Child Health and Nutrition Impact Study

Community Systems Strengthening

Weaving together Community Health Workers, Health Committees and Social Accountability Mechanisms

KEY FINDINGS

- Community members and health facility staff highly valued the Timed and Targeted Counselling (ttC), Community Health Committees (COMM)[1], and Citizen Voice and Action (CVA) approaches.
- Across all countries there was qualitative evidence that the CVA approach helped improve important dimensions of facility-based care and that both the COMM and CVA approaches contributed toward making health services more patient-centred.
- Across all countries, household visits by community health workers (CHWs)[2] delivering the ttC approach appeared to have had a positive impact on key life-saving health and nutrition behaviours compared to pre-existing CHW services.
- Forming partnerships with governments in trialing the three approaches was a key success factor.
- Greater attention to the timing, resourcing, streamlining, sequencing and staffing configurations of interlinked approaches is needed to boost their synergistic impact.

Empowering Communities

Findings from the Child Health and Nutrition Impact Study suggest that World Vision's approach to community systems strengthening for improved health and nutrition of mothers and children is empowering communities where World Vision works.

Community members take on the responsibility of identifying and tackling systemic barriers to obtaining quality health care and make the necessary changes in their homes and environment to remove obstacles to achieving optimal health and nutrition. In Cambodia, Guatemala, Kenya and Zambia respondents representing a wide range of community stakeholders reported high levels of appreciation for concrete changes, such as helping women get to health facilities, but also for intangibles, such as health staff valuing transparency and accountability.

Study Design

The Child Health and Nutrition Impact Study was a two-arm, quasi-experimental evaluation, with two intervention sites per country receiving a package of three approaches (see below) versus two matched comparison sites in each country receiving COMM[1] plus any pre-existing CHW[2] approach. In both intervention and comparison areas, World Vision's field operations were funded exclusively through private funds. The baseline was completed over a three-month period and the endline

> In all countries, there was strong evidence that CHWs were well **respected** and **appreciated** in their communities.

was completed five years later over the same timeframe to minimise seasonal effects. Household sample size varied across countries from 2,439 for baseline in Zambia to 4,561 for endline in Cambodia.[3]

A mixed-method approach was taken combining results from population-based surveys with qualitative interviews with implementing teams, community members, CHWs and health facility staff. The study used the difference-in-differences (DiD) statistic to quantify as a percentage point difference whether intervention sites outperformed comparison sites.

The package of three approaches evaluated:

Timed and Targeted Counseling

ttC equips CHWs to counsel families through scenarios described in storybooks followed by dialogue and negotiation for better health practices. Home visits are timed during pregnancy and early childhood to target health messages when they are most relevant. Of the three approaches, ttC is the most directly linked to health and nutrition behavioural outcomes.

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Citizen Voice and Action

CVA empowers community members to monitor health services and build relationships with local governments in order to hold duty bearers accountable for delivery and quality of health services. CVA groups facilitate a constructive dialogue between community members and decision-makers. CVA illuminates client-facing service quality elements, but only indirectly addresses clinical performance.

Community Health Committees

COMM empowers community groups to provide an enabling environment for health practice improvements. Committees diagnose and address barriers that families commonly face to reduce their daily risks or obtain needed health services. Committees link health facility staff to community representatives and can provide a support system for CHWs.

Results

Timed and Targeted Counseling

In all countries, there was strong evidence that CHWs were well respected and appreciated in their communities. The CHW programme delivering ttC in the intervention sites was associated with higher levels of household coverage in Cambodia, Kenya and Zambia at endline, although only in Cambodia did this coverage approach the pre-defined target (Figure 1). Storybook use was consistently reported at higher levels in intervention versus comparison areas at endline further confirming ttC delivery on the ground (Figure 2).

In intervention sites in Zambia, the study found that CHWs were seen as the first point of contact between the household and the health system. They provide a bridge to facilitate health care access, especially for those less inclined to use health services promptly for reasons that are amenable to problem solving.

Caregivers' appreciation of the degree to which CHWs helped them with problem solving showed higher ratings in intervention versus comparison sites at endline in Cambodia, Kenya and Zambia. But caregivers generally rated their level of client satisfaction with CHW services similarly across study arms (Figure 3).

> "... the patients they refer to the hospital tell us that they were referred by the [CHW] and they trust them by confiding in them with their delicate information concerning health."
>
> Health Facility Manager
> Intervention Site, Kenya

Improved partnering to strengthen CHW programming in intervention sites was another tangible result. Because of World Vision's close coordination with the Kenyan Ministry of Health at the national and local levels in programme execution, elements of ttC were incorporated into the national CHW training curriculum making it stronger and more comprehensive. In Cambodia, World Vision demonstrated an approach to strengthen the

Figure 1 Women 15-49 who gave birth during the previous two years and were visited by a CHW, endline data

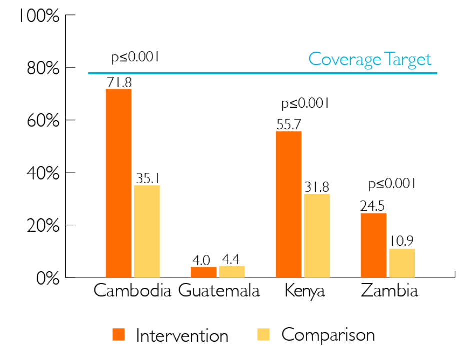


Figure 2 Women 15-49 who reported that the CHW used storybooks, endline data

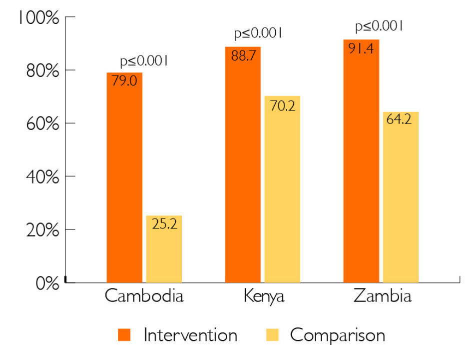
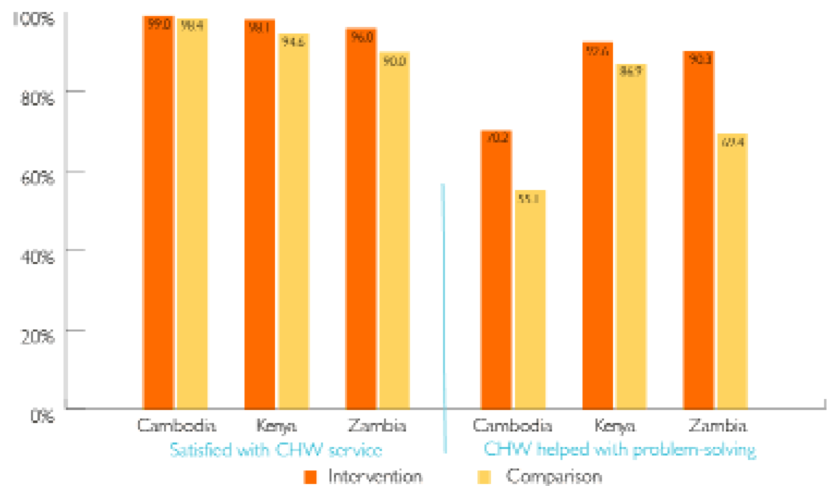


Figure 3 Caregiver appreciation of quality of CHW services, endline only



Evidence for a statistically significant difference between intervention and comparison sites at least at the p≤0.001 level was shown for: CHW helped with problem-solving – Cambodia, Kenya, and Zambia; Satisfaction with CHW service – Kenya only. Guatemala is not included due to low CHW coverage levels.

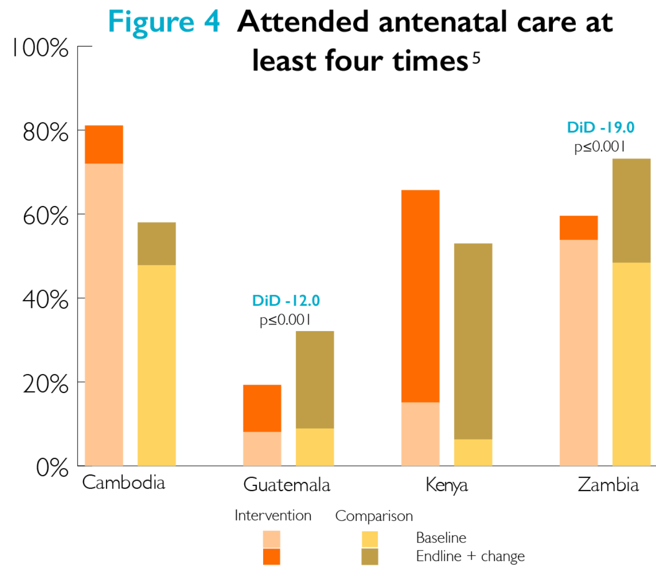
existing government-supported CHW workforce in intervention sites. Antenatal and postnatal care results were mixed. In Guatemala and Kenya, the proportion of pregnant women who completed four antenatal care visits improved in both intervention and comparison sites but more so in comparison sites (Figure 4). Postnatal care within one day of delivery generally improved across all sites, but intervention sites performed better in Kenya and Zambia, whereas the opposite was true – comparison outperforming intervention sites in Cambodia and Guatemala (Figure 5).

Levels of complete immunisation were generally less than optimal and varied across countries ranging from a high of 70% in Guatemala and low of 41% in Kenya. Complete vaccination coverage improved more in intervention than comparison sites only in Kenya (DiD=34.7, p≤0.000). However, solid progress in specific care-seeking behaviours was seen in achieving Vitamin A coverage in intervention versus comparison sites in Cambodia, Guatemala and Kenya (Figure 6) and in Guatemala, similar impact was also shown for measles and complete DPT coverage (DiD=10.8, p=0.010, DiD=12.8, p≤0.001 respectively).

Finally, noteworthy results were observed in several countries for two key measures of use of health services for child illness: antibiotic treatment for suspected pneumonia and antimalarial treatment of fever. Greater progress in intervention versus comparison areas was seen in Cambodia for caregiver reported antibiotic treatment for pneumonia (DiD=29.2, p≤0.001), but not in other countries. For antimalarial treatment of fever, a significant positive effect was seen in Guatemala only (DiD=7.7, p≤0.01). However, when supplemental analyses[4] restricted this to reported treatment of fever within one day of onset of illness, intervention outperformed comparison sites in Cambodia (DiD=19.2, p≤0.001), Guatemala DiD=0.4, p≤0.01 and Kenya (DiD=19.2, and p≤0.001). These results suggest that World Vision's CHW programming can be effective at promoting these life-saving care-seeking behaviours.

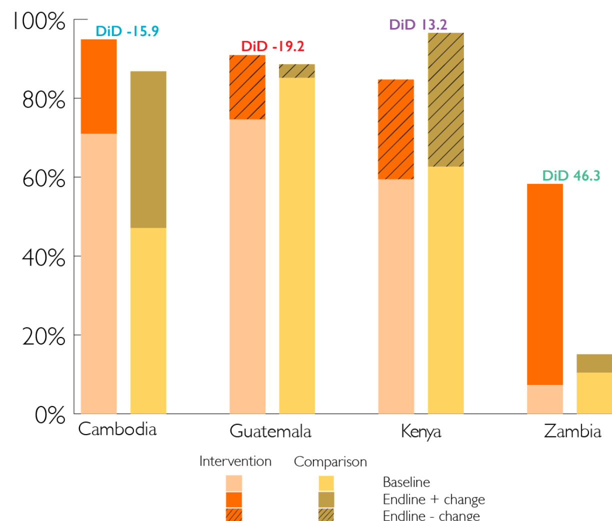
Overall results from household surveys showed that CHWs in intervention versus comparison sites were able to reach a greater proportion of eligible households and to deliver somewhat higher quality counseling services to prompt improvements in preventive care and care-seeking. However, the reach of CHWs was still far short of the 80% coverage target except in intervention sites in Cambodia, reflecting the challenges to scale programme implementation during the study period (See Figure 1 on p2).

Figure 4 Attended antenatal care at least four times[5]



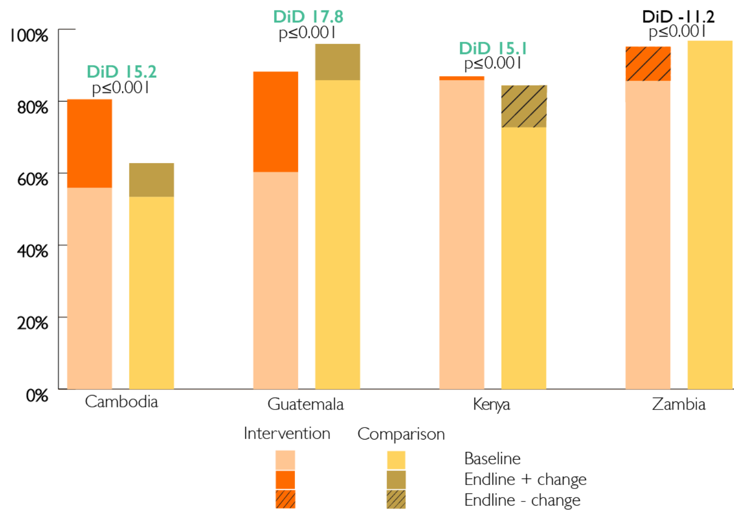
DiD values in blue indicate improvement in both study areas but significantly better performance in comparison sites. For other comparisons, no significant difference in performance was found.

Figure 5 Postnatal care within one day of delivery[5]



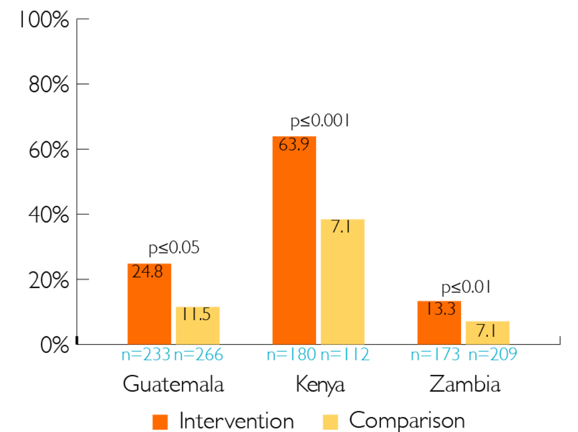
DiD value in green indicates better performance in intervention than comparison sites, whereas DiD values in blue indicate better performance in comparison areas. Red indicates a worsening trend in both intervention and comparison, with intervention sites worse than comparison sites. Purple indicates a worsening trend in all study areas with intervention areas showing a significantly smaller drop in performance than comparison areas. All are significant at the same p-value.

Figure 6 First dose Vitamin A[5]



DiD values in green indicates better performance in intervention than comparison sites (note that prevalence decreased in comparison site in Kenya). For Zambia comparison sites outperformed intervention sites.

Figure 7 Antimalarial use for child fever episode in the last two weeks



P-values indicate significant differences between intervention and comparison sites for each country.

Citizen Voice and Action

This social accountability approach improved dialogue between ordinary citizens, public service providers and government officials, and in many cases, improved the delivery of public services.

In Cambodia, meetings with the [COMMs] were often tense because of the issues that were raised as a result of CVA activity. However, the dialogue continued at many health facilities and produced favourable results, including extending the hours of service, reducing fees, improving hygiene and access to essential medicines and supplies. Also noted was a positive improvement in the attitudes of health centre staff to the clients they serve.

> “CVA has contributed to positive changes at the health center… [for hygiene] I think there was 70% improvement after the first meeting… it was 80% after the second meeting… In general, the surrounding of the health center is clean…and there are more clients.”
>
> CVA Member
> Intervention Site, Cambodia

> “[The Health Center] hired three new staff to ensure to work on the clock as villagers requested… [the health center] will reduce the user's fee in 2017 because villagers complained that the user's fee was expensive.”
>
> Health Centre Manager
> Intervention Site, Cambodia

In Kenya, there was considerable qualitative evidence that CVA interventions improved several important dimensions of facility-based care through successful negotiations with the local government. Improvements included rehabilitation of a number of facilities and prevention of late openings and early closures. An overall improvement in the attitude of health providers was described as increased respect for clients and a greater sense of accountability among health facility staff to the community.

> “Communities see the CVA groups as their mouthpiece, a bridge, and ambassadors.”
>
> Johns Hopkins Impact Analysis Report

In Zambia, beneficiaries and health system staff and volunteers confirmed that CVAs worked to resolve community disputes, constructed mothers' shelters (for a maternity waiting home) and reported medicine stock-outs to government partners.

> “There was no mother's shelter at our nearest clinic, so the CVA advocated for the construction of the mother's shelter. Our daughters now have some resting room at the clinic.”
>
> Grandmother
> Intervention Site, Zambia

In fact, results show encouraging levels for caregivers of ill children under five reporting use of antimalarials for treatment of fever in intervention versus comparison sites in Guatemala, Kenya and Zambia (endline data only; data unavailable for Cambodia)[6]. This speaks to these drugs being reliably available at health facilities (Figure 7).

Community Health Committees

There was a widespread appreciation among the key informants and stakeholders that the COMMs made vital contributions to improving health

and health services in the communities in the study area.

In Cambodia, there were numerous examples of how the COMMs linked communities with the health centres and how they mobilised support to address key constraints in providing services at the health facilities. Several examples were noted in which the COMMs were instrumental in improving roads and bridges to facilitate access to health centres for maternity care.

In Kenya, there was widespread agreement, particularly among community members and leaders interviewed, that COMM is essential and necessary for linking health facilities with communities and vice versa as well as for monitoring activities at the health facility.

In Zambia, many respondents felt that COMMs made meaningful contributions to promoting health in the communities where they were active, serving as a link between the village and the health facility, and providing support for the CHWs.

"What I know is role of [COMM] is to oversee the health-related activities that are taking place at the community level because they also work in coordination with the health facilities to make sure the volunteers that are doing their work."

Pregnant Woman
Comparison Site, Zambia

"Most people in these communities never used to go to the hospitals but from the time these [COMMs] were introduced, people have accepted them and a good number have started going to the hospitals and they are slowly stopping going to the traditional healers, we are now seeing few people getting sick."

Village Headman,
Intervention Site, Zambia

Integration Between the Three Approaches

There were challenges in implementing the three approaches simultaneously, primarily having to do with phasing and staffing. The time needed to work together with government partners and prepare for deployment was underestimated and difficult to complete efficiently. The training cycle for ttC also required about four weeks of classroom time to complete a three-module course.

Staff turnover was an ongoing issue and CHW attrition was a concern in a number of sites. These issues presented numerous obstacles to achieving ideal program quality and led to a shorter duration of deployment of the full programme than initially planned (ranging from 8 to 10 months across all study sites).

Despite programme implementation challenges, the value of COMM and CVA in leveraging CHW programming was evident. In Cambodia and Zambia a greater proportion of CHWs in intervention than in comparison sites reported they received support from CVA or COMM in mobilising the community to use their services (Cambodia: 14.3% vs. 6.3% among 30 CHWs; Zambia: 73.3% vs. 40.0% among 31 CHWs).
Although by design this study did not quantify the separate effect of the COMM and CVA approaches, results show that they helped leverage the value of CHW programming and contributed toward making health services more patient-centred.

In all four countries there was strong evidence that stakeholders value all three interventions. In Cambodia, Kenya and Zambia a strong initial investment was made to partner with governments to enhance and integrate existing CHW programmes and health commitees. This effort likely laid the foundation for positive results.

This synergy likely contributed to a positive impact on delivery of a complete continuum of care to improve newborn survival shown by the evaluation. Comparing intervention with comparison sites at endline and adjusting for potential confounders, researchers found that the chance of mothers receiving adequate continuum of care was six times greater in intervention versus comparison sites for Zambia, three times greater for Cambodia, and in Kenya mothers had a 38% greater chance of receiving adequate care. [7]

In both Kenya and Cambodia, the contributions that World Vision made to strengthening CHW programmes in the study areas and nationally, as well as the important contributions that the organisation made to building stronger linkages between communities and health facilities, thereby improving the health services provided, are widely recognised and appreciated by households, key stakeholders and Ministry of Health officials.

Although these patterns varied, they constitute modest evidence that the World Vision programme helped to improve pediatric care seeking for all three illnesses linked to premature death in children, namely fever, diarrhea and acute respiratory infection. In most other cases, results show an overall improvement in pediatric care seeking over time with both intervention and comparison sites trending upward.

Conclusion

The findings illustrate the contextual variations in how community systems strengthening is implemented. In general, greater sustainability and impact was seen for programmes that invested in partnering up front and successfully adjusted the approach to preserve quality and strengthen existing government programmes.

> "The fact that [COMM] and CVA contributed to a stronger link between the health facilities and the community, to more respectful care provided at the health facilities, and to cleaner facilities are all substantial achievements for which World Vision can rightly take credit."
>
> Johns Hopkins Impact Analysis Report

The lower cost of both COMM and CVA make them worthwhile community health system strengthening approaches beyond CHW work. The general pattern of these results also suggests that where complementarity between these approaches was more fully leveraged, better results were seen. However, robust deployment of three distinct approaches simultaneously was challenging and questions about streamlining, sequencing and appropriate resourcing were raised.

Continued efforts to strengthen community-based systems are warranted to ensure that equitable health services meet the growing demand to address the leading causes of death and illness in vulnerable women and young children in rural communities.

RECOMMENDATIONS

1. These three interventions are complementary, complex and don't come out of a box ready to deploy. Necessary time, resources and effort need to be allotted in order to properly contextualise these interventions for maximum impact.

2. To best leverage the distinct yet mutually reinforcing components of multiple interventions, integrated planning and budgeting, and sequenced roll outs are necessary. Beginning with COMM and CVA is best practice.

3. Effective programme deployment starts with understanding and leveraging existing competencies to better select, equip and value frontline staff. Emphasis on preparing staff to support complementary programmes and offering training opportunities of varying types can help prevent and mitigate the effects of staff turnover, including among CHWs.

4. Implementation of the ttC approach requires streamlining. The training curriculum and other elements are being re-designed to enable faster training cycles and more robust implementation.

5. To support more effective partnering, resource materials should be prepared to represent the value add and complementarity of these approaches to boost stakeholder buy-in.

Endnotes

1 The term Community Health Committee or COMM is used to describe groups with this function. In Cambodia, COMMs involved are called Health Centre Management Committees; in Guatemala – COMM; in Kenya – Community Health Committees; in Zambia – Neighbourhood Health Committees. For ease of understanding, we use COMM throughout this report.

2 Community Health Workers (CHWs) is the term widely used to refer to community-based health extension workers. In Cambodia, CHWs are called Village Health Support Group Volunteers; in Guatemala – Madres Guías, in Kenya – Community Health Volunteers, and in Zambia – Safe Motherhood Action Groups. For ease of understanding, we use CHW throughout this report.

3 For a complete picture of household sample sizes as well a sub-sample sizes for eligible women, children and for anemia testing, please see *Impact Analysis Report: World Vision Child Health and Nutrition Impact Study* Table 2.2 on page 9.

4 Edward A, Sanchez J, Chhorvann C, Bowles C, Malama S, Chege J. *Impact of Community Oriented Interventions on Pediatric Care-seeking Practices – A Multi-country Study in Cambodia, Guatemala, Kenya and Zambia.* Preventive Medicine and Community Health. 2018.

5 The exact values for percentages represented in this graph can be found in *Impact Analysis Report: World Vision Child Health and Nutrition Impact Study* in the following tables: Cambodia -- Table 7.2 on p 117; Guatemala -- Table 5.2 on p 55; Kenya – Table 6.2 on p 87; and Zambia – Table 4.2 on p 21. Difference-in-differences values appear in Table 3.1 on p 14 of this same report.

6 Op cit.

7 Edward A, Jung Y, Ettyang G, Chege J, Ghee AE. *Applying an Equity Lense to Maternal Health Care Continuum in Rural Communities of Cambodia, Guatemala, Kenya and Zambia*. Internal Medicine Review. 2018. e-published in Feb 2018 http://internalmedicinereview.org/index.php/imr/article/view/666/pdf.

International Research Team Leads

Dr. Anbrasi Edward, Principal Investigator, Johns Hopkins University Bloomberg School of Public Health

Dr. Jane Chege, Senior Director, Design, Monitoring & Evaluation, Ministry Strategy and Evidence, World Vision International

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