evidence 4 change

Timed and Targeted Counselling (ttC) Model

Field Practitioner Version

World Vision®

World Vision
Middle East, Eastern Europe Region (MEER)
Produced by the Development, Learning & Impact team
Health Learning Hub

Development Learning & Impact

Health Learning Hub

Evidence 4 Change

The Evidence 4 Change series publishes the evidence-based practices by World Vision and its partners in the Middle East, Eastern European region (MEER) that successfully contribute to changes in the well-being of children.

All practices are developed from learning within the context of field implementation and are refined by field practitioners who work in partnership with technical staff. This collaboration of regional and national technical staff and field practitioners form the MEER Learning Hubs. The ultimate purpose of this work is to enhance World Vision's technical approaches and therefore its contribution to improving the well-being of children.

Evidence-based practices pass through four stages:

Concept	Desk review of academia, the practices of other organisations, and development of a literature review and draft theory of action
Exploration	Field-level exploration and refinement through evidence building and action learning
Validation	Confirmation of the refined practice's ability to contribute to change with rigour and often in more than one geographic location
Scale-up	If validated, provision of refined practice, including guidelines and tools, and promotion within MEER

How to Make the Most of this Publication

Executive Summary
For a quick understanding of the model and evidence

Summary of the Issue
To understand the situational context and statistics that led to development of the model

Theory of Action
To know how the model works and its logic

Results: Contribution to Change
For more details about the evidence behind the model

Guidelines
To contextualise and operationalise the model

Tools and Resources
To access particular tools and resources, including logframes or monitoring and evaluation for implementation

Appendix
For a more detailed outline of our research methodology and results

Bibliography
To learn more about World Vision's approach to programming

Timed and Targeted Counselling (ttC)

Timed and Targeted Counselling (ttC) is an innovative and adaptive practice which has proven to be a highly effective behaviour change communication model for improved maternal, newborn and child health and nutrition (MNCH/N) outcomes. It is a practice that builds the capacity of families, communities and governments to make necessary health interventions to reduce the morbidity and mortality rates of newborns and mothers. It also represents excellent value for money.

This document includes links to practical, tangible tools and resources that enable World Vision entities such as MEER to share this practice more broadly so it can be implemented further by World Vision and its partners, such as governments, institutions, and donors.

Based on the validation of ttC contained in this publication, World Vision MEER encourages adoption of the model as a way to shift practices and priorities of vulnerable households and, over time, improve the well-being of children across the region.

The Timed and Targeted Counselling presented in this document was pilot tested as a core delivery model for improved MNCH/N household (HH) practices. The model was implemented in 11 Bethlehem communities (Al Ma'sara, Al Manshiya, Jurat ash Sham'a, Khalit al Haddad, Marah Ma'alla, Marah Rabah, Umm Salamuna, Wadi Al Nis, Wadi Rahhal, Nahhalin and Al Walaja).

ONLINE

For an online version of the ttC model and its resources or to learn more about the Evidence 4 Change series and other evidence-based practices, please visit World Vision's portal for Innovation and Engagement: www.wvie.org.

Overview of ttC Contribution to Change

Breastfeeding

Looking at breastfeeding alone, The Lancet *studies*[1] *estimate that exclusive breastfeeding for the first six months of life*

reduces under-5 child deaths by ↓13%

And complementary feeding and continued breastfeeding for 6 to 11 months

reduces under-5 child deaths by ↓6%

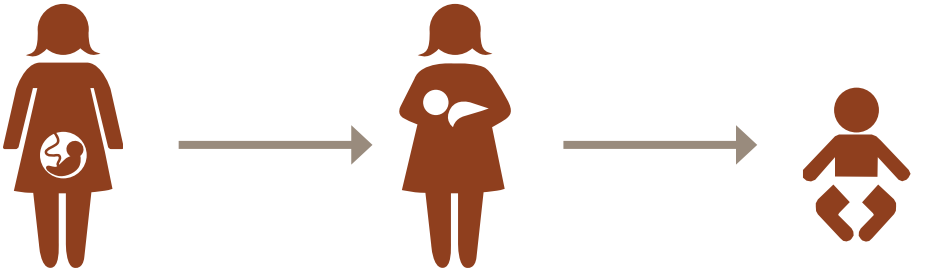
This simple knowledge and practice has the largest impact on child mortality of all preventive interventions. Its impact means more women surviving and more children surviving and thriving.

Community Health Volunteers

community health volunteers talk to women one-on-one about caring for themselves and their children

- ante-natal checkups
- breastfeeding
- nutrition
- vaccination
- responding to danger signs

SO THAT



Mothers have access to the right health information **when they need it most** & Children receive what they need in **the crucial first 1,000 days of life**

ttC in Bethlehem ADP

These results demonstrate significant contribution to reducing child mortality from preventable causes.

ttC compared to non-ttC households

42 percent more **exclusive breastfeeding** to 6 months

27 percent more **breastfeeding** above 1 year

28.2 percent more households introducing **complementary feeding** at 6 months

33.2 percent more mothers able to **recognise danger signs** in their babies' health

28.8 percent more mothers **managing diarrhoea** appropriately

In ttC households

21.6 percent increase in **iron/folic acid intake** among pregnant women

55.1 percent increase in knowledge of **post-partum danger** signs

39 percent increase in women who knew **danger signs of pregnancy**

50.4 percent increase in children with minimum **dietary diversity**

71.7 percent increase in minimum **meal frequency**

ttC measurable

evidence-based

CHVs are proven to be effective in filling gaps that formal health services cannot reach based on the science of 7-11 health and nutrition interventions to give children the best possible start in life.

Acronyms

7-11	See p. 13
ADP	Area Development Programme
CAG	Community Action Group
CEA	Cost-Effectiveness Analysis
CHV	Community Health Volunteer
CHW	Community Health Worker
DLI	Development, Learning & Impact
DoH	Directorate of Health
EBF	Exclusive Breastfeeding (recommended to 6 months of age)
FGD	Focus Group Discussions
HH	Household
HMIS	Health Management Information System
KAP	Knowledge, Attitude, Practice
KIIs	Key Informant Interviews
LiST	Lives Saved Tool
MDG	Millennium Development Goal
MEER/MEERO	Middle East, Eastern Europe Region/Regional Office
MNCH/N	Maternal, Newborn and Child Health/Nutrition
MoH	Ministry of Health
oPt	Occupied Palestinian Territories
OR	Operations Research
PHC	Public Health Clinic
PHCP	Public Health Care Provider
RDME	Research, Design, Monitoring and Evaluation
ttC	Timed and Targeted Counselling
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organisation

Contents

Executive Summary

Approximately two-thirds of the 6.6 million children who die before the age of 5 each year could have been saved. Almost half of these die within the first 28 days of their lives. Over 350,000 children lose their mothers as a result of being born, 99 per cent of them in developing nations. For both mothers and children, the majority of deaths are taking place without medical contact or attendance.[2] Undernutrition is a root cause of both maternal and child deaths; for children, it is linked to nearly half of all deaths.[3]

In children aged 1 month to 5 years, diarrhoea and pneumonia are the leading causes of death (13% and 8% respectively).

Breastfeeding to the age of 6 months reduces incidence of, and significantly reduces mortality from, these causes.

Only 38% of children younger than 6 months are exclusively breastfed.

In the Occupied Palestinian Territories (OPt), maternal, newborn and child health and nutrition (MNCH/N) remains an urgent issue. In this context, World Vision, with partners including the Ministry of Health, refined and validated a household level practice known as **Timed and Targeted Counselling** (ttC). The practice helps mothers and other caregivers to make the right decisions on health and nutrition practices happening in their own household.

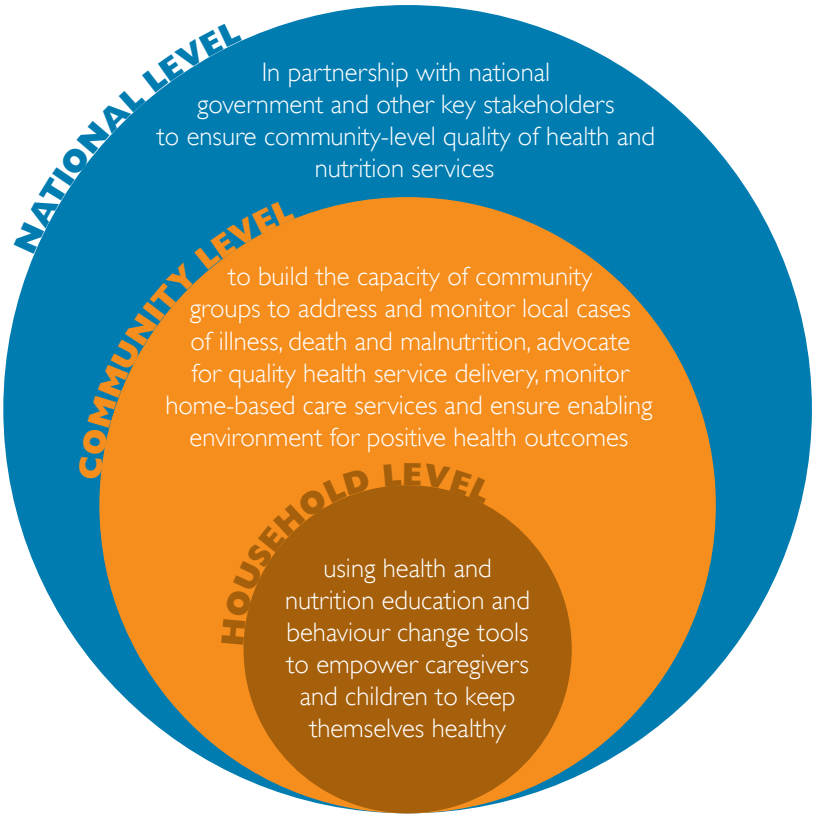
Recognising the problems

Various sources indicate widespread inappropriate, traditional family practices in the OPt with regard to care and nutrition during pregnancy, newborn/infant feeding and child care practices, which lead to increased risk of infections, malnutrition and death. High anaemia prevalence among Palestinian pregnant women and their children is of particular concern. A fragmented health system and restricted movement of people as a result of the occupation seriously affects the provision of efficient and effective health care in some parts of the country.

Finding the solutions

In 2010, World Vision Jerusalem-West Bank-Gaza National Office (WV JWG) started a health project to address the key MNCH/N challenges in Bethlehem. This project is based on World Vision's global '7-11 Strategy'[4], which aims to improve the health and nutrition of pregnant women, newborns and children under the age of 2 because the

greatest burden of mortality, illness and undernutrition lies in these groups. Timed and Targeted Counselling (ttC) is a model to implement the 7-11 strategy using different evidence-based approaches at the household level. This work is also supported on community and national levels.



All these efforts are focused towards strengthening existing community-level structures and assets to improve child well-being in sustainable ways.

The ttC model is delivered at the household level by a trained cadre of community health workers, usually volunteers (CHVs). It provides advice for the first crucial 1,000 days of a child's life, from the third trimester of pregnancy through to the second birthday of a child. CHVs become regular visitors to homes where a mother is expecting or caring for a young child. They give accurate, preventive care-seeking advice to the primary caregiver as well as to other members of the households who are making decisions or giving advice on raising infants. The CHV has the opportunity to monitor the outcomes of the previous counselling while providing new advice appropriate to the child's development stage. At the same time, community action groups back up the messages and advice of the CHVs through broader community information and events.

Summary of results: contribution to change

ttC is a highly effective and efficient model, relevant to the context and the needs of the target population in Bethlehem, and showing high return on investment and sustainability potential.

An evaluation of results in Bethlehem in 2013 showed significant improvements in pregnancy, newborn/child nutrition and care practices. A comparison of ttC to non-ttC households showed:

- 42% more exclusive breastfeeding to 6 months
- 27% more breastfeeding above 1 year
- 28.2% more households introducing complementary feeding at 6 months
- 33.2% more mothers able to recognise danger signs in their babies' health
- 28.8% more mothers managing diarrhoea appropriately

In ttC households, World Vision measured:

- 21.6% increase in iron/folic acid intake among pregnant women
- 50.4% increase in children with minimum dietary diversity, and 71.7% increase in minimum meal frequency
- 39% increase in women who knew danger signs of pregnancy, and 55.1% increase in knowledge of post-partum danger signs

(See p. 39 for more details on indicators of success and how they were measured.)

Considering results for breastfeeding alone, we can be confident that ttC in Bethlehem will make a significant contribution to reducing child mortality from preventable causes. Studies show[5] that exclusive breastfeeding for the first six months of life with continued breastfeeding for 6 to11 months reduces under-5 child deaths by 13%. In addition, complementary feeding with continued breastfeeding reduces under-5 child deaths by 6%. This simple knowledge and practice has the largest impact on child mortality of all preventive interventions, and in Bethlehem it is increasing.

The ttC model is also highly cost-effective with minimal setup and infrastructure costs to consider. It draws on existing structures and early partner/government involvement as well as focuses on social and family connections that increase the efficiency of knowledge sharing across a community. In Bethlehem, the model costs around US$120 per household and these results are likely to increment as knowledge of lifesaving maternal and

child health practices normalise. The evaluation in Bethlehem undertook a cost effectiveness analysis and found that in this context ttC measured seven times under the World Health Organisation (WHO) benchmark for cost effectiveness (see p. 26).

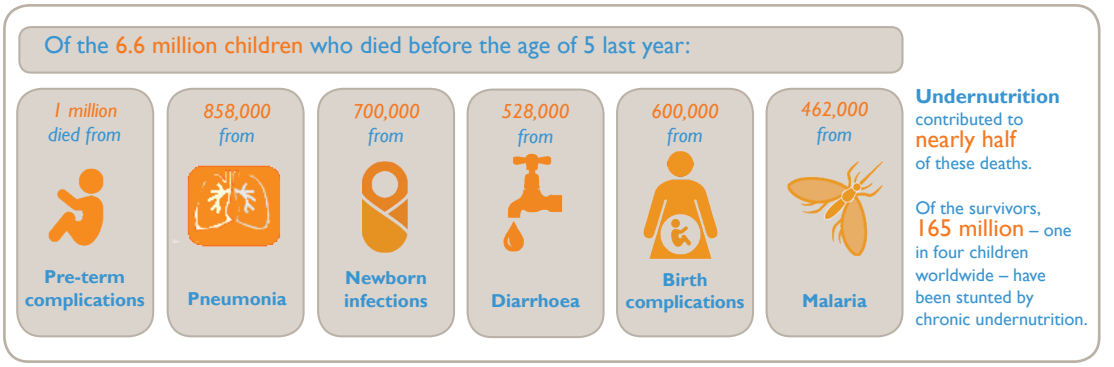
The model works as intended to empower women and caregivers to make positive health practice decisions for themselves and their infants alongside greater support from husbands and family members. The majority of community health workers interviewed in the Bethlehem ttC evaluation mentioned that women in targeted households have started to discuss childcare issues with their husbands, while the caregivers interviewed believed there was now more cooperation between men and women in raising their children.

The evaluation also found that all the right elements are in place in Bethlehem for continuation of ttC and sustainability of the results, including local ownership, community-based capacities and strengthened partnerships between communities and key governmental stakeholders. The model has established collaborative networks between organisations that can be found in most contexts: CHVs, community health groups, primary health-care staff, and the Ministry of Health, all of whom are now willing to support and invest in the resources required for ttC model functionality. The evaluation also showed the importance of close collaboration and coordination efforts with the Ministry of Health while planning and implementing the ttC model, including direct involvement on training and supervision of the CHVs.

Based on the evidence of contribution to change collected in this context, and the commonalities of contextual elements – both in the need for household-level behaviour change and in the family, community and health service structures – ttC is recommended as a model for achieving sustained health and nutritional improvements for the well-being of mother and children across many other contexts. Within World Vision, the ttC model is already being scaled with confidence from the area development programme (ADP) in Bethlehem to all 14 World Vision local programme areas as a core technical approach for improved MNCH across the West Bank.

Summary of the Issue

Maternal and child survival—a global priority[6]



Though the statistics on maternal and child health are familiar territory for anyone in community development, they remain shocking and unacceptable.

There are a variety of reasons why mothers and children are still dying when the world knows how to save them. Some of them stem from habits and choices made at a very local level, influenced by culture and tradition, lack of knowledge, and poor advice from family and friends. For instance, the majority of mothers who die as a result of childbirth have not consulted a doctor for antenatal or post-natal care. Worldwide only 38% of babies receive the crucial nutrition head-start of exclusive breastfeeding to the age of 6 months.[7]

The relative risk of infections, malnutrition and mortality among non-breastfed versus exclusively breastfed (EBF) infants (0–5 months) is much higher. A study on child nutrition among children under 5, published in *The Lancet* in 2008, showed that diarrhoea incidence was 3.6 times higher among non-EBF versus EBF children; diarrhoea mortality is 10.5 times higher; pneumonia incidence is 2.1 times higher and mortality from pneumonia is15.3 times higher.

For all children, timely recognition and appropriate care-seeking of childhood illnesses, combined with adequate diagnosis and treatment, could reduce conditions such as acute respiratory infections by over 20%, while improved hygiene practices, for instance safe disposal of faeces and regular handwashing, could reduce the incidence of diarrhoea by more than 10%[8]. These solutions, placed in the hands of caregivers of young children, will save lives.

Middle East, Eastern Europe and South Asia Perspective

The case study for ttC in response to this background has taken place in World Vision's Middle East, Eastern

European region, which connects country programmes in 10 countries[9] in the Middle East, Eastern Europe and South Asia. In many of these countries, the health risks for mothers and their children under age 2 are at crisis levels. Within the Eastern Europe or Eastern Mediterranean region, children under age 5 represent 12% of total population (or *73 million children*), and women of child-bearing age a further 29%. Though national statistics show comparatively low levels of child mortality, applying a more localised lens identifies pockets of high risk for mothers and their children. Mortality levels are particularly high in poor, rural and underserved areas, among malnourished children and pregnant adolescents[10].

The Eastern Mediterranean region of Europe has one of the lowest average proportions in the world of children exclusively breastfed to 6 months – more than half have stopped by the age of 3 months. In this landscape of poor nutrition and inequity of services, some groups of children are at higher risk than others, including children born to adolescent or single mothers, migrants, marginalised communities (including Roma), or families of low socio-economic status and education level.

The situation in Pakistan and Afghanistan is particularly dire, and these countries are extremely unlikely to meet Millennium Development Goal (MDG) 4 (reduction of child mortality by two/thirds) and MDG5 (reduction of maternal mortality by three/fourths). More than half of all children under 5 in Afghanistan are chronically malnourished.[11]

Country	% Pre-term delivery	% Low birthweight	% Exclusive breastfeeding to 6 months	% Under-5 stunted	% Under-5 wasted	Maternal mortality	Neo-natal mortality	Infant mortality	Under-5 mortality
Afghanistan	11.55	Not reported	Not reported	59	9	1 in 32	36	73	101
Albania	9.03	7	39	19	9	1 in 2,200	7	13	14
Armenia	10.97	7	35	19	4	1 in 1,700	11	16	18
Azerbaijan	8.47	10	12	25	7	1 in 1,000	19	39	45
Bosnia and Herzegovina	7.94	5	18	10	4	1 in 11,400	5	7	8
Georgia	8.82	5	55	11	2	1 in 960	15	18	21
JWG	8.03	7	27	Not reported	Not reported	1 in 5,100	2	4	5
Lebanon	7.87	12	15	Not reported	Not reported	1 in 2,100	5	8	9
Pakistan	15.78	32	37	44	15	1 in 110	36	59	72
Romania	7.28	8	16	13	4	1 in 2,600	8	11	13

Source: UNICEF, *State of the World'd Children,* 2013, except % pre-term deliveries, March of Dimes, 2012 http://www.marchofdimes.com/mission/globalpreterm.html

Overview of Timed and Targeted Counselling

The ttC is an individual-level behaviour change communication model which promotes health and nutrition interventions (7-11 strategy) to pregnant women and caretakers of children under 2.

Evidence suggests that to improve child survival, growth and development, families can implement key practices[12] given the right knowledge, skills and motivation. As children grow and develop, families need to respond to a number of different health and nutrition circumstances, looking for support to do so from their community and the health systems available to them.[13] For increased and sustained impact on MNCH outcomes, therefore, interventions and strategies must be provided through a continuum of care approach (*household, community, health facility*) and along the life cycle of the child, especially targeting the first 1,000 days of life.

The 7-11 strategy is already widely used as a cornerstone of World Vision's child health and nutrition programming, as well as by partners and governments, to provide a better start for children. It delivers 7 interventions for mothers and 11 for their children aged 0–24 months, creating a powerful and protective set of health and nutrition practices to aid maternal and child survival.

7-11

Pregnant women: 0–9 months		Children: 0–24 months	
1	Adequate diet	1	Essential newborn care
2	Iron/folate supplements	2	Appropriate breastfeeding
3	Tetanus toxoid immunisation	3	Appropriate complementary feeding
4	Malaria prevention, treatment access and intermittent preventive treatment	4	Handwashing with soap
5	Birth preparedness and healthy timing and spacing of delivery	5	Adequate iron
6	De-worming	6	Vitamin A supplementation
7	Access to maternal health services: antenatal care, post-natal care, skilled birth attendants, prevention of maternal to-child transmission, HIV, tuberculosis, sexually transmitted infection screening	7	Oral rehydration therapy/zinc
		8	Prevention and care seeking for malaria
		9	Full immunisation for age
		10	Prevention and care-seeking for acute respiratory infection
		11	De-worming (12 months+)

Successful introduction of 7-11 practices requires the participation of communities and local services, so that these cost-effective, predominantly household-level, interventions become normalised. Community-based interventions are best at connecting families with healthcare advisors, community-based health groups and the formal healthcare system locally in homes and villages. According to *The Lancet*, one of the world's leading medical journals[14], there is proof that well-targeted community-based interventions reduce vulnerabilities of certain disadvantaged groups to childhood deaths from pneumonia and diarrhoea.

In particular, the efforts of community health workers (CHWs) and volunteers (CHVs), who have been filling gaps in the provision of primary healthcare all over the world for several decades, can add significantly to health improvements in locations with the highest shortages of capable health professionals[15]. These dedicated individuals do not replace skilled health-care workers, but can increase access to knowledge and services in a way that changes household behaviour as well as social and environmental determinants of health.[16] Evidence from large-scale community health programmes suggest that CHVs in sufficient number are able to bring these benefits at scale, meaning substantial improvements for MNCH/N outcomes among difficult to reach populations[17].

ttC is a community-based implementation model for the 7-11 strategy, developed by World Vision health experts based on WHO, United Nations International Children's Emergency Fund (UNICEF), the American College of Nurse-Midwives, and U.S. Agency for International Development (USAID) Health Care Improvement Project resources/ guidelines. Rooted in community participation and empowerment, it uses the reach and respect of CHVs to bring behaviour change on healthcare and nutrition for mothers, newborns and young children.

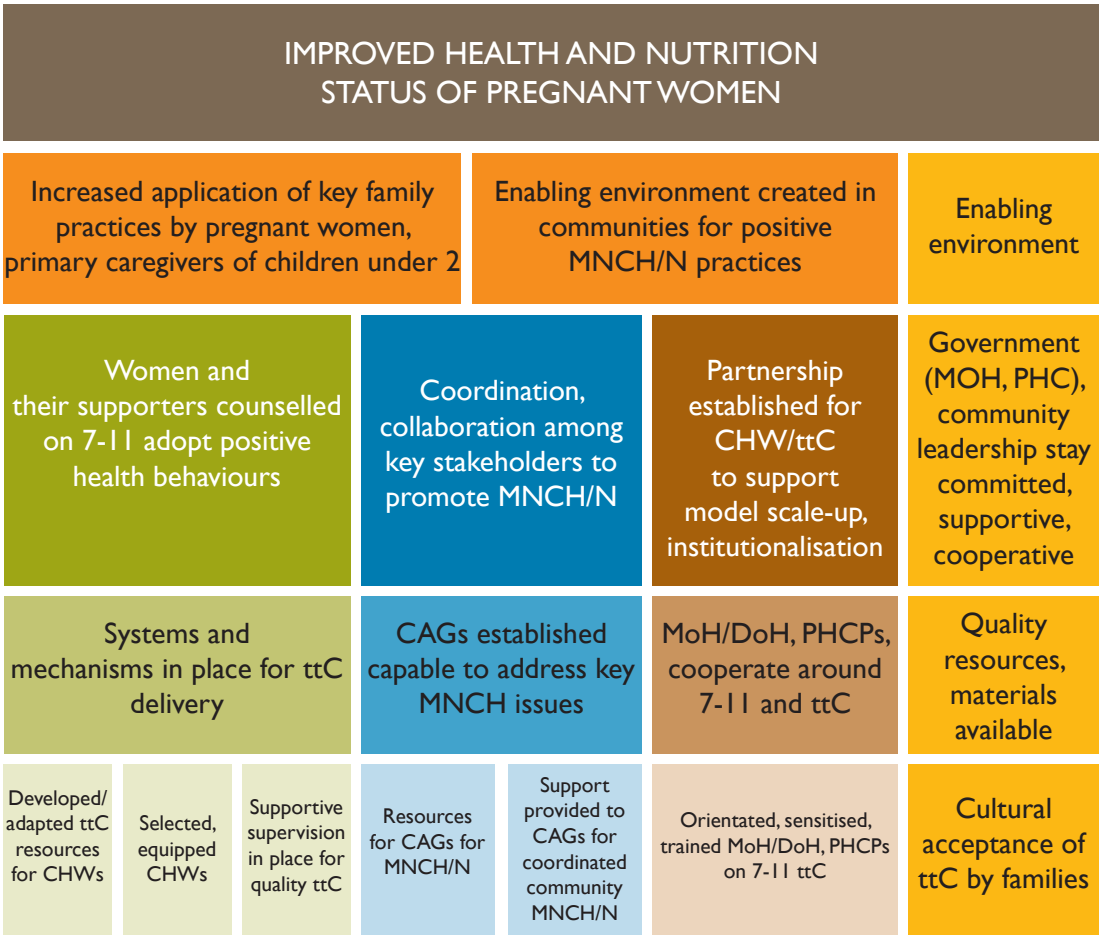
ttC calls CHVs (or any other appropriate volunteers selected by the community) to take up responsibility for getting the right information at the right times to mothers and caregivers. The trained CHVs are invited into homes to give preventive and care-seeking advice according to a woman's stage of pregnancy, age of infant, and fertility intentions of the couple. Over the course of the ttC lifecycle, from first identification of pregnancy throughout the child's first two years of life, CHVs make a series of at least 11 home visits. Health advice at each visit targets the particular phase of the child's life, while the dialogue that takes place around these issues helps to identify and overcome any barriers the mother or caregiver may be facing. At the next visit, the CHV has the opportunity to monitor the outcomes of the previous counselling.

Taking place inside the intimacy of a family home, the ttC dialogue helps CHVs to identify and give priority support to women and families who are most vulnerable to health and nutrition risks, for instance adolescent or single mothers, remote rural families, Roma or other marginalised people, internally displaced or stateless families. An important component of ttC is counselling members of the household beyond the immediate caregiver, including husbands, sisters, mothers and mothers-in-law.

Community Action Groups of two or three women form in each community to support CHVs and share their messages more broadly. They conduct community-level coordination, mobilisation and awareness-raising activities, with support from World Vision and local health-care providers. This creates a cycle of influence and positive change. As the capacity of the community builds, individuals are empowered to make healthier choices for their families, utilise and demand quality health services and strengthen the continuum of care between household and facility. Reciprocally, by building the capacity of CHVs as local community assets, ttC strengthens their confidence and skills to continue working in this way for new mothers.

At the same time, engagement occurs with the local, district or national level health unit to ensure the support and ongoing viability of the CHVs and Community Action Groups. This ultimately assists with the sustainability of these interventions and impact.

Theory of Action



The ttC model operation is based on a three-pronged approach with interventions carried out at household, community and system levels.

Household level

A cadre of CHVs, equipped with the skills and resources per the minimum standards for CHV functionality (*see the standards in the "Guidelines for ttC model scale-up" section*), conduct household visits for health and nutrition education and counselling on key family practices. This involves:

- identifying households with pregnant women in their third trimester[18]
- obtaining a consent form signed by the mothers in these households for counselling visits

- scheduling the visits – two per month over 14 months, plus four during the first month after delivery; visits may vary based on the duration of the project
- testing the messages and their method of delivery to ensure they are culturally sensitive, well accepted by families and responding to the right needs and gaps
- strengthening the monitoring system (*pregnant women/child record forms, database*) and referral mechanism for emergency cases.

On a monthly basis, CHVs meet with World Vision teams to submit the monitoring forms and checklists from the household visits and present their plans for the coming month. This also provides a forum for discussions and documentation of lessons, good practices and ongoing successes and challenges. In this way, the CHVs receive continuous supportive supervision from World Vision, the community and the Ministry of Health for quality implementation and counselling.

Community level

World Vision establishes the community action groups (CAGs) who will work on community-level awareness and reiteration of 7-11 health and nutrition interventions. This involves:

- selection of CAG members, mostly young women who are already active in the community and have some experience of motherhood but who do not work as CHWs or CHVs
- capacity development sessions to help the women recognise common local health problems, causes of illnesses and deaths
- assistance to conduct awareness-raising interventions on 7-11 with wider community coverage to create enabling environments for maternal and child health and nutrition.

The CAGs also play a supporting, coordinating role in CHV household services and in the local advocacy component of the model. They act as a bridge between families, communities and health facilities, to increase the demand for quality health service delivery.

Systems level

World Vision investigates the types of Ministry-led CHW/CHV household outreach programmes and then partners with appropriate government officials to introduce ttC through corresponding manuals and materials. In this way, ttC becomes an area of public health integrated with existing policy and practices. The World Vision national

office directly engages with national-level Ministry of Health partners responsible for oversight and decision-making on the model adaptation, design and implementation processes. In close collaboration with these partners, the national office coordinates orientation, sensitisation and capacity-building sessions for primary health facility staff on 7-11 and ttC. By covering all levels from national Ministry of Health to local departments of health and community-level healthcare providers, approval and ownership of ttC is enhanced, along with high-quality training, provision of job aids and supervision of CHVs. A series of regular updates to the Ministry of Health and community partners/ stakeholders on the progress and results of ttC in action helps government and community leadership to stay committed and supportive of World Vision's efforts, and also paves the way for scale-up.

Project participants and target groups

The intended audience for the ttC includes all members of households where pregnant women and children under the age of 2 are living. The primary target groups are those making daily decisions on healthcare and nutrition behaviour – pregnant women and children's caregivers – as well as those who influence these decisions – husbands, grandmothers, mothers-in-law and other adult household members.

For the model to have the maximum impact, and if contextually appropriate, CHVs can track all women and girls of child-bearing age (usually 15 to 45) in their coverage areas to counsel on healthy timing and spacing of pregnancy. This has potential to reduce teenage pregnancies and promote early antenatal care enrolment when girls and women become pregnant. Households having one or more vulnerabilities, such as conditions of extreme poverty, disability, teenage and first pregnancies, poor health conditions or previous maternal health challenges are prioritised for ttC, along with those who, for reasons of discrimination or low visibility, are not usually participating in group or community activities.

Empowerment of partners and project participants: ttC not only improves the health and nutrition of the primary target groups, but also develops the capacity of partners and community members through improved knowledge, skills and resources that they can apply for themselves. Specifically, the ttC empowers:

- ✓ **women and caregivers** to make positive health practice decisions for themselves and their infants with potentially greater support of husbands and family members

- ✓ **households** to identify barriers to positive health practices and make informed choices, which improves their own health and nutrition, through appropriate information and negotiated changes in behaviour
- ✓ **communities** through capacity building of the CHVs, CAGs, ensuring community action around constraints that CHVs identify while counselling families; the community becomes empowered to demand quality health services through advocacy activities;
- ✓ **MoH** for improvements in CHV programming policies and methods.

Results: Contribution to Change

Testing the model: the case of Bethlehem, Jerusalem

The health situation for mothers and children in the oPt is very challenging compared to most other contexts. The fragmented health system and restricted free movement of people as a result of the occupation have seriously impacted the provision of efficient and effective healthcare in the West Bank. It is estimated that access to essential health services is impeded for nearly 1 million people in the West Bank and around 1.4 million people in Gaza[19].

Roughly 40% of the population is either women of reproductive age or children under 5. Children are dying at the rate of 25.1 per 1,000 live births, and within this statistic is a significant gap between the West Bank (22.1) and the Gaza Strip (29.2). Two-thirds of infant deaths occur within the neonatal period, mostly during the first days of life due to preterm birth or birth defects.

Nutrition is a major contributor to deaths. The anaemia prevalence rate among Palestinian pregnant women is more than two times higher than those observed in Europe, with a 27% national average (*39% in Gaza Strip*) in 2010.[20]

The rate of exclusive breastfeeding is estimated at 26.5% and most children are not receiving appropriate protection and care from infections and diarrhoea.[21,22,23]

A study in Bethlehem district in the West Bank showed that the main reasons for low breastfeeding rates were social. Family pressure related to infant feeding such as formula milk supplementation, early home food consumption, sick or busy mothers, perceived insufficiency or poor quality of breast milk, were all common obstacles.[24]

In 2010, as part of a global World Vision initiative to improve maternal and child health and nutrition programming, WV Jerusalem West Bank (JWG) started a child health programme in Bethlehem. Their initial assessment of the area revealed gaps in knowledge, perceptions and practices among mothers of children under 2 especially on newborn/infant care/feeding and care-seeking practices.

ttC suggested a path to influence behaviour at the household level and reduce the risk of preventable illness and deaths, using the simple and low-cost practices of the 7-11 strategy.
WV JWG introduced the model as its core approach to health strengthening and as a pilot to test its effectiveness.

The pilot aimed to reach and change 330 households in 11 Bethlehem communities. To do this, World Vision trained and equipped 17 CHVs, who conducted a minimum of two visits per month to cover on average 20 households each.

The project has seen a turnaround in healthy practices including nutrition during pregnancy, exclusive breastfeeding, appropriate complementary feeding, management of diarrhoea and identification of danger signs in pregnancy.

The focus on empowerment and training of the CHVs has been hugely rewarding. World Vision paid them a small stipend of $6 per household visit per month. This has provided income opportunities previously unavailable to them as well as increased their pride and responsibility as vital community assets. They now report that community members recognise, appreciate and refer to their support and advice. Many have told World Vision that their self-confidence has increased; they are also leading the way on community health messaging including in schools and kindergartens.

The project has also fostered increased participation by volunteers through the Community Action Groups, and by local district health representatives.

Initially some challenges were reported in engaging government representatives, who hesitated to duplicate or take over services that World Vision was providing. However, continued communication and reporting of results has seen a high level of cooperation and coordination emerge between the District of Health and World Vision and it is hoped that handover of 7-11 awareness through ttC will become a public initiative in Bethlehem.

World Vision has used the results of ttC in Bethlehem to build a case for scaling up the practice, through ADPs and also through the Ministry of Health as a community-based implementation strategy for 7-11. While this has not yet been confirmed, there is genuine interest and opportunity to take this model to full scale in vulnerable communities of the oPt.

The timed and targeted counselling was pilot tested as a core delivery model for improved MNCH/N household (HH) practices. The model was implemented in 11 Bethlehem communities (Al Ma'sara, Al Manshiya, Jurat ash Sham'a, Khalit al Haddad, Marah Ma'alla, Marah Rabah, Umm Salamuna, Wadi Al Nis, Wadi Rahhal, Nahhalin and Al Walaja).

How do we know ttC contributes to change?

As with all World Vision interventions, the planning phase included landscape analysis and a baseline survey to inform the choice of programme model. This formed the basis of evidence for effectiveness of the model because it was clear what gaps needed to be addressed. At the end of the pilot (after 14 months), World Vision evaluated the changes at the community level using quantitative and qualitative studies[25]. This gave not only statistical changes but also differing perspectives on ttC as an approach to bring about these changes.

Methodology for evaluating World Vision's contribution to change
(more details available at www.wvie.org)

Method of measurement / *Indicator measured*	Post-project knowledge/ attitude/ practice survey, analysed univariate/ multivariate	Focus group discussions and key informant interviews	Operations research (control group comparison), analysed univariate/ multivariate	LiST cost-effectiveness analysis
Exclusive breastfeeding to 6 months	☑		☑	☑
Complementary feeding at 6 months	☑		☑	☑
Continued breastfeeding above 1 year	☑		☑	☑
Minimum meal frequency/diversity	☑		☑	
Iron/folate supplements in pregnancy	☑			
Vitamin A supplements post-delivery	☑			
Newborn care (increasing positive practice, decreasing harmful or ineffective practice)	☑		☑	
Recognising danger signs of pregnancy or post-partum	☑			
Recognising danger signs of childhood illness; seeking treatment	☑		☑	☑
Increased hydration during diarrhoea	☑		☑	☑
Relevance and effectiveness of project; side benefits or unexpected outcomes		☑		

How do we know it is effective?

The different interventions contained in the 7-11 strategy are less effective delivered separately than in a package, so measures of effectiveness and projecting the impact of changed behaviour needed to consider the relationship between indicators as well as the indicators themselves. For instance, exclusive breastfeeding provides essential nutrition and minimises diarrhoea in infants, meaning improved nutrition, digestion and immunity to disease as children move to age-appropriate food from 6 months onwards. If a common childhood condition strikes, not only will they be more resilient to it, but their caregivers will know what to do to prevent the condition from becoming life-threatening.

World Vision used a knowledge/attitude/practice (KAP) survey in 375 households across 11 Bethlehem villages to measure increases in core behaviour indicators. The survey results, compared against the baseline of 2010, show significant changes to childcare and nutrition in these households, for instance a **21%** increase in children being exclusively breastfed to 6 months, and a **71.7%** increase in minimum meal frequency for children. (Also see table on p. 39-40.)

The Operations Research also compared responses of mothers from four villages who had received ttC against those who had not. The results revealed statistically significant differences between the two groups with regards to infant feeding and care practices. (Also see graphs on infant feeding and care practices as well as Table A, Univariate Analysis, on p. 43). Mothers in the intervention group were **29.5** times more likely to exclusively breastfeed their babies, **three** times more likely to extend breastfeeding above 1 year, **83.6** times more likely to introduce complementary feeding at 6 months of age, **four** times more likely to recognise life-threatening infant danger signs, and **six-and-a-half** times more likely to increase fluids during diarrhoea compared to the mothers from the non-intervention group[26]. (Also see Table B, Multivariate Analysis, on p. 43.)

These results combined together confirm that households where CHVs conduct ttC are adopting several 7-11 practices at once, and it is reasonable to conclude that the risk of child mortality from preventable causes in these homes is reduced as a result. (Also see cost-effectiveness, p. 26, for a calculation of life-years saved.)

Focus group and key informant interviews with household and other stakeholders revealed that the majority believed the project was relevant and had met the needs articulated by communities and child health partners.

People recognised the value of improved maternal, newborn and child health and nutrition, have adopted new health seeking habits, and are sharing these habits with family and friends.

Mothers felt that ttC had addressed their and their children's needs and that they were able to apply the new information and methods they had learned. Explanations and counselling had been easy to understand and relevant to their situation, which had contributed greatly to their acceptance of new ideas.

One of the interviewees, a representative of CAGs, said: *"World Vision's role was exceptional in implementing the programme, recruiting the health workers and spreading awareness. It is very influential and effective and World Vision should continue its work and come up with new ideas and methods to help develop communities."*

How do we know it is scaleable?

Feedback from the evaluation shows that the model is simple to understand and targets behaviour change while acknowledging cultural sensitivities and household-level challenges. With the evidence base of the 7-11 strategy behind them, CHVs and CAGs were motivated to negotiate for changed behaviour. The ratio of households and visits to each CHV created an achievable cycle in tune with existing responsibilities. Based on this, WV JWG has decided to scale up ttC from Bethlehem ADP to all 14 ADPs as a core technical approach for improved MNCH.

Outside World Vision, the model is also showing significant scale up potential. Evidence exists to show that CHVs add significantly to improving the health of the population, particularly in those settings with the highest shortage of health professionals[27]. The model provides good synergy with existing responsibilities of CHVs. The Bethlehem pilot called for close collaboration and coordination efforts with the Ministry of Health and this has also created a sense of local ownership for model continuation and scale up – an advantage that is likely to be replicated in other areas where ttC takes place.

Regular progress updates on this model to the Directorate of Health (DoH) in Jerusalem/West Bank have placed this evidence in the hands of decision makers as well as increased the profile of World Vision's expertise in community-level mobilisation and home-based education. During the evaluation almost all stakeholders, including representatives of the DoH, expressed their desire to see the project grow further.

Based on the results shown through the evaluation, it is possible that this model can be scaled up in other similar

contexts where CHWs or CHVs are in the community. Many comparable challenges exist in other MEER countries, including poor access to or use of essential health-care services for mothers and children, and household decisions that are negatively affecting the health and nutrition of children under 2. ttC is now a proven solution for resolving these challenges.

How do we know it is sustainable?

The evaluation results show behaviour change at the personal level is the single most important precondition for sustainability. Women who are mothers now and see the results of better childcare practices are likely to become advocates to the next generation on child health and nutrition. As well, ttC has not only changed attitudes and practices of mothers involved directly in caring for themselves or a young child, but has also included other members of the family to break cycles of traditional care that have not sufficiently protected the lives of children and their mothers.

During focus group discussions many of the participants mentioned increased cooperation between men and women in raising their children; husbands appreciating and allowing their wives to participate in community events; enhanced relationships between mothers and other female members of their family, particularly in decisions related to feeding and caring for their new babies.

Both the communities' and government's willingness to support and invest in the required resources are ensured through building collaborative networks among the CHVs, CAGs, medical staff, and DoH.

World Vision will continue to monitor ttC results and evidence along with Ministry of Health authorities and strengthen the role of the ministry and health oriented community-based organisations to take over the role of training CHVs in 7-11 and ttC. There is already an agreement in place with the Palestinian Red Crescent Society that they will adopt ttC and take responsibility for CHV support and supervision.

How do we know it is cost-effective?

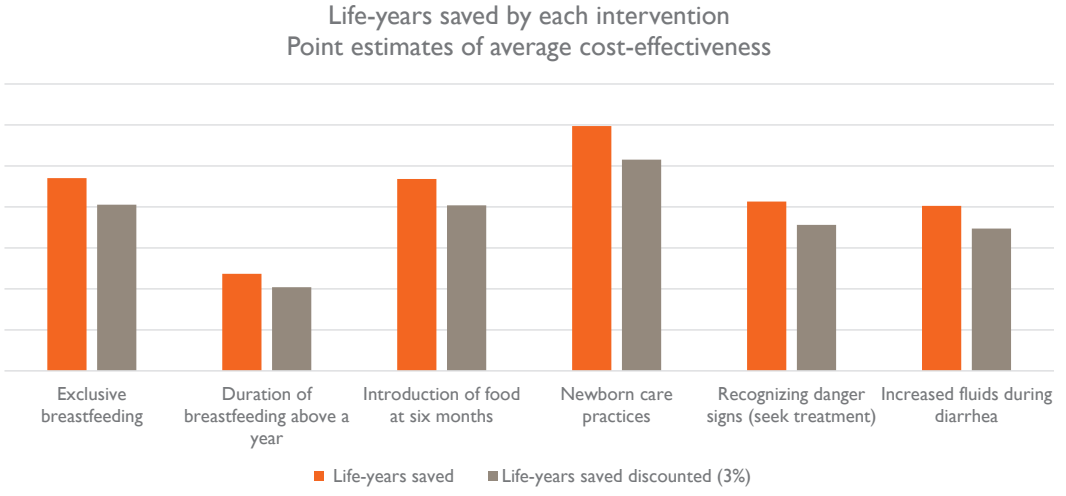
The model has an incremental saving of costs throughout the project, with the majority of expenses incurred in the setup and training of the CHV network. At this time, costs were kept low by partnering with the MoH to use existing resources (materials, non-cost training and consultancy) for CHV training.

The cost-evaluation analysis for ttC in Bethlehem used the Lives Saved Tool (LiST)[28], which encompasses all the

available evidence on the effect of a set of interventions in child mortality and makes projections on lives saved if those interventions are appropriately carried out. In Bethlehem the following indicators were considered: exclusive breastfeeding; duration of breastfeeding above a year; introduction of complementary feeding at 6 months; recognising danger signs (seeking treatment); and increasing fluids during diarrhoea. The assumption during this exercise was that each intervention had an independent effect on life years saved, although all interventions were performed in the same households which may have led to additive effect. The cost of ttC had been US$120 per household (or US$7,919 to deliver ttC in 66 households over 14 months). The ttC CEA analysis shows that between 15 and 47 life-years (undiscounted) are saved by each intervention. In a conservative scenario (if only the intervention with the largest effect is included rather than the joint effects added up), the lives saved oscillate between 41 (discounted[29]) and 47 life-years.

The LiST estimated that exclusive breastfeeding and introduction of food at 6 months would both lead to around 41 life-years saved (discounted). Even the lowest scoring intervention, duration of breastfeeding after one year, reflected around 20 life-years saved.

According to WHO[30], when an intervention costs less than the GDP per capita/per year, this intervention is cost-effective. In Palestine per capita GDP is US$1,400 and the LiST cost per life-year saved is $197 (discounted). This is seven times less than per capita GDP, making it a highly cost-effective intervention in this instance.



Guidelines for ttC as a Model for Implementing 7-11 Strategy

The following guidelines provide considerations and recommendations based on the experiences of the Bethlehem ADP pilot to help with your decision to implement ttC within health programming. It is not intended to be a full guideline for implementing the model, and a separate document is available to provide this additional level of detail at www.wvie.org.

Guidelines for contextualizing ttC

What is the right context for implementing ttC?

The ttC model may be conducted in both rural and urban settings and works well in the following contexts:

- ✓ where maternal and child health indicators are particularly poor
- ✓ where health services are regularly conducting essential preventative interventions (*e.g. growth monitoring, immunisations, micronutrient supplementations*)
- ✓ where the knowledge and practices are key limiting factors to accessing health services (*services are available but demand and uptake is low*)
- ✓ where there is a stable population that identifies as belonging to the community, with strong community participation and support for community health projects (*but equally suited to high and low civil society contexts*)
- ✓ where the distribution of houses is close enough that CHVs can regularly access
- ✓ where there are good levels of support for CHVs including regular monitoring and supervision by health technicians, and where policy environments are enabling
- ✓ where there is a good collaboration between World Vision and local health service providers
- ✓ where community platforms such as CAGs and Community Care (COMM) exist
- ✓ with lower levels of migratory movement particularly of women
- ✓ in the contexts where there is no official CHW or CHV structure, community volunteer groups (*e.g. mother support groups, peer groups*) can conduct home or community meetings, with application of CHW Assessment and Improvement Matrix criteria[31] for volunteer functionality and the ttC principles.

Contexts where ttC model should not be considered

- × In emergencies, ttC activities should only focus on life-saving activities, with considerable adaptation to humanitarian crisis contexts.
- × High insecurity contexts: where CHVs are women and travel is limited by security and safety considerations, or women are unable to access adequate protection to deliver services.
- × Where it is deemed culturally inappropriate to make HH visits for health service delivery.
- × Fragile states and severely dysfunctional health systems with inadequate human resources at the health centre, and the provision of basic health services is limited by other factors, ttC needs to be adapted to support the overburdened health system.

Guidelines for context-driven models of ttC

The ttC curriculum requires adaptation in content and tactics to ensure that messages meet the needs/gaps and are appropriate for the local community. Consider the following points during the model's adaptation:

- **On-going contextualisation at local-level:** CHVs interact extensively with the families or peer groups learning about the nuances of each local situation (*e.g. feasibility, challenges, constraints*). This information can be used to improve the model, as well as appropriate action at the household level, through reflective debriefing meetings.
- **Household vs. group sessions:** In certain conditions household visits can be difficult (e.g. sparsely populated areas or CHV resources low against target households). In such cases, ttC may be carried out through peer group gatherings, while the most vulnerable households remain on the list for direct counselling.
- **Literacy levels of the CHV:** Low literacy trainees will require more in-practice training and support for data collection.
- **In urban contexts:** It is important to map out CHV coverage areas. Ensure CHVs are assigned to appropriate households where multiple ethnicities and language groups overlap.
- **In very low human resources for health (HRH), or low partnership contexts:** World Vision project staff will have to play a more active role in

supervision when external resources are low, meaning a need for adequate technical capacity on call. As the model starts and stabilises, advocacy for alternative supervision should be part of activities in these contexts.

Guidelines for costing the ttC model in context

Description	Cost $ per HH for 14 months of ttC delivery
CHV's fees	84
Capacity building	12
Coordinator and assistant	2
Tools (manuals, forms)	13
NO costs	10
Transportation	7
Data (entry + analysis)	5
TOTAL	$120

The most substantial expenses are required at the early stages of project model implementation (*during the country readiness phase, training of facilitators, costs of adaptation, translation and field testing of materials, laminated job aids*). Afterwards, costs for running the ttC model depend on the agreements with the partners on incentives, supervision methods and activities in the field, annual refresher training, and ongoing printing of materials (*e.g. monitoring forms, job aids, booklets for HHs*). The estimated cost of ttC model delivery in one HH for 14 months in the Bethlehem context was US$120. Calculations also include NO operating costs (*see the table of calculations*).

Economies of scale are likely to reduce model costs. Therefore it will be more cost-effective to implement ttC start-up in multiple ADPs or local area programme locations within a single health district at the same time, rather than to scale up one ADP at a time. The national offices planning to implement ttC with their core budgets should schedule model roll out to minimise the costs for repeated trainings and use cost-sharing approaches to ensure country-level adaptation. The model is also suited for grant opportunities to finance the additional cost of start-up (see External donor engagement, p. 32).

Guidelines for project management

Timeline

According to World Vision International's proposed ttC model guidelines, the ttC model lifecycle (from pregnancy until 24 months) requires minimum three years for implementation with breakdown as shown in the table on the next page.

Project phases

The ttC model contains a preparation phase followed by an implementation phase and responsive ongoing M&E. "Country Preparedness" steps include:

	Year 1				Year 2				Year 3				Year 4	
Complete country readiness and adaptation phase – 6 to 12 months	☑	☑	☑	☑										
Preparatory processes such as CHV selection, community sensitisation – two months				☑										
Training for CHVs – three to six months					☑	☑								
Monitoring for consistent, sustainable behaviour change in community – two years plus						☑	☑	☑	☑	☑	☑	☑	☑	
Evaluation													☑	☑

- Field visits for 7-11 ADAPT[32] data collection
- Various high-level MoH meetings
- Workshop with MoH for CHV curriculum, data collection system review and adaptation
- Field testing of monitoring tools and materials, if adapted, newly developed
- Workshop and field visit for CHV Functionality Assessment

The ttC implementation starts with Training of Facilitators, carried out by certified ttC trainers from World Vision International's registered pool. From here, facilitators move into the community to train CHVs and act as their supervisors. In the case of Bethlehem, facilitators included ADP Development Facilitators (DFs), who are World Vision's grassroots community-level staff, and MoH staff. Once the trained CHVs started visiting households for ttC, the national-level health and nutrition coordinator provided technical support to field staff on contextualising and increasing access to 7-11 elements. Ongoing MoH/DoH engagement is also pivotal to the implementation of the model; in the case of Bethlehem, this required intensive communication at start-up but soon became a self-sustaining component of community ownership.

Calling on additional technical expertise

While adapting the ttC to local context, some support and guidance from other World Vision entities[33] may be required to maintain the essential components of the model method and meet the minimum standards for implementation.

In the case of Bethlehem, the technical assistance of the full-time national-level health and nutrition coordinator was required throughout the implementation process from start-up through to evaluation. Also, until MoH staff were able to fulfil the supervisory role at the local level, this responsibility needed to be covered by core ADP staff.

Monitoring and evaluation

CHVs are given monitoring forms to fill out after each HH visit, supplying valuable data to show the progress of their efforts at the individual level and of the project overall. In Bethlehem, these forms were collected and collated every two months. They formed the basis of regular monitoring of activities, outputs, outcomes and progress towards the project goal which is part of all regular project cycle management at WV.

When evaluating, World Vision and the consultant worked together to apply the following evaluation tools:

- CHV knowledge/practice assessment (pre/post test, practical tests)
- KAP questionnaire (*adapted from questionnaires of similar studies and validated*) to collect baseline/end-line data from the mothers and caregivers, which consisted of the following parts/questions:
  1. socio demographic information about mothers, parents' educational level, occupation and characteristics of the indexed child such as date of birth, gender, height, weight at birth
  2. newborn care practices (*salting, wrapping, cord care, applying kohl, harmful massage*)
  3. mother's knowledge on infant's danger signs
  4. knowledge on infant feeding and practices (*early initiation of breastfeeding within the first hour, exclusive breastfeeding, complementary feeding, vitamin/mineral supplementation*)
  5. home care practices during child diarrhoea and respiratory infection cases
  6. availability and quality health services.

The logical framework (logframe) used to manage the ttC pilot in Bethlehem ADP, as well as suggested tools and resources to implement, monitor and evaluate ttC, are available at www.wvie.org.

Stakeholder mapping and engagement

- At community level: ttC needs active and influential community members to help facilitate community mobilisation and sensitisation and to establish support groups. This will help to create community ownership of the results, which is so crucial to the success of the model. At the same time, coordination and collaboration with other local community-based organisations will sustain the achievements.
- At system level: The effectiveness and sustainability of the ttC model largely depends on the ownership of the local governmental health authorities, including district and national levels. They should therefore be consulted at all stages: setting the curriculum, identifying messages, monitoring data/system alignment with MoH, engagement in training, supervision, reflection and evaluation processes. PHCs are essential partners because they provide the health services so often recommended through ttC, and need to be linked to CHVs, CAGs and households for regular communication, outreach and supportive supervision, and to handle referral cases.

Staffing implications

At NO level:

- Health and/or nutrition coordinator (mandatory)
- Sub-national Health and Nutrition staff (depending on programme size, for additional technical support).

At ADP or community level:

- Health project coordinator (recommended – or additional training for ADP managers who do not specialise in health)
- Technical support to health DFs (also the responsibility of the ADP manager, and good orientation on ttC is required)
- One data entry clerk per programme if possible.

At community level:

- One **CHV Supervisor** for every 25-30 CHVs (World Vision staff, CAG member of MoH staff)
- Number of CHVs per community depends on demographic factors (number of HHs to be covered, number of reproductive-age women, fertility rate); each CHV may reach out to 25 to 30 households.

External donor engagement

Engagement with external donors has been critical for the model pilot's implementation, and there are good opportunities for similar relationships in other contexts. Globally donors are interested in and supporting CHV programmes to achieve goals linked to disease-specific vertical programmes or for the performance of specific tasks such as family planning, nutrition, immunisation. Much of first-time ttC will become common property for ADPs in the future, but the initial setup calls for policy advocacy, technical support, preparation of materials, supplies and equipment. External donors may support these costs in line with their strategic priorities even if they are not planning to pay for the projects long-term.

External donor engagement is also important for non-financial collaboration, for instance to ensure the support of international actors (e.g. WHO), engagement of governmental institutions (MoH), development of local ownership for long-term programming/sustainability within other donor programmes, and scale up over time of this lifesaving model. Active engagement with donors is therefore recommended for positioning the model in their strategic framework, planning cycle and strategy development process.

As the sustainability of this model is linked to its take-up by government and other maternal and child health partners, accurate model costing and an action plan for engaging political support are both essential. Documentation of programme quality and impact, building strong evidence on programme effectiveness, can generate interest and allies to contribute to financial commitments to keep the model going. Developing linkages to local sources of revenue (for instance, village committees contributions) should also be considered since these sources of support are likely to grow more quickly than will funding from the central government. Arguments for the cost-effectiveness of this model (see p. 26) can be used to good benefit here.

Promotion of ttC as a low-cost technical model for improving health seeking behaviour is likely to be of great interest to technical working groups, coalitions, meetings and conferences in the maternal and child health/nutrition sector. By joining donors, governments and other non-governmental organisations in these forae, World Vision has an opportunity for joint advocacy based on ttC evidence for policy reform. As well, offering review, evaluation and lessons learned reports to donors will help to provide ongoing funding of and interest in the model as part of broader programming.

Tools & Resources

Visit wvcentral for ttC material (Global and MEER adapted)[34] or, if external to World Vision, visit www.wvie.org.

The table below includes the full package of ttC model materials developed by World Vision International's Sustainable Health team. MEERO has adapted the model package to the regional context (*pictures, messaging, slight changes to 7-11 and related content*), with recommendations for further country-context adaptations. Offices should compare these materials with the MoH materials and curricula, if they exist, to ensure alignment on messaging.

Materials for ttC			
Item	**NO and Trainers**	**Facilitators/ Supervisors**	**CHVs**
A. Programmatic and Structural (Country Readiness)			
1. Country Preparedness Guidelines	✓		
2. CHV Functionality Assessment	✓		
3. CHV Programming Principles of Practice and Minimum Quality Standards	✓		
4. ttC Minimum Standards	✓		
5. 7-11 Analyze, Design, Agree and Plan Tool (ADAPT)	✓		
6. Compendium of Indicators	✓		
B. CHV-ttC Curriculum			
7. Trainer's Guide for Training Facilitators + CD	✓		
8. Introduction to CHV Programming/Timed and Targeted Counselling	✓	✓	
9. Facilitator's Manual for Training CHVs: Modules 1-3	✓	✓	
10. CHV Manual: Modules 1-3	✓	✓	✓
11. Job Aids: Flip Story Books, Food Cards	✓	✓	✓
12. Household Handbooks	✓	✓	✓
C. Data Collection, Monitoring and Supervision			
13. Introduction to Data Collection, Monitoring and Supervision for CHV-ttC	✓	✓	
14. Data Aggregation Spreadsheet and Excel Tool with Guidelines	✓	✓	
15. Supervision Quality Tools	✓	✓	
16. CHV Registers (Pictorial)	✓	✓	✓

Additional tools: The recent ttC model version prioritises reaching a woman *before she becomes pregnant*, as pregnancy, newborn/child health and nutrition outcomes depend on the woman's health status at the onset of pregnancy. This access can be accomplished using the eligible women and girls registration tool. Also, the high-risk targeting strategy guide will enable the CHVs to identify and prioritise the households with the most vulnerable women (*young, adolescents, Roma, etc.*).

Monitoring and evaluation framework and logframe from the Bethlehem ttC pilot

Hierarchy	Objective	Indicators
MODEL GOAL	**Children and their caregivers experience improved newborn and child health and reduced maternal and child mortality**	• % of underweight among children under age 5 • % of children exclusively breastfed for the first six months after birth • % infants aged 0–23 months whose births were attended by a SBA • % 4x antenatal consultation attendance • % family planning uptake • % of deliveries with positive birth outcomes • # and % of children who have completed their immunisation schedules as per national standards by gender • % of children under 2 with presumed pneumonia who were taken to an appropriate health provider • % of children under 2 who have suffered a bout of diarrhoea in the past two weeks and were taken to an appropriate care provider within 48 hours of onset
OUTCOME 1	**Women and their supporters adopt household practices that promote good health and nutrition**	• % of women under the age of 18 years who are pregnant or have a child • % of pregnant women and mothers/caregivers of a child under 2 who received nutrition and infectious diseases counselling in the past six months • % of pregnant women accessing antenatal care in the first 18 weeks of pregnancy • % of households reporting - handwashing/hygiene - improved complementary feeding/nutrition in pregnancy - insecticide-treated nets usage for pregnant women and children under 2 - exclusive and continued breastfeeding
OUTPUT 1.1	Women and girls of child-bearing age are monitored for uptake of family planning and risk of pregnancy	• # of eligible women (15-45 years) in coverage area regularly monitored • #/% of eligible women not wishing to become pregnant who are taking contraception
OUTPUT 1.2	Eligible women are identified early in pregnancy	• #/% of women who participate in their first antenatal consultation before 18 weeks of pregnancy • #/% of pregnant women and caregivers of a child under 23 months who received last scheduled ttC visit within the last three months
OUTPUT 1.3	Women and their supporters or husbands receive regular ttC counselling visits	• #/% of pregnant women and caregivers of a child under 23 months who received last scheduled ttC visit within the last three months • #/% of HHs with pregnant women, children under 2 registered in ttC • #/% of women who are accompanied by husband or birth partner for household counselling in the last visit

OUTPUT 1.4	Women and their supporters who are counselled adopt positive health practices and recognise health danger signs in pregnancy and children	• #/% of women who adopt positive home-based practices: - handwashing - hygiene - safe pregnancy measures - bed-net usage
OUTPUT 1.5	Caregivers who are counselled adopt appropriate infant and young child feeding practices and nutrition in pregnancy	• #/% of children aged 6-23 months who received food from at least four food groups during the previous day • #/% of children who are exclusively breastfed to 6 months • % of mothers who continue breastfeeding to 2 years of age
OUTCOME 2	**Children and their caregivers have improved access to essential health services**	• #/% of women who uptake reproductive health services
OUTPUT 2.1	Women who are counselled have improved uptake antenatal and reproductive health services	• #/% of pregnant women attending four or more antenatal consultations • #/% of pregnant women who were protected from tetanus at birth
OUTPUT 2.2	Families who are counselled undertake child health preventative services (vaccination, supplementation)	• #/% of children covered with preventative interventions (vaccination, vitamin A, other supplements)
OUTPUT 2.3	Families who are counselled affect timely and appropriate care-seeking for illness (referral compliance)	• #/% of women or children who have had a complication and were referred to a health facility in a timely manner
OUTPUT 2.4	CHVs provide supportive post-referral follow-up care to evacuated cases	• #/% of women or children who were treated at a health facility for a complication and who received a post-referral follow-up visit by the CHV
OUTCOME 3	**Communities have increased operational structures to support ttC/MNCH**	• % of CHVs who are active (attrition rates) • % of CHVs who have received and passed quality assurance standards during supervision at least once during the last three months • # and % of CHVs or peer educators who have completed a competency-based trained course using a standardised curriculum by gender • #/% of functional COMMs actively supporting ttC CHVs (have participated in a CHV debriefing activity) within the last six months.
OUTPUT 3.1	Trained and supported ttC-CHV (or appropriate implementers) are actively delivering high-quality ttC counselling.	• # of CHVs or other appropriate implementers undergoing initial training in ttC • # of CHVs or other appropriate implementers who have adequate functional supplies and equipment for delivering ttC services • # and % of CHV undergoing continuing training events for ttC within the last 12 months • #/ % of CHVs who participated in a support supervision or technical observation activity at least once within the last three months • # / % of CHVs who reported that they received an adequate compensation for their time through financial or nonfinancial incentive within the last three months.

OUTPUT 3.2	Community health structures (COMM) provide support, oversight and promotion of ttC programmes, and coordinate linkages between ttC and other community health actors	• # of COMMs undergoing capacity-building activities related to ttC • #/% of CHVs undergoing a COMMs supervision events (CHV debriefings) • #/% of CHVs who have received an individual performance-based evaluation including time series assessment within the last year • # of formal interactions between ttC CHVs and other community health actors
OUTPUT 3.3	Community leaders and other structures (not COMM) promote ttC in the community and create linkages with ttC-CHV activities.	• # of community sensitisation activities which promote ttC in the community led by community leaders (and other structures)
OUTCOME 4	**Health systems and local partners have increased operational structures to support ttC and MNCH**	• % of health facility with improved operational structures to deliver quality MNCH services • % of CHVs reporting improved linkages and communication with health facilities • #/% of health facilities which report no stock outages of key relevant 7-11 essential drugs and commodities in the past six months
OUTPUT 4.1	Local partners are trained and supported in ttC methodology and HMIS	• # of local partners/MoH undergoing capacity-building activities on ttC and HMIS
OUTPUT 4.2	Health facilities are strengthened to deliver quality MNCH products and services	• # of health facilities and local partners with improved operational structures to deliver quality MNCH services
OUTPUT 4.3	Linkages between community and facility health systems are strengthened	• # of improved communications and direct reporting events between CHVs and health facilities • # of referrals received at health facilities from CHVs and counter referrals made to CHVs (monitored at facility level) • #/% of CHVs supervised by health facility staff

ttC generic logframe with outcomes, outputs and activities is available at www.wvie.org.

Appendix: Methodology and Summary Data, ttC Evaluation, Bethlehem

The post survey, conducted in 375 households from 11 Bethlehem target villages, provided quantitative data that was compared against the baseline (using baseline tools). The knowledge, attitude practice (KAP) survey findings show significant changes (*calculated with 95% confidence level*) in pregnancy and newborn/child nutrition and care practices. (*See Appendix A for all 7/11 intervention results.*)

Qualitative research through Focus Group Discussions and Key Informant Interviews was conducted to obtain perspectives and insights of the primary and secondary beneficiaries (*women, children, CAGs, men, village committees, etc.*) and also key stakeholders (from *different levels of the health system*) in regards to project relevance, added value, effectiveness, sustainability, learning and recommendations.

ttC Operations Research was conducted to test the model's attribution to the outcomes, using true experimental pretest-posttest control group design. Sampled mothers from four Bethlehem villages were randomly assigned to ttC intervention (66 mothers) and non-ttC/control (52 mothers) groups.

The KAP survey data from caregivers of children under 2 years was analysed, using univariate[35] and multivariate[36] analytical methods. The univariate analysis (*Chi-squared test*) was used to detect the level of changes in five key practices: breastfeeding, complementary feeding, newborn care, mothers able to recognise danger signs, and mothers able to appropriately manage diarrhoea.

The LiST cost-effectiveness analysis estimated the effect of the ttC intervention on short- and long-term child mortality and costing implications. The selection of the consultant to undertake this analysis was based on the existence of partnership (*Memorandum of Understanding*) between World Vision and Johns Hopkins Bloomberg School of Public Health around the World Vision-initiated Child Target Impact Study.

The five ttC interventions that were analised using LiST[37], were: exclusive breastfeeding; duration of breastfeeding above a year; introduction of complementary feeding at 6 months; recognising danger signs (seeking treatment); and increasing fluids during diarrhoea. The LiST encompasses all the available evidence on the effect of a set of interventions in child mortality and makes projections on lives saved if those interventions are appropriately carried out. In order to produce cost-effectiveness estimates for each of the interventions,

several parameters from World Vision sources such as ttC effect size (odds ratio) on behaviour change (*therefore limitations mentioned for the ttC operations research effect CEA findings too*) and ttC costing (*US$120 per HH or US$7,919 for delivering ttC in 66 HHs within 14 months; see more details in ttC model costing, p.29*) were used.

From external resources the following data for Palestine were obtained: life expectancy at birth (*73 years*); GDP per capita (*US$1,340*); baseline mortality risk parameters from the Global Burden of Disease 2010 study were obtained to estimate the current risk of death and the further reduction related to the intervention.

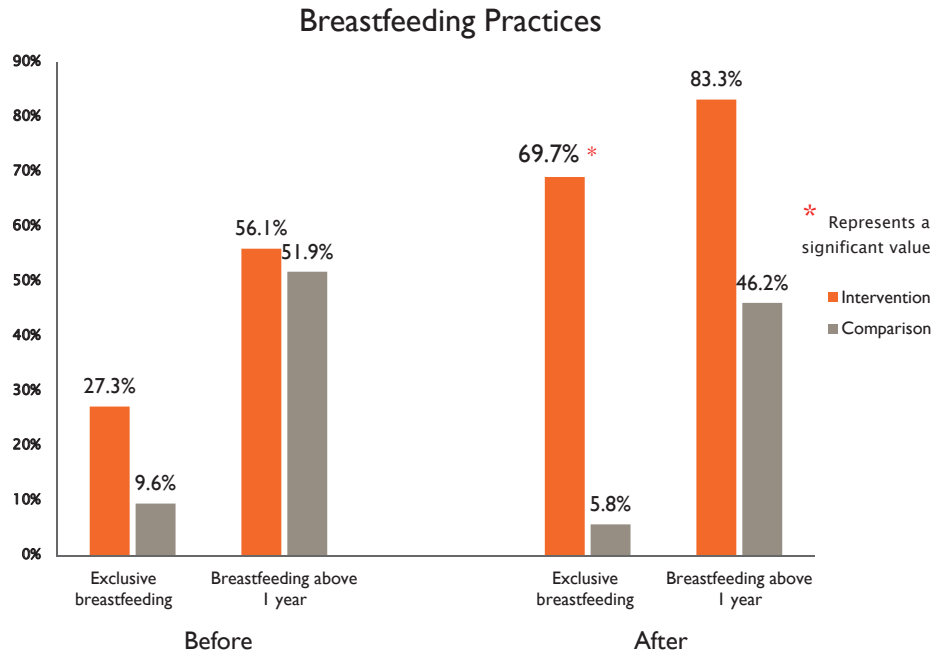
Data inputs of the effect of the intervention on mortality were obtained from the LiST tool (Walker, 2013), *The Lancet*, Bhutta, et al. (2013). The assumption during this exercise was that each intervention had an independent effect on life-years saved, although all interventions were performed in the same households which may have led to an additive effect. However, this assumption provides conservative bounds of estimation of the lives saved by the ttC. Estimates using 3% discount rate was also produced[38].

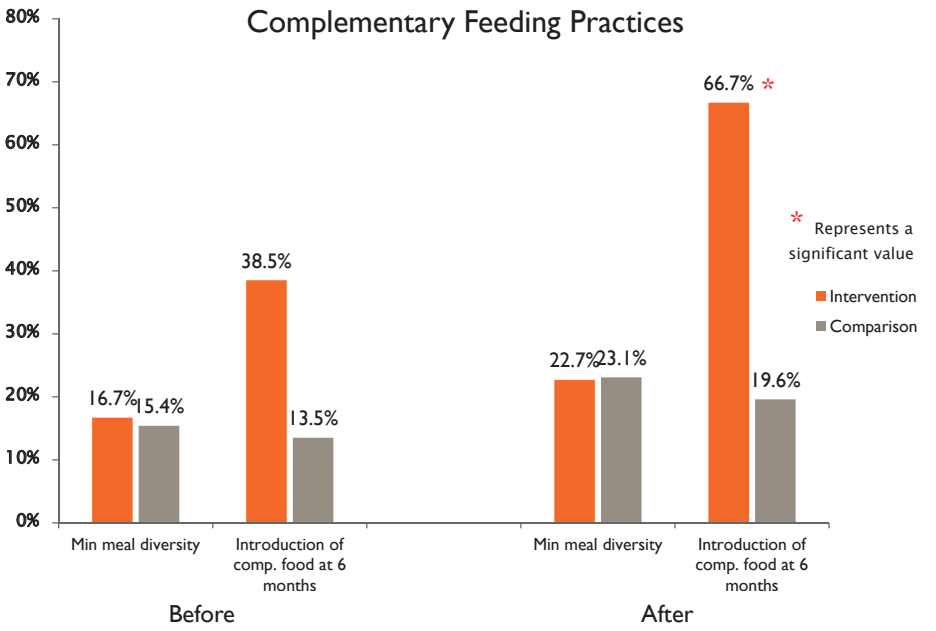
End of project household survey findings on 7-11 practices

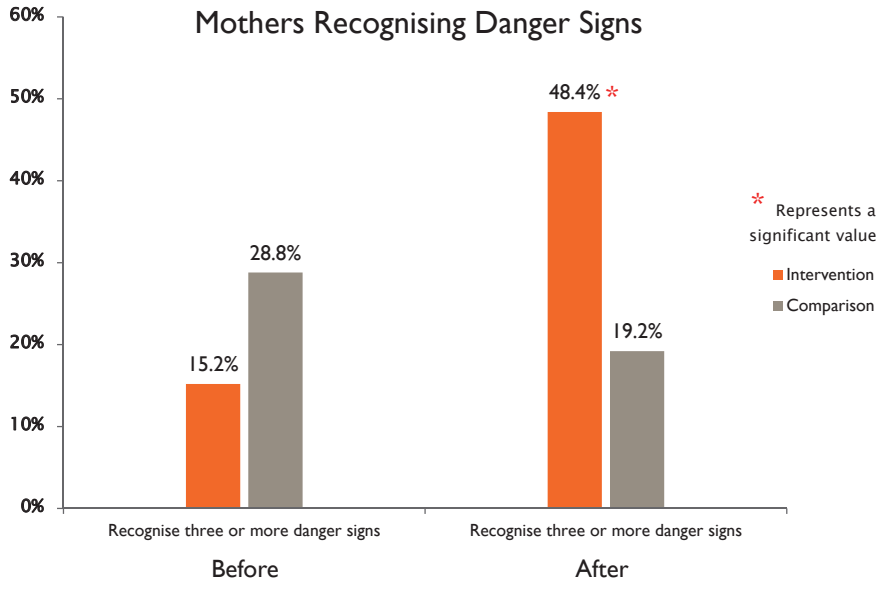
7 interventions				
Intervention	**Indicators**	**Baseline %**	**Evaluation%**	**Change%** *(Chi square test)*
1. Adequate diet	Proportion of women who increased food consumption during most recent pregnancy	41.6	65.6	24.0***
2. Iron/folate supplementation	Proportion of women who had access to IFS (iron/folate supplementation) during previous pregnancy	72.6	88.6	16.0***
	Proportion of households consuming adequately iodised salt	64.8	80.9	16.1***
	Proportion of women who took iron/folate during previous pregnancy	48.5	70.1	21.6***
3. Antenatal consultations and skilled birth attendants[2]	Proportion of infants whose births were attended by skilled birth attendant	95.3	97.2	1.9
	Proportion of women who gave birth to their youngest child at a health facility	95.3	97.2	1.9
	Proportion of mothers who report that they had four or more antenatal visits while they were pregnant with their youngest child	89.4	92.9	3.5
4. Healthy timing and spacing of pregnancies[3]	Proportion of women who are practicing family planning	79.1	85.4	6.3*
	Proportion of women who know at least two risks of having a birth-to-pregnancy interval of less than 24 months	23.7	65.6	41.9***
5. Healthy lifestyle	Proportion of women who know about the danger of smoking during pregnancy	87.3	97.2	9.9***

6. Care-seeking behavior **&** **7. Access to primary health-care services)**	Proportion of mothers of children aged 0–23 months who received at least two post-natal visits from a trained health-care worker during the first week after birth	39.2	58.6	19.4***
	Proportion of women who know at least two danger signs of pregnancy	47.1	86.1	39.0***
	Proportion of women who know at least three post-partum danger signs	18.9	74	55.1***
	Proportion of women who took vitamin A after delivery	46.1	72.8	26.7***
11 interventions *(includes most important interventions per oPt landscape for health)*				
1. Newborn care ***Note: all newborn care practices addressed by the ttC are harmful malpractices***	Proportion of infants given a bath within 24 hours after delivery	65.1	34.9	-30.2***
	Proportion of infants swaddled[4] (tightly wrapped)	61.2	25.8	-35.4***
	Proportion of infants subjected to adding kohl[5] or surma to the eyes	8.6	2.8	-5.8***
	Proportion of infants subjected to skin salting	41.8	11.1	-30.7***
	Proportion of infants subjected to a harmful massage	25.8	5	-20.8***
	Proportion of infants subjected to different chemicals (e.g. oils, powders, creams)	36.5	13.1	-23.4***
2. Appropriate breastfeeding	Proportion of children under 2 years receiving early initiation of breastfeeding	64.5	68.3	3.8
	Proportion of children exclusively breastfed until 6 months of age	44.7	65.9	21.2***
	Proportion of children aged 6-23 months receiving continued breastfeeding	66.8	82.5	15.7***
3. Appropriate complementary feeding	Proportion of children receiving a minimum meal frequency	4.2	75.9	71.7***
	Proportion of children receiving minimum dietary diversity	28.5	78.9	50.4***
4. Handwashing, personal, food hygiene	Proportion of parents or caregivers with appropriate hand-washing behavior	92	98.3	6.3***
5. Vitamin, mineral supplementation	Proportion of children receiving vitamin A	44.6	75.6	31.0***
	Proportion of children who received an iron syrup dose or tablet in the last week	38.8	76.7	37.9***
6. Care-seeking behaviors **&** **7. Appropriate care for acute respiratory infections/ diarrhoea and other common illnesses**	Proportion of children given appropriate feeding during illness	38.7	72.3	33.6*
	Proportion of children under 5 attending growth monitoring and promotion	68.7	70.4	1.7
	Proportion of children under 2 with diarrhea who received correct management or effective treatment of diarrhea	38.7	72.3	33.6***
	Proportion of children under 2 with acute respiratory infections who were appropriately treated	63	93.9	30.9***
	Proportion of women who know at least three neonatal danger signs	26	77.8	51.8***
***NOTE**: * shows statistical significance with ***P < .001, **P< .01, *P< .05*				

Graphs - Child Feeding and Caring Practices






Mothers Recognising Danger Signs
60%
50%
40%
30%
20%
10%
0%
15.2%
28.8%
48.4% *
19.2%
* Represents a significant value
Intervention
Comparison
Recognise three or more danger signs
Recognise three or more danger signs
Before
After

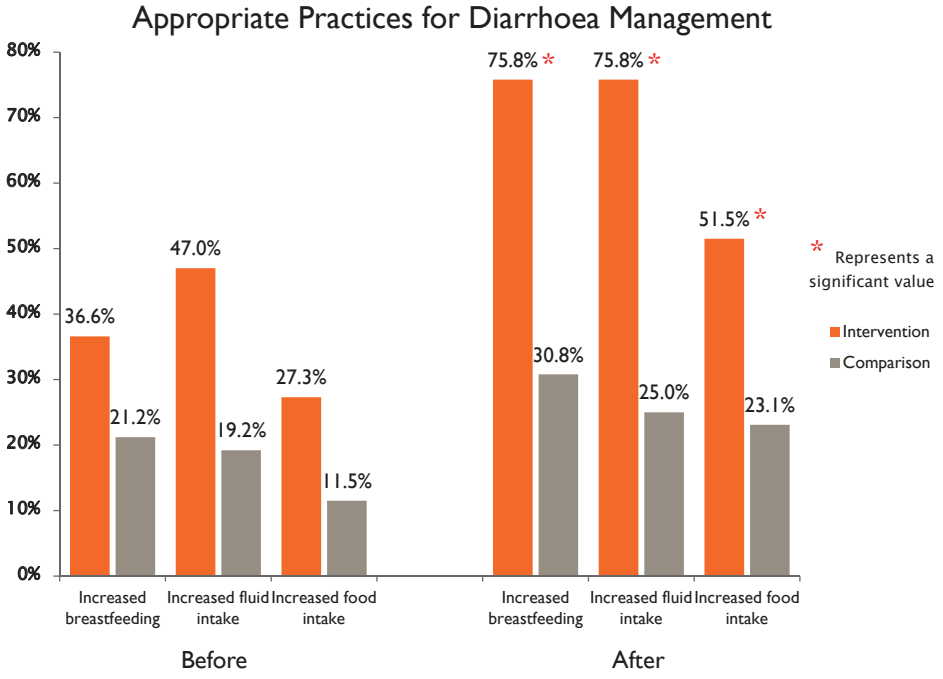

Appropriate Practices for Diarrhoea Management
80%
70%
60%
50%
40%
30%
20%
10%
0%
36.6%
21.2%
47.0%
19.2%
27.3%
11.5%
75.8% *
30.8%
75.8% *
25.0%
51.5% *
23.1%
* Represents a significant value
Intervention
Comparison
Increased breastfeeding
Increased fluid intake
Increased food intake
Increased breastfeeding
Increased fluid intake
Increased food intake
Before
After

Table A: ***Univariate analysis for newborn care practices***

Key practices	Before Intervention		After Intervention	
	Control group N=52, %(n)	Intervention group N=66, %(n)	Control group N=52, %(n)	Intervention group N=66, %(n)
Bathing newborns within 24 hours after birth	78.8	68.2	73.1	31.8***
Wrapping the newborn	84.6	77.3	76.9	10.6***
Salting the newborn	84.6	54.5**	75.0	3.0***
Apply kohl	13.5	10.6	23.1	0***
Harmful massage	53.8	27.3**	53.8	4.5***
Using baby oil	65.4	66.7	65.4	19.7***
Using baby cream	28.8	33.3	44.2	9.1***
Using baby powder	40.4	62.1	50.0	90.9***
NOTE: * shows statistical significance with ***P < .001, **P < .01, *P < .05				

Table B: ***Multivariate analysis on newborn/infant feeding and caring practices***

Key Practices	Adjusted Odds Ratio (AOR)	95% C.I. for AOR	
		Lower	Upper
Breastfeeding practices			
Exclusive breastfeeding	**29.5*** **	**8.016**	**108.877**
Continued breastfeeding > 1 year	**2.9***	**1.026**	**8.413**
Complementary feeding practices			
Food introduction of at 6 months	**83.6*** **	**17.237**	**405.473**
New born care practices			
Wrapping the newborn	**.19***	**.050**	**.758**
Salting the newborn	**.03***	**.006**	**.185**
Recognise danger signs	**3.95****	**1.703**	**9.173**
Diarrhoea management			
Increased fluid intake	**6.50*** **	**2.600**	**16.297**
*NOTE: Statistical significance. ***P < .001, **P< .01, *P< .05*			

Endnotes

1 *The Lancet Maternal and Child Nutrition Series* (2013), available at: http://www.thelancet.com/series/maternal-and-child-nutrition.

2 UNICEF (2013), *Committing to Child Survival: A Promise Renewed –Progress Report* 2013, available at: http://www.unicef.org/publications/index_70354.html.

3 Bhutta, Z., et al. (2013), Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?, *The Lancet* Nutrition Interventions Review Group, the Maternal and Child Nutrition Study Group, available at: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60996-4/abstract.

4 7-11 strategy focuses on evidence-based, cost-effective preventive practices that address the primary causes of maternal and child mortality and illness. Seven interventions target the mother and 11 interventions target the child.

5 *The Lancet Maternal and Child Nutrition Series* (2013), available at: http://www.thelancet.com/series/maternal-and-child-nutrition.

6 Statistics in the infographic from: UN Inter-agency Group for Child Mortality Estimation (2013), *Levels and trends in child mortality, Report 2013*, available at: http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2013/en/; UNICEF (2013), *Committing to Child Survival: A Promise Renewed –Progress Report 2013,* available at: http://www.unicef.org/publications/index_70354.html; Z. Bhutta, et al (2013).

7 WHO Factsheet: Infant and young child feeding, available at: http://www.who.int/mediacentre/factsheets/fs342/en/.

8 Integrated Management of Childhood Illness: UNICEF. http://www.unicef.org/health/index_imcd.html.

9 This region is named MEER – Middle East & Eastern Europe Region and currently comprises the following countries: Afghanistan, Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Jerusalem-West Bank-Gaza, Lebanon, Pakistan, Romania.

10 http://www.emro.who.int/media/news/saving-mothers-children-lives.html.

11 Central Statistics Organisation and UNICEF (2012), M*onitoring the Situation of Women & Children*, Afghanistan, available at: http://cso.gov.af/Content/files/AMICS-Jun24-2012-FINAL.pdf

12 Key family practices focus on improving maternal (e.g. adequate diet, iron/folic supplementation, antenatal care visits, etc.) and child health (e.g. exclusive breastfeeding up to 6 months of life, appropriately complementary feeding with continuous breastfeeding up to two years or longer, course of immunisations, handwashing, appropriate home treatment for infections, recognises when sick child needs treatment and seeks care from appropriate providers, etc.).

13 Integrated Management of Childhood Illness (IMCI): UNICEF/WHO. http://www.who.int/maternal_child_adolescent/topics/child/imci/en/.

14 Bhutta, Z., et al, (2013).

15 WHO, Global Health Workforce Alliance (2010). *Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: A Systematic Review, Country Case Studies, and Recommendations for Integration into National Health Systems*.

16 Ibid.

17 Ibid.

18 This was the criteria used in the Bethlehem model, but alternatives can be considered, for instance, commencing visits earlier, making counselling available to couples considering pregnancy or reaching out to all girls and women of child-bearing age. See Project participants and target groups, p. 18.

19 WHO Health Compendium Consolidated Appeal Process, 2012. http://www.who.int/hac/donorinfo/cap_compendium_web_7mai2012.pdf.

20 Ibid.

21 Hanan MCHN Project, West Bank & Gaza; USAID, 2005. http://anera.org/wp-content/uploads/2013/05/ANERAHananProject.pdf.

22 The Maram project: Healthier Palestinian Families; 2004, USAID. http://www.urc-chs.com/project?ProjectID=79.

23 Palestinian Central Bureau of Statistics, (2012) *Palestinian Children – Issues and Statistics, Annual Report.*

24 *Research Report on Selected Key Maternal and Child Health Interventions*, (2010) by Palestine Center for Development and Primary Health Care for the benefit of World Vision.

25 The full Evaluation Report for TTC, WV JWG, 2012, can be found at www.wvie.org.

26 Multivariate analysis results for complementary feeding practices – variables: mother's age, educational level and introduction of foods at 6 months.

27 WHO, Global Health Workforce Alliance (2010). *Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: A Systematic Review, Country Case Studies, and Recommendations for Integration into National Health Systems*.

28 LiST is an acronym for the Lives Saved Tool, a calculating tool developed by Johns Hopkins University.

29 Discount rate is the rate at which it is assumed that given that the resources are disbursed today, the value of the lives in the future will "discount their value". It is a standard method in cost-effectiveness and its nature is to compare how investing resources today would matter in future earnings (in our case, benefits from the lives saved). In other words, it is a way to compare the resources invested today to the gains in the future depreciated at such rate.

30 This is determined by the WHO Macroeconomics in Health Commission (WHO, 2003).

31 The CHW AIM (Community Health Worker Assessment and Improvement Matrix), developed by the Health Care Improvement Project and funded by USAID, defines criteria for CHW functionality. The purpose is to improve CHW Programs and Services by strengthening: CHW recruitment, role clarity, front-end training, supervision, career advancement opportunities, information management, community involvement, linkages to health systems, referral systems, etc.

32 ADAPT – Analyze, develop, agree and plan tool, available at https://www.wvcentral.org/community/health/Pages/ADAPT.aspx.

33 i.e. Regional office, support offices or World Vision International, and, for example orientation, to/assistance for ADAPT utilization, CHW-AIM, monitoring system.

34 For World Vision staff members: https://www.wvcentral.org/community/health/Project%20Model%20Library/Forms/AllItems.aspx?View=%7BB3A65251-B781-4BC2-9FD8-FFCCAD8164DB%7D&FilterField1=Project_x0020_Model&FilterValue1=CHW-ttc.

35 Univariate analysis explores each variable (i.e. breastfeeding practice) in a data set, separately. It looks at the range of values, as well as the central tendency of the values.

36 Multivariate analysis involves observation and analysis of more than one statistical outcome variable at a time (e.g. mother's age, educational level and feeding practices).

37 LiST stands for Lives Saved Tool, and it is a software tool developed by Johns Hopkins.

38 Discount rate is the rate at which it is assumed that given that the resources are disbursed today, the value of the lives in the future will "discount their value". It is a standard method in cost-effectiveness and its nature is to compare how investing resources today would matter in future earnings (in our case, benefits from the lives saved). In other words, it is a way to compare the resources invested today to the gains in the future depreciated at such rate.

39 Antenatal care and skilled birth attendance.

40 Healthy timing and spacing of pregnancies involves the following principles: preventing adolescent pregnancy, having children during the healthiest reproductive years (19-35), with no less than two years and no more than five years of interval between delivery and next pregnancy, and in the case of abortion or miscarriage, at least six months interval before becoming pregnant again.

41 Swaddling, or tight wrapping, is a malpractice that may increase the risk of hip dysplasia, respiratory infections and delay in motor skills development. It can also be a risk factor for sudden infant death.

42 Kohl or surma is applied to newborn eyes to ward off the evil eye and to make the baby's eye look bright and large. However, this application can lead to watery eyes, itchiness, allergies and infections.

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WHO, Global Health Workforce Alliance (2010), *Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: A Systematic Review, Country Case Studies, and Recommendations for Integration into National Health Systems*. World Health Organization/Global Health Workforce Alliance, 2010, http://www.who.int/workforcealliance/knowledge/resources/chreport/en/.

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World Vision Middle East and Eastern Europe Regional Office
62 Perikleous
Nicosia 2021
Cyprus
Office: +357 22 870277 | Fax: +357 22 87020
http://wvi.org/meero

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