	15-49 years	Endline:	12-23 months	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Zimbabwe	Baseline:	15-49 years	Baseline:	Less than 24 months	Baseline:	-
	Endline:	15-49 years	Endline:	Less than 24 months	Endline:	-
Save the Children						
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Pakistan	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
World Vision						
Tanzania	Baseline:	Any	Baseline:	12-23 months	Baseline:	-
	Endline:	15-49 years	Endline:	12-23 months	Endline:	-

Appendix Table 11. Data collection characteristics for provision of ORT indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	Last two weeks
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	Last two weeks
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	15 years and older	Baseline:	Less than 60 months	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	0-59 months	Endline:	Last two weeks
Pakistan	Baseline:	15 years and older	Baseline:	Less than 24 months	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	Less than 24 months	Endline:	Last two weeks
World Vision						
Tanzania	Baseline:	Any	Baseline:	6-59 months	Baseline:	Last two weeks
	Endline:	15-49 years	Endline:	6-59 months	Endline:	Last two weeks

Appendix Table 12. Data collection characteristics for provision of ORS and zinc indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	15-49 years	Baseline:	Less than 36 months	Baseline:	Last two weeks
	Endline:	15-49 years	Endline:	Less than 36 months	Endline:	Last two weeks
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	15 years and older	Baseline:	Less than 60 months	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	0-59 months	Endline:	Last two weeks
Pakistan	Baseline:	15 years and older	Baseline:	Less than 24 months	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	Less than 24 months	Endline:	Last two weeks
World Vision						
Tanzania	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-

Appendix Table 13. Data collection characteristics for provision of antimalarial treatment indicator.

NGO	Maternal age range from which data was collected		Child age range from which data was collected		Reference period (e.g., 24 hours, 48 hours, 2 days, etc.)	
CARE						
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Plan						
Bangladesh	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ethiopia	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Ghana	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Mali	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Zimbabwe	Baseline:	-	Baseline:	-	Baseline:	-
	Endline:	-	Endline:	-	Endline:	-
Save the Children						
Mali	Baseline:	15 years and older	Baseline:	Less than 60 years	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	0-59 months	Endline:	Last two weeks
Pakistan	Baseline:	15 years and older	Baseline:	Less than 24 months	Baseline:	Last two weeks
	Endline:	15 years and older	Endline:	Less than 24 months	Endline:	Last two weeks
World Vision						
Tanzania	Baseline:	Any	Baseline:	6-59 months	Baseline:	Last two weeks
	Endline:	15-49 years	Endline:	6-59 months	Endline:	Last two weeks

Appendix 2 – Change Pathways

Change Pathways

Background

Frameworks or models are often used to outline and demonstrate the theory underlying programs and activities within MNCH. These tools are used to depict the possible effects of interventions on specific programmatic and health outcomes. Many organizations follow a 'theory of change (TOC) process,' whereby they identify a series of changes that might occur to achieve outcomes identified at different levels of the framework. Once the outcomes have been identified, one or several conceptual frameworks can be created, such as a logic model (LM) (Taplin et al. 2013).

A variety of frameworks and models have been developed to examine the underlying determinants of MNCH (e.g., nutrition, feeding practices, health service utilization, water and sanitation), and their contribution to a variety of health outcomes. The WHO conceptual framework for stunting illustrates a variety of determinants leading in the short-term to stunted growth and development and later to long-term consequences (Stewart et al. 2013). The Legambo Child Caring Practices program employs a causal framework to demonstrate the cause and effect relationship between a set of interventions and stunting reduction (Fenn et al. 2012). Similarly, the African Health Initiative (Bryce et al. 2013), as part of a 'common evaluation framework,' illustrates a conceptual model developed to evaluate interventions implemented by various partners and describes contextual factors that might modify the relationships between interventions and outcomes. Even though the logical process taken by each author may be similar in these frameworks or models, the purpose for the development of the framework or model is shaped by the relationship being examined.

To effectively assess and attribute change in a program area to implemented interventions, it is necessary to employ a control group or counterfactual. This allows one to observe what might have happened in the absence of an intervention, assess any causal associations, and determine the magnitude of impact. However, in resource-limited settings, this may not be possible for reasons related to cost, ethics, or feasibility. In light of these challenges, we have developed a 'change pathway framework' depicting the hypothesized effect of interventions on specified indicators. The underlying framework within the change pathways serves as a tool to aid in the interpretation of an increase, decrease, or stasis in coverage from data collected at two time points, and visually depicts the links and possible associations between interventions and outcomes.

Methods

Identification and assessment of indicators for change pathways

Of the 15 CF indicators, a subset of 8 indicators was targeted for change pathway development. Within this subset were 6 'Muskoka' and 2 'UN' MNCH indicators. Seven of the 8 change pathway-targeted indicators are defined by DFATD as being tied to 'intermediate' outcomes, while the indicator for stunting prevalence is recognized as a long-term 'ultimate' outcome (Common Framework, 2013).

Rationale for the generation of change pathways

The primary purpose of the change pathways was to aid in the interpretation of cross-sectional survey data that was collected and provided by the NGOs. Each NGO collected cross-sectional data at two points in time, baseline and endline, over approximately 2.5 years. Within the NGO's study design, a control or comparison group was not used for the purpose of comparison, thus it is not possible to establish a causal link between specific interventions and changes in the indicators. To show how activities had been theorized across the NGO projects to affect indicators of interest at various levels (i.e., the path by which change was anticipated to occur and the immediate and intermediate outcomes that were expected to change along the way), we generated and applied an innovative framework.

Development of the change pathway framework

The construction of the change pathway framework was informed by existing literature on conceptual frameworks and causal models (Avula et al. 2013; Bryce et al. 2013; Fenn et al. 2012). The DFATD-generated templates (i.e., results-based management (RBM) frameworks and models) were also reviewed, and elements were incorporated into the change pathways framework (DFATD, 2014).

The change pathway framework (next page) includes 6 key components: target population, strategy, interventions, outcomes (at the immediate, intermediate and ultimate levels), indicators, and contextual factors. By convention the progression of the pathway follows from the bottom to the top, corresponding to activities to outcomes. Additions to the change pathway template compared to the DFATD templates are identification of the target population, overarching strategy, contextual factors, and indicators measured at each of the levels (e.g., immediate, intermediate and ultimate levels). In situations where a change pathways was generated for an intermediate level indicator (as opposed to the ultimate level), a tailored outcome known as the 'expected change' was created to capture the outcome relevant to the indicator being measured. A concise set of operational definitions for each of the elements included in the framework is shown in Table 1. Adobe Illustrator® software (2014) (retrieved from http://www.adobe.com/ca/products/illustrator.html) was used to arrange the various levels within the change pathway framework.

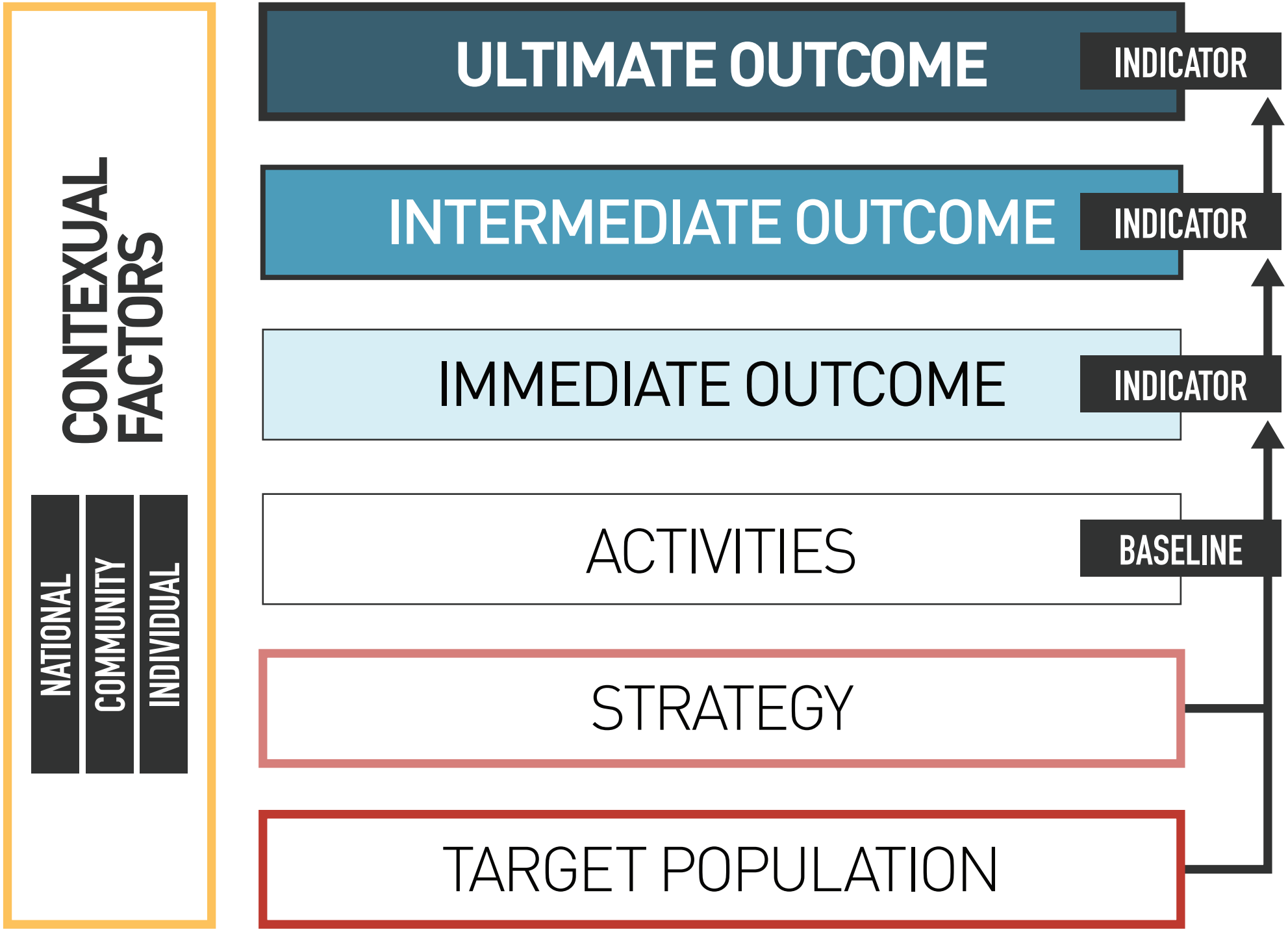

CONTEXUAL FACTORS
NATIONAL
COMMUNITY
INDIVIDUAL
ULTIMATE OUTCOME
INDICATOR
INTERMEDIATE OUTCOME
INDICATOR
IMMEDIATE OUTCOME
INDICATOR
ACTIVITIES
BASELINE
STRATEGY
TARGET POPULATION

Table 1. Operational definitions used in the change pathway framework

Terms	Operational Definition	Examples
Indicator	A quantitative measurement (e.g. proportion, count, or rate) that is used to describe a characteristic. Indicators allow for the measurement of intervention outcomes, and more specifically the direction and magnitude of change over time. They can also be used to describe characteristics of populations or countries, through direct measures of morbidity, mortality, or indirectly through quantifying the prevalence of precursors. Indicators provide data to decision makers, program planners and policy-makers, and aid them in making informed decisions about implementation. Specific indicator definitions are ideally consistent at baseline and endline, and are important for setting goals and targets for change (Larson & Mercer, 2004).	Percent of women 15-49 years who received antenatal care >4 times during pregnancy with their youngest living child aged <6 months
Target population	The population the program or intervention is intended to have an effect on, described using characteristics such as age, sex, family role and geographic location.	Women and adolescent girls of child-bearing age and family members (mothers, mother-in-laws, husbands, other male family members)
Strategy	A concise and consolidated description of the activities being implemented to affect change in the outcome.	Provide education and support to health workers, educate community members, and empower women for household decision-making
Activities	The specific actions, or components of an intervention, that are being implemented to achieve specific and measurable short-term outcomes.	Form community support groups
Intervention	A package of discrete actions being implemented in, or directed towards, a community or organization, and designed for the explicit purpose of promoting health and wellbeing.	Behavioural change communication
Outcome	The intended effects, result, or change in state in a population, to be achieved in the short-, medium-, or long-term.	(See below)
Immediate outcomes	The short-term effects seen after delivering the components of an intervention.	Increase knowledge among women of childbearing age and male family members of ANC services and practices
Intermediate outcomes	The medium-term effects dependent on the achievement of the immediate outcomes, and leads to long-term change in health or behaviour.	Increase access to ANC services
Ultimate outcome	The overall, long-term goal or objective the interventions are intended to achieve.	Reduce maternal and child mortality
Expected change	A description of an outcome specific to the indicator of focus for an individual pathway.	Improve ANC services and practices among women aged 15-49

Terms	Operational Definition	Examples
Contextual factors	The national, community and/or individual level factors hypothesized to modify both the effect of interventions, and the links between immediate, intermediate and ultimate outcomes. These can include effect modifiers, confounders, and mediators.	Literacy rates, socioeconomic status, cultural norms, national policies.

Source documents

Several documents provided by the NGOs were reviewed in detail, including performance measurement frameworks (PMFs), LMs and annual reports (ARs). Both the PMFs and LMs generated by the NGO partners were based on DFATD-generated templates. ARs were used to supplement information provided in the PMFs and LMs, as they described progress towards outcomes, resource allocation, and any projected changes in specific intervention activities within subsequent project implementation years. Further information was also obtained from in-person meetings with the NGOs to further assess the extent to which implemented activities were related to the targeted CF indicators.

Consolidating NGO project descriptions within the change pathways

For each CF indicator of interest, a consistent approach was taken in consolidating the NGO project activities and outcomes, including contextual factors, and consistently fitting these components into a sequence within the change pathway framework. The initial arrangement combined employed six steps:

1. Determining the target population and developing the strategy
2. Extracting relevant activity, outcome and indicator details
3. Consolidating activities within and between NGO programs
4. Consolidating immediate and intermediate outcomes between NGO programs
5. Addition of relevant contextual factors
6. Fitting components to the change pathway framework template

<u>Determining the target population and developing the strategy</u>

The target population was determined based on the beneficiaries (i.e., those who would benefit from improved health outcomes) mentioned within the activities described in the PMFs and LMs for an indicator. The primary target population was pregnant women, mothers, infants, and children, given the nature of the MNCH projects. Secondary targets could include other household members that interacted directly with the primary target population, or upon whom the target population was dependent. The strategy was developed based on overarching themes that encompassed the activities being implemented by each of the NGOs. For instance, if many of the activities were focused on training Community Health Workers (CHWs) or educating community members, then key verbs such as 'support' and 'educate' were used to describe part of the strategy, followed by the object mentioned in the activities.

<u>Extracting relevant activity, outcome and indicator details</u>

To gather information about program details pertaining to the indicators of interest, tables were developed for each NGO for each indicator. Extracted information included that related to associated activities and expected outcomes at the immediate, intermediate, and ultimate level. These were simplified to 'Provide new and refresher training to VHWs on ANC services.'

Since change pathways only display those activities that were actually conducted, if it was determined that an activity that appeared in the PMF or LM was not conducted, the corresponding activity and any associated immediate outcomes were excluded from the change pathways. Therefore, ARs and semi-ARs were reviewed when available, and in-person meetings were conducted with the NGO partners to clarify program details and ensure the correctness of all elements.

Consolidating activities within and between NGOs

Before consolidating the identified activity and outcome descriptions within and between NGO, the descriptions were truncated to allow for better readability. Activities were first consolidated based on commonalities where the same action term was being used for the implemented activities (e.g., train, plan, conduct or establish). In situations where NGOs were implementing programs in several different countries, when appropriate, similar activity descriptions were grouped together, while the information about which countries the activities occurred in was retained. For example, Plan implemented projects in 5 countries. In 3 of the 5 countries, Ghana, Mali and Zimbabwe, they conducted home visits for the ANC indicator. This information was consolidated and grouped together based on the similar activity action term (conduct) and activity implemented (home visits) within the 3 countries.

Consolidating immediate and intermediate outcomes between NGOs

Similar to the activities, outcomes at the immediate and intermediate levels were merged between NGOs when appropriate. The commonality between terms used for the immediate and intermediate outcomes (e.g., delivery, utilization, access, knowledge) was first assessed, and similar terms were merged to create common immediate and intermediate outcomes.

Two challenges were faced in consolidating the outcomes. First, in different NGO PMFs the intermediate outcomes linked to a given indicator were not always consistent. Therefore, it was necessary to abstract all distinct intermediate outcomes. In such cases, the immediate outcomes were kept separate and retained for each of NGOs. The second challenge encountered was around the logical process that was initially suggested by the NGOs from outcome to outcome. The documents provided by the NGOs did not tell the complete story and additional steps were identified as 'sub-intermediate' steps in the change pathways. Based on the theory of change process, the chain of events should represent a logical process when a particular strategy or program is being implemented in order to determine how it leads to the intended outcomes (Taplin et al. 2013). Thus the 'sub-intermediate' steps were illustrated to show the logical process that should be followed.

Inclusion of contextual factors

Because factors related to the local context can influence the potential effect of an intervention, contextual factors were added to the typical TOC format. Only broad contextual factor categories have been included in this exercise as a general guide, and specific mechanisms have not been suggested since this information was only available anecdotally. Within the change pathway framework, contextual factors were operationally defined as any factors that might be expected to affect the outcome or success of an intervention at the individual, community or national level. These factors could include mediators, effect modifiers, and confounders (Table 2).

Table 2. Contextual factor categories used in the change pathways (adapted from Bryce et al. 2013; Victora et al. 2005).

Category	Illustrative Examples
Socioeconomic factors	Household assets, family income, education, occupation, unemployment, land tenure, Human Development Index, ethnicity
Demographic factors	Population density, urbanization, fertility, family size
Political factors	Policies, laws, government funding and priorities
Environmental characteristics	Altitude, rainfall, water supply, sanitation, housing
Exogenous shocks	Epidemics, humanitarian crises, crop failures, inflation, major economic investments or crises
Health status	HIV prevalence, malnutrition prevalence, main causes of death, under-five mortality
Health system characteristics	User fees, access to facilities, referral services, drug supply, district health budget, health worker density, compensation, and staffing
Stakeholder influence	Partners, donors, civil society organizations funding levels and priorities
Other programs	Micronutrient supplementation, social marketing of insecticide-treated bed nets, mass immunization campaigns

Fitting the components to the change pathway framework template

Three legends were created and appear on the bottom of each of the change pathways. The first legend was created as a colour-coded legend showing what each box in the pathway represents (i.e., interventions/activities, immediate outcomes, intermediate outcomes). The second legend was created to colour-code and categorize individual activities into several different groups to allow for rapid assessment of activity typology. The categories developed to group the activities included i) pillars for health systems support (based on the WHO framework on health system building blocks (WHO 2007); ii) nutrition-specific actions; and iii) community mobilization, sensitization and awareness-raising. A third legend was created to identify which NGOs were measuring the specified indicator in the change pathway. Arrows were used to connect the levels and signify the NGO-hypothesized pathways through which the interventions affect the ultimate outcome. Boxes were used to separate the individual outcomes at the immediate and intermediate level. The expected change associated with the indicator of focus was located at the top of the figure and the 'end' of the pathway. Furthermore, to clarify within the intervention boxes which project each of the activities belonged to, the activities were labelled by both the NGO and country names.

Results

In total, 8 detailed change pathways were generated. Five simplified change pathways were additionally created for the collective continuum of care-related indicators (ANC, SBA, and PNC), EBF, stunting, community case management-related indicators (CCM), and vaccination-related indicators (DPT and measles). For the simplified change pathways, specific activities have been removed, and replaced by broader intervention-related categories.

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE

IMPROVE ANTENATAL CARE SERVICES AND PRACTICES AMONG WOMEN AGED 15-49 IN RURAL AND UNDERSERVICED POPULATIONS

INDICATOR - percent of women aged 15-49 who gave birth and received antenatal care (ANC) by a skilled health provider at least 4 times during pregnancy

IMPROVE DELIVERY OF ESSENTIAL MNCH SERVICES

STRENGTHEN CAPACITY OF HSMs, PCPs, CHWs AND VOLUNTEERS TO MONITOR AND IMPLEMENT MNCH SERVICES

WORLD VISION TZ

TRAIN:
- CLINICIANS AND NURSES IN IMCI H2
- RCH STAFF ON EMC H2
- CHWs, TBAs, AND CORPs ON MNCH, NUTRITION, COUNSELING, AND REFERRAL H2
- HFs AND CHMT MEMBERS ON MONITORING AND COMPLYING WITH BFHI H5
- CHMT MEMBERS ON HEALTH MANAGEMENT H5
- HFCs ON FACILITY MANAGEMENT H5

REVISE, REPRODUCE, AND DISSEMINATE, UPDATED DATA COLLECTION TOOLS TO ALL LEVELS (INCLUDING VHWs) H3

PROVIDE JOB AIDs TO CHWs, TBAs, AND CORPs ON ANC H3

SUPPORT THE ROLL OUT OF HMIS TOOL H3

CONDUCT RESEARCH ON mHEALTH FOR MNCH DATA COLLECTION H3

INCREASE CAPACITY OF COMMUNITIES TO MONITOR AND ENGAGE LOCAL GOVERNMENT

WORLD VISION TZ

TRAIN:
- PROJECT TEAM AND VHCs ON HSS USING CVA APPROACH H5
- LOCAL PARTNERS AND LEADERS ON POLICY RESEARCH, ANALYSIS, AND MONITORING MNCH POLICY IMPLEMENTATION H5

DEVELOP AN ACTION PLAN FOR MONITORING MNCH STANDARDS H5

FACILITATE NATIONAL LEVEL ADVOCACY ON MNCH PROTOCOLS H5

ORGANIZE COMMUNITY GATHERINGS C

INCREASE UTILIZATION OF PREVENTATIVE AND RESPONSIVE MNCH PRACTICES AND SERVICES

INCREASE ADOPTION OF MNCH SERVICES AMONG WOMEN AND GIRLS

ZM — PROVIDE NEW TRAINING AND REFRESHER TRAINING TO VHWs ON MNCH H2

ZM — DEVELOP AND TRAIN CCGs ON MNCH C

BD — PROVIDE COMMUNITY AWARENESS ON FP AND MATERNAL NUTRITION C

PLAN — PROVIDE FAMILY PLANNING AND BASIC MNCH MEDICINES TO CHWs H3

MA — FACILITATE COMMUNITY OUTREACH ACTIVITIES C

TRAIN CHC PERSONNEL IN VCT AND PMTCT H2

ET, GH — CONDUCT CACs ON MNCH C

MA, GH, ZM — CONDUCT HOME VISITS C

INCREASE ACCESS TO MNCH SERVICES

INCREASE KNOWLEDGE OF BASIC MNCH ISSUES AMONG WOMEN OF CHILDBEARING AGE AND MALE FAMILY MEMBERS

TRAIN HDA WORKERS ON MNCH PRACTICES AND CASE REFERRALS H2

ET — SUPPLY FAMILY HEALTH CARDS TO HEWs H3

ET — FACILITATE KNOWLEDGE SHARING AMONG HDA SGs C

HOLD CDGs ON KEY MNCH PRACTICES C

MA — ORGANIZE EVENTS AND NATIONAL CAMPAIGNS ON MNCH C

GH — FORM CSGs C TRAIN CSGs ON MNCH ISSUES C

FACILITATE COMMUNITY MNCH DIALOGUES C

PLAN BD — TRAIN CMs ON COMMUNITY MOBILIZATION C

PLAN BD — CONDUCT AWARENESS RAISING SESSIONS C

PROVIDE ToT TO PEs ON MNCH ISSUES C

ZM — SELECT AND TRAIN PEs ON YOUTH FRIENDLY SERVICES C

BD, ET, MA — TRAIN CHWs, PEs, AND HEWs ON KEY MNCH AND GE ISSUES C

BD, MA — CONDUCT BCC CAMPAIGNS AND ACTIVITIES ON MNCH ISSUES C

MA, GH, ZM — REVIEW, REVISE, AND REPRODUCE IEC MATERIAL H3

MA, GH, ZM, BD — DEVELOP CM AWARENESS ACTIVITIES AND EVENTS C

MA, GH — SENSITIZE SGs AND CLs ON MNCH ISSUES C

ENHANCE ABILITY OF WOMEN AND GIRLS TO MAKE DECISIONS RELATED TO ACCESSING MNCH SERVICES

INCREASE REPRESENTATION AND ACTIVE PARTICIPATION OF WOMEN

PLAN

ET — FACILITATE HEW SUPERVISION H5

MA — TRAIN CAs ON GENDER AND LEADERSHIP C

GH — HOLD COMMUNITY MNCH INPUT FORUMS C

BD — FORM CSGs C

ET, ZM — TRAIN GOV'T OFFICIALS, KLs, AND APOSTOLIC LEADERS ON GENDER SENSITIZATION H5

GH, ZM — TRAIN HCCs AND CHCs ON GENDER, GOVERNANCE AND EMERGENCY RESPONSE H5

MA, GH — DEVELOP COMMUNITY ACTION PLANS FOR PARTICIPATION OF WOMEN IN DECISION MAKING H5

STRATEGY - PROVIDE SUPPORT AND EDUCATION TO TARGET POPULATION AND PROVIDERS TO INCREASE USE OF ANTENATAL CARE SERVICES

TARGET POPULATION - 1. WOMEN AGES 15 TO 49 YEARS ; 2. FAMILY MEMBERS (MOTHERS, MOTHER-IN-LAWS, HUSBANDS, OTHER MALE FAMILY MEMBERS)

ACTIVITIES | IMMEDIATE OUTCOMES | INTERMEDIATE OUTCOMES

H — PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N — NUTRIENT AND MICRONUTRIENT ACCESS

C — COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

WORLD VISION Tanzania | PLAN Ethiopia, Mali Zimbabwe, Ghana Bangladesh

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE

IMPROVE MATERNAL HEALTHCARE DELIVERY SERVICES FOR WOMEN AGED 15-49 IN RURAL AND UNDERSERVICED POPULATIONS

INDICATOR - percent of women aged 15-49 years whose youngest living child aged 0-5 months was delivered by a skilled health personnel

STRENGTHEN THE HEALTH CARE SYSTEM

IMPROVE DELIVERY OF MNCH SERVICES

STRENGTHEN **CAPACITY** OF HSMs, PCPs, CHWs AND VOLUNTEERS TO MONITOR AND IMPLEMENT MNCH SERVICES

WORLD VISION TZ

TRAIN:
- CLINICIANS AND NURSES IN IMCI H2
- RCH STAFF ON EMC H2
- CHWs, TBAs, AND CORPs ON MNCH, NUTRITION, COUNSELING, AND REFERRAL H2
- HFs AND CHMT MEMBERS ON MONITORING AND COMPLYING WITH BFHI H5
- CHMT MEMBERS ON HEALTH MANAGEMENT H5
- HFCs ON FACILITY MANAGEMENT H5

REVISE, REPRODUCE, AND DISSEMINATE, UPDATED DATA COLLECTION TOOLS TO ALL LEVELS (INCLUDING VHWs) H3

PROVIDE JOB AIDs TO CHWs, TBAs, AND CORPs ON ANC H3

SUPPORT THE ROLL OUT OF HMIS TOOL H3

CONDUCT RESEARCH ON mHEALTH FOR MNCH DATA COLLECTION H3

INCREASE **ABILITY** OF COMMUNITIES TO MONITOR AND ENGAGE LOCAL GOVERNMENT

WORLD VISION TZ

TRAIN:
- PROJECT TEAM AND VHCs ON HSS USING CVA APPROACH H5
- LOCAL PARTNERS AND LEADERS ON POLICY RESEARCH, ANALYSIS, AND MONITORING MNCH POLICY IMPLEMENTATION H5

DEVELOP AN ACTION PLAN FOR MONITORING MNCH STANDARDS H5

FACILITATE NATIONAL LEVEL ADVOCACY ON MNCH PROTOCOLS H5

ORGANIZE COMMUNITY GATHERINGS C

STRENGTHEN **KNOWLEDGE** AND **SKILLS** OF GOVERNMENT HEALTH WORKERS TO DELIVER QUALITY MNCH SERVICES

PLAN GH
- TRAIN HEWs ON CLEAN AND SAFE DELIVERY H2

ET
- TRAIN HEWs AND HDAs ON ICCM H2
- PROVIDE ToT TO HCS ON BEmONC AND SAFE AND CLEAN DELIVERY H2

MA
- FACILITATE TRAINING SESSIONS FOR HAs ON PMTCT AND BEmONC H2

PLAN GH
- TRAIN GHWs ON ETAT H2
- TRAIN GHWs ON REFERRAL PROTOCOLS H1
- TRAIN GHWs AND OFFICIALS ON SAFE MOTHERHOOD H2
- PROVIDE ToT TO HFS ON HEALTH WORKER MANAGEMENT H5
- DISTRIBUTE MNCH TRIANING MATERIALS TO GHWs H3

ET, ZM, GH
- TRAIN HCS, GHWs AND HWs ON BEmONC H2

MA, ZM, BD, GH
- PROVIDE AND FACILITATE TRAINING TO HAs, NGO HEALTH STAFF, GHWs, AND HWs ON IMNCI AND IMCI H2

IMPROVE **REFERRAL SYSTEMS**

PLAN

ET
- PROVIDE MOBILE PHONE AIR TIME TO HEALTH POSTS H3
- INITIATE MECHANISM FOR REFERRAL TRANSPORTATION OF DELIVERING MOTHERS H1

GH
- TRAIN CHC MEMBERS AND CMs IN CASE MANAGEMENT AND EMERGENCIES H2

ZM
- TRAIN HWs ON GENDER RESPONSIVENESS H2

BD
- DEVELOP SYSTEM AND REFERRAL TOOLS FOR HCFs H1

ET, GH
- DISTRIBUTE AND PROVIDE TRAINING TO HFS AND CHS ON REFERRAL PROTOCOL H1

IMPROVE **APPLICATION** OF CLINIC MANAGEMENT TECHNIQUES

IMPROVE **UTILIZATION** OF MNCH RESOURCES

PLAN

ET
- CONDUCT QUARTERLY DISTRICT LEVEL REVIEW MEETINGS H5
- TRAIN HEW SUPERVISORS ON HMIS H3
- TRAIN HEWs ON CHIS H3

MA
- FACILITATE COORDINATION MEETINGS AT THE NATIONAL AND REGIONAL LEVELS H5
- TRAIN HAs ON MATERNAL AND NEWBORN DEATH AUDITS H3

GH
- FACILITATE MNCH COORDINATION MEETINGS H5

ZM
- PROVIDE CELLULAR PHONES TO HCs H3
- IMPROVE WATER ACCESS TO HFs H1
- TRAIN HWs IN HEALTH MANAGEMENT AND GOVERNANCE H5
- PROVIDE AND EQUIP MATERNITY WAITING HOMES WITH ESSENTIAL SUPPLIES H4
- CONSTRUCT, RENOVATE, PROVIDE MATERNITY WAITING HOMES H1

BD
- PROVIDE TRAINED HUMAN RESOURCES TO UH AND FWCs H2
- TRAIN CGs ON IMPROVED CLINIC MANAGEMENT AND LEADERSHIP H5

ET, MA
- PROVIDE BASIC EQUIPMENT AND REHABILITATE HEALTH POSTS H4

ET, GH
- PROVIDE BEmONC EQUIPMENT TO HEALTH CENTRES H4

MA, GH
- FACILITATE SUPERVISORY VISITS TO CHCs H5

BD, GH
- DEVELOP MNCH FOLLOW UP TOOLS AT HFs H3
- PROVIDE MNCH EQUIPMENT TO HFs H4

STRATEGY - PROVIDE LEADERSHIP AND MANAGEMENT SKILLS TO GOVERNMENT AND HEALTH CARE PERSONNEL TO IMPROVE MATERNAL HEALTHCARE DELIVERY SERVICES

TARGET POPULATION - WOMEN AGES 15 TO 49 YEARS

ACTIVITIES | **IMMEDIATE OUTCOMES** | **INTERMEDIATE OUTCOMES**

H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N NUTRIENT AND MICRONUTRIENT ACCESS

C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

WORLD VISION Tanzania | PLAN Ethiopia, Mali Zimbabwe, Ghana Bangladesh

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE
IMPROVE POSTNATAL CARE UTILIZATION AND SERVICES FOR WOMEN AGED 15-49 AND INFANTS IN RURAL AND UNDERSERVICED POPULATIONS

INDICATOR - percent of women aged 15-49 and infants who received postnatal care within 3 days of birth

STRENGTHEN THE HEALTH CARE SYSTEM

IMPROVE **APPLICATION** OF CLINIC MANAGEMENT TECHNIQUES

IMPROVE **UTILIZATION** OF MNCH RESOURCES

IMPROVE **REFERRAL SYSTEMS**

INCREASE USE OF HIGH QUALITY IMPACT HEALTH SERVICES

IMPROVE DELIVERY OF QUALITY MNCH SERVICES

INCREASE ACCESS TO AVAILABLE HEALTH SERVICE PROGRAMS

STRENGTHEN **KNOWLEDGE** AND **SKILLS** OF GOVERNMENT HEALTH WORKERS TO DELIVER QUALITY MNCH SERVICES

IMPROVE **QUALITY** OF NEWBORN AND PNC PROGRAMS

IMPROVE **QUALITY** OF FP SERVICES

PLAN
- ET: CONDUCT QUARTERLY DISTRICT LEVEL REVIEW MEETINGS H5; TRAIN HEW SUPERVISORS ON HMIS H3; TRAIN HEWs ON CHIS H3
- MA: FACILITATE COORDINATION MEETINGS AT THE NATIONAL AND REGIONAL LEVELS H5; TRAIN HAs ON MATERNAL AND NEWBORN DEATH AUDITS H3
- GH: FACILITATE MNCH COORDINATION MEETINGS H5
- ZM: PROVIDE CELLULAR PHONES TO HCs H3; TRAIN HWs IN HEALTH MANAGEMENT AND GOVERNANCE H5; CONSTRUCT, RENOVATE, PROVIDE MATERNITY WAITING HOMES H1
- PROVIDE AND EQUIP MATERNITY WAITING HOMES WITH ESSENTIAL SUPPLIES H4; IMPROVE WATER ACCESS TO HFs H1
- BD: PROVIDE TRAINED HUMAN RESOURCES TO UH AND FWCs H1; TRAIN CGs ON IMPROVED CLINIC MANAGEMENT AND LEADERSHIP H5
- ET, MA: PROVIDE BASIC EQUIPMENT AND REHABILITATE HEALTH POSTS H4
- ET, GH: PROVIDE BEmONC EQUIPMENT TO HEALTH CENTRES H4
- MA, GH: FACILITATE SUPERVISORY VISITS TO CHCs H5
- BD, GH: DEVELOP MNCH FOLLOW UP TOOLS AT HFs H3; PROVIDE MNCH EQUIPMENT TO HFs H4

PLAN
- ET: PROVIDE MOBILE PHONE AIR TIME TO HEALTH POSTS H3; INITIATE MECHANISM FOR REFERRAL TRANSPORTATION OF DELIVERING MOTHERS H1
- GH: TRAIN CHC MEMBERS AND CMs IN CASE MANAGEMENT AND EMERGENCIES H2
- ZM: TRAIN HWs ON GENDER RESPONSIVENESS H2
- BD: DEVELOP SYSTEM AND REFERRAL TOOLS FOR HEALTH CARE FACILITIES H1
- ET, GH: DISTRIBUTE AND PROVIDE TRAINING TO HFS AND CHS ON REFERRAL PROTOCOL H1

PLAN
- ET: TRAIN HEWs ON iCCM H2; TRAIN HEWs ON CLEAN AND SAFE DELIVERY H2; PROVIDE ToT TO HCS ON BEmONC AND SAFE AND CLEAN DELIVERY H2
- MA: FACILITATE TRAINING SESSIONS FOR HAs ON PMTCT AND BEmONC H2
- GH: PROVIDE ToT TO HFS ON HEALTH WORKER MANAGEMENT H5; TRAIN GHWs ON ETAT H2; DISTRIBUTE MNCH TRAINING MATERIALS TO GHWs H3; TRAIN GHWs ON REFERRAL PROTOCOLS H1; TRAIN GHWs AND OFFICIALS ON SAFE MOTHERHOOD H2
- ET, ZM, GH: TRAIN HCS, GHWs, AND HWs ON BEmONC H2
- MA, ZM, BD, GH: PROVIDE AND FACILITATE TRAINING TO HAs, NGO HEALTH STAFF, GHWs, AND HWs ON IMNCI AND IMCI H2

SAVE MA
- DEVELOP AND PROVIDE JOB AIDs TO CHAs FOR COUNSELLING, REPORTING, AND REFERRAL H3
- REVIEW, MODIFY, AND PROVIDE MODULES TO CHAs AND SUPERVISORS ON FP COUNSELLING AND METHODS, ENC, AND PNC H3
- PROVIDE COMPETENCY BASED TRAINING TO CHAs AND SUPERVISORS ON FP, ENC, AND PNC H5

STRATEGY - PROVIDE LEADERSHIP AND MANAGEMENT SKILLS TO GOVERNMENT AND HEALTH CARE PERSONNEL TO IMPROVE DELIVERY, ACCESS AND USE OF POSTNATAL CARE SERVICES

TARGET POPULATION - 1. WOMEN AGES 15 TO 49 YEARS; 2. INFANTS

ACTIVITIES | **IMMEDIATE OUTCOMES** | **INTERMEDIATE OUTCOMES**

H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N NUTRIENT AND MICRONUTRIENT ACCESS

C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

SAVE THE CHILDREN Mali | PLAN Ethiopia, Mali Zimbabwe, Ghana Bangladesh

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE
IMPROVE EXCLUSIVE BREASTFEEDING PRACTICES

INDICATOR - percent of living children 0-5 months who are exclusively breastfed

EQUITABLE **UTILIZATION** OF HEALTH AND NUTRITION SERVICES

- IMPROVE **QUALITY** OF NEWBORN, PNC, AND REFERRAL SERVICES
- IMPROVE **DELIVERY** OF NUTRITION AND MNCH SERVICES
- STRENGTHEN **CAPACITY** OF HEALTH WORKERS

PRACTICE OF OPTIMAL HEALTH, NUTRITION, AND FEEDING BEHAVIOURS

- INCREASE **KNOWLEDGE** OF IYCF, CARING PRACTICES, MNCH ISSUES, AND GENDER BARRIERS

ACTIVITIES

- WORLD VISION: TRAIN HEALTH WORKERS ON MNCH AND NUTRITION H2
- WORLD VISION: TRAIN HEALTH FACILITIES IN COMPLYING WITH BFHI H2
- CARE, SAVE PAKISTAN: TRAIN FACILITY AND COMMUNITY HEALTH WORKERS ON IYCF H2
- PLAN: TRAIN AND TOTs ON BEmONC AND IMNCI FOR HEALTH WORKERS H2
- SAVE MALI: TRAIN HEALTH WORKERS AND SUPERVISORS ON ENC AND PNC H2
- CARE: DISSEMINATE RADIO MESSAGING C
- CARE: TRAIN ON GENDER ISSUES IN IYCF C
- CARE: EDUCATE COMMUNITY GROUPS ON IYCF C
- WORLD VISION: TRAIN HOUSEHOLD MEMBERS ON IYCF C
- WORLD VISION: TRAIN CHMT AS IYCF TRAINERS H2
- SAVE: DISTRIBUTE GENDER-SPECIFIC BCC MATERIALS C
- SAVE: TRAIN CHWs ON GENDER COUNSELLING AND MESSAGE DELIVERY H2
- PLAN: CONDUCT AWARENESS RAISING ON IYCF AND GENDER C
- PLAN: TRAIN AND TOTs ON KEY MNCH ISSUES H2
- PLAN: HOLD COMMUNITY DISCUSSIONS C
- CONDUCT AWARENESS AND MNCH BEHAVIOUR CHANGE CAMPAIGNS C

STRATEGY - TRAIN HEALTH WORKERS, EDUCATE COMMUNITY MEMBERS, EMPOWER WOMEN FOR DECISION-MAKING

TARGET POPULATION - 1. MOTHERS; 2. INFANTS UNDER 6 MONTHS

ACTIVITIES | IMMEDIATE OUTCOMES | INTERMEDIATE OUTCOMES

H – PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N – NUTRIENT AND MICRONUTRIENT ACCESS

C – COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

CARE Ethiopia | PLAN Mali, Ethiopia | WORLD VISION Tanzania | SAVE THE CHILDREN Mali, Pakistan

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE

IMPROVE CHILD HEALTH AND NUTRITIONAL STATUS

INDICATOR - percent of children 6-23 months who are stunted (<-2 HAZ)

DELIVERY OF CHILD HEALTH AND NUTRITION SERVICES

SOCIAL AND POLITICAL ENVIRONMENT SUPPORTING **SCALE-UP** OF SERVICES

EQUITABLE **UTILIZATION** OF HEALTH, NUTRITION, AND FAMILY PLANNING SERVICES

PRACTICE OF OPTIMAL HEALTH AND FEEDING BEHAVIOURS

EQUITABLE **CONSUMPTION** OF NUTRITIOUS FOODS

IMPROVE **CAPACITY** OF HEALTH WORKERS, COMMUNITY, AND MINISTRY OF HEALTH

IMPROVE **ACCESS** TO ESSENTIAL MICRONUTRIENTS AND PPTCT SERVICES

INCREASE **KNOWLEDGE** OF OPTIMAL FEEDING AND HYGIENE PRACTICES

INCREASE **ENGAGEMENT** OF COMMUNITY WITH GOVERNMENT

STRENGTHEN **LINKAGES** BETWEEN COMMUNITY AND HEALTH SERVICE PROVIDERS

INCREASE **KNOWLEDGE** OF INFECTION CONTROL AND NUTRITION

INCREASE **AVAILABILITY** OF DIVERSE AND NUTRITIOUS FOODS

WORLD VISION
- ENGAGE CITIZENS, PROVIDERS, AND GOV'T IN DIALOGUE USING CVA APPROACH C
- ESTABLISH DIALOGUE WITH GOV'T AND DISCUSS SERVICE GAPS H5
- TRAIN FOR CVA APPROACH TO HEALTH SYSTEMS STRENGTHENING C

CARE
- TRAIN FOR IMPROVED HOUSEHOLD DECISION-MAKING C
- ESTABLISH REFERRAL NETWORK H1

WORLD VISION
- TRAIN HEALTH WORKERS ON MNCH ISSUES H2
- UPDATE AND EFFECTIVELY USE HMIS H3
- TRAIN CHW AND HEALTH SERVICE MANAGERS ON MNCH H2
- TRAIN FACILITY-BASED HEALTH STAFF EMOC, IMCI, AND NEONATAL CARE H2
- TRAIN HEALTH FACILITIES IN COMPLYING WITH BFHI AND AWARD DESIGNATION H2

CARE
- TRAIN HEALTH SERVICE PROVIDERS H2
- SUPPORT LEARNING EXCHANGES H2

WORLD VISION
- SUPPLEMENT CHILDREN AND POSTPARTUM MOTHERS WITH VITAMIN A N
- ESTABLISH SALT MONITORING SYSTEM FOR ADEQUATE IODIZATION N
- PROVIDE PREVENTION, COUNSELING, AND REFERRAL SUPPORT FOR HIV-AFFECTED MOTHERS/CHILDREN H1
- TRAIN COMMUNITY HEALTH & HIV/AIDS COMMITTEES FOR AWARENESS RAISING, STIGMA REDUCTION, MOBILIZATION, AND REFERRAL C
- MOBILIZE COMMUNITIES FOR ESSENTIAL OUTREACH SERVICES C

WORLD VISION
- SENSITIZE PREGNANT WOMEN ON IRON SUPPLEMENTATION AND RCHS N
- MOBILIZE PARENTS ON ILLNESS PREVENTION, MANAGEMENT AND HEALTH-SEEKING BEHAVIOURS C
- CARRY OUT COMMUNITY-BASED NUTRITION REHABILITATION AND EDUCATION SESSIONS N
- SENSITIZE CAREGIVERS ON CORRECT AND CONSISTENT USE OF ITNs C
- SENSITIZE PMTCT BENEFICIARIES ON ESSENTIAL MICRONUTRIENT INTAKE N
- TRAIN HOUSEHOLD MEMBERS ON IYCF AND CHMT AS TRAINERS C

CARE
- PROVIDE EDUCATION FOR COMMUNITY GROUPS C
- PROVIDE COOKING DEMONSTRATIONS N
- PROVIDE OPTIMAL IYCF EDUCATION C
- TRAIN FOR NUTRITION AND GENDER ISSUES N
- DISSEMINATE PUBLIC MESSAGING C
- ESTABLISH BEHAVIOUR CHANGE GROUPS C
- CONDUCT COMMUNITY MAPPING C
- SUPPORT WOMEN'S DECISION-MAKING C
- TRAIN FOR DIARRHEA PREVENTION AND TREATMENT C

CARE
- PROMOTE DIETARY DIVERSITY AND DIVERSE FOOD PRODUCTION N
- TRAIN TO SUPPORT WOMEN'S DECISION MAKING C
- DISSEMINATE PUBLIC MESSAGING C
- PROVIDE ANIMALS AND TRAIN FOR ANIMAL REARING N
- SUPPORT BACKYARD GARDENS N

STRATEGY - BUILD HEALTH SYSTEM CAPACITY, ENGAGE GOVERNMENT, IMPROVE CAREGIVER KNOWLEDGE, INCREASE SERVICE ACCESS, AND EMPOWER WOMEN FOR DECISION-MAKING

TARGET POPULATION - 1. CHILDREN 6-23 MONTHS; 2. PARENTS AND CAREGIVERS

ACTIVITIES | **IMMEDIATE OUTCOMES** | **INTERMEDIATE OUTCOMES**

H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N NUTRIENT AND MICRONUTRIENT ACCESS

C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

WORLD VISION Tanzania | CARE Ethiopia Zimbabwe

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE
IMPROVE ROUTINE CHILDHOOD VACCINE COVERAGE

INDICATOR - percent of living children 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine

IMPROVE **DELIVERY** OF VACCINATION SERVICES

INCREASE **ABILITY** OF COMMUNITIES TO ENGAGE LOCAL GOVERNMENT

WORLD VISION

- TRAIN COMMUNITY AND PROJECT STAKEHOLDERS ON COMMUNITY VOICES FOR ACTION APPROACH TO HEALTH SYSTEMS STRENGTHENING [C]
- ESTABLISH DIALOGUE WITH GOVERNMENT TO DISCUSS MNCH POLICY IMPLEMENTATION AND SERVICE GAPS [C]

STRENGTHEN **CAPACITY** OF HEALTH WORKERS TO IMPLEMENT AND MONITOR SERVICES

WORLD VISION

- UPDATE AND EFFECTIVELY USE HEALTH MANAGEMENT INFORMATION SYSTEM [H3]
- TRAIN COMMUNITY HEALTH WORKERS TO DELIVER BASIC MNCH AND NUTRITION SERVICES [H2]
- TRAIN HEALTH SERVICE MANAGERS ON MNCH [H5]

INCREASE **PRACTICE** OF OPTIMAL PREVENTION BEHAVIOURS

INCREASE **KNOWLEDGE** OF CHILD HEALTH ISSUES AND GENDER BARRIERS

PLAN

- MA ZM: REVISE INFORMATION, EDUCATION, AND COMMUNICATION MATERIALS [C]
- CONDUCT AWARENESS AND BEHAVIOUR CHANGE CAMPAIGNS [C]
- HOLD COMMUNITY DISCUSSION ON GENDER EQUITY AND MNCH [C]
- MOBILIZE COMMUNITY THROUGH HEALTH OUTREACH WORKERS [C]
- TRAINING AND TOTs FOR HEALTH WORKERS ON KEY MNCH ISSUES [H2]
- ET: SUPPLY INTEGRATED FAMILY HEALTH CARDS TO HEALTH EXTENSION WORKERS [H3]
- MA: ORGANIZE MNCH THEMATIC DAYS [C]

IMPROVE WOMEN'S **DECISION MAKING** AND **UTILIZATION** OF CHILD HEALTH SERVICES

PLAN

- GH MA: FACILITATE AT-HOME VISITS TO ENGAGE WOMEN AND MEN [C]
- DEVELOP ACTION PLANS AND EMPOWERMENT STRATEGIES [C]
- CONDUCT AWARENESS-RAISING TO ENCOURAGE MEN'S AND WOMEN'S INVOLVEMENT IN VACCINATION [C]
- FORM OR STRENGTHEN COMMUNITY GROUPS [C]
- ZM ET: PROVIDE COMPREHENSIVE TRAINING TO HEALTH MANAGEMENT BODIES AND COMMUNITY LEADERS [C]

STRATEGY - IMPROVE VACCINATION SERVICE DELIVERY AND KNOWLEDGE OF ROUTINE VACCINES

TARGET POPULATION - 1. CHILDREN 12-23 MONTHS; 2. PARENTS AND CAREGIVERS

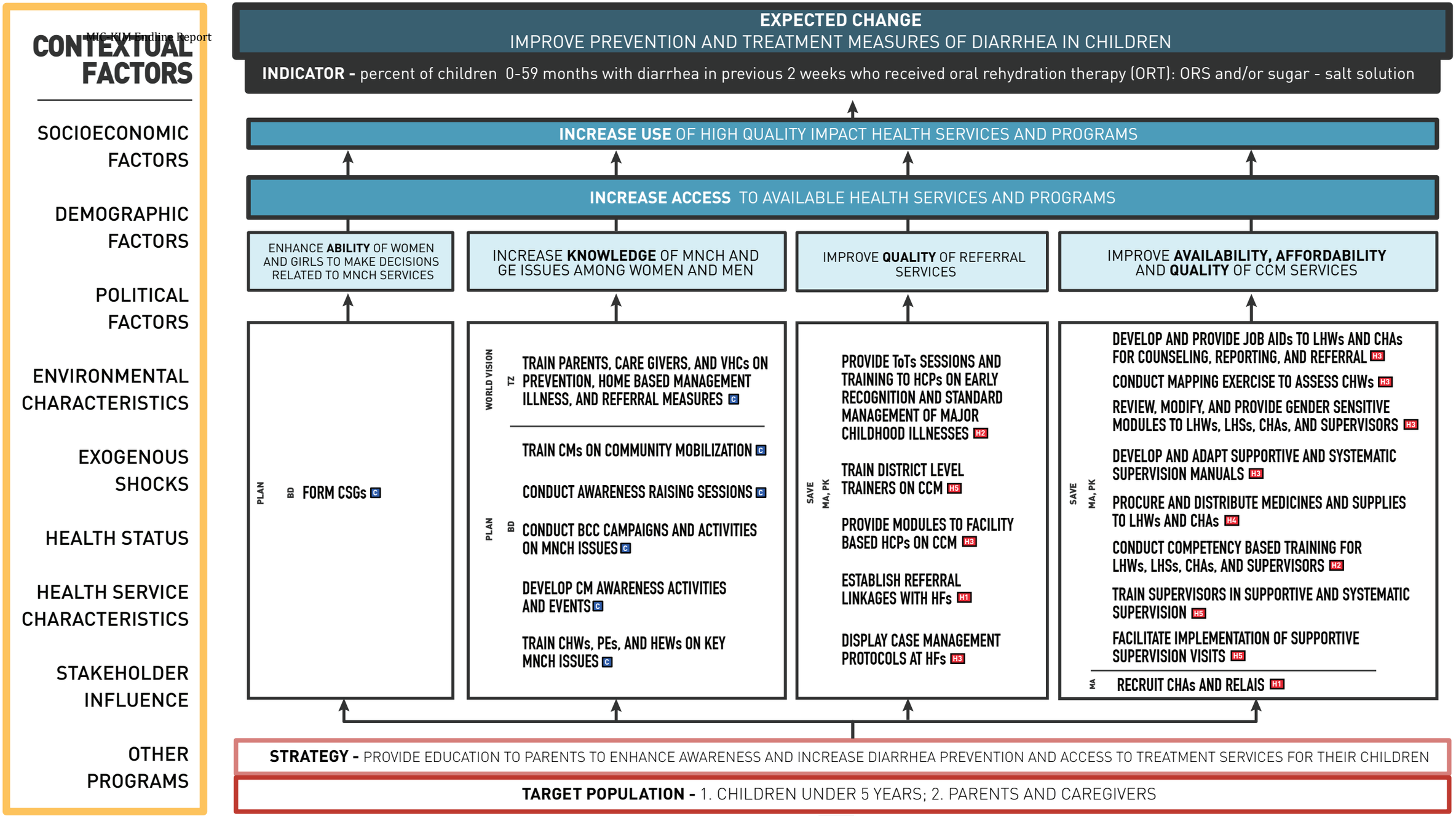
ACTIVITIES | **IMMEDIATE OUTCOMES** | **INTERMEDIATE OUTCOMES**

H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N NUTRIENT AND MICRONUTRIENT ACCESS

C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

WORLD VISION Tanzania | PLAN Mali Ethiopia Zimbabwe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EXOGENOUS SHOCKS
HEALTH STATUS
HEALTH SERVICE CHARACTERISTICS
STAKEHOLDER INFLUENCE
OTHER PROGRAMS
EXPECTED CHANGE
IMPROVE PREVENTION AND TREATMENT MEASURES OF DIARRHEA IN CHILDREN
INDICATOR - percent of children 0-59 months with diarrhea in previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar - salt solution
INCREASE USE OF HIGH QUALITY IMPACT HEALTH SERVICES AND PROGRAMS
INCREASE ACCESS TO AVAILABLE HEALTH SERVICES AND PROGRAMS
ENHANCE ABILITY OF WOMEN AND GIRLS TO MAKE DECISIONS RELATED TO MNCH SERVICES
INCREASE KNOWLEDGE OF MNCH AND GE ISSUES AMONG WOMEN AND MEN
IMPROVE QUALITY OF REFERRAL SERVICES
IMPROVE AVAILABILITY, AFFORDABILITY AND QUALITY OF CCM SERVICES
PLAN BD FORM CSGs C
WORLD VISION TZ TRAIN PARENTS, CARE GIVERS, AND VHCs ON PREVENTION, HOME BASED MANAGEMENT ILLNESS, AND REFERRAL MEASURES C
TRAIN CMs ON COMMUNITY MOBILIZATION C
CONDUCT AWARENESS RAISING SESSIONS C
PLAN BD CONDUCT BCC CAMPAIGNS AND ACTIVITIES ON MNCH ISSUES C
DEVELOP CM AWARENESS ACTIVITIES AND EVENTS C
TRAIN CHWs, PEs, AND HEWs ON KEY MNCH ISSUES C
SAVE MA, PK PROVIDE ToTs SESSIONS AND TRAINING TO HCPs ON EARLY RECOGNITION AND STANDARD MANAGEMENT OF MAJOR CHILDHOOD ILLNESSES H2
SAVE MA, PK TRAIN DISTRICT LEVEL TRAINERS ON CCM H5
PROVIDE MODULES TO FACILITY BASED HCPs ON CCM H3
ESTABLISH REFERRAL LINKAGES WITH HFs H1
DISPLAY CASE MANAGEMENT PROTOCOLS AT HFs H3
SAVE MA, PK DEVELOP AND PROVIDE JOB AIDs TO LHWs AND CHAs FOR COUNSELING, REPORTING, AND REFERRAL H3
CONDUCT MAPPING EXERCISE TO ASSESS CHWs H3
REVIEW, MODIFY, AND PROVIDE GENDER SENSITIVE MODULES TO LHWs, LHSs, CHAs, AND SUPERVISORS H3
DEVELOP AND ADAPT SUPPORTIVE AND SYSTEMATIC SUPERVISION MANUALS H3
PROCURE AND DISTRIBUTE MEDICINES AND SUPPLIES TO LHWs AND CHAs H4
CONDUCT COMPETENCY BASED TRAINING FOR LHWs, LHSs, CHAs, AND SUPERVISORS H2
TRAIN SUPERVISORS IN SUPPORTIVE AND SYSTEMATIC SUPERVISION H5
FACILITATE IMPLEMENTATION OF SUPPORTIVE SUPERVISION VISITS H5
MA RECRUIT CHAs AND RELAIS H1
STRATEGY - PROVIDE EDUCATION TO PARENTS TO ENHANCE AWARENESS AND INCREASE DIARRHEA PREVENTION AND ACCESS TO TREATMENT SERVICES FOR THEIR CHILDREN
TARGET POPULATION - 1. CHILDREN UNDER 5 YEARS; 2. PARENTS AND CAREGIVERS
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE
N NUTRIENT AND MICRONUTRIENT ACCESS
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
WORLD VISION Tanzania
SAVE THE CHILDREN Mali Pakistan
PLAN Bangladesh

CONTEXTUAL FACTORS

- SOCIOECONOMIC FACTORS
- DEMOGRAPHIC FACTORS
- POLITICAL FACTORS
- ENVIRONMENTAL CHARACTERISTICS
- EXOGENOUS SHOCKS
- HEALTH STATUS
- HEALTH SERVICE CHARACTERISTICS
- STAKEHOLDER INFLUENCE
- OTHER PROGRAMS

EXPECTED CHANGE
IMPROVE MALARIA TREATMENT FOR SYMPTOMATIC CHILDREN

INDICATOR - percent of children 0-59 months with malaria-like symptoms in the previous two weeks who received anti-malarial drugs

EQUITABLE **UTILIZATION** OF QUALITY HEALTH SERVICES

PRACTICE OF OPTIMAL PREVENTION AND TREATMENT BEHAVIOURS

IMPROVE **ACCESS** TO COMMUNITY CASE MANAGEMENT AND REFERRAL SERVICES

INCREASE **KNOWLEDGE** OF MALARIA TREATMENT AND PREVENTION

SAVE THE CHILDREN

- ESTABLISH REFERRAL LINKAGES H1
- TRAIN ALL HCPs, TRAINERS, AND STAKEHOLDERS ON GENDER EQUITY H2
- DEVELOP AND PROVIDE JOB AIDS FOR COUNSELING, REPORTING AND REFERRAL H2
- TRAIN SUPERVISORS IN SUPPORTIVE SUPERVISION H5
- PROCURE AND DISTRIBUTE MEDICINES AND SUPPLIES FOR CCM H4
- TRAIN CHWs, HCPs AND SUPERVISORS ON CCM H2
- DISPLAY CASE MANAGEMENT PROTOCOLS H2

WORLD VISION

- MOBILIZE PARENTS ON ILLNESS PREVENTION, MANAGEMENT, AND HEALTH-SEEKING BEHAVIOURS C
- SENSITIZE CAREGIVERS ON CORRECT AND CONSISTENT USE OF ITNs C

STRATEGY - STRENGTHEN COMMUNITY CASE MANAGEMENT, REFERRAL SERVICES, AND AWARENESS FOR MALARIA

TARGET POPULATION - 1. CHILDREN UNDER FIVE YEARS; 2. CAREGIVERS

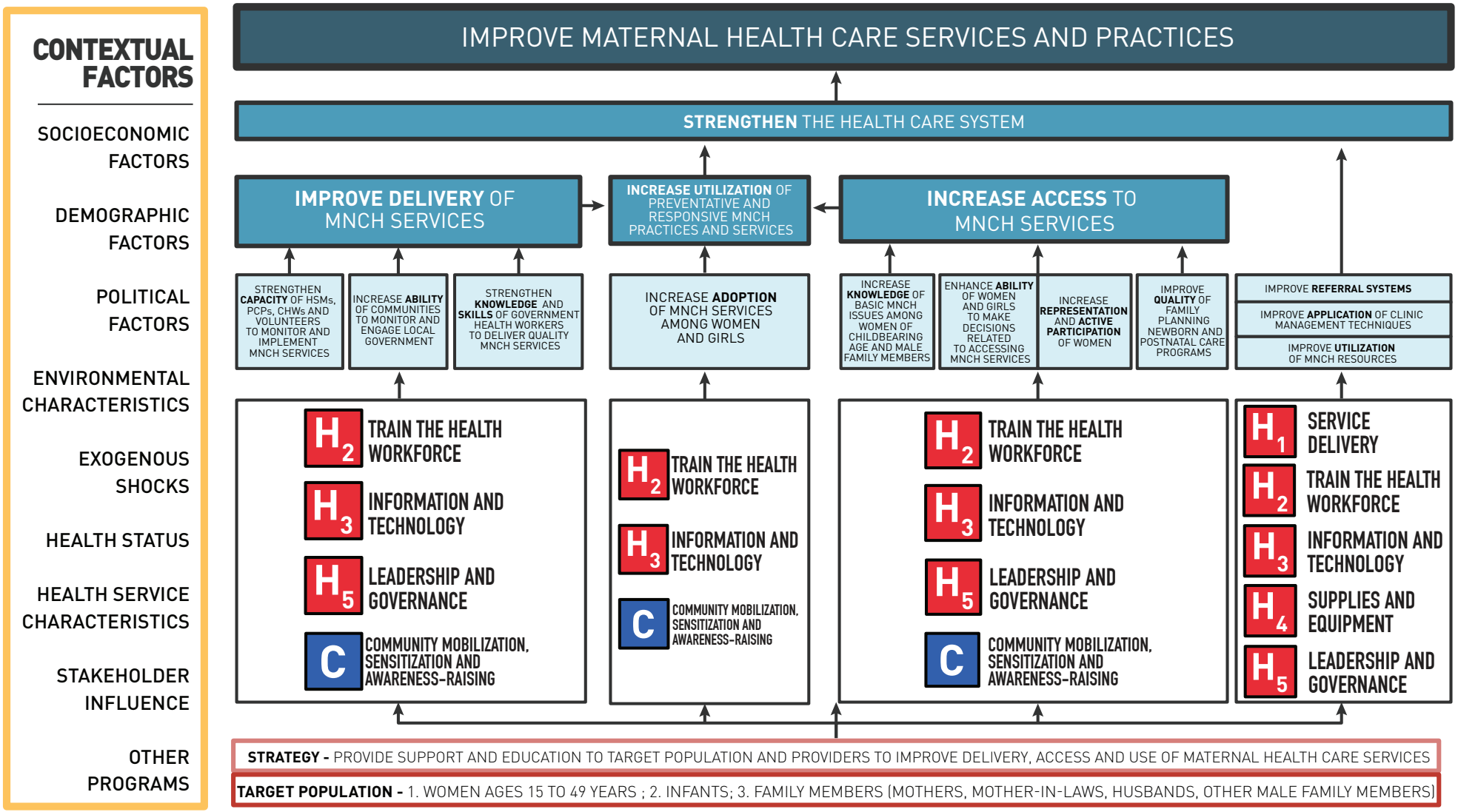
ACTIVITIES | IMMEDIATE OUTCOMES | INTERMEDIATE OUTCOMES

H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE

N NUTRIENT AND MICRONUTRIENT ACCESS

C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING

WORLD VISION Tanzania | SAVE THE CHILDREN Mali Pakistan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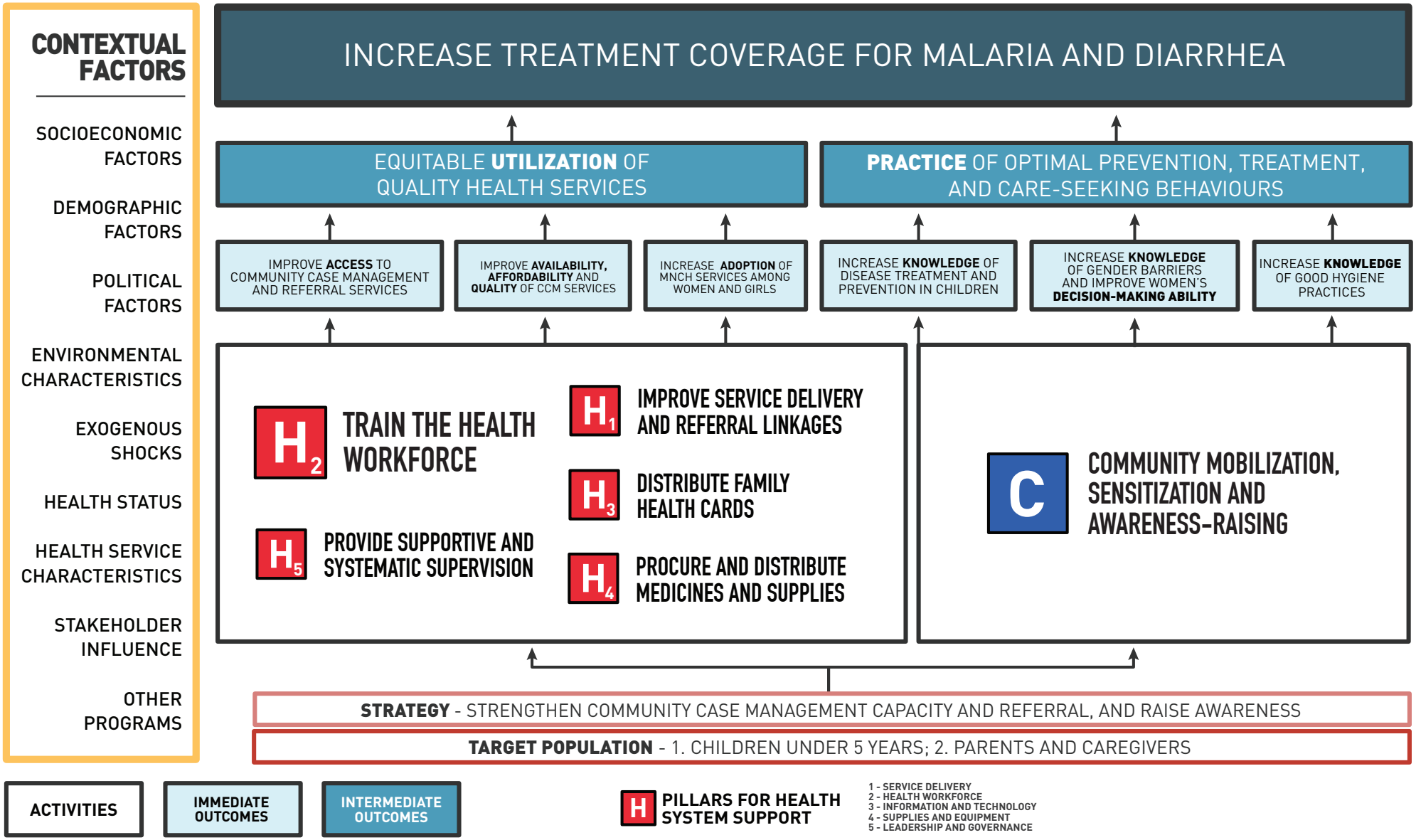
EXOGENOUS SHOCKS
HEALTH STATUS
HEALTH SERVICE CHARACTERISTICS
STAKEHOLDER INFLUENCE
OTHER PROGRAMS
IMPROVE MATERNAL HEALTH CARE SERVICES AND PRACTICES
STRENGTHEN THE HEALTH CARE SYSTEM
IMPROVE DELIVERY OF MNCH SERVICES
INCREASE UTILIZATION OF PREVENTATIVE AND RESPONSIVE MNCH PRACTICES AND SERVICES
INCREASE ACCESS TO MNCH SERVICES
STRENGTHEN CAPACITY OF HSMs, PCPs, CHWs AND VOLUNTEERS TO MONITOR AND IMPLEMENT MNCH SERVICES
INCREASE ABILITY OF COMMUNITIES TO MONITOR AND ENGAGE LOCAL GOVERNMENT
STRENGTHEN KNOWLEDGE AND SKILLS OF GOVERNMENT HEALTH WORKERS TO DELIVER QUALITY MNCH SERVICES
INCREASE ADOPTION OF MNCH SERVICES AMONG WOMEN AND GIRLS
INCREASE KNOWLEDGE OF BASIC MNCH ISSUES AMONG WOMEN OF CHILDBEARING AGE AND MALE FAMILY MEMBERS
ENHANCE ABILITY OF WOMEN AND GIRLS TO MAKE DECISIONS RELATED TO ACCESSING MNCH SERVICES
INCREASE REPRESENTATION AND ACTIVE PARTICIPATION OF WOMEN
IMPROVE QUALITY OF FAMILY PLANNING NEWBORN AND POSTNATAL CARE PROGRAMS
IMPROVE REFERRAL SYSTEMS
IMPROVE APPLICATION OF CLINIC MANAGEMENT TECHNIQUES
IMPROVE UTILIZATION OF MNCH RESOURCES
H2 TRAIN THE HEALTH WORKFORCE
H3 INFORMATION AND TECHNOLOGY
H5 LEADERSHIP AND GOVERNANCE
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
H2 TRAIN THE HEALTH WORKFORCE
H3 INFORMATION AND TECHNOLOGY
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
H2 TRAIN THE HEALTH WORKFORCE
H3 INFORMATION AND TECHNOLOGY
H5 LEADERSHIP AND GOVERNANCE
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
H1 SERVICE DELIVERY
H2 TRAIN THE HEALTH WORKFORCE
H3 INFORMATION AND TECHNOLOGY
H4 SUPPLIES AND EQUIPMENT
H5 LEADERSHIP AND GOVERNANCE
STRATEGY - PROVIDE SUPPORT AND EDUCATION TO TARGET POPULATION AND PROVIDERS TO IMPROVE DELIVERY, ACCESS AND USE OF MATERNAL HEALTH CARE SERVICES
TARGET POPULATION - 1. WOMEN AGES 15 TO 49 YEARS ; 2. INFANTS; 3. FAMILY MEMBERS (MOTHERS, MOTHER-IN-LAWS, HUSBANDS, OTHER MALE FAMILY MEMBERS)
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE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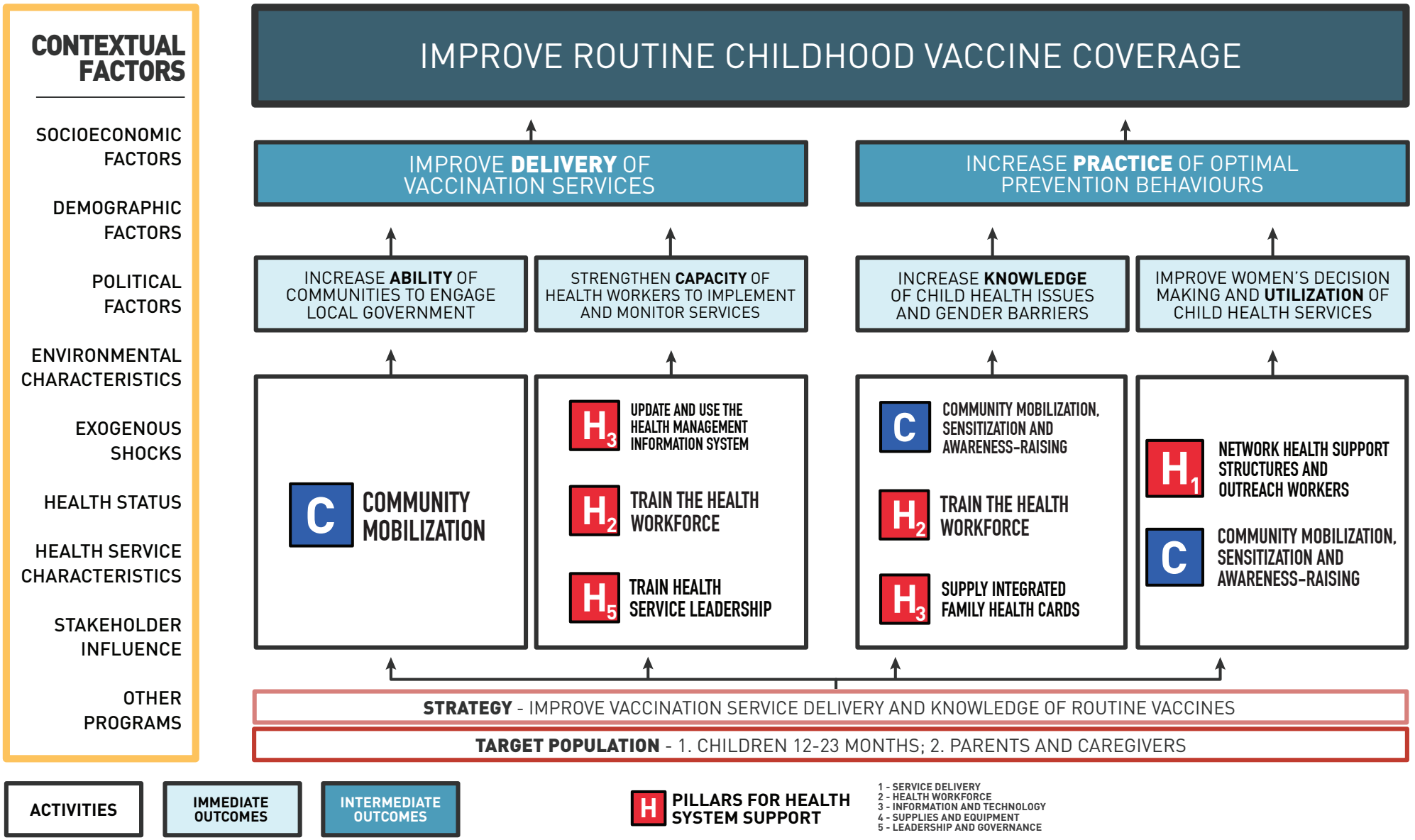
EXOGENOUS SHOCKS
HEALTH STATUS
HEALTH SERVICE CHARACTERISTICS
STAKEHOLDER INFLUENCE
OTHER PROGRAMS
INCREASE TREATMENT COVERAGE FOR MALARIA AND DIARRHEA
EQUITABLE UTILIZATION OF QUALITY HEALTH SERVICES
PRACTICE OF OPTIMAL PREVENTION, TREATMENT, AND CARE-SEEKING BEHAVIOURS
IMPROVE ACCESS TO COMMUNITY CASE MANAGEMENT AND REFERRAL SERVICES
IMPROVE AVAILABILITY, AFFORDABILITY AND QUALITY OF CCM SERVICES
INCREASE ADOPTION OF MNCH SERVICES AMONG WOMEN AND GIRLS
INCREASE KNOWLEDGE OF DISEASE TREATMENT AND PREVENTION IN CHILDREN
INCREASE KNOWLEDGE OF GENDER BARRIERS AND IMPROVE WOMEN'S DECISION-MAKING ABILITY
INCREASE KNOWLEDGE OF GOOD HYGIENE PRACTICES
H2 TRAIN THE HEALTH WORKFORCE
H1 IMPROVE SERVICE DELIVERY AND REFERRAL LINKAGES
H3 DISTRIBUTE FAMILY HEALTH CARDS
H5 PROVIDE SUPPORTIVE AND SYSTEMATIC SUPERVISION
H4 PROCURE AND DISTRIBUTE MEDICINES AND SUPPLIES
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
STRATEGY - STRENGTHEN COMMUNITY CASE MANAGEMENT CAPACITY AND REFERRAL, AND RAISE AWARENESS
TARGET POPULATION - 1. CHILDREN UNDER 5 YEARS; 2. PARENTS AND CAREGIVERS
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE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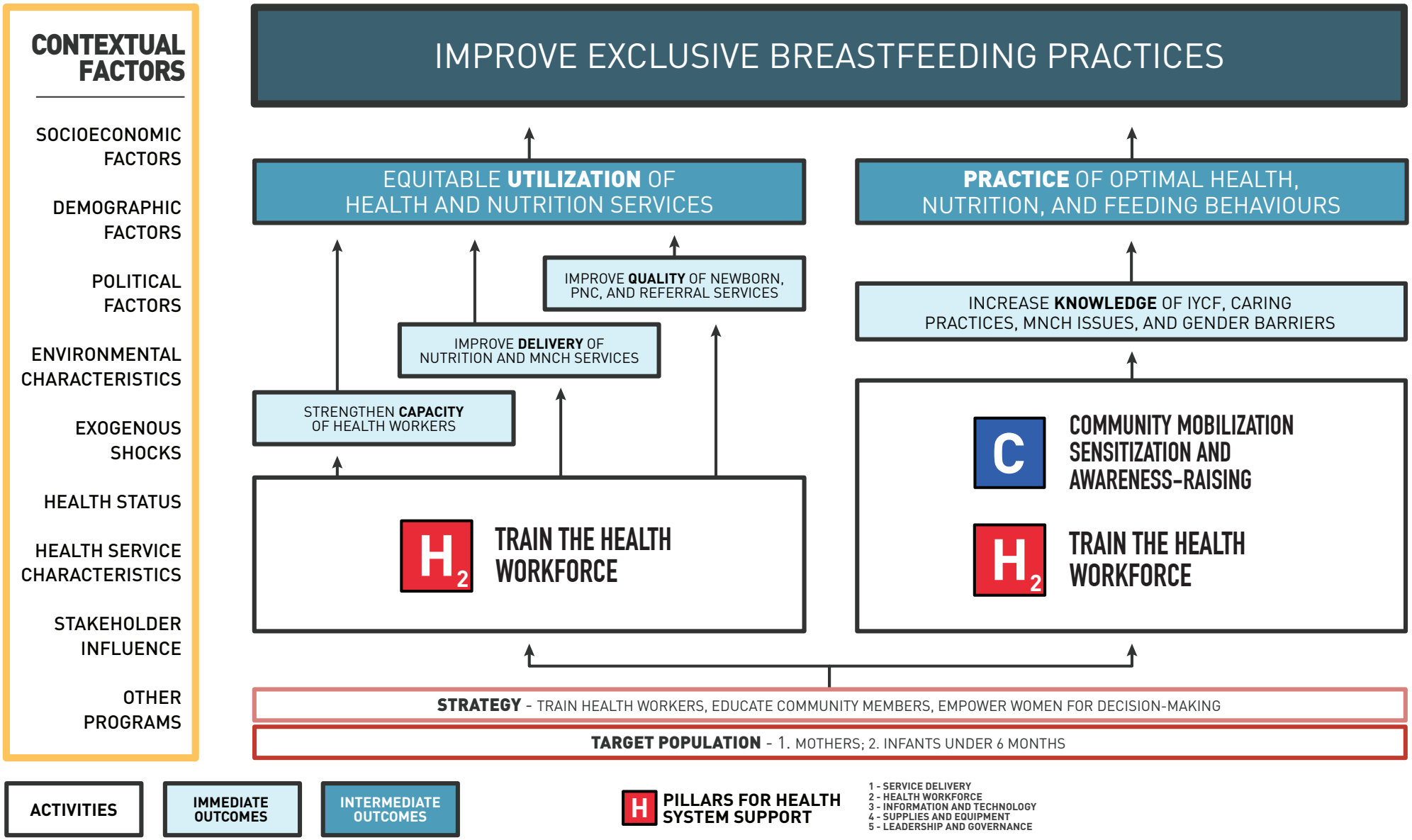
EXOGENOUS SHOCKS
HEALTH STATUS
HEALTH SERVICE CHARACTERISTICS
STAKEHOLDER INFLUENCE
OTHER PROGRAMS
IMPROVE ROUTINE CHILDHOOD VACCINE COVERAGE
IMPROVE DELIVERY OF VACCINATION SERVICES
INCREASE PRACTICE OF OPTIMAL PREVENTION BEHAVIOURS
INCREASE ABILITY OF COMMUNITIES TO ENGAGE LOCAL GOVERNMENT
STRENGTHEN CAPACITY OF HEALTH WORKERS TO IMPLEMENT AND MONITOR SERVICES
INCREASE KNOWLEDGE OF CHILD HEALTH ISSUES AND GENDER BARRIERS
IMPROVE WOMEN'S DECISION MAKING AND UTILIZATION OF CHILD HEALTH SERVICES
C COMMUNITY MOBILIZATION
H3 UPDATE AND USE THE HEALTH MANAGEMENT INFORMATION SYSTEM
H2 TRAIN THE HEALTH WORKFORCE
H5 TRAIN HEALTH SERVICE LEADERSHIP
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
H2 TRAIN THE HEALTH WORKFORCE
H3 SUPPLY INTEGRATED FAMILY HEALTH CARDS
H1 NETWORK HEALTH SUPPORT STRUCTURES AND OUTREACH WORKERS
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
STRATEGY - IMPROVE VACCINATION SERVICE DELIVERY AND KNOWLEDGE OF ROUTINE VACCINES
TARGET POPULATION - 1. CHILDREN 12-23 MONTHS; 2. PARENTS AND CAREGIVERS
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE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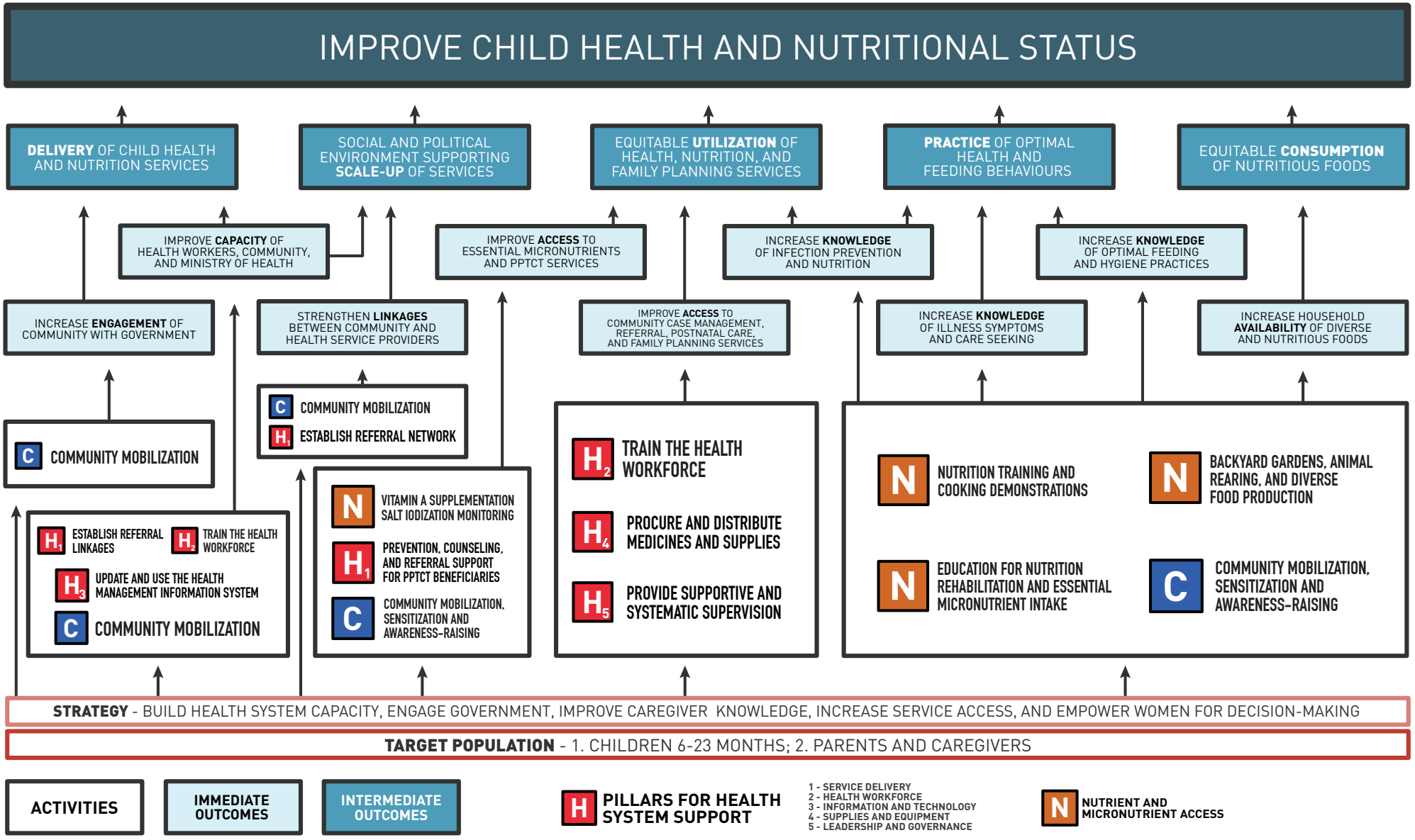
EXOGENOUS SHOCKS
HEALTH STATUS
HEALTH SERVICE CHARACTERISTICS
STAKEHOLDER INFLUENCE
OTHER PROGRAMS
IMPROVE EXCLUSIVE BREASTFEEDING PRACTICES
EQUITABLE UTILIZATION OF HEALTH AND NUTRITION SERVICES
PRACTICE OF OPTIMAL HEALTH, NUTRITION, AND FEEDING BEHAVIOURS
IMPROVE QUALITY OF NEWBORN, PNC, AND REFERRAL SERVICES
IMPROVE DELIVERY OF NUTRITION AND MNCH SERVICES
STRENGTHEN CAPACITY OF HEALTH WORKERS
INCREASE KNOWLEDGE OF IYCF, CARING PRACTICES, MNCH ISSUES, AND GENDER BARRIERS
C
COMMUNITY MOBILIZATION SENSITIZATION AND AWARENESS-RAISING
H2
TRAIN THE HEALTH WORKFORCE
H2
TRAIN THE HEALTH WORKFORCE
STRATEGY - TRAIN HEALTH WORKERS, EDUCATE COMMUNITY MEMBERS, EMPOWER WOMEN FOR DECISION-MAKING
TARGET POPULATION - 1. MOTHERS; 2. INFANTS UNDER 6 MONTHS
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H
PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE


IMPROVE CHILD HEALTH AND NUTRITIONAL STATUS
DELIVERY OF CHILD HEALTH AND NUTRITION SERVICES
SOCIAL AND POLITICAL ENVIRONMENT SUPPORTING SCALE-UP OF SERVICES
EQUITABLE UTILIZATION OF HEALTH, NUTRITION, AND FAMILY PLANNING SERVICES
PRACTICE OF OPTIMAL HEALTH AND FEEDING BEHAVIOURS
EQUITABLE CONSUMPTION OF NUTRITIOUS FOODS
IMPROVE CAPACITY OF HEALTH WORKERS, COMMUNITY, AND MINISTRY OF HEALTH
IMPROVE ACCESS TO ESSENTIAL MICRONUTRIENTS AND PPTCT SERVICES
INCREASE KNOWLEDGE OF INFECTION PREVENTION AND NUTRITION
INCREASE KNOWLEDGE OF OPTIMAL FEEDING AND HYGIENE PRACTICES
INCREASE ENGAGEMENT OF COMMUNITY WITH GOVERNMENT
STRENGTHEN LINKAGES BETWEEN COMMUNITY AND HEALTH SERVICE PROVIDERS
IMPROVE ACCESS TO COMMUNITY CASE MANAGEMENT, REFERRAL, POSTNATAL CARE, AND FAMILY PLANNING SERVICES
INCREASE KNOWLEDGE OF ILLNESS SYMPTOMS AND CARE SEEKING
INCREASE HOUSEHOLD AVAILABILITY OF DIVERSE AND NUTRITIOUS FOODS
C COMMUNITY MOBILIZATION
C COMMUNITY MOBILIZATION
H1 ESTABLISH REFERRAL NETWORK
H2 TRAIN THE HEALTH WORKFORCE
H4 PROCURE AND DISTRIBUTE MEDICINES AND SUPPLIES
H5 PROVIDE SUPPORTIVE AND SYSTEMATIC SUPERVISION
N NUTRITION TRAINING AND COOKING DEMONSTRATIONS
N BACKYARD GARDENS, ANIMAL REARING, AND DIVERSE FOOD PRODUCTION
N EDUCATION FOR NUTRITION REHABILITATION AND ESSENTIAL MICRONUTRIENT INTAKE
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
H1 ESTABLISH REFERRAL LINKAGES
H2 TRAIN THE HEALTH WORKFORCE
H3 UPDATE AND USE THE HEALTH MANAGEMENT INFORMATION SYSTEM
C COMMUNITY MOBILIZATION
N VITAMIN A SUPPLEMENTATION SALT IODIZATION MONITORING
H1 PREVENTION, COUNSELING, AND REFERRAL SUPPORT FOR PPTCT BENEFICIARIES
C COMMUNITY MOBILIZATION, SENSITIZATION AND AWARENESS-RAISING
STRATEGY - BUILD HEALTH SYSTEM CAPACITY, ENGAGE GOVERNMENT, IMPROVE CAREGIVER KNOWLEDGE, INCREASE SERVICE ACCESS, AND EMPOWER WOMEN FOR DECISION-MAKING
TARGET POPULATION - 1. CHILDREN 6-23 MONTHS; 2. PARENTS AND CAREGIVERS
ACTIVITIES
IMMEDIATE OUTCOMES
INTERMEDIATE OUTCOMES
H PILLARS FOR HEALTH SYSTEM SUPPORT
1 - SERVICE DELIVERY
2 - HEALTH WORKFORCE
3 - INFORMATION AND TECHNOLOGY
4 - SUPPLIES AND EQUIPMENT
5 - LEADERSHIP AND GOVERNANCE
N NUTRIENT AND MICRONUTRIENT ACCESS

Discussion of change pathways

Change pathways serve to represent the hypothesized TOC (i.e., how a program actually works) within projects conducted in different settings, and provide a visual representation of the links between activities and outcomes. Employing a structure similar to that of a LM, change pathways demonstrate possible routes from activities to outcomes by which change may have occurred between two time points. True 'causal' pathways are difficult to construct, as they attempt to use evidence to reconstruct the mechanism for the impact of individual interventions, including many additional intermediate steps and process outcomes, each affected by their own set of contextual factors (Rawat 2013). However, in situations where this information might not be available, a tool like the change pathways can be used to suggest possible associations as opposed to causal inferences.

The change pathway format importantly allows for the display of multiple activities and outcomes within a unified framework for potential use by multiple organizations and programs. The details about each activity are not meant to be specific to each organization within the framework, but rather to show the different program foci and where activities or approaches were similar or varied. When planning program projects where multiple partners and organizations are involved, project proposals would potentially benefit from prospective collaboration prior submission to a funding agency. This allows collaborating partners to develop a combined conceptual framework where the focus is on one collective program theory, with implementation of comparable yet contextually tailored interventions in various LMICs.

Limitations associated with the generation of change pathways

There were several limitations to the approach taken to building the change pathways. Firstly, the generalizability of the change pathways as they appear to other countries and circumstances could be limited for the indicators shown. Since each change pathways was generated from reported NGO programming, the different facets as presented are not necessarily all encompassing. Additionally, each NGO had a particular area of expertise and focus within MNCH, which was reflected in their programmatic concentration. Similarly, different country governments had pre-identified MNCH health-related priorities which were influential in deciding which interventions were implemented. This is an important consideration, since national-level policy may not always allow for flexibility based on community-level needs and contextual factors. An additional limitation included that there was no way to impartially construct a grading scale to account for the relative contribution of different contextual factors and immediate outcomes given the study designs employed by the NGOs, and generation of the change pathways *post hoc*. Ideally, if change pathways were generated prior to project implementation, immediate and intermediate outcomes would be further subdivided into several additional mediating steps with corresponding process indicators to capture a more comprehensive, logical pathway. Examining these levels in advance could allow for the consideration of tools needed to more appropriately measure an indicator or process indicator at various levels. Furthermore, an assessment of intervention

fidelity (i.e., was the intervention being delivered as intended) and frequency of exposure was not reported for the individual NGO projects, thus limiting interpretation.

Summary

Change pathways allow for a more detailed understanding of the activities conducted across the NGO projects in relation to indicators of interest. They aid in the interpretation of the NGO-collected cross-sectional survey data, as they clearly show commonalities and differences across projects. Overall, the complexity of the NGO-implemented interventions and proposed paths are clearly shown, as well as possible factors that might affect success.

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Appendix 3 – Common Framework Document

Common Framework

Maternal, Newborn and Child Health (MNCH)

Consortium Knowledge Management Initiative: 2012-2015

April 23, 2013

Common Framework – MNCH

Table of Contents

Common Framework – MNCH

Introduction

A. Purpose

This document outlines the Common Framework (previously referred to as the Common Indicator Framework) for the Maternal, Newborn and Child Health (MNCH) Consortium Initiative.

The language has changed to indicate that the framework developed will be common for all projects and organizations, and referred to as the Common Framework (CF) going forward. This acknowledges that the projects are diverse and thus the data collected and indicators presented by organizations are varied. Subsequent sections of this document will address the following components of the framework; inputs (indicator assessment, themes, data sources and data software); outputs (analysis plan, interpretation, best practices, lessons learned and key messages); statistics (breakdown by organization, country, region / continent and performance measurement framework); and reporting schedule (data submission and analysis reports).

The Common Framework was presented to the Technical Working Group on January 29, 2013. Feedback from the presentation and draft document was returned to SickKids/UT approximately 3 weeks later, and is incorporated into this final document.

B. Audience

The audiences for this document are the Canadian and country offices (Bangladesh, Ethiopia, Ghana, Mali, Pakistan, Tanzania and Zimbabwe) of the Consortium members - CARE Canada, Plan International Canada, Save the Children Canada and World Vision Canada; representatives of Ministries of Health in each country; and the Canadian International Development Agency (CIDA).

C. Background

In July 2012, a Hospital for Sick Children (SickKids) proposal was awarded to Drs. Stanley Zlotkin and Melanie Barwick by a Consortium of non-government organizations (NGOs) to develop a Knowledge Management (KM) / Translation (KT) Strategy for data stemming from 10 NGO-led MNCH projects in low and middle income countries in Africa and Asia. SickKids has formally partnered with the University of Toronto (UT) Munk School of Global Affairs to deliver this project. This project will run for three years from October 2012 to September 2015, with a budget of $1,070,000.

The following six objectives were approved by the Technical Working Group (TWG) and Steering Committee (SC) on October 12, 2012 and describe the role of SickKids/UT in this initiative:

1. Coordinate the overall MNCH KM Initiative (in which gender is mainstreamed);
2. Develop an overarching MNCH KM Strategy in close consultation with the TWG;
3. Identify two thematic research areas in MNCH in close consultation with the TWG and develop research designs, conduct research within the agreed upon final Budget, using qualitative and/or quantitative methods and report on the findings;
4. **Design a Common framework of selected indicators and conduct combined analysis* on data generated between Consortium projects for those indicators;**
5. Develop a communication and dissemination plan (KT Plan) that includes the identification of relevant opportunities and methods to share the research findings as well as best practices with targeted audiences; and
6. Organize a conference (of approximately 60 participants; to be held in Canada) within the agreed upon final Budget that will bring together the MIC and key partners from the field as well as relevant Canadian institutions to share learnings, best practices and research results.

This document will focus on Objective #4 highlighted above. *This analysis will use a method to combine estimates for the selected indicators from the 10 projects, similar to what is used in meta-analysis.

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1. CF Inputs: Data

The CF provides a consistent approach to analyzing and interpreting selected indicators across the Consortium projects. The Inputs of the CF include the indicator assessment, a description of the thematic approach to analysis, the data sources and the data software to be included. The term indicator is used here to mean "a quantitative measurement that produces results that are comparable across various contexts and over time" (Bryce, 2010b). The section relating to data sources will touch on the sources of data for the project, including quantitative, qualitative and contextual sources.

A. CF Indicator Assessment

Due to the variation in the Consortium project activities, the indicators being assessed are diverse and varied. An indicator assessment exercise was undertaken for the purpose of determining which indicators should be and could be included in the CF. A complete list of the ultimate, intermediate and immediate outcome indicators was compiled from the performance measurement frameworks (PMFs) of each Consortium project. If a given indicator was similar but not identical across projects, the underlying data sources were compared by examining the wording in each project's baseline questionnaire or through consultation with Consortium members if the data were from reporting or training activities. If after this review the indicator was deemed sufficiently similar across projects in meaning and measurement, or if it was apparent that the underlying data could be sufficiently manipulated to reflect a common indicator, this indicator was considered to be the same across projects.

While examining the baseline questionnaires, it became apparent that in some cases data were available on indicators that were not listed in the PMFs. If not already included, these indicators were subsequently added to the CF if they met the criteria for selection. Where a project is collecting data on an indicator that is not in its PMF, no formal targets will have been set for that indicator. The indicator would only be included in the framework for that project if there was an activity which might have an effect on the indicator; this will be assessed using a causal model approach which is described in the outputs section.

Over the course of a series of meetings, the SickKids/UT team met to review all proposed indicators and discuss their inclusion in the CF. Indicators which are not included specifically in the CF indicator list may still be useful for interpreting the degree of change in CF indicators.

i. Criteria for inclusion / exclusion

An initial examination revealed that only for one indicator were data being collected by all 10 projects, with a few more indicators being common across eight of the 10. A minimum inclusion criteria approach was established to guide the SickKids/UT review and identification of indicators to include in the CF. This criteria include the following;

- An indicator had to be proposed by a minimum of two organizations and three projects; or
- An indicator was noted *a priori* and flagged for additional consideration and discussion by the SickKids/UT team because it was identified as one of the 11 MNCH by the Commission on Information and Accountability for Women's and Children's Health (the Muskoka Indicators), from Keeping Promises, Measuring Results. These are marked with an asterisk in the Indicator List.

Indicators which met the base inclusion criteria above were then examined under the following criteria (Bryce, 2010b) before being included in the CF. Included indicators must be;

- valid (accurate and reliable); and
- meaningful in that they are relevant to project activities; and
- feasible for measurement; and
- consistent with global standards

Should a project be suspended, which may be a risk in Mali, some of the indicators which originally met the inclusion criteria may no longer do so. Should this happen, we will re-visit the assessment to determine if all the indicators still meet inclusion criteria and if not, how best to proceed. For example, if

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the programs in Mali are suspended, three indicators (% mothers who had postnatal care (PNC) within two to three days of delivery, % babies who had PNC within two to three days of delivery, and % women who report using modern contraceptives), would no longer meet the base criteria of being 'common' across two organizations and three projects; two of the three are Muskoka Indicators, and would thus remain in the framework, but use of contraceptives would have to be reassessed.

ii. Rationale for exceptions

After conducting the initial indicator assessment, it became clear that while several indicators reflected a similar construct across projects, these indicators could only be made comparable across projects if they were expressed more generically. In the following instances, several organizations were attempting to address a similar issue, but the project-specific indicators were too diverse to be considered the same. After discussion with the Consortium members, we have made the following decisions.

- Satisfaction – three of the four Consortium members include indicators related to women's level of satisfaction with health services. Satisfaction is recognized as an important indicator as the theory is that increasing level of satisfaction with services will increase health seeking behavior, however, more work is needed to identify indicators with cross-cultural validity (Bryce, 2004b). Therefore, it was determined that it is not possible to include a satisfaction indicator in the list of common indicators because there isn't a recognized global standard and there is existing variation between projects indicators. However, we will report on satisfaction in varying ways where data are being collected, disaggregated by sex.
- Referrals – three of the four Consortium members are aiming to improve referrals (ie. Increase referrals and improve the referral system/network), but the proposed indicators are varied and often have no denominator. After additional discussion with the Consortium, it was agreed that referral data are currently not being collected in a way that makes it feasible to create a 'common' indicator and the additional data required to make them common aren't readily attainable. However, we will continue to monitor the literature on how best to collect these data, and incorporate this in our reporting as recommendations for the future. For example, the iCCM Task Force currently recommends looking at a referral rate (proportion of cases who are recommended for referral by the CHW) and a successful referral rate (proportion of children recommended for referral, received at the referral facility) (CCM, 2013).
- Female empowerment – Gender equality is a central aspect of all of the projects and several Consortium members are attempting to address female empowerment or decision-making. We have included an indicator relating to female decision making on purchasing (for food or household items). In addition, we have included an indicator on women's participation in local health committees. While participation does not necessarily imply empowerment to influence decisions, the additional contextual qualitative data may help us to interpret the participation indicator with respect to empowerment. We have not been able to find a common indicator on male attitudes to women's health, however, where projects are collecting information relating to male attitudes (in varying ways), we will report on this.
- Capacity building – Although the content of training is different among organizations and also within organizations, Consortium members collect data on the number of facility health workers trained and the number of community health workers trained. The WHO Toolkit (WHO, 2010) refers to an indicator of health worker density. Because in some countries, this is a government mandated number, and these projects are focusing on training, we propose to include #CHW trained/10 000 population. The variation between CHWs across countries will be described, including whether they are paid or unpaid, as well as the varying duties CHWs can perform according to country Ministry of Health guidelines. In addition, the varying training material and contents will be examined. If we can determine that sufficient data exist to include the total #health workers trained/10 000 population, that too will be added to the list of selected indicators, with a common definition of health worker. This indicator does not look at the quality, content or retention of the training, and does not address equity, accessibility or efficiency. We hope to examine some of these factors in our research project.

One final exception relates to the ultimate outcome indicators related to mortality. These indicators should be included in the framework because of their undeniable importance; however, it is not yet clear whether valid estimates for these indicators can be generated from project data and/or alternative data sources.

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iii. Indicator List

From the indicator assessment exercise, the following indicators were selected for inclusion in the CF, pending further discussion with the Consortium. The Muskoka Indicators are marked with an asterisk. The CIDA Indicators are marked with a footnote. Wherever possible, indicators will be disaggregated by sex during analysis.

Ultimate Outcome Indicators:

1. Maternal Mortality Ratio (deaths per 100 000 live births)*
2. Under five child mortality rate (deaths per 1000 live births)*
3. Newborn (28d) mortality rate (deaths per 1000 live births)*
4. Proportion of children 0-23months who are stunted (height-for-age is below minus two standard deviations from the median of the WHO Child Growth Standards)*

Intermediate Outcome Indicators:

5. Percentage of live births attended by skilled health personnel*[1]
6. Percentage of women age 15-49 with a live birth who received antenatal care at least four times during pregnancy*
7. Percentage of pregnant women who received two doses of tetanus toxoid
8. Percentage of mothers who received postnatal care (PNC) within 2-3 days of childbirth*
9. Percentage of babies who received PNC within 2-3 days of childbirth*
10. Percentage of mothers of children age 0-59 months who are using modern contraceptive methods
11. Percentage of mothers of children 0-6 months who received intermittent preventive treatment (IPT) for malaria in their last pregnancy*
12. Percentage of mothers of children 0-6 months who were tested for HIV in their last pregnancy
13. Early initiation of breastfeeding (% of newborns put to the breast within one hour of birth)
14. Exclusive breastfeeding for the for six months (% of infants age 0-5 months who are exclusively breastfed)*
15. Percentage of children 12-23 months receiving three doses of diphtheria/pertussis/tetanus (DPT) vaccine*
16. Percentage of children 12-23 months immunized against measles
17. Percentage of children 0-59 months with diarrhea in the two weeks prior to survey receiving oral rehydration therapy (ORT) and continued feeding[2]
18. Percentage of children age 0-59 months with suspected pneumonia taken to an appropriate health provider and received antibiotics*[3]
19. Percentage of children 0-59 months with malaria like symptoms who received anti-malaria treatment[4]
20. Proportion of children 6-23 months with adequate dietary diversity scores

[1] Definition of a skilled attendant (WHO, 2011) "A skilled attendant is an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. *Making pregnancy safer: the critical role of the skilled attendant: A joint statement by WHO, ICM and FIGO.* World Health Organization, 2004. http://whqlibdoc.who.int/publications/2004/9241591692.pdf"

[2] **CIDA5:** # of children under 5 treated for childhood diseases (m/f)

[3] **CIDA5:** # of children under 5 treated for childhood diseases (m/f)

[4] **CIDA5:** # of children under 5 treated for childhood diseases (m/f)

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Immediate Outcome Indicators:

21. Percentage of women and men who know about mother-child HIV transmission
22. Percentage of caregivers/family members that have knowledge of home-based treatment health care practices for diarrhoea
23. Percentage of children with suspected pneumonia taken to an appropriate health provider, including a CHW
24. Percentage of women and men who recognize signs of severe illness
25. Percentage of women who make decisions about purchases at home
26. Proportion of participants/members in local level health committees who are women

Output Indicator

27. #CHW trained/10 000 population[5]

B. CF Themes

During the Indicator Assessment sessions with the SickKids MNCH Coalition investigators, each proposed indicator was categorized into one or more of the three themes highlighted in the original Canadian International Development Agency (CIDA) Request for Proposal (RFP). These themes are presented in the following box.

1. **Strengthening health systems** to improve service delivery to maternal, newborn, and child health at the local level by training more health workers and increasing access to adequately equipped local health centres. This includes:
   - Support national plans and priorities regarding maternal, newborn, and child health
   - Fill gaps in health systems (for example, by training more health workers, by increasing access to health facilities, by ensuring health facilities and personnel are sufficiently equipped, and by implementing monitoring and evaluation mechanisms)
   - Expand access to services

2. **Reducing the burden of diseases** that are killing mothers and children. This includes the provision of medicines, vaccines, and actions needed to prevent and treat the prevalent diseases and illnesses that are the main causes of maternal and child mortality.

3. **Improving nutrition** by increasing access to healthful and nutritious food and essential micronutrient supplements that improve and save lives. This includes initiatives that improve nutritional health by:
   - Improving infant and child feeding practices
   - Promoting exclusive breast-feeding
   - Providing ready-to-use therapeutic foods and key vitamins and minerals, including vitamin A supplements and iodized salt

(CIDA website: http://www.acdi-cida.gc.ca/acdi-cida/ACDI-CIDA.nsf/eng/FRA-127113657-MH7 Accessed Dec 12, 2012)

Examining the project outcomes within this thematic context will provide an additional dimension to the interpretation of the data. In response to the broad nature of the RFP, the Consortium projects are very diverse; this thematic approach will enable us to narrow the focus and present the findings in a more meaningful way. As we progress with the analysis, we may determine that certain indicators fall into additional themes, and will make the necessary adjustments.

[5] **CIDA2:** # of health workers trained, in Maternal, Newborn and Child Health related practices

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Annex A presents the full list of the indicators, which organization and projects collect data for each indicator, and which themes apply to each indicator.

C. CF Data Sources

The CF includes the quantitative indicators listed above, as well as qualitative documentation and information on contextual factors. The qualitative data and contextual information help ensure that results can be understood and interpreted (Bryce, 2010b), and may include information on intervention implementation issues, on other programs that are or have previously been operating in the project or neighboring communities, on political change, gender equality and health status data, as well as demographic, socio-economic, geographic and environmental data.

The CF will therefore use data from the following sources: project baseline and endline data (household surveys, facility surveys, project reports), project monitoring data (training reports, health facility administrative data, focus groups, project reports), additional contextual or qualitative data from field visits and observations, and in-depth interviews with key stakeholders. We also propose to use data from national Demographic and Health Surveys (DHS), Multiple Indicator Cluster Survey (MICS) and other country-specific surveys where available (e.g. Zimbabwe National Nutritional Survey 2010, Pakistan National Nutrition Survey 2011).

D. CF Data Software

To date, data from the Consortium members have been submitted to SickKids/UT in varying formats, including Excel, Access and SPSS formats. Data will be converted from these formats using Stat Transfer version 11, and analyzed in the statistical software package Stata 12.0. When raw data is submitted, the accompanying data dictionaries and survey tools should always also be submitted. Although in our original proposal we had indicated that we would use ‘REDCap’ to collect data, we have since determined that data is already being collected by the Coalition partners using varying, location-specific methods and systems. Thus, REDCap, will not be utilized as part of the CF.

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2. CF Outputs: Demonstrating results

The goals of the KM Strategy as proposed by the Coalition, are to capture and demonstrate results and lessons learned from the Coalition Members' MNCH interventions funded under the *Muskoka Initiative*. Knowledge stemming from the partner projects has the potential to generate awareness and interest; changes in behavior at the individual, community, and/or system levels; practice change within the partner communities and potentially beyond; and policy change related to MNCH issues and indicators. Knowledge stemming from the projects also could potentially inform future initiatives. The CF will provide the structure to produce the quantitative evidence to contribute to the lessons learned, and draw upon the qualitative and contextual data to support the interpretation of the analysis, including from a gender equality perspective.

A. CF Analysis Plan

Adopting the multistage evaluation approach initially outlined by Habicht and colleagues in 1999 (Habicht et al 1999) we propose to conduct both an adequacy and plausibility evaluation of the MNCH projects funded under the *Muskoka Initiative*. We are in the early stage of designing both sets of analyses.

i. Adequacy Evaluation

The adequacy evaluation will examine the combined trends in the ultimate, intermediate and immediate indicators included in the CF to assess whether observed changes between baseline and endline were in the expected direction in implementation areas, and whether the relevant activity implementation and outcome targets for each indicator were met. The aim of this stage of evaluation is to determine whether the goals of the projects were achieved (Bryce, 2004). While a full adequacy evaluation is undertaken for each project internally, as independent evaluators, we will assess the projects according to the standardized common CF indicators. This is a necessary step in our multistage evaluation approach. This analysis will use Consortium data collected at baseline and endline, including household surveys, and project monitoring data (i.e. number of community health workers (CHW) trained).

ii. Plausibility Evaluation

A plausibility evaluation assesses whether observed changes could be *attributable* to the implementation of the project activities. This is a non-randomized, quasi-experimental design, aiming to rule out the effects of confounding factors on observed changes in the indicators of interest (Habicht, 1999) by using a control group or counterfactual. Drawing on methods used by Bryce et al in the multi-country evaluation of the Accelerated Child Survival and Development programme in West Africa (Bryce, 2010a), we propose to use DHS and MICS data to establish the local secular trends in indicators of interest before the project interventions were implemented, and to also construct suitable control populations against which the intervention populations could be compared. We will also investigate using alternative data sources, including administrative data, and investigate the possibility of the Consortium carrying out a coordinated endline survey.

iii. Outcome Evaluation Questions

Questions that the adequacy evaluation will address:

1. What are the changes in the ultimate, intermediate and immediate indicators in implementation districts as a whole, and disaggregated by age, and sex?
2. What is the variation in these indicators across implementation countries and Consortium projects?
3. Did the observed changes occur in the expected direction? Did they meet intermediate outcome targets?
4. What factors might have contributed to this variation between countries (e.g. quantitative, qualitative and contextual evidence, including underlying gender related variations)?

Questions that the plausibility evaluation will address:

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1. Did changes in ultimate and intermediate indicators differ between project sites and non-project sites?
2. Did the Consortium projects contribute to intermediate and ultimate outcome indicator changes in the implementing districts?

B. CF Interpretation

i. Causal Models

Conceptualizing causal models is an important early step in the evaluation process. Causal pathways specify the routes through which program activities are expected to effect change in proposed indicators (Bryce, 2005), and the development of broader causal models, in which hypothesized causal pathways as well as mediators, effect modifiers, confounders and other components are specified, can facilitate the interpretation of changes in indicators and variation across programs (Victora, 2005). We intend to develop a causal model for each of the indicators selected for the CF. This will require an iterative approach and will be undertaken in the same manner as the indicator assessment, with various team meetings to discuss and evaluate the causal models before final models are agreed upon.

Alongside the causal models, we propose to develop a common set of outcome statements that reflect what the Immediate, Intermediate and Ultimate Outcome Indicators in the CF measure. This will mirror the language and structure of a logic model, but may not take the full format or structure of a logic model. This circles back to the KT component of the project, and will help stakeholders relate to the indicator data. This will again require an iterative approach, and can be developed alongside the causal pathways. This work will be undertaken immediately following the completion of the baseline analysis, and we propose it will be completed by end of September 2013.

ii. Experiential and Contextual Evidence

Experiential and contextual evidence will be integral to the interpretation of the analysis. *Experiential evidence* is based on the professional insight, understanding, skill, and expertise that is accumulated over time and is often referred to as intuitive or *tacit knowledge*. In the context of the CF, experiential evidence captures the tacit knowledge gained by the project team on site, as they deliver the projects in the communities and work to capture the indicators of their efforts, as well as the tacit knowledge of the individuals working in the partner organizations. *Contextual evidence* is based on factors that address whether a strategy is useful, feasible to implement, transferable to other communities (and under what circumstances) and accepted by a particular community. Contextual evidence describes any factors which may affect project effectiveness and implementation. The quantitative analysis, and the experiential and contextual evidence overlap and are important and necessary aspects of managing knowledge to make decisions based on best evidence and/or best-practice. The capture of these two types of evidence will help the SickKids/UT Team and the Consortium define best practices. In addition, sharing of experiential evidence between Consortium members will be an unstructured method of sharing lessons-learned.

iii. Gender equality

Wherever possible, data analyses will be disaggregated by sex. We have made every attempt to include indicators relating to women's empowerment and decision making. Qualitative data from Consortium monitoring data may also provide information on the role of women and girls and changes in their health related outcomes. Where data on male attitudes is collected, we will include it in the report. Contextual evidence will be paramount in understanding gender roles in project communities, and experiential evidence will contribute to the understanding of how projects aimed to influence equality and the empowerment of women and girls. We will ensure that gender equality is an important component of key messages.

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iv. Country visits

Country visits to project sites are required for the following reasons:

- To collect experiential and contextual evidence through observation and in-depth interviews with key stakeholders, including boys, girls, men and women who are project beneficiaries;
- To better understand and observe project activities, outputs and implementation efforts;
- To better understand data collection and data flows;
- To design and implement SickKids/UT thematic research papers and collect data where necessary, and;
- To observe annual planning to understand the collaborative nature of the projects and collect data related to country audiences and stakeholders.

In addition, using a method commonly referred to as *member-checking* in qualitative sciences, we propose to circle back and 'check' our interpretation of the knowledge that stems from our data analyses with those on the ground – individuals working in the partner projects and surrounding communities. Asking individuals who are closer to the project work and situated 'in context' whether they believe our interpretation of the data is valid and meaningful will increase the validity of the knowledge.

C. CF Best Practices and Lessons Learned

As part of the overall project deliverables to conduct combined analysis of data from ten projects, capture best practices and lessons learned throughout the duration of the project, the SickKids / UT Team will identify, assess and make recommendations on both as part of the CF.

Best practices, and lessons learned (e.g. project achievements, opportunities for improvement, etc.) related to the CF will be captured in the following stages over the course of the project, and summarized in a formal lessons learned repository as part of the End-Of-Project Report;

1. Emergent lessons learned identified throughout the project and captured in *SickKids / UT Team Project Management Lessons Learned Repository*. These lessons will be shared and formally reported in the CF Analysis reports for the TWG, as well as the mid-term and end-of-project formal reports, and may also be included in semi-annual narrative reports.

2. Annual action planning and reflection / review of the work of the previous year will also identify lessons learned and enable review of best practices to identify opportunities to make changes to the project work based on any these learnings.

D. CF Key Messages

Key messages are key findings stemming from data that are tailored to the audience(s) and to the questions and issues of relevance for them. The CF Analysis Reports will provide data from the individual Consortium projects to answer questions of relevance to the partners and secondary audiences, as outlined in detail in the KM-KT Strategy document.

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3. CF Framework Statistics / Summary

The Indicator Assessment yielded 27 indicators for inclusion in the CF. The following is a summary of the breakdown of indicators by Consortium member and by indicator type. In addition, we have included the number of indicators in each theme.

A. Breakdown by Consortium member

NGO	Number of Indicators in Framework
Care	9
Plan	23
Save the Children	14
World Vision	21

B. Breakdown by Theme

Theme	Number of Indicators in Framework
Health System Strengthening	24
Reducing the burden of disease	23
Improving nutrition	15

C. Breakdown by PMF (ultimate, intermediate, immediate and output indicators)

Type of Indicator	Number of Indicators in Framework
Ultimate Outcome Indicator	4
Intermediate Outcome Indicator	16
Immediate Outcome Indicator	6
Output Indicator	1

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4. CF Reporting Schedule

SickKids/UT will produce periodic CF Analysis Reports over the duration of the project. The first CF Analysis Report will be produced after all baseline data have been collected, submitted to SickKids/UT and analyzed by SickKids/UT per the analysis plan described in previous sections. The final CF Analysis Report will be produced after endline data have been collected, submitted to SickKids/UT and analyzed by SickKids/UT.

All CF Analysis Reports will be included in the formal end-of-project Final Report.

Additional CF Analysis Reports may be produced over the course if sufficient monitoring data is available from all projects and submitted to SickKids/UT, and the reporting will be set annually.

A. CF Analysis Reports from SickKids/UT

CF Analysis Reports generated from combined results may be submitted at the following times;

- CF Analysis Report; Baseline data - will be submitted 60 days after the CF has been approved and all baseline data has been received by SickKids/UT.

- CF Analysis Report; Monitoring Data – upon receipt of annual monitoring data, SickKids/UT will review options for analysis and engage the TWG in discussions related to what type of analysis might be possible and beneficial. After reaching consensus on the format of this report, SickKids/UT will submit the report within 60 days.

- CF Analysis Report; Endline Data – will be submitted 60 days after all endline data has been received by SickKids/UT, as part of the formal end-of-project report.

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6. Annex A: Selected Indicators for Common Framework

Projects	Common Framework Selected Indicators	Themes		
WV Tanzania, Care Ethiopia, Care Zimbabwe, Save Mali, Save Pakistan, Plan Bangladesh, Plan Ethiopia, Plan Ghana, Plan Mali, Plan Zimbabwe	Ultimate, Intermediate and Immediate Indicators	Health System Strengthening	Reducing the burden of disease	Improved nutrition
	A. Ultimate Outcome Indicators			
● ● ● ● ●	1. Maternal mortality ratio (deaths per 100 000 live births)*	✓	✓	✓
● ● ● ● ●	2. Under five child mortality rate (deaths per 1000 live births)*	✓	✓	✓
● ● ● ● ●	3. Newborn (28d) mortality rate (deaths per 1000 live births)*	✓	✓	✓
● ● ●	4. Proportion of children 0-23 months stunting	✓	✓	✓
	B. Intermediate Outcome Indicators			
	Maternal and newborn health			
● ● ● ● ●	5. Percent of live births attended by skilled health personnel	✓		
● ● ● ● ● ●	6. Percent of women 15-49 with a live birth who received antenatal care at least 4 times during pregnancy	✓	✓	
● ● ● ● ●	7. Percent of pregnant women (disaggregated by age) who received 2 doses of tetanus toxoid	✓	✓	
● ● ● ● ●	8. Percent of mothers who received postnatal care (PNC) within 2-3 days of childbirth	✓	✓	✓
● ● ● ● ●	9. Percent of babies who received PNC within 2-3 days of childbirth	✓	✓	✓
● ◆ ● ◆	10. Percent of mothers of children aged 0-59 months who are using modern contraceptive method	✓		
● ● ●	11. Percent of mothers of children 0-6 months who received intermittent preventative treatment (IPT) for malaria in their last pregnancy	✓	✓	
● ● ● ◆	12. Percent of mothers of children 0-6 months who were tested for HIV	✓	✓	
● ● ● ● ◆ ◆ ●	13. Early initiation of breastfeeding (% of newborns put to the breast within one hour of birth)	✓	✓	✓
● ● ● ● ● ● ● ● ●	14. Exclusive breastfeeding for first 6 months (% of infants age 0-5 months who are exclusively breastfed)	✓	✓	✓
	Child health			
● ◆ ● ●	15. Three doses of combined diphtheria, pertussis, tetanus (DPT) vaccine (% children 12-23 months receiving 3 doses of DPT)	✓	✓	
● ● ● ● ●	16. Measles immunization coverage (% children 12-23 months immunized against measles)	✓	✓	
● ● ● ● ◆ ◆ ◆	17. Percent of children 0-59 months with diahhroea within the 2 weeks prior to the survey receiving oral rehydration therapy (ORT)	✓	✓	✓
● ● ● ●	18. Treatment for pneumonia (% children age 0-59 months with suspected pneumonia who see an appropriate health provider and received antibiotics)	✓	✓	
● ● ● ◆ ◆ ◆ ◆	19. Malaria treatment (Percentage of children 0-59 months with malaria like symptoms who received anti-malaria treatment)	✓	✓	✓
● ● ●	20. Dietary diversity: Proportion of young, age 6-23 months with adequate dietary diversity scores (4 or more food groups)			✓

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Projects											Common Framework Selected Indicators	Themes			
WV Tanzania	Care Ethiopia	Care Zimbabwe	Save Mali	Save Pakistan	Plan Bangladesh	Plan Ethiopia	Plan Ghana	Plan Mali	Plan Zimbabwe		Ultimate, Intermediate and Immediate Indicators	Health System Strengthening	Reducing the burden of disease	Improved nutrition	
											C. Immediate Outcome Indicators				
											Community Interventions: Household Knowledge				
●					●	●	●		●		21. Percent of women, men who know about mother-child HIV transmission		✓		
●	●		●	●							22. Percent of caregivers/family members that have knowledge of home-based treatment health care practices for diarrhoea (increased fluids & feeding)		✓	✓	
●			●	●	♦	●	♦		♦		23. Care-seeking for pneumonia (% children age 0-59 months with suspected pneumonia who see an appropriate health provider, including a CHW)	✓	✓		
			●	●	●	●	●	●	●		24. Percent of women and men who recognize severe illness	✓	✓		
											Female decision making power				
●	●	●				●					25. Proportion of women who make decisions on purchases at home	✓	✓	✓	
			●		●	●	●	●	●		26. Proportion of participants/members in local health committees who are women	✓	✓	✓	
											D. Output Indicators				
●		●	●	●	●	●		●	●		27. #CHW trained/10 000 population	✓	✓	✓	

Legend:

♦ Indicator present in the
● Indicator not present in the PMF
Indicators marked in pink are "Muskoka Indicators"
Indicators marked in blue have data for "CIDA Indicators"
*Indicators where data may be from consortium members or alternative data sources

Appendix 4 – Baseline Report

Maternal, Newborn and Child Health (MNCH) Consortium Knowledge Management Initiative: 2012-2015

February 14, 2014

Table of Contents

1. Introduction

A. Purpose

This report summarizes analysis of the baseline household survey data of the Common Framework (CF) Indicators (as indicated in the Common Framework document, April 23, 2013) from the 10 MNCH KM Strategy Initiative projects. Plan Mali's baseline data is incorporated into this version of the document.

The following indicators from the CF Indicator list were not available from the baseline household survey data and are not included in this report: maternal mortality ratio; under five child mortality rate; newborn (28d) mortality rate; proportion of participants/members in local health committees who are women and; number of CHWs trained/10 000 population.

This analysis is not an attempt to replicate the findings of individual Consortium baseline reports; the analysis was undertaken independent of the Consortium project baselines. The baseline estimates presented here may differ from those presented by the individual Consortium reports, because of differing definitions for indicators, different age groups of children or mothers, and how missing and 'do not know' data was treated. The individual Consortium project baseline reports were submitted directly to the Department of Foreign Affairs, Trade and Development (DFATD) by the Consortium members and provide a greater level of detail for each project, project activities and context.

The purpose of this baseline analysis is to generate baseline estimates for the selected indicators identified in the CF, for all applicable projects. Furthermore, through careful examination of the household survey sampling (ie. the age range of children included) and questionnaire structure, this exercise allowed for the standardization of indicator definitions across projects. This analysis will provide a starting point against which the common indicator end-line estimates will be compared.

The Baseline Analysis was originally completed and circulated to the Technical Working Group in July, 2013. After feedback was received from the TWG, an in person presentation was held on October 30, 2013. All of the changes that were agreed upon by the TWG have been incorporated into this final document.

B. Audience

The potential audiences for this document include the Canadian and country offices (Bangladesh, Ethiopia, Ghana, Mali, Pakistan, Tanzania and Zimbabwe) of the Consortium members - CARE Canada, Plan International Canada Inc., Save the Children Canada and World Vision Canada; representatives of Ministries of Health in each project country; and DFATD.

C. Background

In July 2012, a grant was awarded to Drs. Stanley Zlotkin and Melanie Barwick at The Hospital for Sick Children (SickKids) by a Consortium of non-government organizations (NGOs). The project will develop a Knowledge Management (KM) / Translation (KT) Strategy for data stemming from 10 NGO-led MNCH projects in low and middle income countries in Africa and Asia, for which SickKids has identified a list of CF Indicators from across all projects; and will conduct two independent research projects on MNCH. SickKids has formally partnered with the University of Toronto (UT) Munk School of Global Affairs to deliver this project, which started in October 2012 and will run for three years to September 2015, with a budget of $1,070,000.

The following six objectives were approved by the Technical Working Group (TWG) and Steering Committee (SC) on October 12, 2012 and describe the role of SickKids/UT in this initiative:

1. Coordinate the overall MNCH KM Initiative (in which gender equality is mainstreamed);
2. Develop an overarching MNCH KM Strategy in close consultation with the TWG;

3. Identify two thematic research areas in MNCH in close consultation with the TWG and develop research designs, conduct research within the agreed upon final Budget, using qualitative and/or quantitative methods and report on the findings;
4. **Design a Common framework of selected indicators and conduct combined analysis* on data generated between Consortium projects for those indicators;**
5. Develop a communication and dissemination plan (KT Plan) that includes the identification of relevant opportunities and methods to share the research findings as well as best practices with targeted audiences; and
6. Organize a conference (of approximately 60 participants; to be held in Canada) within the agreed upon final Budget that will bring together the MIC and key partners from the field as well as relevant Canadian institutions to share learnings, best practices and research results.

This document will focus on Objective #4 highlighted above.

D. Common Framework – Indicator Assessment

The Baseline Analysis draws heavily on work already done in developing the common framework (CF), where we established a list of selected indicators. In brief, the CF provides a consistent approach to analyzing and interpreting selected indicators across the Consortium projects. Due to the variation in the Consortium project activities, the indicators being assessed are diverse and varied. An indicator assessment exercise was undertaken for the purpose of determining which indicators should and could be included in the CF. A complete list of the ultimate, intermediate and immediate outcome indicators was compiled from the performance measurement frameworks (PMFs) of each Consortium project. If a given indicator was similar but not identical across projects, the underlying data sources were compared by examining the wording in each project's baseline questionnaire or through consultation with Consortium members if the data were from reporting or training activities. If after this review the indicator was deemed sufficiently similar across projects in meaning and measurement, or if it was apparent that the underlying data could be sufficiently manipulated to reflect a common indicator, this indicator was considered to be common (ie. the same across projects).

An initial examination revealed that data for only one common indicator were being collected by all 10 projects, with a few more indicators being common across eight of the 10. A minimum inclusion criteria approach was established to guide the SickKids/UT review and identification of indicators to include in the CF. These criteria include the following;

- An indicator had to be proposed by a minimum of two organizations and three projects; or
- An indicator was noted *a priori* and flagged for additional consideration and discussion by the SickKids/UT team because it was identified as one of the 11 MNCH indicators by the Commission on Information and Accountability for Women's and Children's Health (the Muskoka Indicators).

Indicators which met the base inclusion criteria described above were then examined under the following criteria (Bryce, 2010b) before being included in the CF. Included indicators must be:

- valid (accurate and reliable); and
- meaningful in that they are relevant to project activities; and
- feasible for measurement; and
- consistent with global standards

The indicator assessment exercise, and the resulting list of Selected Indicators, highlighted the variation in project activities, project design and data collection. The baseline analysis (as described in this report) is the next step as outlined in the Common Framework.

2. Methods

A. Sample

This analysis includes data from the baseline household surveys from the ten Consortium projects. The surveys for these projects were conducted in project areas between March to June, 2012 (and one during the Spring 2013) and data, surveys and baseline reports were provided to SickKids between October 22, 2012 and June 12, 2013. From the information presented in the baseline reports, we described samples from each household survey with respect to dates of data collection, household and participant survey eligibility, and number of women, men and children recruited.

B. Determination of Revised Common Framework Indicator List

We then undertook a thorough mapping of the raw data available to verify the list of CF indicators proposed in the first report dated April 23, 2013. This was done to make a final determination of which indicators could be included, and how they would be defined.

This analysis is based on the baseline household survey data. The following indicators from the CF Indicator list are not presented, as the data to calculate these indicators are not available from the baseline household survey: maternal mortality ratio; under five child mortality rate; newborn (28d) mortality rate; proportion of participants/members in local health committees who are women and; number of CHWs trained/10 000 population.

C. Data cleaning and management

Data were transferred into a Stata 12 dataset using StatTransfer 11, ensuring all variables and records were transferred. Where there were questions about the coding of the data, queries were sent to the appropriate member of the TWG at the NGO and the responses incorporated into the analyses.

We then applied a standardized approach to generate new variables from which the baseline values for the final list of common indicators could be estimated. Questions to which respondents answered “don’t know” were considered missing data; thus, no data were imputed[1]. While the response of ‘do not know’ and ‘a missing response’ are quite different in meaning, not all Consortium members allowed for the option of ‘do not know’. Therefore, to remain consistent, we re-coded all ‘do not know’ responses as ‘missing’. Where questions cascaded from a general to a more detailed question, but responses conflicted, we selected the response from the more detailed question. For example, if a mother were asked “When your child was sick in the last 2 weeks, did you seek treatment?” Responses Yes/No. The subsequent question was “Where did you seek treatment?” If the mother responded ‘No’ to the first question, but then went on to list where she sought treatment, we considered the second response to override the first.

D. Quantitative analysis

We undertook a descriptive analysis, producing estimates for the baseline values for the CF indicators, and 95% confidence intervals. Where appropriate and possible, data were disaggregated by the gender of the index child. We included only data from mothers aged 15-49 for all but one project where the age of the mothers was not available. In that case, we included data from all sampled mothers.

Data were analyzed at the project level. We had considered data stratification by geographic location (i.e., district level), however this was not possible in some cases as the datasets were too small or had too few

[1] Imputation is the process of replacing missing data with substituted values.

observations, particularly for child health related questions. Moreover, geographic strata are unnecessary for the purpose of creating an overall combined proportion.

Data were analyzed in Stata 12. Graphs were produced using R 2.15.2 for MAC OS X. Estimates of stunting prevalence are based on the 2006 WHO Child Growth Standards (WHO, 2006) and were generated using the Stata macro for the WHO Anthro software program, version 3.2.2 (available at: http://www.who.int/childgrowth/software/en/).

3. Results

A. Characterization of survey samples

Sampling methods varied across projects. For example, one survey sample was based on households where both mother and father were present for the interview, while other survey samples were based on the age of the respondent's child (i.e., mothers of children aged zero to 23 months, or mothers of children aged zero to 59 months). All but one project used the same household survey for the whole sample; one project used different surveys for different age-groups. All but one survey used a multistage sampling approach with randomization at each stage (in selecting the area or village and then which households to be sampled), although the exact techniques varied. All sampling was conducted in communities where the projects will be working/targeting. Selected characteristics of the baseline survey samples by project are presented in Table 1.

Table 1. Characteristics of baseline household survey samples, by project

Project	Fieldwork dates	Sampling Methodology	Household eligibility criteria	No. of households recruited	No. of adults interviewed	No. of children reported on
WV Tanzania	June 2012	1/3 of villages were randomly selected in each ward from the 14 selected divisions. A random household from a randomly selected enumerated section of the village was the starting point, from which households were selected based on their proximity to the first household.	Has at least one child in the target age group: 0-6m, 12-23m, or 6-59m	1,260 plus 206 for anthropometry only	1260 women	0-6m: 420 12-23 m: 420 6-59m: 420 + 206 additionally recruited for anthropometry only
Care Ethiopia	April 1-6, 2012	Two stage sampling randomly selecting 16 Kebeles and then randomly selecting 4 villages from each Kebele. 20 households were randomly selected from each village from a list.	Has at least one woman with at least one child aged 0-23m	954	958 women 130 men (husband or head of household)	958
Care Zimbabwe	March 17-23, 2012	One district was excluded due to unforeseen circumstances. In the other district, a single stage sampling frame was used. Households were randomly selected using the 'bottle or pen' method. 40 households per ward were interviewed.	Has at least one woman with at least one child aged 0-23m	495	468 women 65 men (husband or head of household)	468

Project	Fieldwork dates	Sampling Methodology	Household eligibility criteria	No. of households recruited	No. of adults interviewed	No. of children reported on
Save Mali	May 2-11, 2012	Two stage sampling: 30 villages were selected using Probability Proportional to Size technique, and then every third household starting from a central location and moving in one randomly selected direction, until 15 households were reached	Has at least one child aged 0-59m	450	449 women	449
Save Pakistan	Jun-12	Two stage sampling: 61 villages were selected using Probability Proportional to Size (PPS) technique, and then 20 households were randomly sampled from the LHW household lists.	Has at least one woman with at least one child aged 0-59m	1220	1220 women	1703
Plan Bangladesh	June 19-July 10, 2012	Two stage sampling: random sampling of villages, then interviews from random starting point	Has a currently married women with a child aged 0-23m and her husband was available for interview	2,400	2,400 women and 2,400 men	617
Plan Ethiopia	June 1-16, 2012	Two stage sampling: 3 kebeles were selected from each woreda using PPS and the number of households from each kebele was determined using PPS.	Has at least one child aged 0-23m	1144	1444 married women 15-49 years 539 male guardians/fathers	1144
Plan Ghana	April-May 2012	Two stage sampling: communities were selected from a list at random, and households were then selected by starting at a random location in the community and then moving systematically from that point until the quota was reached.	Has at least one woman aged 15-49y with at least one child aged 0-23m	659	659 women 537 male partners/relatives	659
Plan Mali	Spring 2013	Three stage sampling, the first two being geographical, proportional to the population size. Third stage sampling of random households.	Has at least one parent present and one child 0-23m	840	840 women and 840 men	830
Plan Zimbabwe	May 10-29, 2012	Three stage sampling using the Ward and village as the first two sampling units, and the household as the third. The number of households was proportionate to the size of the village. Households were randomly selected using a random walk method from the center of the village	Has at least one woman aged 15-49y with at least one child aged 0-23m	796 (98% response rate)	796 women (98% response rate) 257 men (32% response)	796

B. Determination of the final Common Framework (CF) Indicator list

A detailed mapping of the available raw data from each project's baseline survey revealed that some revision of the CF indicator list was necessary. These revisions were undertaken with careful scrutiny in order to accurately reflect the data which was collected, and in order to include as many projects for a specific indicator as possible. For example, for the indicator "% of children aged 0-23m who are stunted", one project was only collecting the data for children aged 6-23months, and therefore, in order to include four projects, rather than just three, we changed the indicator for all four projects to "% of children aged 6-23m who are stunted". The specific revisions are presented in Table 2. Two indicators had to be dropped, two other indicators were combined into one, and the definitions of several other indicators were refined to more accurately reflect the populations sampled and the specificity of the questions posed in each of the baseline surveys.

The consequence of these changes is that some indicators no longer meet the 'Muskoka Indicator' definitions, or the 'commonly accepted' definitions. For example, for the indicator "% of live births attended by skilled health personnel", we had to make changes to address the fact that the majority of the surveys asked about the birth of the youngest currently living child, not all live births. However, we propose that the changes were necessary to accurately reflect the data and to include as many projects as possible.

Table 2: Changes to CF Indicator List, and Rationale

Original indicator	Revised indicator	Rationale for change
% of children aged 0-23m who are stunted	% of children aged 6-23m who are stunted	To maintain the same age group for which stunting was reported across projects, we limited the analysis to children 6-23 months
% of live births attended by skilled health personnel	% of mothers aged 15-49 whose youngest living child aged <6 months was delivered by skilled health personnel	To maintain the same recall period across projects, we limited the analysis to mothers whose youngest child was < 6 months. Additionally, the available data only allowed us to look at currently living children, not all live births.
% of women 15-49 with a live birth who received antenatal care at least 4 times during pregnancy	% of mothers aged 15-49 of who received antenatal care ≥4 times during pregnancy with their youngest living child aged < 6 months	To maintain the same recall period across projects, we limited the analysis to mothers whose youngest child was < 6 months. Additionally, the available data only allowed us to look at currently living children, not all live births.
% of pregnant women (disaggregated by age) who received 2 doses of tetanus toxoid	% of mothers aged 15-49 who received ≥2 doses of tetanus toxoid during pregnancy with their youngest living child aged < 6 months	Data were collected only from women who had a living child, not from all women who were pregnant during the same period. In addition, to maintain the same recall, we limited this question to mothers who had living children between < 6 months.
% of mothers who received postnatal care (PNC) within 2-3 days of childbirth	% of mothers aged 15-49 who received postnatal care (for self or for infant) within 3 days of birth	In only one survey was a question on PNC asked separately for the mother and for the baby, and in this case, the responses to both questions were the same. To include as many projects as possible, we therefore developed a new composite indicator from the previous PNC indicators and a 3-day cutoff period.
% of babies who received PNC within 2-3 days of childbirth		

Original indicator	Revised indicator	Rationale for change
% of mothers of children aged 0-59m who are using modern contraceptive method	% of mothers aged 15-49 who are using modern contraceptive method	Some of the surveys that reported on this indicator only sampled mothers of children aged 0-23m; we therefore removed the 0-59m age range from the indicator definition.
% of mothers of children 0-6m who received intermittent preventative treatment (IPT) for malaria in their last pregnancy	% of mothers aged 15-49 who received preventive malaria treatment during pregnancy with their youngest living child aged < 6 months	Data were collected only from women who had a living child, not from all women who were pregnant during the same period.
% of mothers of children 0-6m who were tested for HIV	% of mothers aged 15-49 who were tested for HIV in ANC during pregnancy with their youngest living child age < 6 months	To make this indicator common across projects, we needed to include HIV testing only in the context of ANC
Early initiation of breastfeeding (% of newborns put to the breast within one hour of birth)	% of living children <6m who were breastfed within one hour of birth	To maintain the same recall period across projects, we limited the analysis to babies born in the previous 6 months. Additionally, the available data only allowed us to look at surviving children, not all live births.
Three doses of combined diphtheria, pertussis, tetanus (DPT) vaccine (% children 12-23m receiving 3 doses of DPT)	% of children aged 12-23m who have received ≥3 doses of DPT/pentavalent vaccine	In some settings, pentavalent vaccine has replaced DPT vaccine.
% of children 0-59 months with diarrhoea within the 2 weeks prior to the survey receiving oral rehydration therapy (ORT)	% of children with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution	This indicator is maintained.
	% of children with diarrhoea in the previous 2 weeks who received ORS and zinc	We have added an indicator on ORS and zinc treatment.
Treatment for pneumonia (% children age 0-59 months with suspected pneumonia who see an appropriate health provider and received antibiotics)	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider and received antibiotics	Given the survey questions asked, we have further specified the denominator for this indicator as children with “pneumonia-like symptoms”.

Original indicator	Revised indicator	Rationale for change
% of women, men who know about mother-child HIV transmission	% mothers who know all 3 modes of mother to child transmission (MTCT) of HIV	Data on men's knowledge of MTCT were available from only one organization and so we have excluded men from this indicator. Additionally, we have reworded the indicator to reflect mothers' rather than women more generally.
% of caregivers /family members that have knowledge of home-based treatment health care practices for diarrhoea (increased fluids & feeding)	*dropped*	We anticipated being able to report a general knowledge indicator on treatment, but as the data for this indicator were collected only from those whose child had diarrhea in the previous two weeks, they reflect practice rather than knowledge, and this is already captured through the indicators on ORT, ORS and zinc for diarrhea.
% children age 0-59m with suspected pneumonia who see an appropriate health provider, including a CHW	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider, including a CHW	Given the survey questions asked, we have further specified the denominator for this indicator as children with "pneumonia-like symptoms". Additionally, we include in the numerator children who were taken to an appropriate health provider, irrespective of whether they were actually seen by that health provider.
% of women and men who recognize severe illness	*dropped*	The focus of the relevant survey questions varied widely: one organization's survey asks about caregiver knowledge of childhood illness, while the other's asks about women's and men's knowledge of danger signs in pregnancy, deliver and postpartum. After careful consideration, we decided these were too different to be combined into one indicator.
% of women who make decisions on purchases at home	% of mothers who make decisions on purchases (food)	In order to make this indicator common across projects, we have limited the focus of decision-making to food purchases, and further specified that this was measured among mothers rather than among all women.

Further to the revision of the CF indicator list, our examination of the raw data revealed that several data points initially ascribed to specific projects during the original indicator assessment could not ultimately be included in our baseline estimates. For example, for Plan Ghana and Zimbabwe, we could not include a value for Exclusive Breastfeeding because the coding was not clear for their responses. However, more often, on reassessment of the questionnaires and associated data, additional projects were included for an indicator. For example, we had not anticipated that Plan Mali would have the data to allow inclusion into the Early Initiation of Breastfeeding indicator, but after careful review of the data and the questionnaire their data have now been included. The final list of the indicators for which estimates could be generated from the baseline household survey data is given in Table 3.

Table 3: Updated CF Indicator List

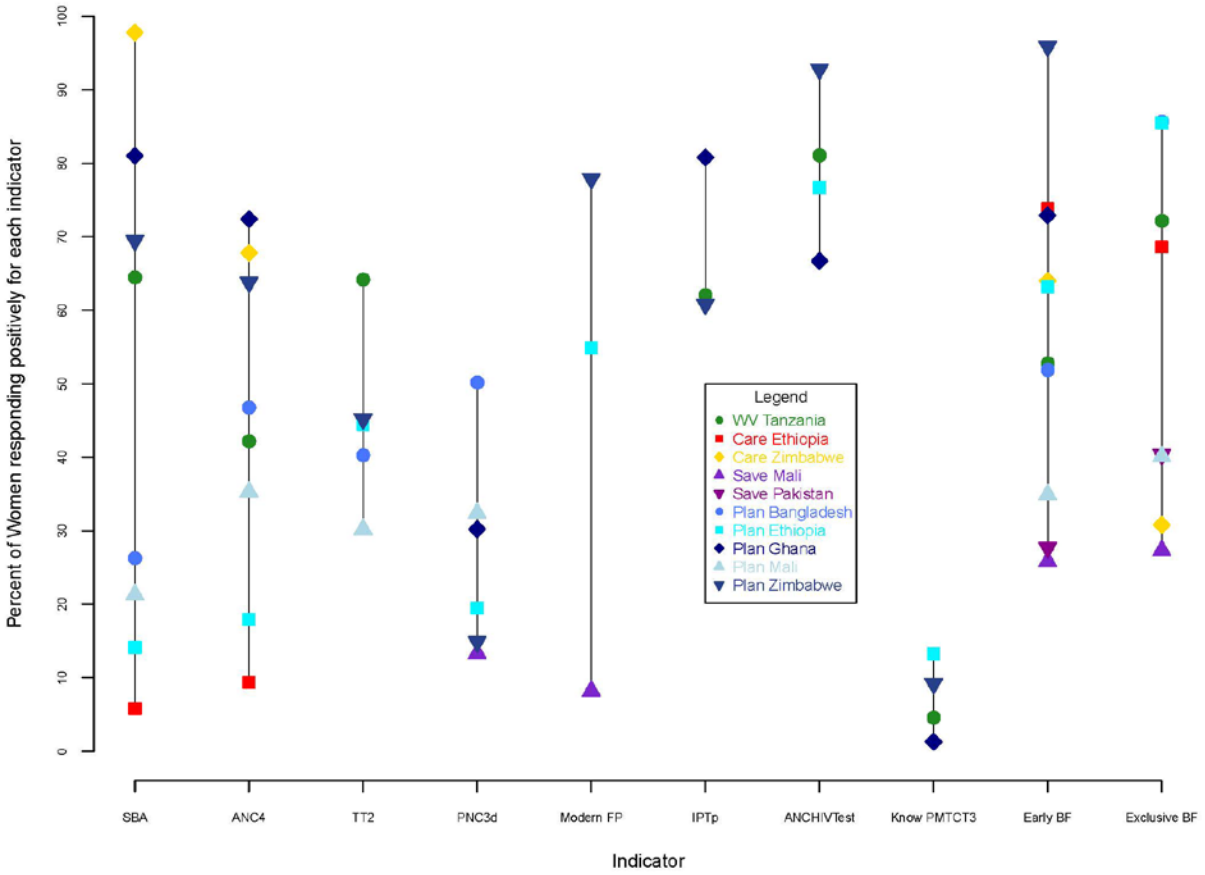
WV Tanzania	Care Ethiopia	Care Zimbabwe	Save Mali	Save Pakistan	Plan Bangladesh	Plan Ethiopia	Plan Ghana	Plan Mali	Plan Zimbabwe	Indicators
										Maternal and Newborn Health
●	◆	◆			●	●	●	●	●	% of mothers aged 15-49 whose youngest living child aged < 6 months was delivered by a skilled birth attendant
●	●	●			●	●	●	●	●	% of mothers aged 15-49 of who received antenatal care ≥4 times during pregnancy with their youngest living child aged < 6 months
●					●	●		●	●	% of mothers aged 15-49 who received ≥2 doses of tetanus toxoid during pregnancy with their youngest living child aged < 6 months
			●		●	●	●	●	●	% of mothers aged 15-49 who received postnatal care (for self or for infant) within 3 days of birth
			●			●			◆	% of mothers aged 15-49 who are using modern contraceptive method
●							●		●	% of mothers aged 15-49 who received preventive malaria treatment during pregnancy with their youngest living child aged < 6 months
●						●	●		◆	% of mothers aged 15-49 who were tested for HIV in ANC during pregnancy with their youngest living child aged < 6 months
●						●	●		●	% of mothers aged 15-49 who know all 3 modes of mother-to-child transmission of HIV
●	●	●	●	●	●	◆	◆	◆	●	% of living children aged < 6 months who were breastfed within one hour of birth
●	●	●	●	●	●	●		●		% of children aged < 6 months who are exclusively breastfed
										Child Health
●				◆	◆	●	◆	●	●	% of children aged 12-23m who have received ≥3 doses of DPT or pentavalent vaccine
●				◆	●	●	●	●	●	% of children aged 12-23m who have received ≥1 dose of measles vaccine
●	◆	◆	●	●	●		◆	◆	◆	% of children with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
●	◆	◆	●	●	●			◆		% of children with diarrhoea in the previous 2 weeks who received ORS and zinc
●			●	●		●	◆		◆	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider including a CHW
●			●	●		●	◆			% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider and received antibiotics
●			●	●					◆	% of children with malaria-like symptoms in the previous who received anti-malarial drugs
●	●	●								% of children aged 6-23m with adequate dietary diversity scores (4 or more food groups)
●	●	●								% of mothers who make decisions on purchases (food)
●	●	●	◆							% of children aged 6-23 months who are stunted (<-2 WAZ)

●	Indicator present in the PMF
◆	Indicator not present in the PMF

C. Baseline estimates of CF indicators

In the set of graphs below we present the project-specific baseline estimates for the amended CF indicators on maternal and newborn health (Figure 1) and on child health (including female decision-making power in the household) (Figure 2). These estimates are from the household survey data, at baseline, before the projects began, and will provide a baseline against which we can measure change. Under each figure is a "how to read this figure" description to facilitate interpretation. Each figure has further been broken into two parts, "A" and "B", to show each indicator in more detail (ie. larger). Annex A includes additional figures presenting baseline estimates of newborn and child health indicators stratified by the gender of the index child. Annex B presents the tabulated baseline estimates for all indicators, broken out by age group and gender of the index child where appropriate.

Figure 1: Maternal and Newborn Health Indicators by Project

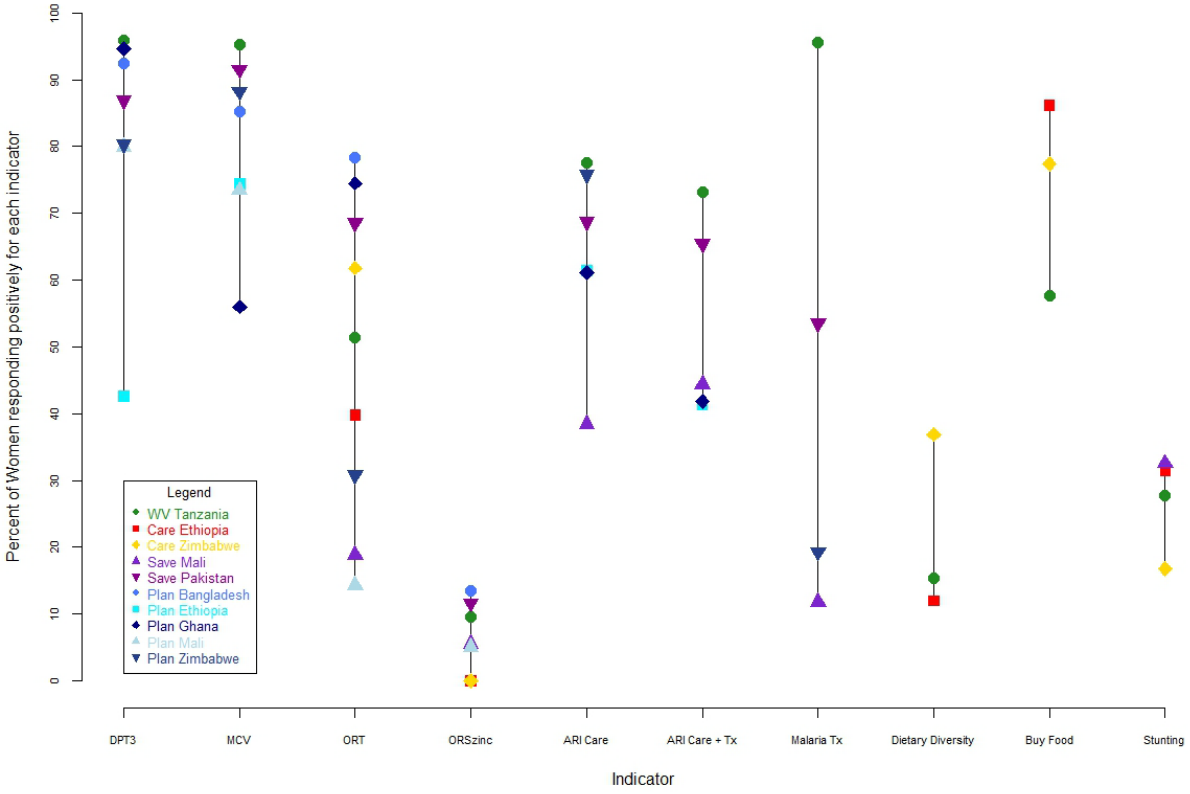


Legend:

Acronym	Indicator
SBA	% of mothers whose youngest living child (aged <6 months at the time of the survey) was delivered by skilled health personnel
ANC4	% of mothers of who received antenatal care ≥4 times during pregnancy with their youngest living child (aged <6 months)
TT2	% of mothers who received ≥2 doses of tetanus toxoid during pregnancy (with their youngest living child aged <6 months)
PNC3d	% of mothers who received postnatal care (for self or for infant) within 3 days of birth
Modern FP	% of mothers who are using modern contraceptive method
IPTp	% of mothers who received preventive malaria treatment during pregnancy (with their youngest living child aged <6 months)
ANCHIVTest	% of mothers who were tested for HIV in ANC during pregnancy (with their youngest living child age <6 months)
Know PMTCT3	% mothers who know all 3 modes of mother to child transmission (MTCT) of HIV
EarlyBF	% of living children (aged <6 months) who were breastfed within one hour of birth
ExclusiveBF	% of children aged <6 months who are exclusively breastfed

How to read this figure: Each project is represented by a coloured shape. For example, Care Ethiopia is represented by a red square. The colours match those in Table 3; the shapes are to facilitate differentiation between projects but have no other meaning. The X-axis (horizontal axis) shows the Indicators for which data is presented in this graph, and the acronyms are defined in the table under the figure. The Y-axis (vertical axis) shows the percentage of mothers who responded affirmatively for the indicator. For example, this figure shows that at baseline approximately 98% of women were delivered by a skilled birth personnel in the Care Zimbabwe project site. This indicator only includes data from women whose youngest living child was aged <6 months at the time of the survey. The exact values for each project and indicator are presented in the tables in Annex B.

Figure 2: Child Health Indicators by Project

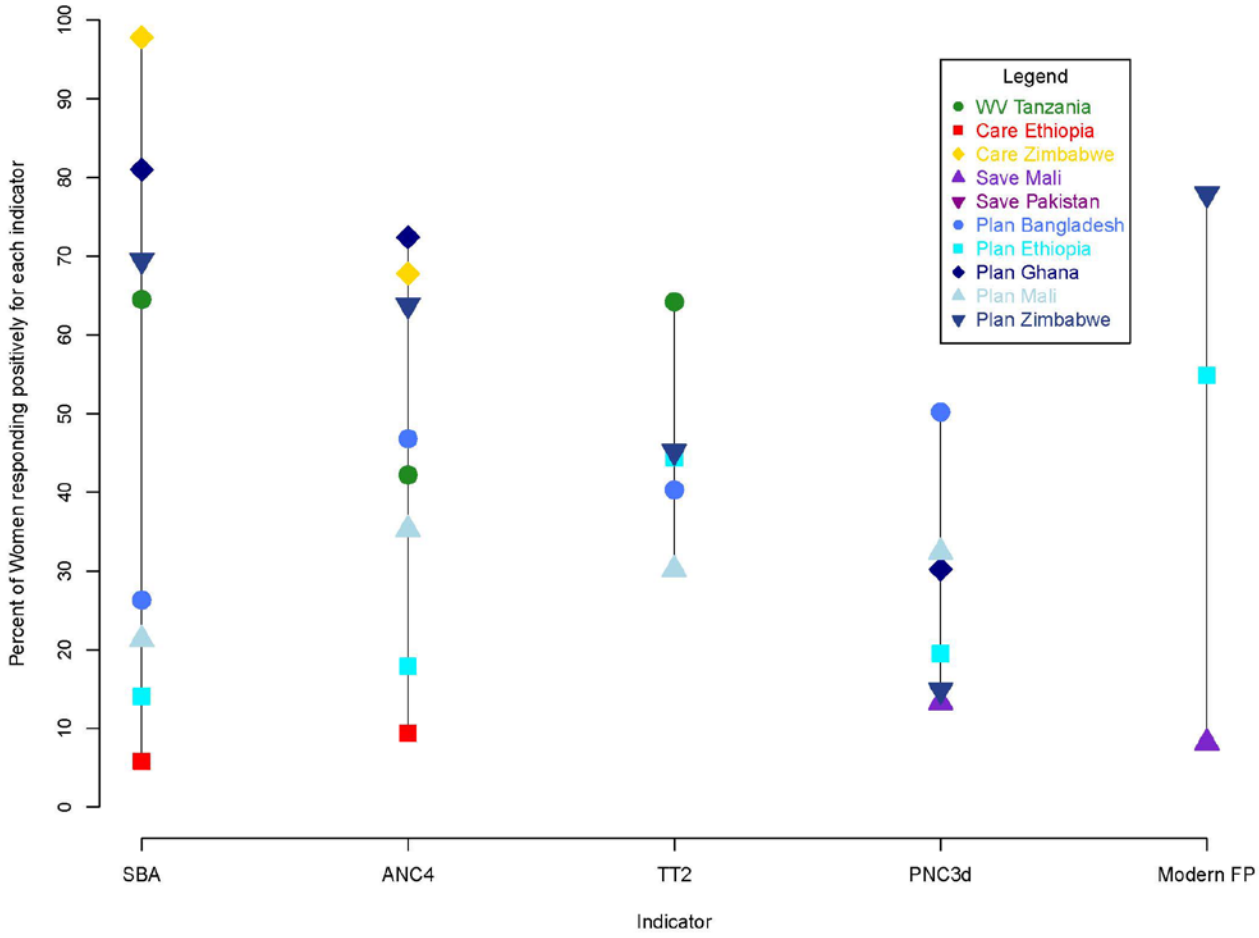


Legend:

Acronym	Indicator
DPT3	% of children aged 12-23m who have received ≥3 doses of DPT/pentavalent vaccine
MCV	% of children aged 12-23m who have received ≥1 dose of measles vaccine
ORT	% of children with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
ORSzinc	% of children with diarrhoea in the previous 2 weeks who received ORS and zinc
ARI Care	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider, including a CHW
ARI Care+Tx	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider and received antibiotics
Malaria Tx	% of children with malaria-like symptoms in the previous who received anti-malarial drugs
Dietary Diversity	% of children aged 6-23m with adequate dietary diversity scores (4 or more food groups)
Buy Food	% of mothers who make decisions on purchases (food)
Stunting	% of children aged 6-23 months who are stunted (<-2 WAZ)

How to read this figure: Each project is represented by a coloured shape. For example, Care Ethiopia is represented by a red square. The colours match those in Table 3; the shapes are to facilitate differentiation between projects but have no other meaning. The X-axis (horizontal axis) shows the Indicators for which data is presented in this graph, and the acronyms are defined in the table under the figure. The Y-axis (vertical axis) shows the percentage who responded affirmatively for the indicator. For example, this figure shows that approximately 98% of women report (or had a vaccine card which indicated) their child aged 12-23 months received 3 or more doses of DPT/pentavalent vaccine in the project site of World Vision Tanzania at baseline.

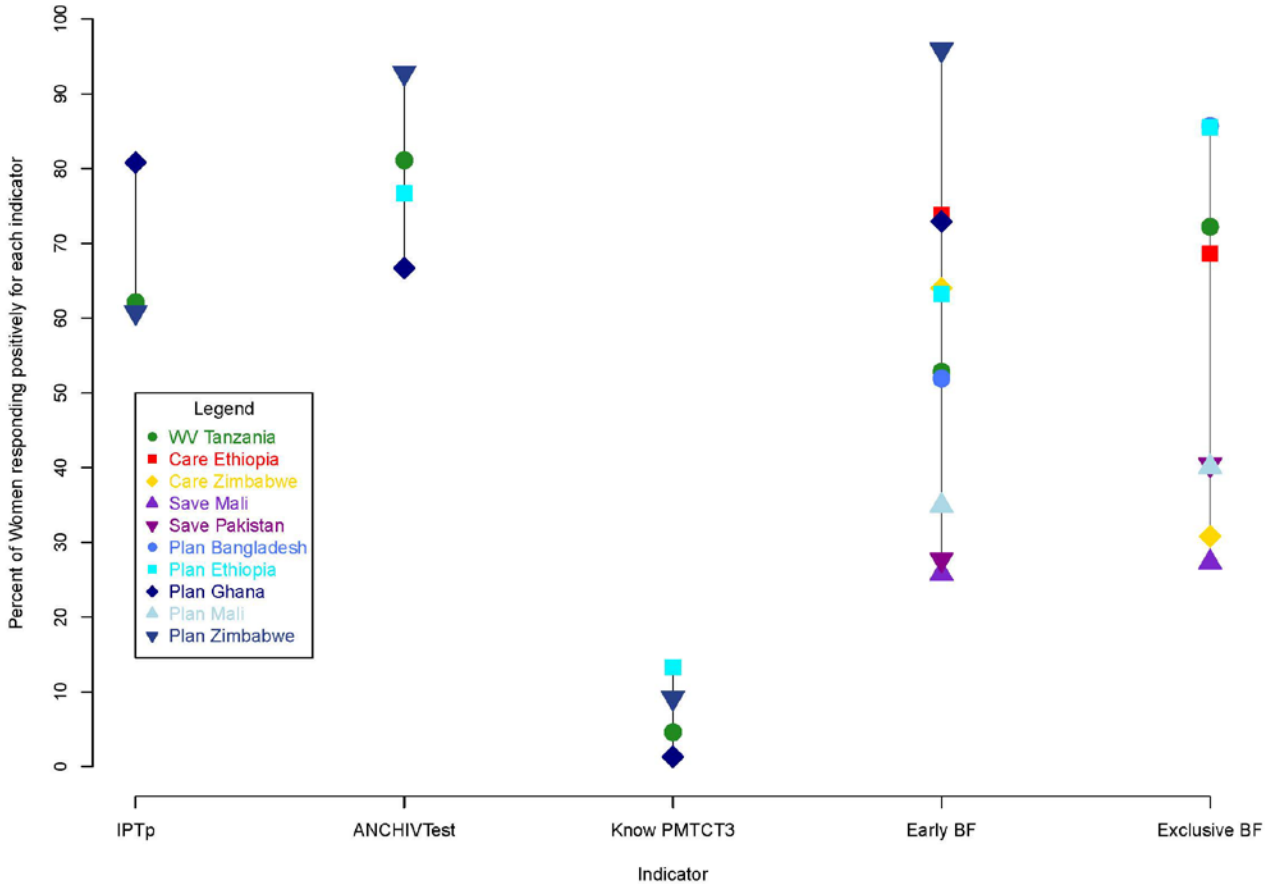
Figure 1A: Five Maternal and Newborn Health Indicators by Project
(A replication of Figure 1, with only the first five indicators. The next five indicators are in Figure 1b).



Legend:

Acronym	Indicator
SBA	% of mothers whose youngest living child aged <6 months was delivered by skilled health personnel
ANC4	% of mothers of who received antenatal care ≥4 times during pregnancy with their youngest living child aged <6 months
TT2	% of mothers who received ≥2 doses of tetanus toxoid during pregnancy with their youngest living child aged <6 months
PNC3d	% of mothers who received postnatal care (for self or for infant) within 3 days of birth
Modern FP	% of mothers who are using modern contraceptive method

Figure 1B: Five Maternal and Newborn Health Indicators by Project

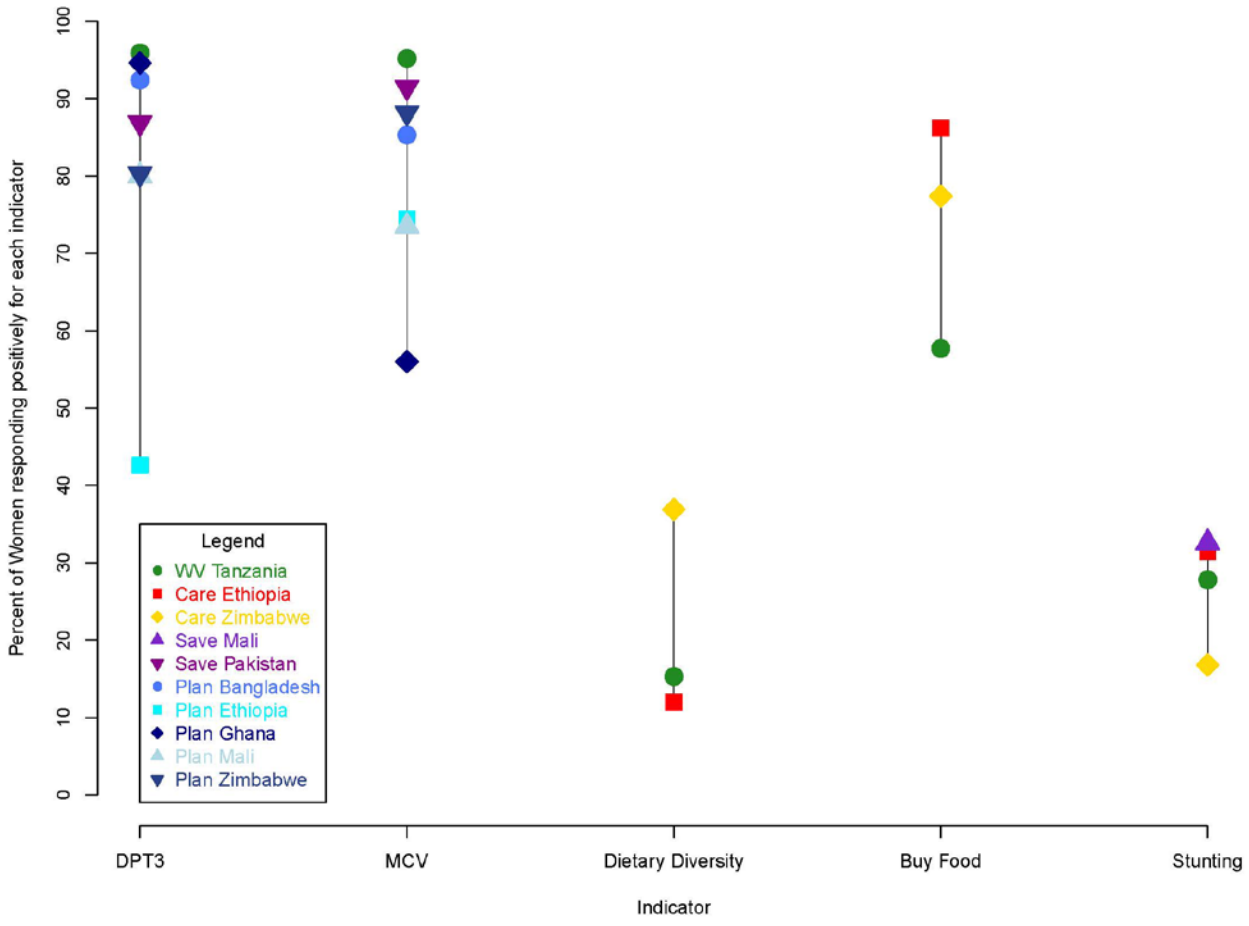


Legend:

Acronym	Indicator
IPTp	% of mothers who received preventive malaria treatment during pregnancy with their youngest living child aged <6 months
ANCHIVTest	% of mothers who were tested for HIV in ANC during pregnancy with their youngest living child age <6 months
Know PMTCT3	% mothers who know all 3 modes of mother to child transmission (MTCT) of HIV
EarlyBF	% of living children aged <6 months who were breastfed within one hour of birth
ExclusiveBF	% of children aged <6 months who are exclusively breastfed

Figure 2A: Five Child Health Indicators by Project

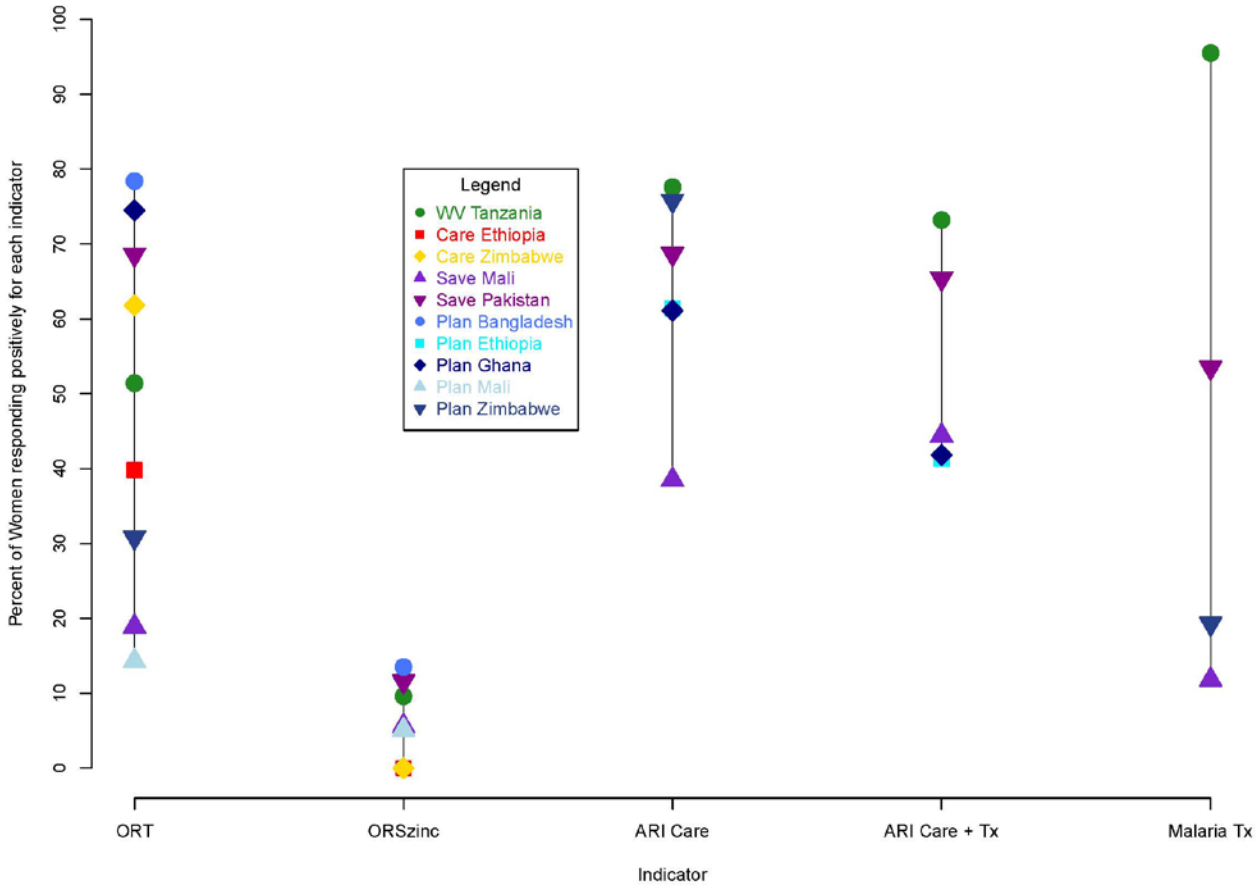
(A replication of Figure 2, with only five indicators. Note, these are in a different order than in Figure 2. The other five child health indicators are in Figure 2b).



Legend:

Acronym	Indicator
DPT3	% of children aged 12-23m who have received ≥3 doses of DPT/pentavalent vaccine
MCV	% of children aged 12-23m who have received ≥1 dose of measles vaccine
Dietary Diversity	% of children aged 6-23m with adequate dietary diversity scores (4 or more food groups)
Buy Food	% of mothers who make decisions on purchases (food)
Stunting	% of children aged 6-23 months who are stunted (<-2 WAZ)

Figure 2B: Five Child Health Indicators by Project



Legend:

Acronym	Indicator
ORT	% of children with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or sugar-salt solution
ORSzinc	% of children with diarrhoea in the previous 2 weeks who received ORS and zinc
ARI Care	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider, including a CHW
ARI Care+Tx	% of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider and received antibiotics
Malaria Tx	% of children with malaria-like symptoms in the previous who received anti-malarial drugs

4. Discussion

As expected, there is a great deal of variation in the 'common' baseline indicator estimates, across projects. This variation is as a result of many factors, including the differing context and challenges across project locations. The greatest variation was seen in Skilled Birth Attendance (SBA), from 5.5% in Ethiopia to 93.8% in Zimbabwe, however there is wide variation in many of the other indicators, including antenatal care, modern contraceptive use, etc. There appears to be consistently low coverage in PNC, ORT, ZincTx and Knowledge of MTCT across projects. In addition, there is variation between male and female coverage for indicators such as vaccine coverage and diarrhea treatment (as presented in Annexes A and B), however, the variation is not consistent between girls and boys nor within indicators. Interestingly, stunting prevalence appears to be higher in boys than in girls in all four projects reporting this indicator, although not statistically significant. This observation is consistent with results from a recent study in Bangladesh where boys had higher rates of stunting than girls (Shafique and Zlotkin 2013, unpublished).

The variation across projects further highlights the challenge of producing a 'MNCH Consortium program-combined' estimate. The presentation of the data as project specific demonstrates how varied the health settings are in the project areas. This baseline report will help us understand and interpret the changes that occur in these areas from the beginning to the end of the projects. At the end of each project (end-line) we propose to present the combined percent change for each indicator. This will demonstrate overall change across project sites for each indicator. Where projects did not have an activity or intervention that would impact the indicator[2], we may exclude them from this estimate. The combined percent change may be weighted by the projects investment in a certain activity or intervention. We believe that this combined percent change for each indicator will be more meaningful than a combined baseline and end-line for each indicator.

The baseline analysis highlighted several challenges with the design of this project. For future KM Programs, the *prospective* development of standardized questions and sampling strategies including the age of children sampled for household surveys across projects and NGOs would be extremely beneficial in arriving at a longer list of common selected indicators. Similarly, developing common questionnaires to obtain the same data and content would allow for collection of the richest data. These changes would provide more validated data across projects.

This baseline analysis is a key step in the development of the 'adequacy evaluation'. To remind the reader, an adequacy assessment or evaluation is conducted if stakeholders and evaluators are interested in whether or not the goals, set by program developers, were met. For example, if a child health program seeks to reduce child mortality to 25% in selected villages, an adequacy assessment will attempt to show whether or not this 25% target was reached. The benefit of performing an adequacy assessment is that it does not require a control group, which can significantly cut the budget of an evaluation, as well as time and effort levels. However, without randomization or a control group, many indicators cannot be appropriately linked directly to the program activities. Although limited in what can be inferred from them, adequacy assessments do show progress toward pre-determined targets, which may be sufficient to argue for increased or continued funding.

Despite the qualifications and challenges identified in the previous paragraphs, the baseline data provide the necessary information required for comparison against the end-line analysis. The baseline data analysis report shows a snapshot - a point in time – on how different communities are faring in MNCH. It provides both a visual demonstration as well as the key data to allow the reader to observe the variation across project sites at baseline, and is a starting point for the end-line comparison on the changes in MNCH across projects.

In the final report, due in in 2015 that will incorporate the end-line data, we foresee a rigorous, detailed and scholarly discussion, where we will examine the changes over time and discuss factors that might have been associated with those changes. This information is expected to inform future MNCH programs and be of significant value to our NGO partners for programmatic purposes.

[2] These are presented as 'diamonds' in Table 3.

5. Next Steps

The next step involved in the 'adequacy evaluation' is to collect the appropriate information for the indicators which were not addressed using the baseline household survey data: proportion of participants/members in local health committees who are women and; number of CHWs trained/10 000 population.

Finally, we continue to examine the methodology to be used for the 'plausibility evaluation'. In an effort to design the counterfactual or control groups, we have systematically reviewed the available DHS data for each country to determine the geographic level from which the data are sampled and powered. This will feed into the next phase of work. We have also begun to explore propensity score matching as a methodology for assessing plausibility.

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7. Annexes

A. Figure 3-8: Indicators disaggregated by child gender

Figure 3: Stunting, by gender

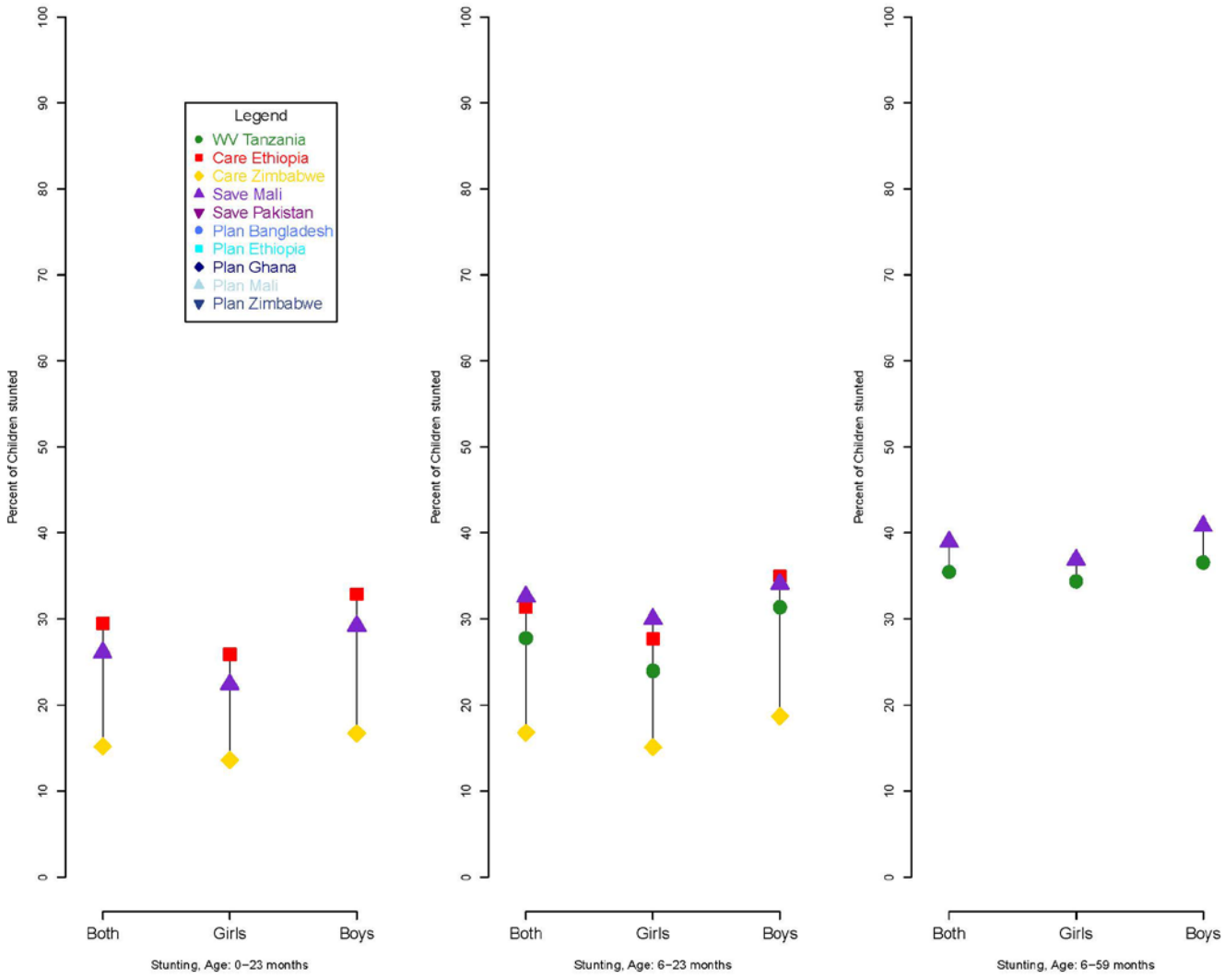


Figure 4: Newborn Health Indicators, by gender

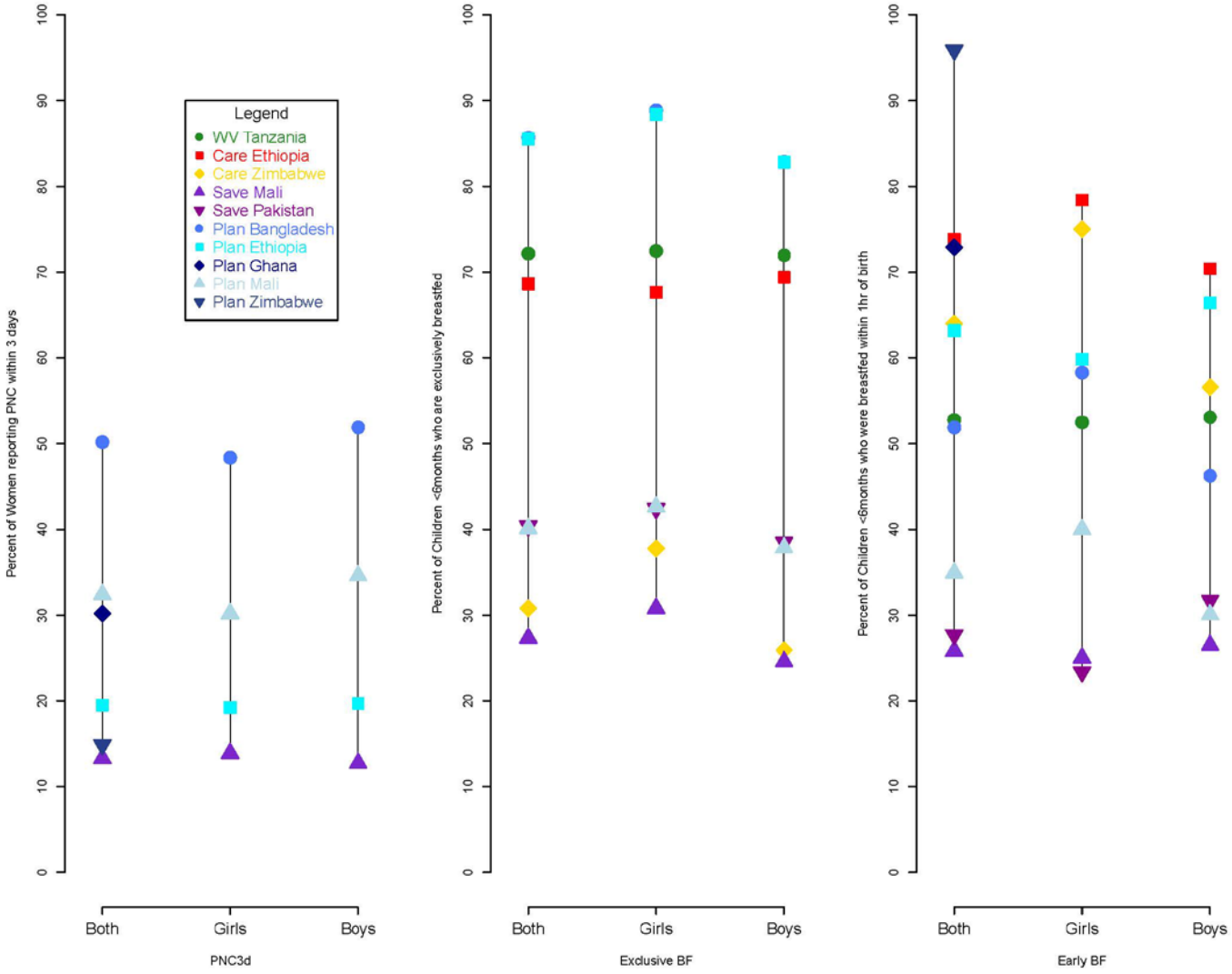


Figure 5: Immunization Coverage, by gender

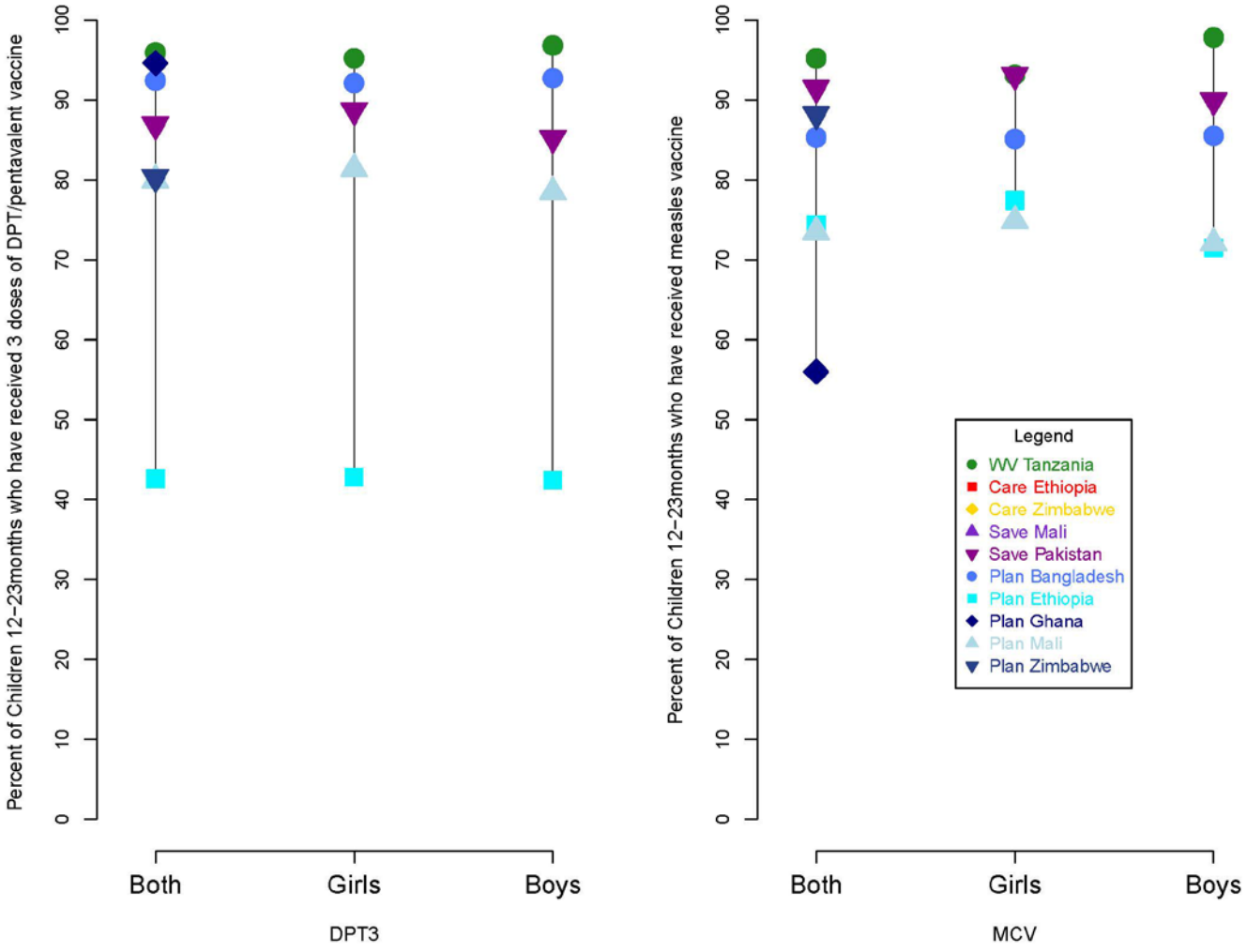


Figure 6: Treatment for children with diarrhea in the last two weeks, by gender

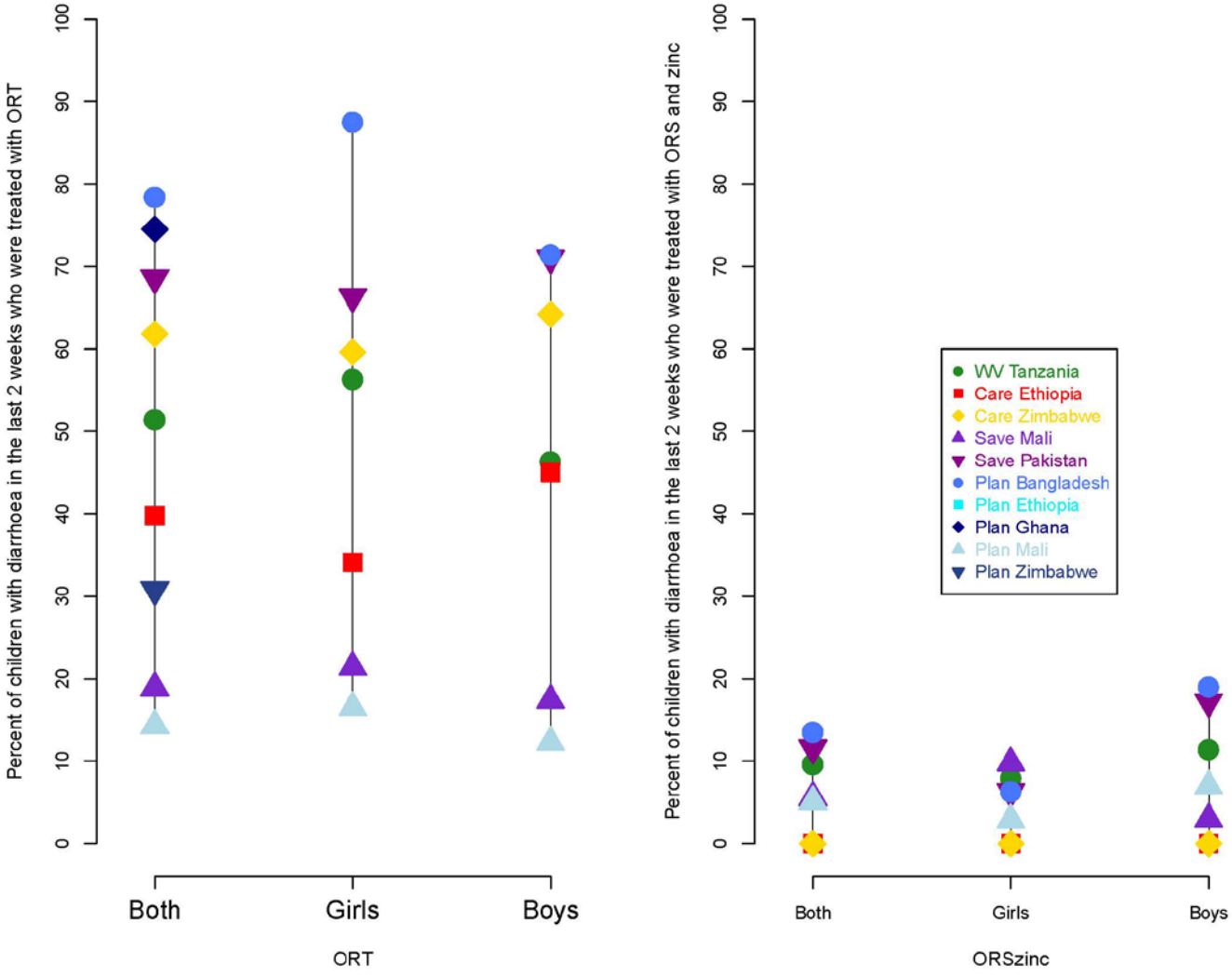


Figure 7: Care-seeking and treatment for children with pneumonia or malaria, by gender

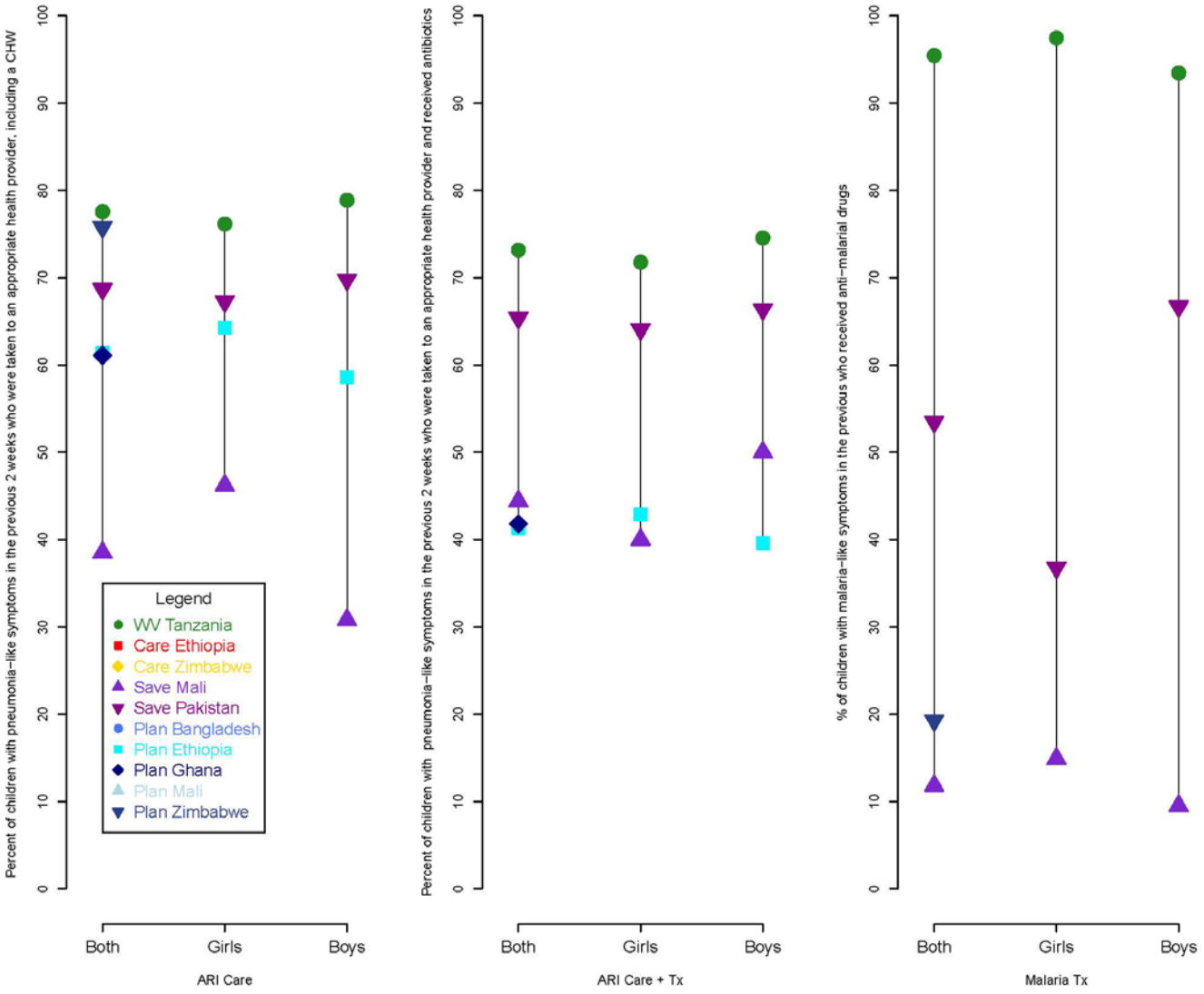
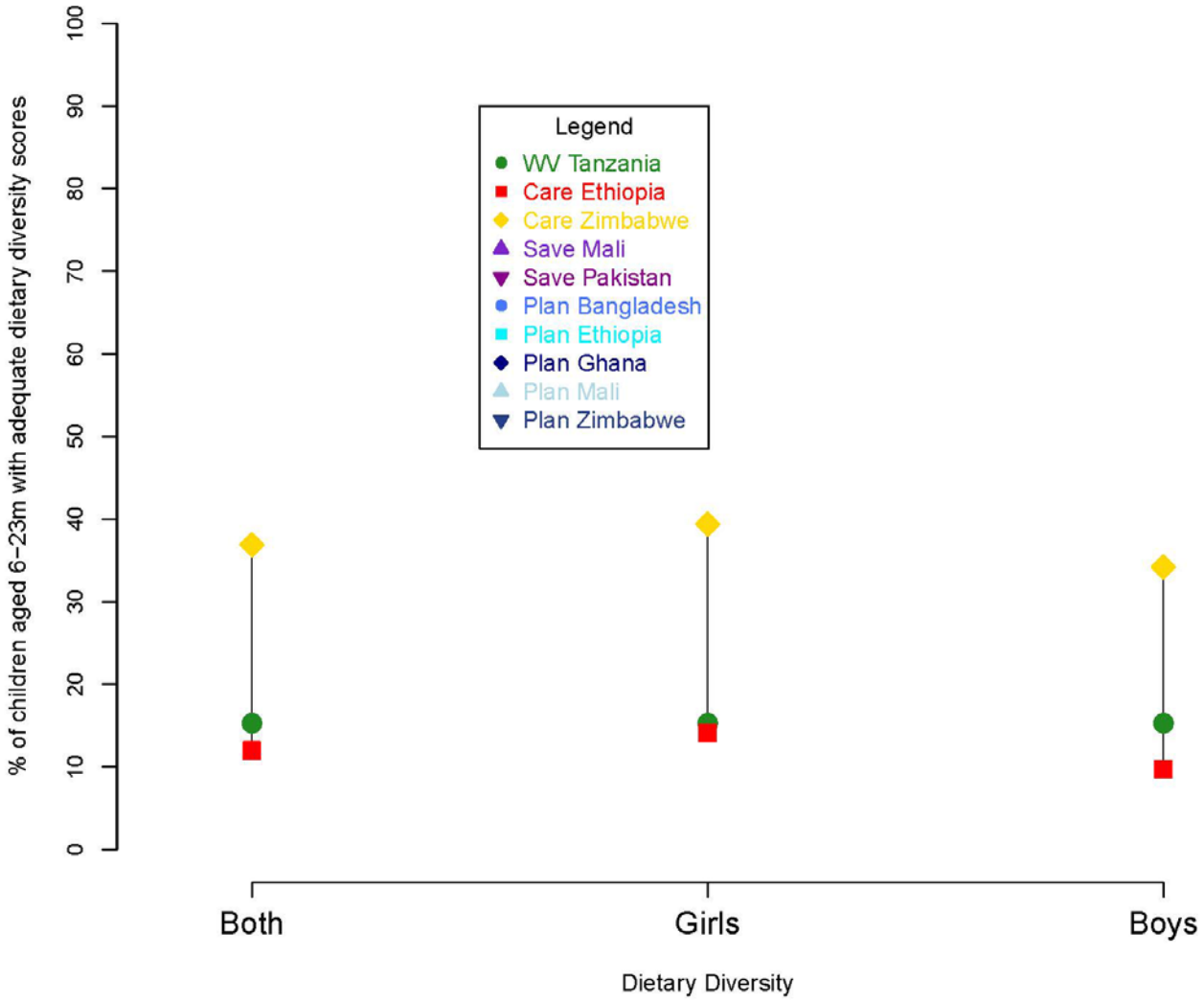


Figure 8: Dietary Diversity, by gender



B. Table 4-23: Indicators by age and/or gender

Table 4: Percent of children stunted (<-2 SD length- or height-for-age)

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-23 Months												
WV Tanzania												
Care Ethiopia	845	29.5	26.3	32.6	410	25.9	21.5	30.2	435	32.9	28.3	37.4
Care Zimbabwe	462	15.2	11.8	18.5	228	13.6	8.9	18.3	234	16.7	11.7	21.7
Save Mali	353	26.1	21.3	30.8	161	22.4	15.6	29.1	192	29.2	22.5	35.9
Save Pakistan												
Plan Bangladesh												
Plan Ethiopia												
Plan Ghana												
Plan Mali												
Plan Zimbabwe												
6-23 Months												
WV Tanzania	198	27.8	21.3	34.3	96	24.0	14.9	33.0	102	31.4	21.9	40.9
Care Ethiopia	717	31.4	27.9	34.8	357	27.7	22.9	32.5	360	35.0	29.9	40.1
Care Zimbabwe	374	16.8	12.9	20.8	192	15.1	9.8	20.4	182	18.7	12.7	24.6
Save Mali	236	32.6	26.4	38.8	110	30.0	21.0	39.0	126	34.1	25.5	42.8
Save Pakistan												
Plan Bangladesh												
Plan Ethiopia												
Plan Ghana												
Plan Mali												
Plan Zimbabwe												
6-59 Months												
WV Tanzania	643	35.5	31.7	39.2	334	34.4	29.2	39.7	309	36.6	31.0	42.1
Care Ethiopia												
Care Zimbabwe												
Save Mali	323	39.0	33.5	44.5	149	36.9	28.8	45.0	174	40.8	33.2	48.4
Save Pakistan												
Plan Bangladesh												
Plan Ethiopia												
Plan Ghana												
Plan Mali												
Plan Zimbabwe												

Table 5: Percent of mothers whose living child's birth was attended by skilled health personnel

	N	%	95% CI Lower	95 % CI Upper
<6 Months				
WV Tanzania*	408	64.5	59.8	69.1
Care Ethiopia	172	5.8	2.3	9.3
Care Zimbabwe	91	97.8	94.7	100.9
Save Mali				
Save Pakistan				
Plan Bangladesh	76	26.3	16.2	36.4
Plan Ethiopia	234	14.1	9.6	18.6
Plan Ghana	247	81.0	76.0	85.9
Plan Mali	221	21.3	15.8	26.7
Plan Zimbabwe	197	69.5	63.1	76.0
0-23 Months				
WV Tanzania*	408	64.5	59.8	69.1
Care Ethiopia	951	5.5	4.0	6.9
Care Zimbabwe	468	93.8	91.6	96
Save Mali				
Save Pakistan				
Plan Bangladesh**	614	23.0	19.6	26.3
Plan Ethiopia	1140	13.9	11.9	15.9
Plan Ghana**	620	76.5	73.1	79.8
Plan Mali	830	16.5	14.0	19.0
Plan Zimbabwe	779	63.9	60.5	67.3

* Age group 0-6 months

**Age group 0-35 months

Table 6. Percent of mothers who received antenatal care ≥4 times during pregnancy with their youngest living child

	N	%	95% CI Lower	95 % CI Upper
<6 Months				
WV Tanzania*	417	42.2	37.4	47.0
Care Ethiopia	170	9.4	5.0	13.8
Care Zimbabwe	90	67.8	57.9	77.6
Save Mali				
Save Pakistan				
Plan Bangladesh	77	46.8	35.4	58.2
Plan Ethiopia	234	17.9	13.0	22.9
Plan Ghana	254	72.4	66.9	78.0
Plan Mali	218	35.3	28.9	41.7
Plan Zimbabwe	185	63.8	56.8	70.8
0-23 Months				
WV Tanzania*	417	42.2	37.4	47.0
Care Ethiopia	946	9.9	8.0	11.8
Care Zimbabwe	468	66.7	62.4	71.0
Save Mali				
Save Pakistan				
Plan Bangladesh**	617	43.8	39.8	47.7
Plan Ethiopia	1144	19.2	16.9	21.5
Plan Ghana**	634	76.3	73.0	79.7
Plan Mali	820	40.6	37.2	44.0
Plan Zimbabwe	716	66.5	63.0	69.9

* Age group 0-6 months

**Age group 0-35 months

Table 7. Percent of mothers who received ≥2 doses of tetanus toxoid during pregnancy with their youngest living child

	N	%	95% CI Lower	95 % CI Upper
<6 Months				
WV Tanzania*	416	64.2	59.6	68.8
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh	77	40.3	29.1	51.5
Plan Ethiopia	234	44.4	38.0	50.9
Plan Ghana				
Plan Mali	215	30.2	24.0	36.4
Plan Zimbabwe	197	45.2	38.2	52.2
0-23 Months				
WV Tanzania*	416	64.2	59.6	68.8
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh**	617	48.8	44.8	52.7
Plan Ethiopia	1144	48.0	45.1	50.9
Plan Ghana				
Plan Mali	818	30.9	27.8	34.1
Plan Zimbabwe	778	47.0	43.5	50.6

* Age group 0-6 months

**Age group 0-35 months

Table 8. Percent of mothers who received postnatal care (for self or for infant) within 3 days of birth

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-23 Months												
WV Tanzania												
Care Ethiopia												
Care Zimbabwe												
Save Mali	353	13.3	9.8	16.9	158	13.9	8.5	19.4	195	12.8	8.1	17.6
Save Pakistan												
Plan Bangladesh*	603	50.2	46.2	54.3	283	48.4	42.6	54.3	320	51.9	46.4	57.4
Plan Ethiopia	1131	19.5	17.1	21.8	553	19.2	15.9	22.5	578	19.7	16.5	23
Plan Ghana*	606	30.2	26.5	33.9								
Plan Mali	577	32.4	28.6	36.2	288	30.2	24.9	35.5	289	34.6	29.1	40.1
Plan Zimbabwe	779	14.9	12.4	17.4								
***Age group 0-35 months**												

Table 9. Percent of mothers who are using modern contraceptive method

	Total			
	N	**%**	**95% CI Lower**	**95 % CI Upper**
0-59 Months				
WV Tanzania				
Care Ethiopia				
Care Zimbabwe				
Save Mali	449	8.2	5.7	10.8
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia*	1144	54.9	52.0	57.8
Plan Ghana				
Plan Mali				
Plan Zimbabwe*	779	77.9	75.0	80.8

* Age group 0-23 months

Table 10. Percent of mothers who received preventive malaria treatment during pregnancy with their youngest living child

	Total			
	N	**%**	**95% CI Lower**	**95 % CI Upper**
<6 Months				
WV Tanzania*	419	62.1	57.4	66.7
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia				
Plan Ghana	240	80.8	75.8	85.8
Plan Mali				
Plan Zimbabwe	166	60.8	53.3	68.3
0-23 Months				
WV Tanzania*	419	62.1	57.4	66.7
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia				
Plan Ghana	603	79.8	76.6	83.0
Plan Mali				
Plan Zimbabwe	656	55.2	51.4	59.0

* Age group 0-6 months

Table 11. Percent of mothers who were tested for HIV in ANC during pregnancy with their youngest living child

	Total			
	N	%	95% CI Lower	95 % CI Upper
<6 Months				
WV Tanzania*	413	81.1	77.3	84.9
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia	227	76.7	71.1	82.2
Plan Ghana	237	66.7	60.6	72.7
Plan Mali				
Plan Zimbabwe	180	92.8	89.0	96.6
0-23months				
WV Tanzania*	413	81.1	77.3	84.9
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia	932	73.2	70.3	76.0
Plan Ghana**	602	67.9	64.2	71.7
Plan Mali				
Plan Zimbabwe	702	88.3	85.9	90.7

* 0-6 months

**0-35 months

Table 12. Percent of living children who were breastfed within one hour of birth

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
<6 Months												
WV Tanzania*	413	52.8	47.9	57.6	204	52.5	45.5	59.4	209	53.1	46.3	59.9
Care Ethiopia	172	73.8	67.2	80.5	74	78.4	68.8	88.0	98	70.4	61.2	79.6
Care Zimbabwe	89	64	53.9	74.2	36	75	60.1	89.9	53	56.6	42.8	70.4
Save Mali	120	25.8	17.9	33.8	52	25	12.8	37.2	68	26.5	15.7	37.2
Save Pakistan	159	27.7	20.6	34.7	77	23.4	13.7	33.0	82	31.7	21.4	42.0
Plan Bangladesh	77	51.9	40.5	63.4	36	58.3	41.4	75.3	41	46.3	30.4	62.3
Plan Ethiopia	234	63.2	57.0	69.5	112	59.8	50.6	69.0	122	66.4	57.9	74.9
Plan Ghana	255	72.9	67.5	78.4								
Plan Mali	218	34.9	28.5	41.2	105	40	30.5	49.5	113	30.1	21.5	38.7
Plan Zimbabwe	196	95.9	93.1	98.7								
0-23 months												
WV Tanzania*	413	52.8	47.9	57.6	204	52.5	45.5	59.4	209	53.1	46.3	59.9
Care Ethiopia	949	73.7	70.8	76.5	453	73.1	69.0	77.2	496	74.2	70.3	78.1
Care Zimbabwe	458	63.3	58.9	67.7	226	65.9	59.7	72.2	232	60.8	54.4	67.1
Save Mali	359	23.7	19.3	28.1	162	22.8	16.3	29.4	197	24.4	18.3	30.4
Save Pakistan	646	28.6	25.1	32.1	298	28.9	23.7	34.0	348	28.4	23.7	33.2
Plan Bangladesh**	617	50.2	46.3	54.2	291	52.2	46.5	58.0	326	48.5	43.0	53.9
Plan Ethiopia	1144	67.1	64.4	69.9	532	68.5	64.7	72.4	582	65.8	61.9	69.7
Plan Ghana**	651	73.6	70.2	77.0								
Plan Mali	825	36.1	32.8	39.4	417	37.2	32.5	41.8	408	35	30.4	39.7
Plan Zimbabwe	772	96.9	95.7	98.1								

* 0-6 months

**0-35 months

Table 13. Percent of living children aged <6 months who are exclusively breastfed

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
<6 Months												
WV Tanzania*	418	72.2	67.9	76.6	207	72.5	66.3	78.6	211	72	65.9	78.1
Care Ethiopia	172	68.6	61.6	75.6	74	67.6	56.6	78.5	98	69.4	60.1	78.7
Care Zimbabwe	91	30.8	21.1	40.4	37	37.8	21.4	54.2	54	25.9	13.9	38
Save Mali	121	27.3	19.2	35.3	52	30.8	17.8	43.7	69	24.6	14.2	35.1
Save Pakistan	203	40.4	33.6	47.2	99	42.4	32.5	52.3	104	38.5	29.0	48
Plan Bangladesh	77	85.7	77.7	93.7	36	88.9	78.1	99.7	41	82.9	70.9	95
Plan Ethiopia	234	85.5	80.9	90.0	112	88.4	82.4	94.4	122	82.8	76.0	89.6
Plan Ghana												
Plan Mali	217	40.1	33.5	46.7	101	42.6	32.8	52.4	116	37.9	29.0	46.9
Plan Zimbabwe												
*** Age group 0-6 months**												

Table 14. Percent of living children aged 12-23 months who have received ≥3 doses of DPT/pentavalent vaccine

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
12-23 Months												
WV Tanzania	416	95.9	94	97.8	231	95.2	92.5	98	185	96.8	94.2	99.3
Care Ethiopia												
Care Zimbabwe												
Save Mali												
Save Pakistan	328	86.9	83.2	90.6	159	88.7	83.7	93.7	169	85.2	79.8	90.6
Plan Bangladesh	225	92.4	89.0	95.9	101	92.1	86.7	97.4	124	92.7	88.1	97.4
Plan Ethiopia	345	42.6	37.4	47.9	173	42.8	35.3	50.2	172	42.4	35.0	49.9
Plan Ghana	168	94.6	91.2	98.1								
Plan Mali	355	80.0	75.8	84.2	183	81.4	75.7	87.1	172	78.5	72.3	84.7
Plan Zimbabwe	390	80.3	76.3	84.2								

Table 15. Percent of living children aged 12-23 months who have received ≥1 dose of measles vaccine

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
12-23 Months												
WV Tanzania	419	95.2	93.2	97.3	233	93.1	89.9	96.4	186	97.8	95.7	100
Care Ethiopia												
Care Zimbabwe												
Save Mali												
Save Pakistan	329	91.5	88.5	94.5	160	93.1	89.2	97.1	169	89.9	85.4	94.5
Plan Bangladesh	225	85.3	80.7	90.0	101	85.1	78.1	92.2	124	85.5	79.2	91.8
Plan Ethiopia	567	74.4	70.8	78.0	283	77.4	72.5	82.3	284	71.5	66.2	76.8
Plan Ghana	166	56.0	48.4	63.7								
Plan Mali	355	73.5	68.9	78.1	183	74.9	68.5	81.2	172	72.1	65.3	78.9
Plan Zimbabwe	390	88.2	85.0	91.4								

Table 16. Percent of children with diarrhoea in the previous 2 weeks who received oral rehydration therapy (ORT): ORS and/or homemade sugar and salt solution

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-59 Months												
WV Tanzania	276	51.4	45.5	57.4	142	56.3	48.1	64.6	134	46.3	37.7	54.8
Care Ethiopia*	191	39.8	32.8	46.8	91	34.1	24.1	44.0	100	45.0	35.1	54.9
Care Zimbabwe*	110	61.8	52.6	71.0	57	59.6	46.5	72.8	53	64.2	50.8	77.5
Save Mali	111	18.9	11.5	26.3	42	21.4	8.5	34.4	69	17.4	8.2	26.6
Save Pakistan	567	68.6	64.8	72.4	291	66.3	60.9	71.8	276	71.0	65.6	76.4
Plan Bangladesh	37	78.4	64.5	92.3	16	87.5	69.3	105.7	21	71.4	50.4	92.5
Plan Ethiopia												
Plan Ghana**	55	74.5	62.7	86.4								
Plan Mali*	217	14.3	9.6	19.0	103	16.5	9.2	23.8	114	12.3	6.2	18.4
Plan Zimbabwe	289	30.8	25.4	36.2								

***0-23 Months**

**** 0-35 Months**

Table 17. Percent of children with diarrhoea in the previous 2 weeks who received oral rehydration solution (ORS) and zinc

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-59 Months												
WV Tanzania	272	9.6	6.0	13.1	140	7.9	3.3	12.4	132	11.4	5.9	16.8
Care Ethiopia*	191	0			91	0			100	0		
Care Zimbabwe*	110	0			57	0			53	0		
Save Mali	107	5.6	1.2	10.0	41	9.8	0.3	19.2	66	3	-1.2	7.3
Save Pakistan	249	11.6	7.6	15.7	127	6.3	2.0	10.6	122	17.2	10.4	24.0
Plan Bangladesh	37	13.5	2.0	25.1	16	6.3	-7.1	19.6	21	19	0.7	37.4
Plan Ethiopia												
Plan Ghana												
Plan Mali*	217	5.1	2.1	8.0	103	2.9	-0.4	6.2	114	7.0	2.3	11.8
Plan Zimbabwe												
***0-23 Months**												

Table 18. Percent of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider including a CHW

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-59 Months												
WV Tanzania	263	77.6	72.5	82.6	130	76.2	68.7	83.6	133	78.9	71.9	86.0
Care Ethiopia												
Care Zimbabwe												
Save Mali	26	38.5	18.4	58.5	13	46.2	14.8	77.5	13	30.8	1.7	59.8
Save Pakistan	230	68.7	62.7	74.7	104	67.3	58.1	76.5	126	69.8	61.7	78.0
Plan Bangladesh												
Plan Ethiopia*	223	61.4	55.0	67.9	112	64.3	55.3	73.3	111	58.6	49.3	67.9
Plan Ghana**	180	61.1	53.9	68.3								
Plan Mali												
Plan Zimbabwe*	95	75.8	67.0	84.6								

***0-23 Months**

****0-36 Months**

Table 19. Percent of children with pneumonia-like symptoms in the previous 2 weeks who were taken to an appropriate health provider and received antibiotics

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-59 Months												
WV Tanzania	231	73.2	67.4	78.9	117	71.8	63.5	80.1	114	74.6	66.4	82.7
Care Ethiopia												
Care Zimbabwe												
Save Mali	9	44.4	3.9	85.0	5	40.0	-28.0	108.0	4	50.0	-41.9	141.9
Save Pakistan	208	65.4	58.9	71.9	92	64.1	54.1	74.1	116	66.4	57.7	75.1
Plan Bangladesh												
Plan Ethiopia*	223	41.3	34.7	47.8	112	42.9	33.5	52.2	111	39.6	30.4	48.9
Plan Ghana**	177	41.8	34.5	49.1								
Plan Mali												
Plan Zimbabwe												

***0-23 Months**

****0-36 Months**

Table 20. Percentage of children with malaria-like symptoms in the previous who received anti-malarial drugs

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
0-59 Months												
WV Tanzania	310	95.5	93.2	97.8	157	97.5	95	99.9	153	93.5	89.5	97.4
Care Ethiopia												
Care Zimbabwe												
Save Mali	169	11.8	6.9	16.8	74	14.9	6.6	23.2	95	9.5	3.5	15.5
Save Pakistan	43	53.5	38.0	69.0	19	36.8	13.0	60.7	24	66.7	46.3	87.0
Plan Bangladesh												
Plan Ethiopia												
Plan Ghana												
Plan Mali												
Plan Zimbabwe*	311	19.3	14.9	23.6								
***0-23 Months**												

Table 21. Percentage of children with an adequate dietary diversity scores (i.e. 4 or more food groups)

	Total				Girls				Boys			
	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper	N	%	95% CI Lower	95 % CI Upper
6-23 Months												
WV Tanzania*	838	15.3	12.8	17.7	438	15.3	11.9	18.7	400	15.3	11.7	18.8
Care Ethiopia	778	12.0	9.7	14.2	380	14.1	10.6	17.5	398	9.7	6.7	12.7
Care Zimbabwe	377	36.9	32	41.8	193	39.4	32.4	46.3	184	34.2	27.3	41.2
Save Mali												
Save Pakistan												
Plan Bangladesh												
Plan Ethiopia												
Plan Ghana												
Plan Mali												
Plan Zimbabwe												
***6-59 months**												

Table 22. Percent mothers of living children who know ≥3 modes of mother-to-child transmission of HIV

	Total			
	N	**%**	**95% CI Lower**	**95 % CI Upper**
0-23 Months				
WV Tanzania*	371	4.6	2.4	6.7
Care Ethiopia				
Care Zimbabwe				
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia	1118	13.3	11.3	15.3
Plan Ghana**	614	1.3	0.4	2.2
Plan Mali				
Plan Zimbabwe	775	9.2	7.1	11.2

***0-6 Months**

****0-36 Months**

Table 23. Proportion of women who make decisions on purchases of food in the household

	Total			
	N	%	95% CI Lower	95 % CI Upper
0-23 Months				
WV Tanzania*	416	57.7	52.9	62.5
Care Ethiopia	954	86.2	84.0	88.4
Care Zimbabwe	468	77.4	73.5	81.2
Save Mali				
Save Pakistan				
Plan Bangladesh				
Plan Ethiopia				
Plan Ghana				
Plan Mali				
Plan Zimbabwe				

***6-59 Months**

Annex C: Glossary

Term	Definition	Source
Skilled birth attendant	A skilled attendant is an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns.	WHO, 2011
Modern contraceptive method	"Modern methods include female sterilization, male sterilization, the pill, the IUD, injectables, implants (such as Norplant), the female condom, the male condom, lactational amenorrhea method (LAM), emergency contraception, the diaphragm, and foam/jelly. Traditional methods include periodic abstinence, withdrawal, and any country-specific traditional methods."	Khan, S et al. 2007.
Minimum Dietary Diversity	Proportion of children 6-23.9 months of age who receive foods from 4 or more food groups. *Dietary diversity refers to the child receiving 4+ of the following food groups:* • grains, roots and tubers • legumes and nuts • dairy products (milk, yogurt, cheese) • flesh foods (meat, fish, poultry and liver/organ meats) • eggs • vitamin A rich fruits and vegetables • other fruits and vegetables	WHO, 2013
ORT	Percentage of children ages 0–59 months with diarrhoea receiving oral rehydration therapy: Oral rehydration solution and/or home-made sugar/salt solution.	WHO, 2006
IPTp	Percentage of women who received intermittent preventive treatment (any doses of sulfadoxine-pyrimethamine (Fansidar) for malaria prevention during their last pregnancy where the child is still living.	