



# Lafiyan Yara Project

Enhancing Access of Children to HIV Services Using Existing  
Community Mechanisms in selected LGAs of Taraba State,  
Nigeria

MIDLINE ASSESSMENT

April 2020

Society for Family Health, Abuja  
Institute of Public Health, OAU, Ile-Ife



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## COLOFON

Lafiyan Yara Project - Enhancing Access of Children to HIV Services Using Existing Community Mechanisms in selected LGAs of Taraba State, Nigeria

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# Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
EACHEM	Enhancing Access of Children to HIV Services Using Existing Community Mechanisms
EID	Early Infant Diagnosis
FLHE	Family Life and HIV Education
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HTS	HIV Testing Services
IDP	Internally Displaced Persons
IPH	Institute of Public Health
LGA	Local Government Area
PLHIV	People living with HIV
PMTCT	Prevention of Mother-to-Child Transmission
PPMV	Patent and Proprietary Medicine Vendors
SFH	Society for Family Health
TBA	Traditional Birth Attendant
VHW	Village Health Worker



# Executive Summary

## BACKGROUND

The Lafiyan Yara Project is a research and service delivery initiative with overall aim to create greater demand for HIV counselling and testing (HCT), Anti-retroviral treatment (ART), and prevention of mother to child transmission (PMTCT) services by the general population, especially those in the project target population in Taraba State between 2019 and 2022. It also has the aim to increase access and uptake of HIV services among children (0-14 years) in the state by 2022; and, to reduce HIV transmission from mother to child with a view to generating evidence-informed policies to improve the HIV case-finding and treatment uptake for children under 15 years of age in Taraba State and Nigeria.

Lafiyan Yara project is conceptualised as a context-specific, community participatory intervention approach. It proposes to guarantee the rapid identification and linkage of children less than 15 years of age living with HIV in four LGAs of Taraba State to HIV testing (HTS) and PMTCT services in state government-owned facilities. The intervention began in 2019 and is planned to continue for three years till 2022 (2019 – 2022) with baseline, midline and endline surveys. The project will assess the acceptance of community and informal health structures to bridge the gap between households and health facilities for HTS.

At the outset of the survey, the Institute of Public Health (IPH) conducted a baseline survey in the five LGAs proposed for the study implementation. Concurrent with the baseline, Society for Family Health (SFH) trained traditional birth attendants (TBAs), village health workers VHWs and Patent and proprietary medicine vendors (PPMV) to identify, refer, link and track intervention beneficiaries to public health facilities where formal facility-based health care providers initiated testing and counselling (PITC). In addition, SFH promoted voluntary health-seeking behaviours at the community level. The broad objectives of this midline assessment were to compare exposure to community-based referral for and uptake of HTS services among women who completed term pregnancy in the past year, and children under 15 years in the selected intervention and control LGAs after one year of intervention; and to compare the cost-effectiveness of different models of community mobilization for uptake of HTS.

## METHODOLOGY

IPH conducted data collection for the midline survey in October – November 2020. The midline assessment consisted of data collection for cross-sectional descriptive study and project cost effectiveness analysis. The performance of the selected community structures (PPMV, TBA or VHW) in identifying, referring, linking and tracking beneficiary populations to public health facilities was assessed using a quasi-experimental study design. Cost analysis documented the direct and indirect cost of achieving program objective at the end of the first 12-month period in the intervention life cycle.

The four LGAs to test four intervention models are as follows: Bali LGA - traditional birth attendants (TBAs) alone; Gashaka LGA; village health workers (VHWs) alone; Zing LGA- patent and proprietary medicine vendors (PPMV) alone, and Jalingo LGA – all three models concurrently. Lau LGA served as control LGA. The study population were mothers who have delivered a child in past 12 months in the study LGAs. Each study participant was asked questions about their exposure to and uptake of HTS services as well as about exposure and uptake of HTS services by

children under 15 years living in their households. Ethical clearance for this study was obtained from the Institute of Public Health (IPH) Health Research Ethics Committee.

An eligible household in this survey had a woman who completed term pregnancy in the past 12 months regardless of the current status of the child. A total of 1729 women were interviewed at baseline and 1725 at midline across the five study LGAs. We used a multi-stage sampling technique to select respondents. The study instrument was adapted from various research instruments that have been used and validated in the country. The same study instrument used at baseline was used at the midline. Data from the household was collected with the aid of computer-assisted personal interview (CAPI) device. The outcomes of interest in this study included exposure to HTS, Uptake of HTS and linkage of HIV for eligible respondents and children 0 – 14 years in her household. All variables on which data were collected, especially the outcome measures and their frequencies, are presented here with tables and charts.

### **Cost-effectiveness analysis**

One of the outcomes of this research was to determine which of the community mobilization models was most effective to scale up within the state or in other locations with similar context. The interventions being compared are using PPMV, TBA, and VHW singly or in combination of the three to drive the uptake of HTS. The approach taken in the cost-effectiveness analysis required the determination of program costs by type of intervention model, number of beneficiaries for each intervention model, and program effectiveness. The procedure involved determining cost per beneficiary for each type of intervention outcome of interest e.g. cost per beneficiary of referral for HTS is the cost of reaching the interventions' targets with HTS divided by the number of beneficiary reached, for each model. We used ingredient costing approach in the cost analysis. The number of beneficiaries reached was derived from the project routine monitoring and evaluation records. Following this, the cost per beneficiary was used to estimate an average cost-effectiveness ratio by dividing each by a measure of program effectiveness. To estimate program effectiveness, we used a probit regression framework that examined the relationship between the outcome of interest (e.g. uptake of HTS), and a measure of program exposure (i.e. intervention vs control LGA). Program effectiveness was derived as marginal incremental outcome from the regression modelling. These marginal effects represented the incremental change in an outcome from a unit change in an independent variable (i.e. program exposure). These provided an estimate of the magnitude of the effect of exposure to an intervention on the outcome. The average cost-effectiveness ratio of each of the intervention was determined by a simple division of the per-beneficiary cost of each intervention outcome by the measure of the magnitude of the intervention's effect, i.e. the marginal effect for that outcome.

### **KEY FINDINGS**

**Background characteristics:** Generally, the populations studied at baseline and midline are similar and there were no sizeable changes in their background characteristics.

**Reproductive history and pregnancy intention:** At midline, Fifty-six respondents (2.6%) were pregnant during the survey while 32.2% reported that they would like to be pregnant in the year; 68.0% of the respondents had 1 – 4 pregnancies in the past and 77.8% had 1 – 4 deliveries. One in 6 of the respondents had lost a child in the past while 31.8% of these had lost more than one child and most of the deaths (68%) occurred before the child was a year old. Higher percentages of the respondents reported attending antenatal care in the last pregnancy in all the intervention LGAs with percentage point difference (PPD) ranging from 3.1 in Zing to 11.8 in Gashaka at midline compared to baseline. However, the percentage of women who reported attending antenatal care for the last pregnancy was lower in Lau, the control LGA, with PPD of -18 points.

**Antenatal care utilisation and choice of place of delivery:** The proportions of respondents who used antenatal care at their last pregnancy increased in the four intervention LGAs from 83.7%, 84.0%, 86.3% and 89.3% at baseline to 88.1%, 95.8%, 89.4% and 95.8% at mid-line respectively in Bali, Gashaka, Zing and Jalingo, while in Lau control LGA, the proportion dropped from 80.5% at baseline to 62.5% at midline. Generally, checking of vital signs in pregnancy was almost universal in all the LGAs at midline compared to baseline except in Lau, the control LGA. Concerning information on HIV testing, prevention, and prevention of mother-to-child transmission, the percentages of women who had exposure to these pieces of information during ANC were higher in all the intervention LGAs at midline compared to baseline but lower in Lau, the control LGA.

**Knowledge, opinions and attitudes and self-risk perception about HIV/AIDS:** Comparing baseline with midline findings, there has been an increase in knowledge about HIV. At the midline, a positive increase in the proportion of respondents who knew about transmission of HIV during pregnancy, during delivery and breastfeeding was seen in all intervention LGAs whereas a decrease was seen in these three parameters for the control LGA, Lau. While we are not aware of any other specific HIV intervention ongoing in the state, this may be connected to the activities of the community mobilizers directly informing pregnant women about HIV and AIDS. Also, respondents were better informed that a healthy-looking person could have been HIV infected at midline compared to baseline. The percentage of respondents who were aware of the mother-to-child route of transmission increased at midline survey in all the LGAs and remarkably so in Bali. The percentages of women respondents who knew the important ways to avoid HIV/AIDS, such as avoiding sharing of sharp objects, staying with one partner, avoiding sex with commercial workers, etc. were high at the baseline survey and increased marginally at the midline survey. However, myths such as "praying to God", delaying the onset of sexual intercourse, use of antibiotics, seeking protection from traditional healers and "doing nothing" were still prevalent at midline survey, though at a lower level than at baseline.

**Exposure to community-based HTS and uptake of HIV testing:** Compared to the control LGA, there was an increase in the knowledge of respondents of where to get tested for HIV in all the intervention LGAs between baseline and midline assessment. Similarly, in three of the four intervention LGAs, there was an appreciable increase in the proportion of respondents who were counselled or referred by someone in the community for HIV testing (community-based referral) during the last pregnancy between baseline and midline assessment. Also, there were slight increases in the proportion of those who went for the test after being referred in Bali (89.7% to 95.2%), Gashaka, (88.9% to 89.4%), and Zing 93.4% to 96.4%). Across the LGAs there was a marginal increase in the number of children referred in the last one year to a health facility for HIV screening at the midline in all the intervention LGAs (Bali, 3.3% to 4.6%; 2.7% to 6.0%; Jalingo, 2.6% to 8.1% and in Zing, 10.0% to 11.8%). Fathers and other relatives were found to be important in supporting referrals of mothers and children to health facility for HTS across all the study LGAs at both baseline and midline assessment.

All the intervention LGAs had an increased proportion of women who had HIV test in their last pregnancy while this decreased in the control LGA. The increases were much higher in Bali where TBAs provided intervention and in Jalingo where all the intervention models were implemented. In addition, respondents were aware that some drugs reduce the risk of transmission and also prolong the life of people living with HIV. The quality of testing services seems to have improved during the first year of intervention since higher percentages of the respondents in all intervention LGAs had pre-test counselling, received test result, and had post-test counselling. This is in clear contradiction to the experience of women respondents in Lau, the control LGA. In Lau, the percentages of women who had HIV test during the last pregnancy, those who had pre- and post-test counselling, and those who received test result were much lower than in the intervention.



**Cost effectiveness:** Using TBAs as community mobilizers for referring pregnant women for HTS appears to be a very cost-effective approach to driving access to HTS (ACER: \$83.32 / HTS referral, €74.27/ HTS referral). Using VHW was more cost-effective for completion of referral resulting in actual testing also among pregnant women (ACER: \$188.10/HIV test, €167.70/HIV test). However, the combination approach was more cost-effective for referring children <15 years (\$194.75/HTS referral, €173.50/HTS referral) and completing the referral resulting in HIV testing (\$41.00/HIV test, €36.53/HIV test). In the case of the combined model for converting referral to actual testing for HIV, marginal effect, hence average cost-effectiveness could not be estimated only because margins examination requires contrast in both the outcome and independent variables. This was not achieved only because all respondents who reported to have been referred under that model also reported to have all got HIV test done following the referral. Thus, it is very much a useful approach to take. Using PPMV was not cost-effective at all for either pregnant women or children <15 years-old.

## CONCLUSIONS AND RECOMMENDATIONS

As the study proposed, an increased numbers of women of childbearing age group and their children 0 – 14 years were identified and referred for HTS by community-based cadres investigated in the study. It appears that TBAs performed better than VHW and PPMVs in identifying and referral of women of childbearing age group. The role of facility health workers, the children's fathers and others is noted in referring for HTS. With respect to the cost effectiveness of the various community based referral models it seems the combined approach was most useful achieving scalable effects of increased uptake of HTS among pregnant women and children less than 15 years old. In particular, the combination of TBA and VHW appears promising since the use of PPMV did not have any appreciable effectiveness.

In view of our findings, we offer the following recommendations

1. This study shows that TBAs alone or in combination with other approaches is cost effective in enhancing access to HIV testing services. We recommend that this group of community mobilizers should be further strengthened while ensuring that they practice within the boundaries of their competency.
2. PPMVs were less effective in driving uptake of HTS than the other types of community mobilizers, however, it might still be possible to modify the approach being used with PPMV such as considering giving them stipends for every completed referral.
3. We find that there are other structures within the community that are important for pregnant women and children to access health facilities for HTS, in particular, husbands/fathers and other relatives. It may be important to incorporate these persons into future interventions for driving uptake of HTS among pregnant women and children.



# 1 Introduction

## 1.1 Background

The Lafiyan Yara Project is a research and service delivery initiative with overall goals to create greater demand for HIV counselling and testing (HCT), Anti-retroviral treatment (ART), and prevention of mother to child transmission (PMTCT) services by the general population, especially those in the project target population in Taraba State between 2019 and 2022. It also has the aim to increase access and uptake of HIV services among children (0-14 years) in the state by 2022; and, to reduce HIV transmission from mother to child with a view to generate evidence-informed policies to improve the HIV case-finding and treatment uptake for children under 15 years of age in Taraba State and Nigeria. These are to be achieved by improving improve case-finding of HIV positive children (0-14 years) and pregnant women, and improved linkage of HIV positive children and pregnant women to HIV treatment service.

Taraba state has a HIV prevalence of 2.9% which is the highest in the Northeast geopolitical zone and the second highest in the country. Antenatal care attendance is 44.5%, lower than the average for the north east geopolitical zone of 62.4%. The estimated proportion of population that are pregnant women and children below 15 years old in the state are 5% and 41% respectively. Drivers of the HIV epidemic include norms that promote multiple concurrent sexual partnerships, low risk perceptions, low awareness of HIV and poor literacy rates. In recent years, the Northeast geopolitical zone has been ravaged by crisis hence, Taraba state has had to host a significant number of internally displaced persons (IDPs) from crisis ridden states because of its relatively stable security situation. There are also limited or no donor funded HIV interventions in Taraba leaving a gap in the continuum of care for HIV. The last intensive intervention for HIV was the Sure-P funds for scaling up the treatment of HIV/AIDS which ended in 2017. There is consequently a large number of undiagnosed people living with HIV (PLHIV) including children and pregnant women. In addition, a common maternal behaviour pattern in northern Nigeria is that women are likely to visit traditional birth attendants (TBA) than orthodox health facilities for antenatal and postnatal care which hinders HIV counselling and testing (HCT) access.

Numerous interventions have shown that existing community mechanisms/lay community members are able to provide some health services ordinarily provided in formal healthcare settings/facilities. Community-based health workers have been used successfully in the delivery of various health interventions including for malaria and diarrhoea diseases control using the integrated Community Case Management (iCCM)<sup>1</sup> as well as for maternal health services<sup>2</sup>. Successes recorded in these applications have prompted further implementation research into how existing community structures can be used to deliver numerous health services within communities. It is thus important to explore how existing lay members of community and structures already existing within communities can be used in the treatment and prevention of HIV.

In April 2019, Stichting Aidsfonds - Soa Aids Nederland (Aidsfonds) awarded a grant (Prime Award) to SFH on the condition that SFH used a portion of the fund to provide financial support to IPH-OAU (as Sub-recipient) to actualise the achievement of the goals and results set forth in

- 1 Marsh, David R., et al. "Introduction to a special supplement: evidence for the implementation, effects, and impact of the integrated community case management strategy to treat childhood infection." *The American journal of tropical medicine and hygiene* 87.5\_Suppl (2012): 2-5.
- 2 Gilmore, Brynne, and Eilish McAuliffe. "Effectiveness of community health workers delivering preventive interventions for maternal and child health in low-and middle-income countries: a systematic review." *BMC public health* 13.1 (2013): 847.



the SFH/IPH joint proposal titled "Lafiyan Yara". Consequently, under a sub-agreement, Contract No. SFH/IPH/19/06, SFH and IPH agreed to jointly implement the project in Taraba State, Nigeria.



## 1.2 Project Conceptualisation

Lafiyan Yara project is conceptualised as a context-specific, community participatory intervention approach. It proposes to guarantee the rapid identification and linkage of children less than 15 years of age living with HIV in four LGAs of Taraba State to HIV testing (HTS) and PMTCT services in state government-owned facilities. Intervention began in 2019 and is planned to continue for three years till 2022 (2019 – 2022) with baseline, midline and end-line surveys. The project will assess the acceptance of community and informal health structures to bridge the gap between households and health facilities for HTS.

The Lafiyan Yara theory of change is grounded on the premise that early detection for HIV has the propensity to reduce infant, child and maternal mortality. To facilitate early detection of HIV, we note that increased access to antenatal care (ANC) services by pregnant women and quality delivery services by health workers will enhance exposure to HCT and PMTCT services which consequently eliminates new infections in babies. Similarly, improved linkages between informal and formal health structures in Taraba state will amplify findings of new HIV positive cases, increase antiretroviral uptake, increase the number of virally and ultimately suppressed women and children living positively and invariably reducing mortality among target groups.

At the outset of the survey, IPH conducted a baseline survey in the 5 LGAs proposed for the study implementation. Concurrent with the baseline, SFH trained traditional birth attendants (TBAs), village health workers (VHWs) and Patent and proprietary medicine vendors (PPMVs) to identify, refer, link and track intervention beneficiaries to public health facilities where formal facility-based health care providers initiated testing and counselling (PITC). In addition, SFH promoted voluntary

health seeking behaviours at community level. The report of the baseline survey has been submitted to SFH and the sponsors.



## **1.3 Midline Survey**

### **1.3.1 Broad objectives**

The broad objectives of this midline assessment were to compare exposure to community-based referral for and uptake of HTS services among women who completed term pregnancy in the past year and children under 15 years in selected intervention and control LGAs after one year of intervention; and to compare the cost effectiveness of different models of community mobilization for uptake of HTS.

### **1.3.2 Specific objectives**

The specific objectives are to

1. Compare exposure to community-based referral for HTS services during pregnancy among women who completed term pregnancy in the last one year in intervention and control LGAs
2. Compare exposure to community-based referral for HTS services among children less than 15 in households that have women who completed term pregnancy in the last one year in intervention and control LGAs
3. Compare uptake of HTS during pregnancy among women who completed term pregnancy in the last one year in intervention and control LGAs
4. Compare uptake of PMTCT services among women who completed term pregnancy in the last one year in intervention and control LGAs
5. Compare the uptake of HTS among children below 15 years in households that have women who completed term pregnancy in the last one year in intervention and control LGAs



6. Determine the cost effectiveness of using patent and proprietary medicine vendors (PPMV), traditional birth attendants (TBAs), and village health workers (VHWs) as community mobilizers to enhancing access of children and pregnant women to HIV services.





## 2 Methodology

### 2.1 Overall study design

essentially of a quasi-experimental study, and cost analysis. The performance of the selected community structures (PPMV, TBA or VHW) in identifying, referring, linking and tracking beneficiary populations to public health facilities was assessed using a quasi-experimental study design. Cost analysis documented the direct and indirect cost of achieving program objective at the end of the first 12-month period in the intervention life cycle.

### 2.2 Intervention Location and Scope of the Research Component

As described in the baseline report, SFH and IPH selected five LGAs to test the 4 intervention models as follows: Bali LGA - traditional birth attendants (TBAs) alone; Gashaka LGA; village health workers (VHWs) alone; Zing LGA- patent and proprietary medicine vendors (PPMVs) alone, and Jalingo LGA – all three models concurrently. Lau LGA served as control LGA.

#### 2.2.1 Study population

The study population in this study were mothers who have delivered of a child in past 12 months in the study LGAs. Each study participant was asked questions about their exposure to and uptake of HTS services as well as about exposure and uptake of HTS services by children under 15 years living in their households.

#### 2.2.2 Inclusion criteria

Women, aged 15 – 50 years, who have delivered of a child in past 12 months preceding study, regardless of the current status of the child in the study LGAs.

#### 2.2.3 Exclusion criteria

Eligible women who have not lived in the community for at least one year preceding each survey

### 2.3 Sample size determination

To detect a programmatically significant increase in uptake of HTS by at least nine percentage points, sample size calculation for this study is based on 80% power, assuming a type I error of 5%, adjusting for potential clustering using a design effect of 1.2, and a non-response rate of 10% among respondents. The NARHS 2012 survey estimated that the proportion of women in reproductive age group who have ever done an HIV test in Northeast geopolitical zone was 17.6%, consequently a sample size of 430 households was determined for each study LGA making a total of 2150 households to be interviewed at each round of household survey. An eligible household was one that has a woman who completed term pregnancy in the past 12 months regardless of the current status of the child.

#### 2.3.1 Sampling technique

A multi-stage sampling technique was employed. For each study LGA, the list of political wards and the estimated population was acquired and five of these were selected per LGA by simple random sampling. In each selected ward, ten streets/communities were selected by simple random sampling. Starting from a randomly selected building in each selected street/community, an eligible household was interviewed in every alternate building till the proportionate sample size

assigned to that street/community was exhausted. In selected buildings with more than one eligible respondent, the research assistant selected who to interview by balloting.

### **2.3.2 Study instruments**

The instrument for baseline household survey was adapted from various research instruments that have been used and validated in the country. The instrument has the following sections:

Section 0: Household Roster

Section 1: Background characteristics

Section 2: Pregnancy History

Section 3: Antenatal Care Services Utilisation

Section 4: Knowledge, opinions, and attitudes about HIV and AIDS

Section 5: Perceptions about HIV

Section 6: Exposure to Community based referral for HTS

Section 7: Uptake of HIV services

### **2.3.3 Pre-test**

The instrument for the household survey was pre-tested at a location within Jalingo LGA that was not included in the data collection. The outcome of the pre-test was used to refine the tools and adapt to the realities of the target population without losing context.

### **2.3.4 Method of data collection:**

Data from the household was collected with the aid of computer assisted personal interview (CAPI) device.

### **2.3.5 Measurement of outcome variables**

The outcomes of interest in this study include the following.

For mothers:

1. Exposure to HTS
2. Uptake of HTS
3. Received PMTCT
4. Linked to HIV care (i.e. drug (anti-retroviral therapy (ART) treatment)
5. Child had EID

For children under 15 years:

1. Exposure to HTS
2. Uptake of HTS
3. Linked to HIV Care (i.e. drug (ART) treatment)

### **2.3.6 Data Analysis**

All variables on which data will be collected, especially the outcome measures and their frequencies, were presented with tables and charts.

## **2.4 Field administration/management**

1. Recruitment of researchers: Research assistants were recruited from among eligible person who normally lived in Taraba state and are proficient with the local languages as well as English language.
2. Community Entry: Community entry and recruitment of participants for this research was facilitated through existing relationships and engagement of actors at the State, LGA and Community levels
3. Quality assurance: Training was conducted for researchers at a central location. The training covered all issues related to the research. The training ensured familiarity with the

instruments and techniques to be used, conduct the interviews, and role-play. This was followed by the pre-test of the methodology and instruments. To ensure high quality data collection, quality control mechanisms were instituted at every stage of the exercise. Recruitment of the researchers followed a standard procedure to ensure the selection of highly qualified and experienced persons. The principal researcher monitored the evaluation throughout the process.



## 2.5 Cost effectiveness analysis

### 2.5.1 Introduction

One of the objectives of this research was to determine which of the community mobilization models is most useful to scale up within the state or in other locations with similar context. As earlier described the interventions being compared are using PPMV, TBA and VHW singly or a combination of the three to drive the uptake of HTS. The approach taken in this cost effectiveness analysis is based on the methodology used for analysing cost-effectiveness of interventions for orphans and vulnerable children (OVC) in Kenya and Tanzania<sup>3</sup> by Hutchison and Thurman. This methodology requires the determination of program costs by type of intervention model, number of beneficiaries for each intervention model, and program effectiveness. The procedure involves determining cost per beneficiary for each type of intervention outcome of interest e.g. cost/beneficiary of referral for HTA is project cost of reaching people with HTS divided by the number reached with HTS for each model. Following this, the cost/per beneficiary is used to estimate an average cost effectiveness ratio by dividing each by a measure of program effectiveness. Program effectiveness is derived by regression modelling (described below). Since the intervention was beginning its' second year of implementation at the time of this determination of cost effectiveness, the time horizon for the research is considered to be one year. Furthermore, the intervention eligibility is based on having delivered of a baby in the past one year.

3 Hutchinson Paul L, Thurman Tonya R. Analyzing the cost-effectiveness of interventions to benefit orphans and vulnerable children: evidence from Kenya and Tanzania [Internet]. OpenBU; 2010. Available from: <https://open.bu.edu/handle/2144/26977>



### 2.5.2 Cost Analysis

We used ingredient costing approach in the cost analysis with 2019 as the base year. Costs were derived from the program specific financial report (which included cost of activating the community mobilizers and ancillary support, cost of running field office, and cost of headquarter support); from equipment inventory (asset register); estimation of costs of donations to the project; and other costs not included in program financial report. We apportioned shared across the intervention models being tested. Data on program resources were got from multiple sources including work expenditure summaries, asset register and discussions with the project staff. While we maintained the same setup cost for each model, we apportioned shared costs across the intervention models. We assigned appropriate annualized costs to capital input and valued resources when market prices deviated from the actual value of resources. Testing for HIV, EID, and ARTs are free to patients at the point of use, however we included a cost for conducting HIV test for all beneficiaries that had the test done; This study took a healthcare perspective and only included the cost of mobilizing potential beneficiaries to uptake HTS and for providing the HTS services. Though the cost were expended in Naira, they were converted to Dollars and Euro using the year average exchange rate as posted on the Central Bank of Nigeria website<sup>4</sup>. Please see the cost analysis in Annex Table 1.

### 2.5.3 Number of persons reached

The number of beneficiaries reached was derived from the project routine monitoring and evaluation records. The community Mobilizers (PPMV, VHW and TBA) mobilize, sensitize and refer target population i.e. pregnant women and children less than 15 years to receive HTS. Persons designated as community volunteers (staff of a local CBO) coordinated the community mobilizers in each LGA. They support in monitoring activities of community mobilizers, verify clients referred from the community to the facilities in the facility registers before reporting to the project M&E officer for the Lafiyan Yara for final validation, and payment of stipend by the finance officer based on number of persons referred monthly. TBAs and VHW were given stipends while PPMVs were not given stipends. In the health facility to which beneficiaries are referred for HTS, selected health worker per facility acted as focal persons for the project. They confirm and validate the referral done by community mobilizers.

### 2.5.4 Program Effectiveness

Assessment of program effectiveness is typically driven by the measures of outcomes of interest (e.g., disability-adjusted life years, quality-adjusted life years, others) and the type of study being conducted (e.g., randomized control trial, meta-analysis, behavioural/observational, decision-analytic modelling). In this study, we adopted a quasi-experimental design with research participants from the intervention LGA compared with non-equivalent respondents from the control LGA. However, we only used the one-year post-intervention (midline) evaluations comparisons to assess program effectiveness. The nature of the intervention and the outcomes of interest such as using HTS during pregnancy does not give room to conduct an RCT or a panel type evaluation that can allow for more rigorous analysis such as difference in difference estimations. To estimate program effectiveness, we used a regression framework that examines the relationship between an outcome of interest (e.g. uptake of HTS), and a measure of program exposure (e.g. participation in intervention LGA). Although we initially included a set of variables to control for potential differences among experimental and control groups to address the possible confounding of program effects with other measured and unmeasured characteristics of participants, the differences when exclude were not significant so we did not include them in the

4 <https://www.cbn.gov.ng/rates/exrate.asp?year=2019> <https://www.cbn.gov.ng/rates/exrate.asp?year=2019>; (\$1 = ₦340.30, ₦1 = \$0.0029386; €1 = ₦381.7, ₦1 = € 0.002620145)

final models. All outcomes measures were dichotomous outcomes (yes/no) hence probit regression models were estimated which allowed for the correlation in unobservable factors across both the exposure and outcome equations. Program effectiveness was derived as marginal incremental outcome from the regression modelling. These marginal effects represent the incremental change in an outcome from a unit change in an independent variable (e.g., program exposure). These provide an estimate of the magnitude of the effect of exposure to an intervention on an outcome. The margins command in Stata 15 was used to generate the margins estimates.

The outcomes of interest used in the cost-effectiveness analysis are as follows:

For mothers:

1. Proportion of participants' referred for HIV test by model type
2. Proportion of participants' who did HIV test by model type

For children under 15 years:

1. Proportion of participants' children <15 years referred for HIV test by model type
2. Proportion of participants' children <15 years who did HIV test by model type

The proportion of participants who tested positive for HIV or started received ART was very low so these outcomes could not be used in the regression modelling.

#### **2.5.5 Average cost effectiveness estimation**

The average cost-effectiveness of each of the outcomes was determined by a simple division of the per beneficiary cost of each intervention outcome by the measure of the magnitude of the intervention's effect, i.e. the marginal effect for that outcome. In this study, the measure of average cost effectiveness ratio (ACER) derived is relative to the what is the cost and effectiveness of maintaining status quo, as in the control LGA where no intervention was done.

### **2.6 Ethical Clearance and informed consent**

Ethical clearance for this study was obtained from the Institute of Public Health (IPH) Health Research Ethics Committee (HREC). Also permission to conduct the study was obtained from the Taraba State Ministry of Health. Written informed consent was obtained from all participants after the study has been properly explained to them. Participants who are unable to write or sign after consenting to participate in the study were requested to thumb-print on the consent form. Also, verbal consent was obtained from community leaders in every community where the survey was conducted. Confidentiality was assured by ensuring that there are no personal identifiers on any data instrument, and only key research personnel have access to the data.



## 3 Results

### 3.1 Household characteristics

During the midline survey, a range of 430 (Bali and Jalingo) to 440 (Lau) households were visited; these compare closely to the numbers of households visited at baseline (430 in Bali, Gashaka and Jalingo to 439 in Zing). The distribution of household members by age and sex were essentially similar at baseline and midline but there was generally a reduction in number of eligible children in the households which ranged from 918 (51.9%) in Bali to 1182 (53.9%) in Zing at midline and 1189 (56.9%) in Bali to 1424 (58.8%) in Gashaka at baseline (Table 1).

The socio-demographic characteristics of the women of childbearing age-group recruited from the households (one mother per household) at baseline and midline surveys are shown in Table 2. The most striking difference observed is that the percentages of the women in the 20 – 29-year age-group were higher at midline compared to baseline in all the LGAs. Like at baseline survey, almost all the respondents were married (> 80%) in all the LGAs, and a higher percentage were Muslims in all the LGAs except Zing where there were more Christians. The differences in other household characteristics – main occupation, level of education, marital status, etc. – between baseline and midline surveys do not show any consistent pattern.

Ownership of household amenities are described in Table 3. Mobile phones, radios, television and generating sets are the more commonly possessed personal and household items. Perhaps, not surprising, higher percentages of households in Jalingo had these items compared to the other LGAs. Sources of water for drinking and household chores are described in Table 4. Comparatively higher percentages of households sourced water from wells, boreholes and streams at baseline and midline surveys compared to other sources. Water vendors and packaged were somewhat important in Jalingo (Table 4).

Table 1: Household characteristics by LGA.

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
<b>Number of usual HH members</b>										
2 – 5	291 (67.7)	371 (86.3)	238 (55.3)	286 (66.4)	224 (51.0)	273 (62.9)	283 (65.8)	305 (70.9)	247 (56.5)	294 (66.8)
6 – 10	132 (30.7)	59 (13.7)	181 (42.1)	143 (33.2)	185 (42.2)	147 (33.9)	139 (32.3)	122 (28.4)	167 (38.2)	139 (31.6)
11 and above	7 (1.6)	0 (0.0)	11 (2.6)	2 (0.4)	30 (6.8)	14 (3.2)	8 (1.9)	3 (0.7)	23 (5.3)	7 (31.6)



<b>Total</b>	<b>430 (100.0)</b>	<b>430 (%)</b>	<b>430 (100.0)</b>	<b>431 (%)</b>	<b>439 (100.0)</b>	<b>434 (%)</b>	<b>430 (100.0)</b>	<b>430 (%)</b>	<b>437 (100.0)</b>	<b>440 (%)</b>
<b>Relationship to Head of Household</b>										
Head	352 (16.8)	371 (20.9)	431 (17.8)	283 (14.7)	423 (16.2)	327 (14.9)	415 (18.6)	407 (19.8)	430 (17.6)	426 (19.4)
Wife/husband/partner	446 (21.3)	463 (26.2)	426 (17.7)	458 (23.8)	422 (16.2)	506 (23.0)	444 (19.9)	411 (20.0)	441 (18.0)	397 (18.0)
Son/daughter	1261 (60.3)	913 (51.6)	1490 (61.5)	1160 (60.4)	1362 (52.2)	1283 (58.6)	1332 (59.7)	1168 (56.8)	1450 (59.3)	1231 (55.9)
Son in law/daughter in law	7 (0.3)	1 (0.1)	13 (0.5)	2 (0.1)	18 (0.7)	8 (0.4)	8 (0.4)	10 (0.5)	12 (0.5)	15 (0.7)
Grandchild	5 (0.2)	0 (0.0)	17 (0.7)	1 (0.1)	52 (2.0)	2 (0.1)	2 (0.1)	1 (0.1)	41 (1.7)	49 (2.2)
Parent	2 (0.1)	3 (0.2)	5 (0.2)	5 (0.3)	45 (1.7)	11 (0.5)	1 (0.0)	6 (0.3)	8 (0.3)	7 (0.3)
Parent in law	2 (0.1)	0 (0.0)	3 (0.1)	3 (0.2)	4 (0.2)	3 (0.1)	0 (0.0)	2 (0.1)	4 (0.2)	10 (0.5)
Brother/sister	5 (0.2)	9 (0.5)	22 (0.9)	7 (0.3)	181 (6.9)	33 (1.5)	10 (0.4)	28 (1.4)	38 (1.6)	25 (1.1)
Other relative	5 (0.2)	4 (0.2)	12 (0.5)	0 (0.0)	52 (2.0)	16 (0.7)	6 (0.3)	7 (0.3)	11 (0.5)	36 (1.6)
Adopted/foster/stepchild	5 (0.2)	3 (0.2)	0 (0.0)	1 (0.1)	47 (1.8)	1 (0.1)	12 (0.5)	12 (0.6)	7 (0.3)	3 (0.1)
Not related	1 (0.0)	1 (0.1)	2 (0.1)	0 (0.0)	4 (0.2)	0 (0.0)	0 (0.0)	1 (0.1)	2 (0.1)	1 (0.1)
Don't know	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Total</b>	<b>2091 (%)</b>	<b>1768 (%)</b>	<b>2424 (%)</b>	<b>1920 (%)</b>	<b>12611 (%)</b>	<b>1291 (%)</b>	<b>2230 (%)</b>	<b>2053 (%)</b>	<b>2444 (%)</b>	<b>2200 (%)</b>
<b>Sex</b>										
Male	1109 (53.0)	898 (50.8)	1243 (51.3)	989 (51.5)	1370 (52.5)	1061 (48.4)	1161 (52.1)	1041 (50.7)	1233 (50.5)	1094 (49.7)
Female	982 (47.0)	870 (49.2)	1181 (48.7)	931 (48.5)	1241 (47.5)	1130 (51.6)	1069 (47.9)	1012 (49.3)	1211 (49.5)	1106 (50.3)
<b>Total</b>	<b>2091 (%)</b>	<b>1768 (%)</b>	<b>2424 (%)</b>	<b>1920 (%)</b>	<b>12611 (%)</b>	<b>1291 (%)</b>	<b>2230 (%)</b>	<b>2053 (%)</b>	<b>2444 (%)</b>	<b>2200 (%)</b>
<b>Age Household members (in years)</b>										
Less than 15	1189 (56.9)	918 (51.9)	1424 (58.8)	1094 (57.0)	1384 (53.0)	1182 (53.9)	1258 (56.4)	1130 (55.0)	1300 (53.2)	1141 (51.9)
15 – 20	230 (11.0)	187 (10.6)	235 (9.7)	164 (8.5)	265 (10.2)	224 (10.2)	191 (8.6)	140 (6.8)	245 (10.0)	233 (10.6)
21 – 29	209 (10.0)	241 (13.6)	259 (10.7)	218 (11.4)	347 (13.3)	263 (12.0)	214 (9.6)	235 (11.5)	277 (11.3)	222 (10.1)
30 – 39	298 (14.2)	297 (16.8)	320 (13.2)	274 (14.3)	337 (12.9)	316 (14.4)	354 (15.9)	324 (15.8)	344 (14.1)	344 (15.6)
40 – 49	118 (5.6)	112 (6.3)	118 (4.9)	134 (6.9)	169 (6.5)	145 (6.6)	166 (7.4)	176 (8.6)	200 (8.2)	168 (7.6)

50 and above	47 (2.3)	13 (0.7)	68 (2.8)	36 (1.9)	109 (4.2)	61 (2.8)	47 (2.1)	48 (2.3)	78 (3.2)	92 (4.2)
<b>Total</b>	<b>2091 (%)</b>	<b>1768 (%)</b>	<b>2424 (%)</b>	<b>1920 (%)</b>	<b>12611 (%)</b>	<b>1291 (%)</b>	<b>2230 (%)</b>	<b>2053 (%)</b>	<b>2444 (%)</b>	<b>2200 (%)</b>
<b>Number of eligible children</b>										
Eligible	1189 (56.9)	918 (51.9)	1424 (58.8)	1094 (57.0)	1384 (53.0)	1182 (53.9)	1258 (56.4)	1130 (55.0)	1300 (53.2)	1141 (51.9)
Others	902 (43.1)	850 (48.1)	1000 (41.3)	826 (43.0)	1227 (47.0)	1009 (46.1)	972 (43.6)	923 (45.0)	1144 (46.8)	1059 (48.1)
<b>Total</b>	<b>2091 (%)</b>	<b>1768 (%)</b>	<b>2424 (%)</b>	<b>1920 (%)</b>	<b>12611 (%)</b>	<b>1291 (%)</b>	<b>2230 (%)</b>	<b>2053 (%)</b>	<b>2444 (%)</b>	<b>2200 (%)</b>



Table 2: Socio-demographic characteristics of the women

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
	430 (%)	430 (%)	430 (%)	431 (%)	439 (%)	434 (%)	430 (%)	430 (%)	437 (%)	440 (%)
<b>Age (in years)</b>										
<20	133 (30.9)	103 (24.0)	131 (30.5)	33 (7.7)	86 (19.6)	41 (9.5)	80 (18.6)	17 (4.0)	94 (21.5)	59 (13.4)
20 – 29	158 (36.7)	256 (59.5)	187 (43.5)	265 (61.5)	203 (46.2)	222 (51.1)	180 (41.9)	248 (57.7)	187 (42.8)	222 (50.4)
30 – 39	125 (29.1)	68 (15.8)	101 (23.5)	123 (28.5)	130 (29.6)	142 (32.7)	157 (36.5)	149 (34.6)	133 (30.4)	141 (32.1)
40 – 49	14 (3.3)	3 (0.7)	11 (2.5)	10 (2.3)	20 (4.6)	29 (6.7)	13 (3.0)	16 (3.7)	23 (5.3)	18 (4.1)
<b>Main Occupation</b>										
Housewife	165 (38.4)	182 (42.3)	137 (31.9)	161 (37.4)	75 (17.1)	81 (18.7)	195 (45.3)	162 (37.7)	228 (52.2)	165 (37.5)
Trading	104 (24.2)	77 (17.9)	87 (20.2)	90 (20.9)	121 (27.6)	98 (22.6)	108 (25.1)	139 (32.3)	72 (16.5)	39 (8.9)
Farmer/Forestry/Fishing/Mining	86 (20.0)	89 (20.7)	141 (32.8)	147 (34.1)	173 (39.4)	202 (46.5)	0 (0.0)	11 (2.6)	64 (14.6)	112 (25.5)
Unemployed	26 (6.0)	7 (1.6)	11 (2.6)	2 (0.5)	24 (5.5)	7 (1.6)	3 (0.7)	10 (2.3)	25 (5.7)	49 (11.1)
Artisan	1 (0.2)	1 (0.2)	20 (4.7)	6 (1.4)	6 (1.4)	1 (0.2)	39 (9.1)	20 (4.7)	4 (0.9)	1 (0.2)
Informal sector (hawkers etc.)	6 (1.4)	25 (5.8)	2 (0.5)	12 (2.8)	27 (6.2)	36 (8.3)	1 (0.2)	1 (0.2)	28 (6.4)	15 (3.4)
Civil Servant	7 (1.6)	9 (2.1)	5 (1.2)	3 (0.7)	1 (0.2)	7 (1.6)	34 (7.9)	30 (7.0)	1 (0.2)	2 (0.5)
Others	25 (5.8)	26 (6.1)	4 (0.9)	4 (0.9)	1 (0.2)	1 (0.2)	2 (0.5)	6 (1.4)	7 (1.6)	1 (0.2)
Unskilled labour	6 (1.4)	5 (1.2)	19 (4.4)	5 (1.2)	0 (0.0)	0 (0.0)	5 (1.2)	10 (2.3)	3 (0.7)	46 (10.5)
Student	3 (0.7)	7 (1.6)	4 (0.9)	1 (0.2)	7 (1.6)	1 (0.2)	9 (2.1)	18 (4.2)	2 (0.5)	5 (1.1)

Paid employment (informal sector)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (0.7)	0 (0.0)	17 (4.0)	4 (0.9)	0 (0.0)	1 (0.2)
Paid employment (formal sector – not civil servant)	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	8 (1.9)	10 (2.3)	1 (0.2)	1 (0.2)
Apprentice	0 (0.0)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (1.2)	4 (0.9),7	2 (0.5)	2 (0.5)
Clerk/clerical	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.9)	5 (1.2)	0 (0.0)	1 (0.2)
<b>Highest level of Education</b>										
None	133 (30.9)	64 (14.9)	161 (37.4)	164 (38.1)	95 (21.6)	75 (17.3)	67 (15.6)	27 (6.3)	91 (20.8)	118 (26.8)
Quranic only	84 (19.5)	88 (20.4)	47 (10.9)	65 (15.1)	26 (5.9)	13 (3.0)	89 (20.7)	69 (16.1)	77 (17.6)	88 (20.0)
Primary	77 (17.9)	114 (26.5)	108 (25.1)	110 (25.5)	121 (27.6)	165 (38.0)	41 (9.5)	48 (11.2)	89 (20.4)	107 (24.3)
Junior Secondary	52 (12.1)	79 (18.4)	40 (9.3)	39 (9.1)	64 (14.6)	47 (10.7)	31 (7.2)	36 (8.4)	52 (11.9)	47 (10.7)
Senior Secondary	61 (14.2)	64 (14.9)	64 (14.9)	47 (11.0)	112 (25.5)	79 (18.2)	118 (27.4)	156 (36.2)	118 (27.0)	74 (16.8)
Higher	23 (5.3)	21 (4.9)	10 (2.3)	6 (1.4)	21 (4.8)	21 (4.8)	84 (19.5)	94 (21.8)	10 (2.3)	6 (1.4)
<b>Marital status</b>										
Never married	10 (2.3)	11 (2.6)	12 (2.8)	12 (2.8)	15 (3.4)	15 (3.5)	7 (1.6)	12 (2.8)	35 (8.0)	46 (10.5)
Married	413 (96.0)	399 (92.8)	405 (94.2)	391 (90.7)	400 (91.1)	408 (94.0)	411 (95.6)	406 (94.4)	391 (89.5)	384 (87.3)
Cohabiting	2 (0.5)	11 (2.6)	1 (0.2)	18 (4.2)	15 (3.4)	2 (0.5)	1 (0.2)	0 (0.0)	4 (0.9)	6 (1.4)
Divorced/Separated	2 (0.5)	2 (0.5)	7 (1.6)	5 (1.2)	5 (1.1)	4 (0.9)	7 (1.6)	5 (1.2)	5 (1.1)	4 (0.9)
Widow	3 (0.7)	7 (1.6)	5 (1.2)	5 (1.2)	4 (0.9)	5 (1.2)	4 (0.9)	7 (1.6)	2 (0.5)	0 (0.0)
<b>Religion</b>										
Islam	280 (65.1)	313 (72.8)	266 (61.9)	296 (68.7)	87 (19.8)	54 (12.4)	310 (72.1)	320 (74.4)	208 (47.6)	212 (48.2)
Christianity	150 (34.9)	116 (27.0)	163 (37.9)	134 (31.1)	352 (80.2)	378 (87.1)	119 (27.7)	110 (25.6)	228 (52.2)	223 (50.7)
No religion	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	1 (0.2)	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
Traditional	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	1 (0.2)	0 (0.0)	1 (0.2)	5 (1.1)
<b>Ethnic group</b>										
Hausa	87 (20.2)	98 (22.8)	153 (35.6)	87 (20.2)	105 (23.9)	3 (0.7)	110 (25.6)	88 (20.4)	152 (34.8)	66 (15.0)



Fulani	78 (18.1)	126 (29.3)	84 (19.5)	92 (21.4)	32 (7.3)	28 (6.5)	142 (33.0)	150 (34.9)	86 (19.7)	127 (28.9)
Igbo	4 (0.9)	8 (1.9)	6 (1.4)	4 (0.9)	2 (0.5)	2 (0.5)	11 (2.6)	21 (4.9)	0 (0.0)	0 (0.0)
Yoruba	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (0.7)	8 (1.8)	0 (0.0)	0 (0.0)
Others	261 (60.7)	198 (46.0)	187 (43.5)	248 (57.5)	300 (68.3)	401 (92.4)	164 (38.1)	163 (38.0)	199 (45.5)	247 (56.1)
<b>Dwelling structure</b>										
Single family house	89 (20.7)	33 (7.7)	40 (9.3)	63 (14.6)	6 (1.4)	0 (0.0)	103 (24.0)	63 (1.6)	30 (6.9)	44 (10.0)
Mud house with zinc roof	88 (20.5)	99 (23.0)	101 (23.5)	63 (14.6)	33 (7.5)	23 (5.3)	3 (0.7)	12 (2.8)	33 (7.6)	42 (9.6)
Room and Parlour	71 (16.5)	101 (23.5)	107 (24.9)	100 (23.2)	34 (7.7)	26 (6.0)	123 (28.6)	171 (39.8)	59 (13.5)	40 (9.1)
Single room	65 (15.1)	99 (23.0)	105 (24.4)	85 (19.7)	14 (3.2)	16 (3.7)	90 (20.9)	88 (20.5)	45 (10.3)	74 (16.8)
Mud house with thatched roof	39 (9.1)	35 (8.1)	62 (14.4)	75 (17.4)	282 (64.2)	315 (72.6)	7 (1.6)	7 (1.6)	244 (55.8)	169 (38.4)
2-3 bedroom flat	39 (9.1)	24 (5.6)	13 (3.0)	24 (5.6)	48 (10.9)	34 (7.8)	75 (17.4)	67 (15.6)	9 (2.1)	50 (11.4)
Mini flat	37 (8.6)	39 (9.1)	2 (0.5)	5 (1.2)	22 (5.0)	19 (4.4)	28 (6.5)	21 (4.9)	8 (1.8)	16 (3.6)
Duplex	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	1 (0.2)
Wood and makeshift structures	0 (0.0)	0 (0.0)	0 (0.0)	15 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (2.1)	2 (0.5)
Others	2 (0.5)	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	2 (0.5)
<b>Wealth index</b>										
Low	261 (60.7)	159 (37.0)	338 (78.6)	356 (82.6)	280 (63.8)	276 (63.6)	37 (8.6)	22 (5.1)	229 (52.4)	260 (59.1)
Middle	77 (17.9)	121 (28.1)	50 (11.6)	37 (8.6)	73 (16.6)	85 (19.6)	67 (15.6)	49 (11.4)	115 (26.3)	94 (21.4)
High	92 (21.4)	150 (34.9)	42 (9.8)	38 (8.8)	86 (19.6)	73 (16.8)	326 (75.8)	359 (83.5)	93 (21.3)	86 (19.5)

Table 3: Household amenities and possession of household electronic and other items

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
	430 (%)	430 (%)	430 (%)	431 (%)	439 (%)	434 (%)	430 (%)	430 (%)	437 (%)	440 (%)
Mobile phones	287 (66.7)	353 (82.1)	204 (47.4)	199 (46.2)	202 (46.0)	254 (58.5)	355 (82.6)	401 (93.3)	334 (76.4)	259 (58.9)
Radio	165 (38.4)	264 (61.4)	52 (12.1)	61 (14.1)	98 (22.3)	134 (30.9)	241 (56.0)	273 (63.5)	143 (32.7)	89 (20.2)
Television	103 (24.0)	168 (39.1)	78 (18.1)	52 (12.1)	102 (23.2)	70 (16.1)	108 (25.1)	359 (83.5)	107 (24.5)	107 (24.3)
Generating set	96 (22.3)	138 (32.1)	56 (13.0)	40 (9.3)	23 (5.2)	16 (3.7)	86 (20.0)	89 (20.7)	27 (6.2)	22 (5.0)
Fan	68 (15.8)	143 (33.3)	28 (6.5)	25 (5.8)	78 (17.8)	71 (16.4)	346 (80.5)	353 (82.1)	57 (13.0)	55 (12.5)
Cable TV	29 (6.7)	50 (11.6)	24 (5.6)	21 (4.9)	45 (10.3)	30 (6.9)	178 (41.4)	236 (54.9)	16 (3.7)	51 (11.6)
Refrigerator	23 (5.3)	37 (8.6)	18 (4.2)	13 (3.0)	26 (5.9)	21 (4.8)	167 (38.8)	182 (42.3)	26 (5.9)	26 (5.9)
Electricity	16 (3.7)	61 (14.2)	18 (4.2)	6 (1.4)	147 (33.5)	109 (25.1)	396 (92.1)	401 (93.3)	141 (32.3)	146 (33.2)
Electric iron	11 (2.6)	51 (11.9)	6 (1.4)	5 (1.2)	42 (9.6)	58 (13.4)	260 (60.5)	253 (58.8)	37 (8.5)	37 (8.4)
Computer Yes	8 (1.9)	4 (0.9)	1 (0.2)	1 (0.2)	1 (0.2)	2 (0.5)	36 (8.4)	39 (9.1)	3 (0.7)	5 (1.1)
Air condition	2 (0.5)	6 (1.4)	2 (0.5)	1 (0.2)	0 (0.0)	2 (0.5)	35 (8.1)	36 (8.4)	1 (0.2)	2 (0.5)

Table 4: Sources of water for drinking and other domestic use

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
Source of water for drinking	430 (%)	430 (%)	430 (%)	431 (%)	430 (%)	430 (%)	437 (%)	440 (%)	439 (%)	434 (%)
From the well	282 (65.6)	232 (53.9)	90 (20.9)	125 (29.0)	125 (28.5)	131 (30.2)	88 (20.5)	76 (17.7)	92 (21.1)	80 (18.2)
From the borehole	90 (20.9)	144 (33.5)	206 (47.9)	215 (49.9)	177 (40.3)	114 (26.3)	55 (12.8)	54 (12.6)	121 (27.7)	145 (33.0)
From the stream	18 (4.2)	30 (7.0)	88 (20.5)	84 (19.5)	114 (26.0)	170 (39.2)	67 (15.6)	21 (4.9)	211 (48.3)	190 (43.2)
Water vendors	13 (3.0)	5 (1.2)	1 (0.2)	4 (0.9)	5 (1.1)	6 (1.4)	72 (16.7)	138 (32.1)	3 (0.7)	13 (3.0)
Rain water	9 (2.1)	3 (0.7)	7 (1.6)	1 (0.2)	3 (0.7)	3 (0.7)	3 (0.7)	10 (2.3)	5 (1.1)	2 (0.5)
Pure water	1 (0.2)	0 (0.0)	5 (1.2)	0 (0.0)	1 (0.2)	0 (0.0)	71 (16.5)	0 (0.0)	1 (0.2)	0 (0.0)
From the street tap	4 (0.9)	0 (0.0)	10 (2.3)	0 (0.0)	5 (1.1)	0 (0.0)	33 (7.7)	12 (2.8)	3 (0.7)	7 (1.6)
Packaged water	6 (1.4)	14 (3.3)	0 (0.0)	2 (0.5)	3 (0.7)	9 (2.1)	25 (5.8)	112 (26.1)	1 (0.2)	3 (0.6)
From a tanker	6 (1.4)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	3 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)
From the in-house tap	1 (0.2)	2 (0.5)	22 (5.1)	0 (0.0)	1 (0.2)	0 (0.0)	13 (3.0)	6 (1.4)	0 (0.0)	0 (0.0)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.9)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)
Source of water for domestic use										
From the well	325 (75.6)	252 (58.6)	107 (24.9)	157 (36.4)	136 (31.0)	137 (31.6)	138 (32.1)	167 (38.8)	105 (24.0)	88 (20.0)
From the borehole	64 (14.9)	131 (30.5)	143 (33.3)	143 (33.2)	154 (35.1)	108 (24.9)	60 (14.0)	47 (10.9)	94 (21.5)	135 (30.9)
From the stream	18 (4.2)	32 (7.4)	136 (31.6)	126 (29.2)	130 (29.6)	184 (42.4)	80 (18.6)	20 (4.7)	235 (53.8)	200 (45.5)
Water vendors	12 (2.8)	10 (2.3)	0 (0.0)	4 (0.9)	6 (1.4)	3 (8.8)	84 (19.5)	164 (38.1)	2 (0.5)	10 (2.3)
From a tanker	6 (1.4)	1 (0.2)	0 (0.0)	0 (0.0)	4 (0.9)	0 (0.0)	6 (1.4)	2 (0.5)	0 (0.0)	0 (0.0)

From the street tap	4 (0.9)	0 (0.0)	14 (3.3)	0 (0.0)	5 (1.1)	1 (0.2)	35 (8.1)	14 (3.3)	1 (0.2)	7 (1.6)
From the in-house tap	1 (0.2)	4 (0.9)	27 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	23 (5.3)	15 (3.5)	0 (0.0)	0 (0.0)
Rain water	0 (0.0)	0 (0.0)	3 (0.7)	1 (0.2)	0 (0.0)	0 (0.0)	2 (0.5)	1 (0.2)	0 (0.0)	0 (0.0)
Packaged water	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.9)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)



### 3.2 Women's Pregnancy History

At baseline and midline, the percentages of the respondents who were currently pregnant was low in all the LGAs (range of 0.5% in Bali to 5.2% in Zing at baseline, and 0.2% in Lau to 2.8% in Jalingo also at midline). These low proportions are due to the inclusion criteria requiring participants to have delivered a child within a year preceding the survey. However, higher percentages of the women desired to be pregnant in the next one year. Compared to baseline, the percentages were much higher in Bali, Gashaka and Lau (60.9%, 59.1% and 38.5% respectively), it was lower for Jalingo (20.2%) and Zing (5.9%) (Figure 1). Other distributions of the women's pregnancy history, their living and dead children, and age when the children died are described in Annex Table A2. Similar to what was observed at baseline, most of the respondents at midline, have had two or fewer pregnancies, and two or fewer previous deliveries. Bali however had relatively higher percentages of women who had two or fewer children at midline (63.3%) compared to baseline (45.6%). All other characteristics of the respondents' pregnancy history were comparable for baseline and midline. Highest percentages of the death of respondent's children occurred at infancy compared to the other age groups of the children at both baseline and midline surveys in all the LGAs except at midline in Zing as seen in Annex Table A2.

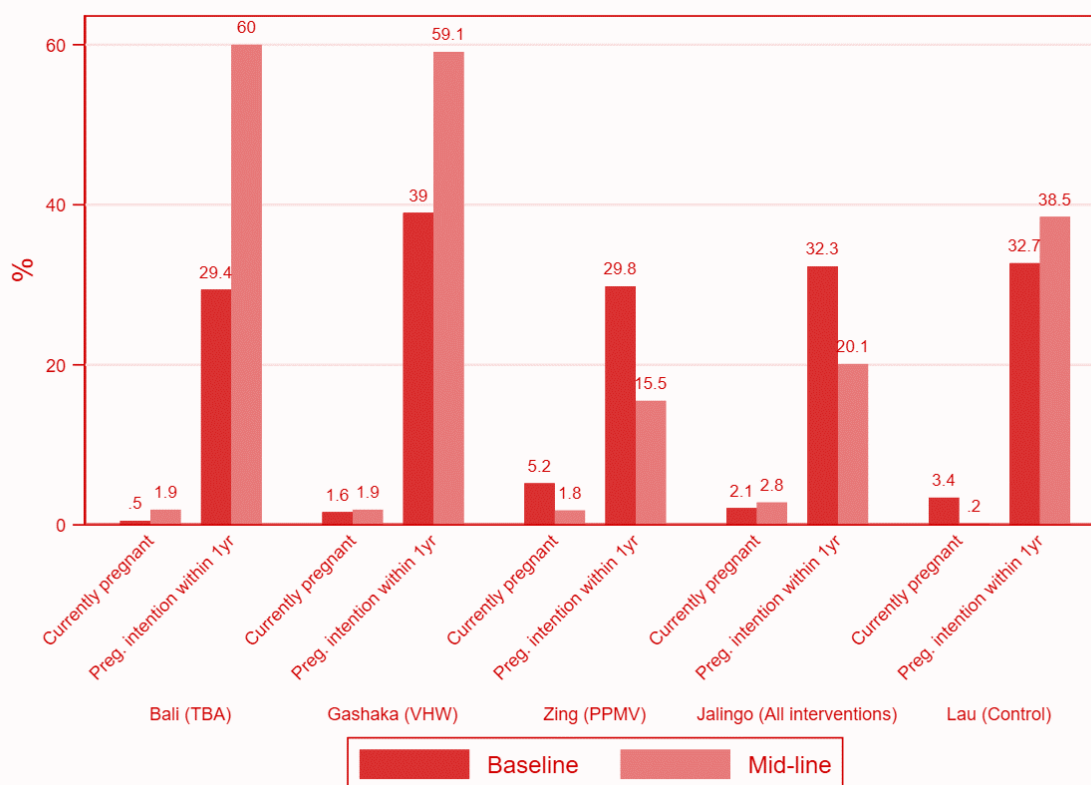


Figure 1: Respondents who were currently pregnant or those intending to be pregnant in the following year

### 3.3 Antenatal care utilisation and services provided

Antenatal care utilisation (ANC) at baseline and midline is shown in Figure 2. Higher percentages of the respondents reported receiving antenatal care in the last pregnancy in all the intervention LGAs at mid-line compared with baseline with percentage point difference (PPD) ranging from 3.1 in Zing to 11.8 in Gashaka. However, the percentage of women who reported receiving antenatal care for the last pregnancy was lower in Lau, the control LGA, with PPD of -18 points. Other characteristics of ANC for the last pregnancy are shown in Table 5. Compared to baseline, a higher percentage of women reported doctors as ANC provider in Bali (8.9 PPD), Zing (17.8 PPD), and Lau, the control LGA, (15.5 PPD). The percentages for midline were however lower in Gashaka (-5.4 PPD), and Jalingo (-21.3 PPD).

In Bali, where TBAs provided the intervention, the percentage increase in number of women who reported TBAs (18.7 PPD), Auxiliary Midwife (8.1 PPD), and Community Health Extension Workers (6 PPD) as ANC providers were higher at midline compared to baseline while it was lower for the Nurse/Midwife at midline compared to baseline (-18.8 PPD). In Gashaka, where VHW provided the intervention, the percentages of women that received antenatal care from Nurse/Midwife, Auxiliary Midwife and VHW were lower at midline compared to baseline (-12.3 PPD, -3.3 PPD and -2.4 PPD respectively); and higher for Community Health Extension Workers (8.6 PPD). In Zing where PPMVs was the intervention model, a lower percentages of women reportedly receiving antenatal care from Nurse/Midwife, Auxiliary Nurse, and VHW (-10.7 PPD, -1.1 PPD, and -4.7 PPD respectively) and higher percentage from Community Health Extension Workers (10.6 PPD). For Jalingo, where all the three intervention models were provided, higher percentage of the respondents reported receiving antenatal care from Nurse/Midwife, (11.2 PPD) while the percentages were lower for all the other care providers listed. In Lau, the control LGA, the percentages were higher for Community Health Extension Workers (21 PPD), Traditional Birth Attendants (4.4 PPD), and Village Health Worker (2.7 PPD). Details of all the other variables investigated concerning ANC utilisation at baseline and midline are also shown in Table 5.



Antenatal care functions provided at baseline and midline are described in Table 6. Generally, checking of vital signs in pregnancy was almost universal in all the LGAs at baseline and midline except in Lau, the control LGA. Concerning information on HIV testing, prevention, and prevention of mother-to-child transmission, the percentages of women who had exposure to these pieces of information during ANC were higher in all the intervention LGAs at midline compared to baseline but lower in Lau, the control LGA.

The respondents' place of delivery of the last child and preferred place of future deliveries are presented in Figures 3 and 4. Higher percentages of the respondents at baseline and midline had their last delivery in health facilities in Bali, Gashaka and Jalingo while higher percentages took place at home in Zing and Lau. In all the LGAs, women also delivered in the communities, perhaps with TBAs (1.8% in Bali during baseline 11.8 in Gashaka also during the baseline). Delivery of pregnant women at home and community is nevertheless contrary to the recommendation to encourage facility delivery. Whereas more women would prefer to have future deliveries in health facilities, preference for delivery at home in future was high in Zing, and Lau (Tables 7 and 8).

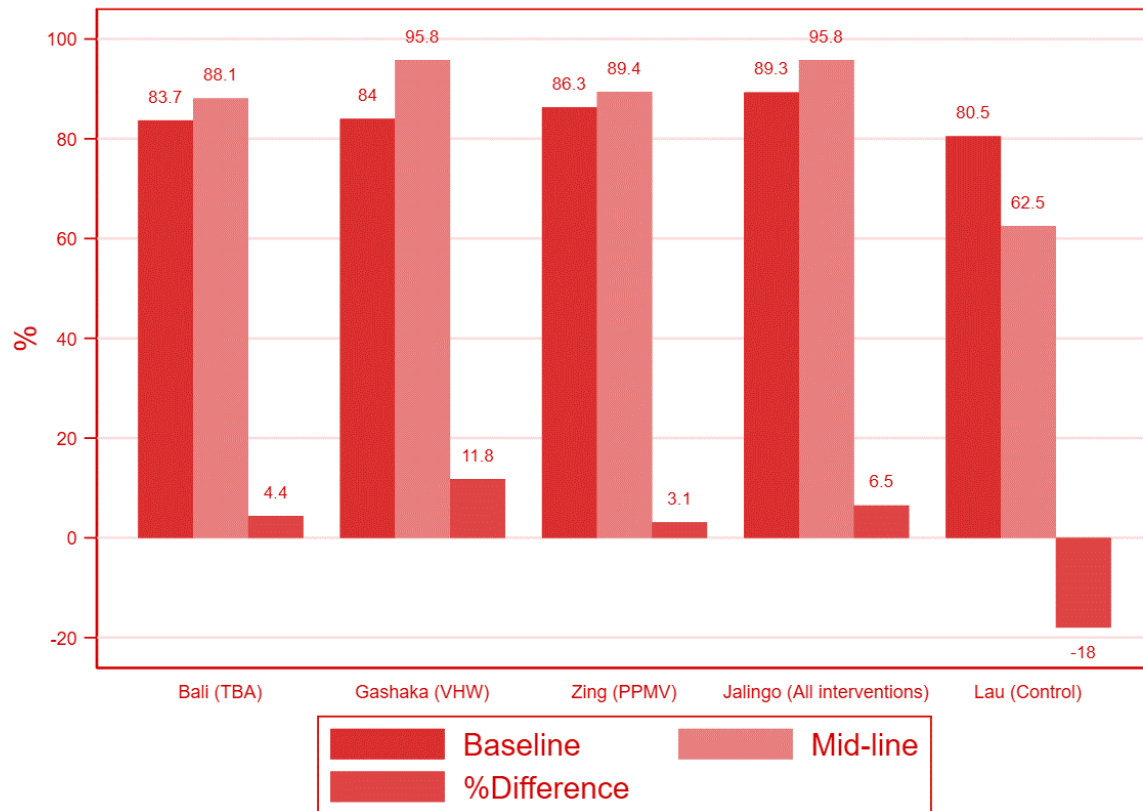


Figure 2: Antenatal care utilisation among respondent in last pregnancy at baseline and midline by LGAs and interventions models, and study phases



Table 5: Antenatal Care Services Utilisation at baseline and midline by LGAs and intervention models.

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Interventions→	TBA			VHW			PPMV			All Combined			Control		
Study Phase→	Baseline	Mid-line	%diff.	Baseline	Mid-line	%diff.	Baseline	Mid-line	%diff.	Baseline	Mid-line	%diff.	Baseline	Mid-line	%diff.
Services	360 (%)	379 (%)		361 (%)	349 (%)		379 (%)	388 (%)		384 (%)	412 (%)		352 (%)	275 (%)	
Healthcare provider seen last ANC?															
Traditional birth attendant	1 (0.3)	72 (19.0)	18.7	1 (0.3)	1 (0.3)	0	1 (0.3)	2 (0.5)	0.2	1 (0.3)	0 (0.0)	-0.3	4 (1.1)	15 (5.5)	4.4
Village health worker	2 (0.6)	4 (1.1)	0.5	11 (3.0)	2 (0.6)	-2.4	19 (5.0)	1 (0.3)	-4.7	0 (0.0)	2 (0.5)	0.5	2 (0.6)	9 (3.3)	2.7
Doctor	44 (12.2)	80 (21.1)	8.9	127 (35.2)	104 (29.8)	-5.4	75 (19.8)	146 (37.6)	17.8	258 (67.2)	189 (45.9)	-21.3	55 (15.6)	85 (30.9)	15.3
Nurse/Midwife	345 (95.8)	292 (77.0)	-18.8	325 (90.0)	271 (77.7)	-12.3	269 (71.0)	234 (60.3)	-10.7	272 (70.8)	338 (82.0)	11.2	312 (88.6)	224 (81.5)	-7.1
Auxiliary Midwife	4 (1.1)	35 (9.2)	8.1	19 (5.3)	7 (2.0)	-3.3	52 (13.7)	49 (12.6)	-1.1	4 (1.0)	0 (0.0)	-1.0	21 (6.0)	3 (1.1)	-4.9
Community Health Extension Worker	8 (2.2)	31 (8.2)	6	59 (16.3)	87 (24.9)	8.6	83 (21.9)	126 (32.5)	10.6	48 (12.5)	38 (9.2)	-3.3	9 (2.6)	65 (23.6)	21
Others	0 (0.0)	2 (0.5)	0.5	0 (0.0)	4 (1.2)	1.2	3 (0.8)	2 (0.5)	-0.3	1 (0.3)	1 (0.2)	-0.1	1 (0.3)	0 (0.0)	-0.3
Place where seen for ANC during the last pregnancy															
Federal Medical Centre	2 (0.6)	0 (0.0)	-0.6	1 (0.3)	3 (0.9)	0.6	1 (0.3)	0 (0.0)	-0.3	80 (20.8)	82 (19.9)	-0.9	10 (2.8)	12 (4.4)	1.6
General Hospital	215 (59.7)	122 (32.2)	-27.5	104 (28.8)	119 (34.1)	5.3	183 (48.3)	143 (36.9)	-11.4	74 (19.3)	60 (14.6)	-4.7	37 (10.5)	39 (14.2)	3.7

Primary Health Centre	110 (30.6)	188 (49.6)	19	179 (49.6)	139 (39.8)	58.2	68 (17.9)	57 (14.7)	-3.2	97 (25.3)	175 (42.5)	17.2	171 (48.6)	211 (76.7)	28.1
Primary Health Clinic	13 (3.6)	44 (11.6)	8	57 (15.8)	39 (11.2)	-4.6	75 (19.8)	89 (22.9)	3.1	95 (24.7)	72 (17.5)	-7.2	111 (31.5)	6 (2.2)	-29.3
Health post	12 (3.3)	0 (0.0)	-3.3	22 (6.1)	17 (4.9)	-1.2	27 (7.1)	55 (14.2)	7.1	10 (2.6)	1 (0.2)	-2.4	21 (6.0)	8 (2.9)	-3.1
Other public sector facility	3 (0.8)	0 (0.0)	-0.8	20 (5.5)	1 (0.3)	-5.2	0 (0.0)	0 (0.0)	0	6 (1.6)	1 (0.2)	-1.4	1 (0.3)	0 (0.0)	-0.3
Private hospital/Clinic	16 (4.4)	9 (2.4)	-2	9 (2.5)	8 (2.3)	-0.2	26 (6.9)	18 (4.6)	-2.3	38 (9.9)	32 (7.8)	-2.1	11 (3.1)	8 (2.9)	-0.2
Home	2 (0.6)	2 (0.5)	-0.1	2 (0.6)	2 (0.6)	0	1 (0.3)	0 (0.0)	-0.3	0 (0.0)	2 (0.5)	0.5	3 (0.9)	2 (0.7)	-0.2
Mission House	3 (0.8)	3 (0.8)	0	40 (11.1)	31 (8.9)	-2.2	15 (4.0)	33 (8.5)	4.5	0 (0.0)	1 (0.2)	0.2	2 (0.6)	9 (3.3)	2.7
Traditional Birth Attendants	0 (0.0)	24 (6.3)	6.3	0 (0.0)	1 (0.3)	0.3	0 (0.0)	1 (0.3)	0.3	1 (0.3)	1 (0.2)	-0.1	6 (1.7)	0 (0.0)	-1.7
Others (specify)	0 (0.0)	2 (0.5)	0.5	1 (0.3)	15 (4.3)	4	0 (0.0)	11 (2.8)	2.8	6 (1.6)	10 (2.4)	0.8	1 (0.3)	1 (0.4)	0.1
<b>Main place where ANC was received</b>															
Primary Health Centre	110 (30.6)	182 (48.0)	17.4	148 (41.0)	130 (37.3)	-3.7	65 (17.2)	55 (14.2)	-3	96 (25.0)	172 (41.8)	16.8	161 (45.7)	199 (72.4)	26.7
General Hospital	208 (57.8)	120 (31.7)	-26.1	93 (25.8)	114 (32.7)	6.9	177 (46.7)	136 (35.1)	-11.6	68 (17.7)	53 (12.9)	-4.8	26 (7.4)	35 (12.7)	5.3
Primary Health Clinic	10 (2.8)	46 (12.1)	9.3	37 (10.2)	36 (10.3)	0.1	73 (19.3)	85 (21.9)	2.6	88 (22.9)	71 (17.2)	-5.7	118 (33.5)	7 (2.6)	-30.9
Private hospital/Clinic	13 (3.6)	9 (2.4)	-1.2	9 (2.5)	8 (2.3)	-0.2	23 (6.1)	18 (4.6)	-1.5	35 (9.1)	26 (6.3)	-2.8	8 (2.3)	5 (1.8)	-0.5
Federal Medical Centre	1 (0.3)	0 (0.0)	-0.3	1 (0.3)	1 (0.3)	0	1 (0.3)	0 (0.0)	-0.3	71 (18.5)	76 (18.5)	0	8 (2.3)	5 (1.8)	-0.5
Health post	11 (3.1)	0 (0.0)	-3.1	17 (4.7)	14 (4.0)	-0.7	24 (6.3)	52 (13.4)	7.1	9 (2.3)	1 (0.2)	-2.1	17 (4.8)	8 (2.9)	-1.9
Mission House	3 (0.8)	3 (0.8)	0	34 (9.4)	29 (8.3)	-1.1	14 (3.7)	30 (7.7)	4	0 (0.0)	1 (0.2)	0.2	2 (0.6)	8 (2.9)	2.3
Other public sector facility	3 (0.8)	0 (0.0)	-0.8	20 (5.5)	1 (0.3)	-5.2	0 (0.0)	0 (0.0)	0	5 (1.3)	0 (0.0)	-1.3	0 (0.0)	0 (0.0)	0

Home	1 (0.3)	0 (0.0)	-0.3	2 (0.6)	4 (1.1)	0.5	1 (0.3)	0 (0.0)	-0.3	6 (1.6)	1 (0.2)	-1.4	5 (1.4)	6 (2.2)	0.8
Traditional Birth Attendants	0 (0.0)	18 (4.8)	4.8	0 (0.0)	0 (0.0)	0	1 (0.3)	1 (0.3)	0	1 (0.3)	1 (0.2)	-0.1	6 (1.7)	2 (0.7)	-1
Others (specify)	0 (0.0)	1 (0.3)	0.3	0 (0.0)	12 (3.4)	3.4	0 (0.0)	11 (2.8)	2.8	5 (1.3)	10 (2.4)	1.1	1 (0.3)	0 (0.0)	-0.3
<b>How many months pregnant when first received ANC in the last pregnancy</b>															
1 – 3	114 (31.7)	116 (30.6)	-1.1	129 (35.7)	103 (29.5)	-6.2	156 (41.2)	175 (45.1)	3.9	79 (20.6)	106 (25.7)	5.1	128 (36.4)	109 (39.6)	3.2
4 – 6	198 (55.0)	241 (63.6)	8.6	187 (51.8)	201 (57.6)	5.8	201 (53.0)	193 (49.7)	-3.3	277 (72.1)	274 (66.5)	-5.6	202 (57.4)	150 (54.6)	-2.8
7 – 9	48 (13.3)	22 (5.8)	-7.5	45 (12.5)	45 (12.9)	0.4	22 (5.8)	20 (5.2)	-0.6	28 (7.3)	32 (7.8)	0.5	22 (6.2)	16 (5.8)	-0.4
<b>Number of times received ANC in the last pregnancy (in months)</b>															
1 – 3	119 (33.1)	98 (25.9)	-7.2	117 (32.4)	127 (36.4)	4	165 (43.5)	145 (37.4)	-6.1	55 (14.3)	72 (17.5)	3.2	101 (28.7)	84 (30.6)	1.9
4 – 6	195 (54.2)	207 (54.6)	0.4	194 (53.7)	203 (58.2)	4.5	180 (47.5)	209 (53.9)	6.4	268 (69.8)	254 (61.6)	-8.2	215 (61.1)	164 (59.6)	-1.5
7 – 9	46 (12.7)	74 (19.5)	6.8	50 (13.9)	19 (5.4)	-8.5	34 (9.0)	34 (8.7)	-0.3	61 (15.9)	86 (20.9)	5	36 (10.2)	27 (9.8)	-0.4

Table 6: Care functions provided to the women respondents during last ANC by LGAs, intervention and study phases

Local Government Areas										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
	360 (%)	379 (%)	361 (%)	349 (%)	379 (%)	388 (%)	384 (%)	412 (%)	352 (%)	275(%)
Antenatal care services										
Vital signs check during ANC										
Blood pressure	358 (99.4)	379 (100.0)	344 (95.3)	336 (96.3)	358 (94.5)	376 (96.9)	381 (99.2)	405 (98.3)	338 (96.0)	268 (97.5)
Urine	333(92.5)	373 (98.4)	288 (79.8)	315 (90.3)	329 (86.8)	367 (94.6)	382 (99.5)	408 (99.0)	254 (72.2)	221 (80.4)
Blood test	290 (80.6)	376 (99.2)	306 (84.7)	324 (92.8)	358 (94.5)	374 (96.4)	373 (97.1)	346 (83.9)	291 (82.7)	241 (87.6)
Information on HIV/AIDS during any of the last ANC visits										
Information of testing for HIV	347 (96.4)	374 (98.7)	277 (76.7)	326 (93.4)	327 (86.3)	351 (90.5)	303 (78.9)	381 (92.5)	281 (79.8)	201 (73.1)
Information on preventing HIV	343 (95.3)	376 (99.2)	262 (72.6)	320 (91.7)	305 (80.5)	355 (91.5)	289 (75.3)	380 (92.2)	301 (85.5)	203 (73.8)
Information of PMTCT	334 (92.8)	376 (99.2)	203 (56.2)	319 (91.4)	280 (73.9)	349 (89.9)	271 (70.6)	369 (89.6)	300 (85.2)	201 (73.1)



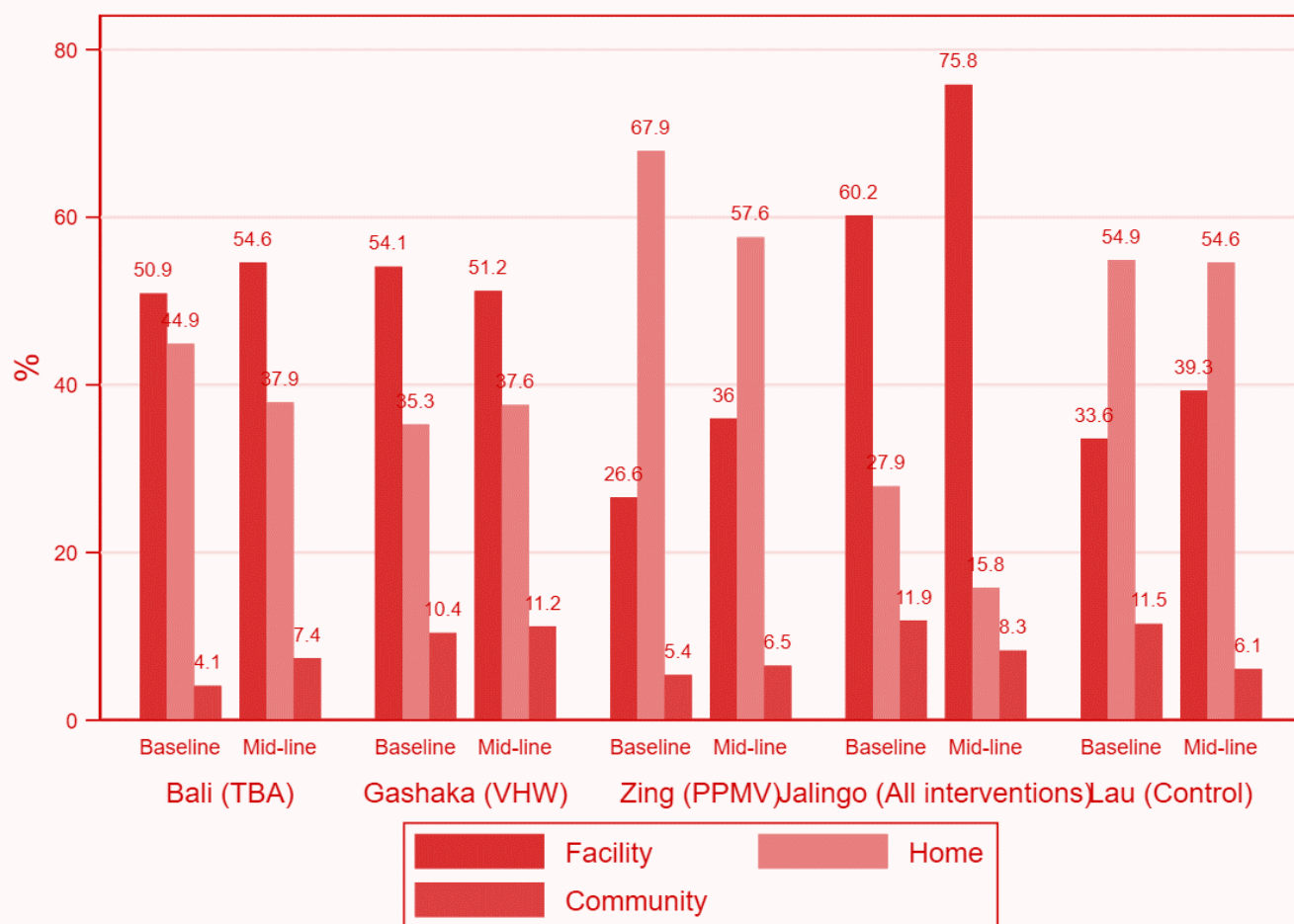


Figure 3: Percentage change in Place of delivery of last child at baseline and midline surveys by type of place, LGA and intervention mode

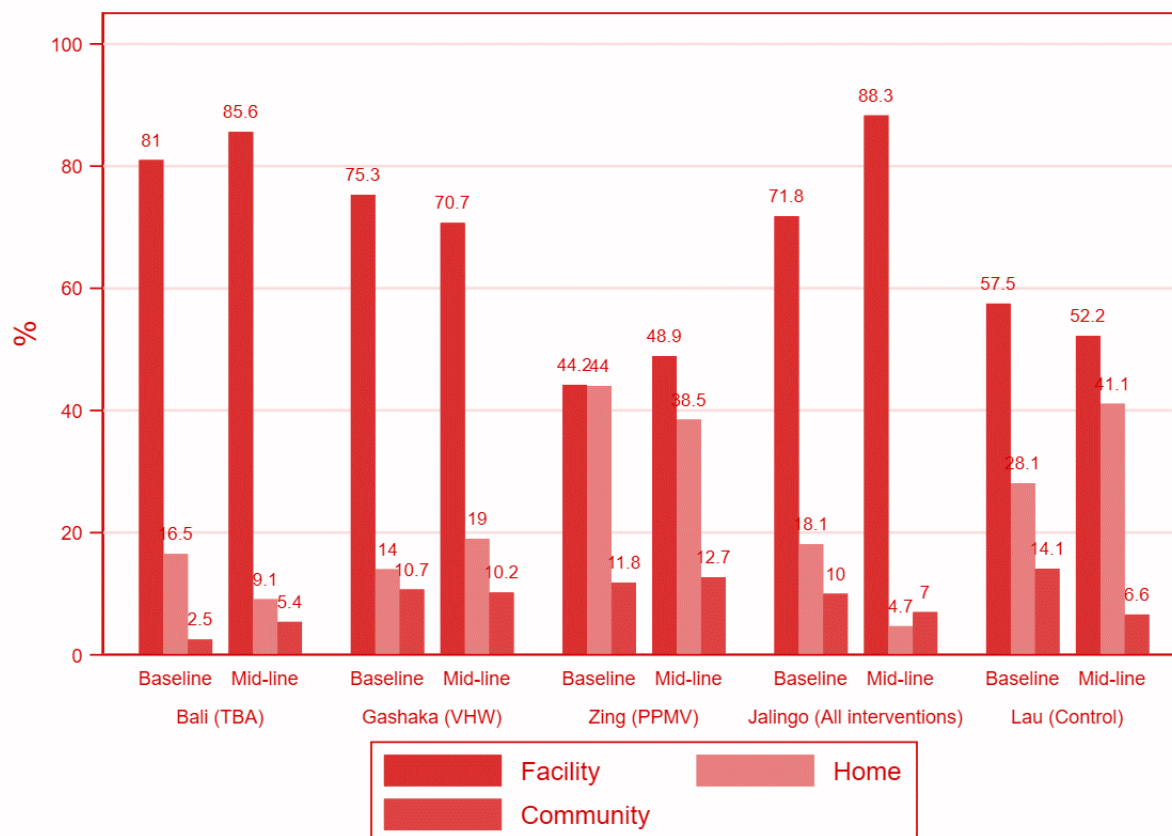


Figure 4: Percentage change in future preferred place of birth between baseline and midline phases by type of place, LGA and intervention model.

Table 7: Place of delivery of last child at baseline and midline surveys by LGA and intervention model.

Local Government Areas, Intervention Model and Study Phase															
LGA →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
	430 (%)	430 (%)		430 (%)	431 (%)		439 (%)	434 (%)		430 (%)	430 (%)		437 (%)	440 (%)	
Place of birth of the last baby															
Home	193 (44.9)	163 (37.9)	-7	152 (35.3)	162 (37.6)	2.3	298 (67.9)	250 (57.6)	-10.3	120 (27.9)	68 (15.8)	-12.1	240 (54.9)	240 (54.6)	-0.3
Primary Health Centre	57 (13.3)	130 (30.2)	16.9	111 (25.8)	105 (24.4)	-1.4	22 (5.0)	15 (3.5)	-1.5	65 (15.1)	147 (34.2)	19.1	83 (19.0)	133 (30.2)	11.2
General Hospital	142 (33.0)	86 (20.0)	-13	74 (17.2)	82 (19.0)	1.8	43 (9.8)	69 (15.9)	6.1	55 (12.8)	51 (11.9)	-0.9	14 (3.2)	30 (6.8)	3.6
Primary Health Clinic	10 (2.3)	19 (4.4)	2.1	26 (6.0)	26 (6.0)	0	40 (9.1)	54 (12.4)	3.3	65 (15.1)	56 (13.0)	-2.1	36 (8.2)	3 (0.7)	-7.5
Private hospital/Clinic	16 (3.7)	4 (0.9)	-2.8	7 (1.6)	7 (1.6)	0	10 (2.3)	7 (1.6)	-0.7	33 (7.7)	18 (4.2)	-3.5	6 (1.4)	3 (0.7)	-0.7
Federal Medical Centre	3 (0.7)	0 (0.0)	-0.7	1 (0.2)	1 (0.2)	0	0 (0.0)	0 (0.0)	0	61 (14.2)	71 (16.5)	2.3	5 (1.1)	4 (0.9)	-0.2
Traditional Birth Attendants	0 (0.0)	25 (5.8)	5.8	1 (0.2)	8 (1.9)	1.7	1 (0.2)	2 (0.5)	0.3	13 (3.0)	7 (1.6)	-1.4	42 (9.6)	19 (4.3)	-5.3
Health post	6 (1.4)	0 (0.0)	-1.4	13 (3.0)	7 (1.6)	-1.4	12 (2.7)	18 (4.2)	1.5	9 (2.1)	1 (0.2)	-1.9	7 (1.6)	3 (0.7)	-0.9
Mission House	1 (0.2)	3 (0.7)	0.5	32 (7.4)	27 (6.3)	-1.1	8 (1.8)	12 (2.8)	1	0 (0.0)	1 (0.2)	0.2	0 (0.0)	4 (0.9)	0.9

Other public sector facility	1 (0.2)	0	-0.2	8 (1.9)	0	-1.9	0 (0.0)	0	0	4 (0.9)	0	-0.9	2 (0.5)	0	-0.5
Others (specify)	1 (0.2)	0 (0.0)	-0.2	5 (1.2)	6 (1.4)	0.2	5 (1.1)	7 (1.6)	0.5	5 (1.2)	10 (2.3)	1.1	2 (0.5)	1 (0.2)	-0.3



Table 8: Preferred place of future deliveries at baseline and midline surveys by LGA, intervention models and study phases.

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
Preferred place of delivery if pregnant again	n = 430 (%)	n = 430 (%)		n = 430 (%)	n = 431 (%)		n = 439 (%)	n = 434 (%)		n = 430 (%)	n = 430 (%)		n = 437 (%)	n = 440 (%)	
Home	71 (16.5)	39 (9.1)	-7.4	60 (14.0)	82 (19.0)	5	193 (44.0)	167 (38.5)	-5.5	78 (18.1)	20 (4.7)	-13.4	123 (28.1)	181 (41.1)	13
General Hospital	219 (50.9)	138 (32.1)	-18.8	117 (27.2)	130 (30.2)	3	92 (21.0)	112 (25.8)	4.8	78 (18.1)	60 (13.9)	-4.2	26 (5.9)	36 (8.2)	2.3
Primary Health Centre	97 (22.6)	181 (42.1)	19.5	149 (34.7)	134 (31.1)	-3.6	47 (10.7)	20 (4.6)	-6.1	64 (14.9)	167 (38.8)	23.9	116 (26.5)	177 (40.2)	13.7
Primary Health Clinic	14 (3.3)	31 (7.2)	3.9	32 (7.4)	30 (6.9)	-0.5	46 (10.5)	66 (15.2)	4.7	67 (15.6)	61 (14.2)	-1.4	94 (21.5)	5 (1.1)	-20.4
Federal Medical Centre	5 (1.2)	4 (0.9)	-0.3	1 (0.2)	1 (0.2)	0	1 (0.2)	2 (0.5)	0.3	89 (20.7)	90 (20.9)	0.2	5 (1.1)	8 (1.8)	0.7
Traditional Birth Attendants	0 (0.0)	11 (2.6)	2.6	1 (0.2)	2 (0.5)	0.3	0 (0.0)	1 (0.2)	0.2	9 (2.1)	2 (0.5)	-1.6	53 (12.1)	16 (3.6)	-8.5
Private hospital/Clinic	9 (2.1)	5 (1.2)	-0.9	5 (1.2)	6 (1.4)	0.2	10 (2.3)	6 (1.4)	-0.9	30 (7.0)	15 (3.5)	-3.5	4 (0.9)	3 (0.7)	-0.2
Health post	13 (3.0)	14 (3.3)	0.3	15 (3.5)	10 (2.3)	-1.2	8 (1.8)	12 (2.8)	1	7 (1.6)	2 (0.5)	-1.1	10 (2.3)	4 (0.9)	-1.4
Mission House	1 (0.2)	4 (0.9)	0.7	34 (7.9)	29 (6.7)	-1.2	12 (2.7)	20 (4.6)	1.9	1 (0.2)	1 (0.2)	0	0 (0.0)	6 (1.4)	1.4
Others (specify)	1 (0.2)	3 (0.7)	0.5	6 (1.4)	7 (1.6)	0.2	30 (6.8)	28 (6.5)	-0.3	3 (0.7)	12 (2.8)	2.1	5 (1.1)	4 (0.9)	-0.2
Other public sector facility	0 (0.0)	0 (0.0)	0	10 (2.3)	0 (0.0)	-2.3	0 (0.0)	0 (0.0)	0	4 (0.9)	0 (0.0)	-0.9	1 (0.2)	0 (0.0)	-0.2



### 3.4 Knowledge, opinions and attitudes about HIV and AIDS

The percentages of respondents who ever heard about HIV/AIDS were very high and similar at baseline and midline in all the LGAs. Whereas about half of the respondents in Bali knew someone living with HIV/AIDS or someone who died from AIDS, were similar in Bali, the percentages were generally lower in the other LGAs and decreased at midline compared to baseline in the Gashaka, Zing, and Lau, the control LGA, but increased in Jalingo. Also, respondents were better informed that a healthy looking person could have be HIV infected at midline compared to baseline in all the LGAs. The percentages who felt AIDS had a cure, decreased at midline in Bali, Zing and Lau, while it increased in Gashaka and Jalingo where all the models of intervention were provided. This may perhaps reflect confusion as to what "cure" means in the context of HIV/AIDS (Figure 5).

Table 9 describes respondents' knowledge of the routes of transmission and sources of information about HIV/AIDS; almost all the respondents were aware of the more important routes of transmission such as sexual intercourse, sharing of sharp objects and needles, blood transfusion with higher percentages of respondents at midline compared to baseline demonstrating this knowledge in all the LGAs except Gashaka and Lau. Notwithstanding, several myths and misconceptions about HIV transmission were prevalent among the respondents. For example, some respondents felt HIV is transmitted through sharing toilets, witchcraft and hugging and this persisted even at midline survey. The percentage of respondents who were aware of the mother-to-child route of transmission increased at midline survey in all the LGAs and remarkably so in Bali. Also, the percentages of women respondents who knew ways to avoid HIV/AIDS, such as avoiding sharing of sharp objects, staying with one partner, avoiding sex with commercial workers, etc. were high at the baseline survey and increased marginally at the midline survey. However, myths such as "praying to God", delaying onset of sexual intercourse, use of antibiotics, seeking protection from traditional healers and "doing nothing" were still prevalent at midline survey (Table 10).

Women respondents' knowledge about the periods when mother-to-child transmission of HIV/AIDS may occur is shown in Figure 6. Generally, the percentage of respondents who had correct knowledge of the periods when the HIV virus may be transmitted from the mother to her child was higher at midline compared to baseline in all the intervention LGAs. Greatest increases were seen in Bali, with TBA intervention and least in Zing with PPMV intervention. In Lau, the control LGA, percentages of the respondents who had correct knowledge of the period was lower at midline compared to baseline. Highest percentages of respondents felt their risk of acquiring HIV was low at baseline and this confidence persisted during the midline survey. Reasons provided for this perception are described in Annex Table A2a. While some of the reasons are logical, for example, faithfulness to one partner, others were simply wrong, for example, "trusting on God's protection", having "limited number" of sex partners, etc.

Women respondents' opinions on the effect of treatment on HIV transmission from mother to child and during sexual intercourse are shown in Table 11. About half of the respondents opined that treatment decreased the risk of transmission from mother to child and during sexual intercourse. This increased at midline in all the intervention LGAs but decreased in Lau, the control LGA; the increases were much higher in Bali where TBAs provided intervention and in Jalingo where all the intervention models were implemented. In addition, respondents were aware that some drugs reduce the risk of transmission and also prolong life of PLWHA. Compared to baseline, the percentages of respondents who were aware of these drugs increased at midline in all intervention LGAs but decreased in Lau, the control LGA (Figure 7).

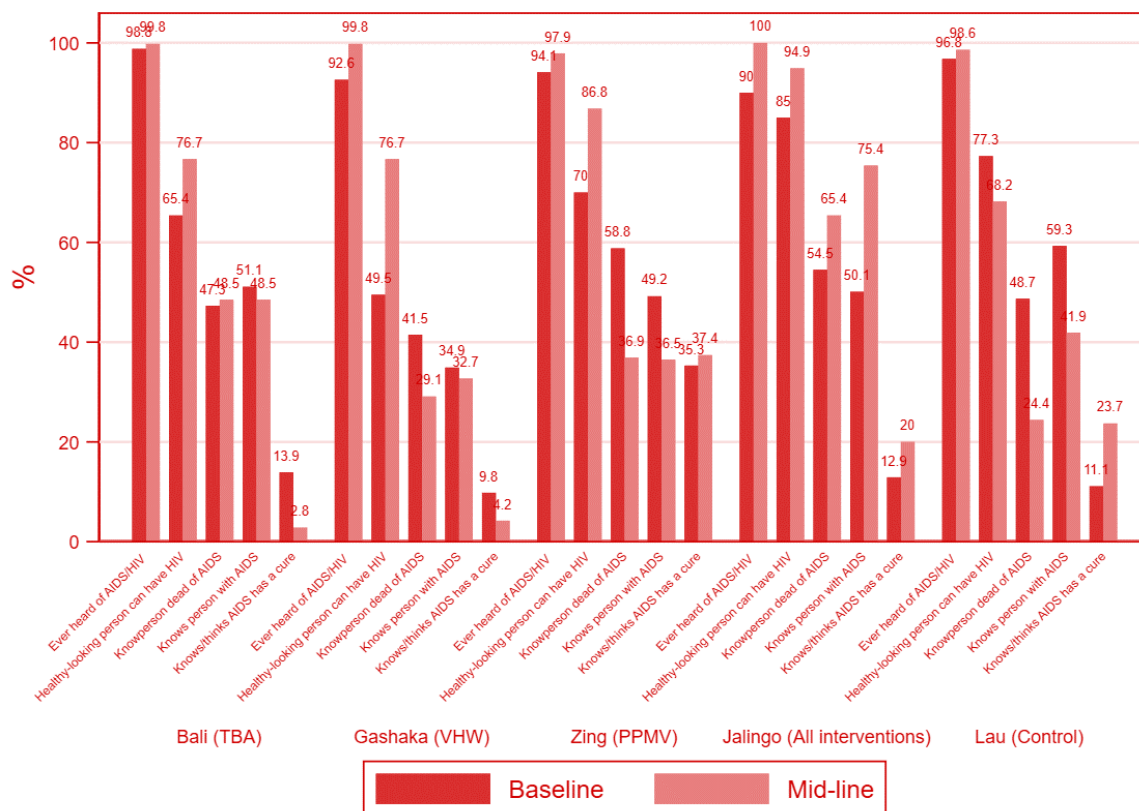


Figure 5: Respondents awareness of HIV/AIDS and opinion on whether HIV/AIDS has a cure at baseline and midline surveys

Table 9: Respondents' knowledge of the route of transmission of HIV/AIDS

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Midline	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
	430 (%)	430 (%)		430 (%)	439 (%)		434 (%)	431 (%)		430 (%)	430 (%)		437 (%)	440 (%)	
Routes of transmission of the HI virus															
Sexual Intercourse	405 (94.2)	429 (99.8)	5.6	388 (90.2)	370 (84.3)	-5.9	385 (88.7)	413 (95.8)	7.1	370 (86.0)	429 (99.8)	13.8	420 (96.1)	415 (94.3)	-1.8
Sharing sharp objects like razors	417 (97.0)	429 (99.8)	2.8	387 (90.0)	368 (83.8)	-5.2	367 (84.6)	417 (96.8)	12.2	369 (85.8)	428 (99.5)	13.7	406 (92.9)	387 (88.0)	-4.9
Sharing needles	408 (94.9)	427 (99.3)	4.4	372 (86.5)	365 (83.1)	-3.4	359 (82.7)	412 (95.6)	12.9	364 (84.7)	428 (99.5)	14.8	405 (92.7)	356 (80.9)	-11.8
Blood transfusion	356 (82.8)	427 (99.3)	15.7	353 (82.1)	365 (83.1)	1	326 (75.1)	410 (95.1)	20	367 (85.3)	425 (98.8)	13.5	379 (86.7)	400 (90.9)	4.2
Mother-to-unborn child	249 (57.9)	420 (97.7)	39.3	222 (51.6)	265 (60.2)	8.8	323 (74.4)	363 (84.2)	9.8	316 (73.5)	358 (83.3)	9.8	346 (79.2)	338 (76.8)	-2.4
Mosquito bites/bed bugs	92 (21.4)	125 (29.1)	7.5	70 (16.2)	113 (25.7)	9.5	214 (49.3)	174 (40.4)	-8.9	67 (15.6)	46 (10.7)	-4.9	66 (15.1)	86 (19.5)	4.4
Sharing toilets	100 (23.3)	55 (12.8)	-10.7	33 (7.7)	71 (16.2)	8.5	189 (43.5)	203 (47.1)	3.6	83 (19.3)	19 (4.4)	-14.9	95 (21.7)	104 (23.6)	1.9
Kissing	85 (19.8)	109 (25.3)	5.4	39 (9.1)	96 (21.9)	12.8	165 (38.0)	80 (18.6)	-19.4	53 (12.3)	93 (21.6)	9.3	115 (26.3)	103 (23.4)	-2.9
Witchcraft	130 (30.2)	179 (41.6)	11.1	76 (17.7)	143 (32.6)	14.9	111 (25.6)	72 (16.7)	-8.9	59 (13.7)	75 (17.4)	3.7	50 (11.4)	89 (20.2)	8.8
Sharing eating utensils	71 (16.5)	40 (9.3)	-7.4	32 (7.4)	73 (16.6)	9.2	138 (31.8)	150 (34.8)	3	67 (15.6)	9 (2.1)	-13.5	100 (22.9)	117 (25.9)	3.0
Hugging	27 (5.6)	18 (4.2)	-2.2	9 (2.1)	8 (2.1)	-0.3	119 (27.4)	63 (14.6)	-12.8	24 (5.6)	4 (0.9)	-4.7	65 (14.9)	79 (18.0)	3.1

Table 10: Respondents' knowledge on ways to avoid contracting HIV and AIDS

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
	425 (%)	429 (%)		398 (%)	382 (%)		413 (%)	425 (%)		387 (%)	430 (%)		423 (%)	434 (%)	
Ways to avoid getting HIV, the virus that causes AIDS															
Avoid sharing of sharp objects like needles, razors	417 (98.1)	428 (99.8)	1.7	355 (89.2)	372 (97.4)	8.2	381 (92.3)	418 (98.4)	6.1	376 (97.2)	426 (99.1)	1.9	409 (96.9)	406 (93.6)	-3.3
Staying with one faithful uninfected partner	412 (96.9)	427 (99.5)	2.6	358 (89.9)	372 (97.4)	7.5	365 (88.4)	418 (98.4)	10	369 (95.3)	414 (96.3)	1	412 (97.4)	372 (85.7)	-11.7
Avoiding sex with commercial sex workers	398 (93.6)	402 (93.7)	0.1	314 (78.9)	341 (89.3)	10.4	341 (82.6)	413 (97.2)	14.6	336 (86.8)	342 (79.5)	-7.3	405 (95.7)	399 (91.9)	-3.8
Avoiding sex with people who have many sexual partners	365 (85.9)	387 (90.2)	4.3	319 (80.2)	353 (92.4)	12.2	329 (79.7)	410 (96.5)	16.8	353 (91.2)	338 (78.6)	-12.6	413 (97.6)	404 (93.1)	-4.5
Abstaining from sex	377 (88.7)	394 (91.8)	3.1	271 (68.1)	343 (89.8)	21.7	357 (86.4)	385 (90.6)	4.2	297 (76.7)	272 (63.3)	-13.4	397 (93.9)	326 (75.1)	-18.8
Reducing number of sexual partners	336 (79.1)	368 (85.8)	6.7	300 (75.4)	326 (85.3)	9.9	319 (77.2)	411 (96.7)	19.5	332 (85.8)	320 (74.4)	-11.4	407 (96.2)	392 (90.3)	-5.9
Using condoms every time	405 (95.3)	416 (96.9)	1.6	323 (81.2)	353 (92.4)	11.2	291 (70.5)	383 (90.1)	19.6	334 (86.3)	390 (90.7)	4.4	329 (77.8)	362 (83.4)	5.6
Going for check-ups	341 (80.2)	343 (79.9)	-0.3	248 (62.3)	256 (67.0)	4.7	394 (95.4)	352 (82.8)	-12.6	230 (59.4)	144 (33.5)	-25.9	274 (64.8)	265 (61.1)	-3.7
Praying to God	254 (59.8)	225 (52.5)	-7.3	255 (64.1)	226 (59.2)	-4.9	308 (74.6)	313 (73.7)	-0.9	261 (67.4)	139 (32.3)	-35.1	271 (64.1)	296 (68.2)	4.1
Delaying the onset of sexual intercourse	268 (63.1)	347 (80.9)	17.8	176 (44.2)	212 (55.5)	11.3	311 (75.3)	266 (62.6)	-12.7	209 (54.0)	206 (47.9)	-6.1	356 (84.2)	242 (55.8)	-28.4
Using antibiotics	135 (31.8)	244 (56.9)	25.1	144 (36.2)	142 (37.2)	1	151 (36.6)	132 (31.1)	-5.5	126 (32.6)	35 (8.2)	-24.4	135 (31.9)	102 (23.5)	-8.4

Seek protection from a traditional healer	64 (15.1)	75 (17.5)	2.4	41 (10.3)	106 (27.8)	17.5	74 (17.9)	58 (13.7)	-4.2	80 (20.7)	21 (4.9)	-15.8	69 (16.3)	77 (17.7)	1.4
Nothing	9 (2.1)	6 (1.4)	-0.7	13 (3.3)	40 (10.5)	7.2	28 (6.8)	21 (4.9)	-1.9	50 (12.9)	19 (4.4)	-8.5	27 (6.4)	53 (12.2)	5.8



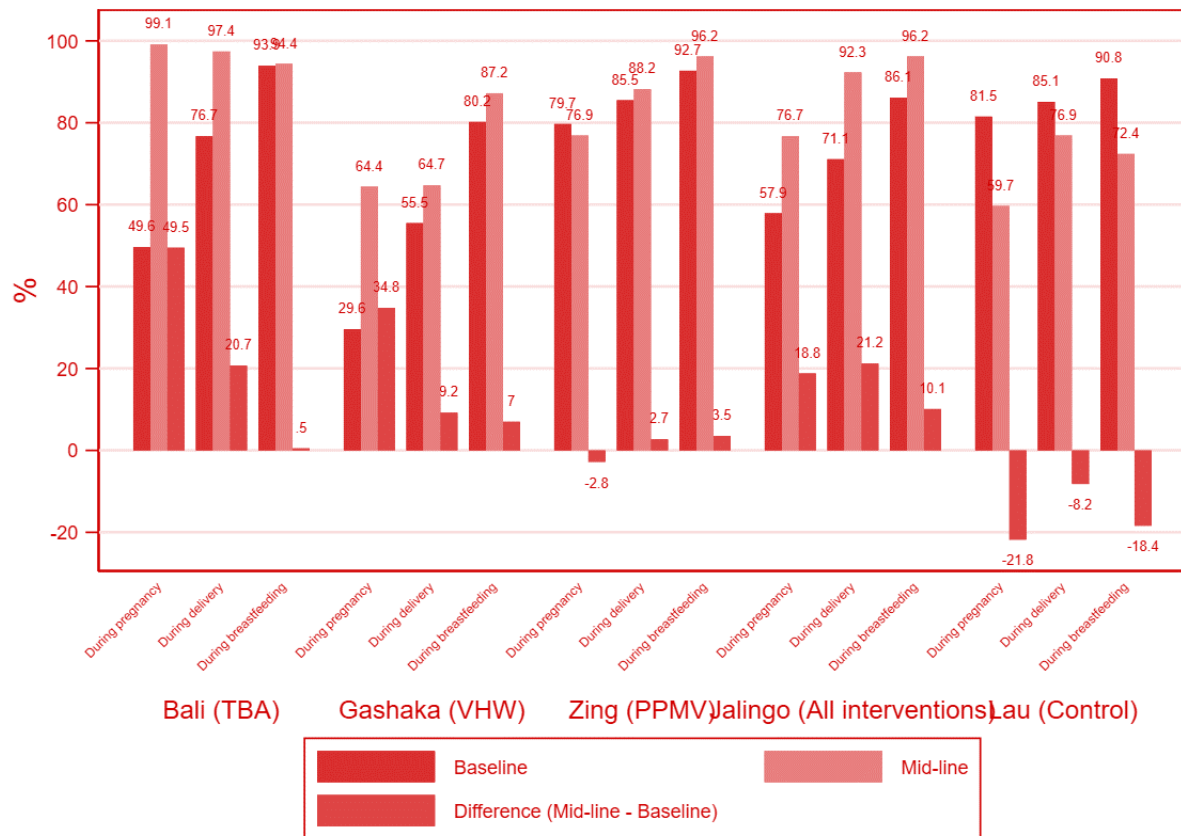


Figure 6: Respondents' knowledge about periods when mother-to-child transmission of HIV/AIDS may occur.

Table 11: Respondents' opinion on the effect of treatment on risk of HIV transmission from mother-to-child and during sexual intercourse

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff
Effect	425 (%)	429 (%)		398 (%)	382 (%)		413 (%)	425 (%)		387 (%)	430 (%)		423 (%)	434 (%)	
Increase	5 (1.2)	64 (14.9)	13.7	5 (1.3)	1 (0.3)	-1.0	19 (4.6)	9 (2.1)	-2.5	26 (6.7)	42 (9.8)	1.0	25 (5.9)	69 (15.9)	12.1
Decrease	224 (52.7)	307 (71.6)	18.9	194 (48.7)	253 (66.2)	17.5	255 (61.7)	323 (76.0)	14.3	162 (41.9)	252 (58.6)	16.7	309 (73.0)	197 (45.4)	-29.8
Does not change	8 (1.9)	9 (2.1)	0.2	38 (9.5)	6 (1.6)	-8.0	2 (0.5)	12 (2.8)	2.3	39 (10.1)	46 (10.7)	0.6	25 (5.9)	7 (1.6)	-4.8
Don't know	193 (45.4)	113 (26.3)	-19.1	166 (47.1)	123 (32.2)	-9.5	156 (37.8)	90 (21.2)	-16.6	186 (48.1)	132 (30.7)	-17.4	89 (21.0)	230 (53.0)	22.5

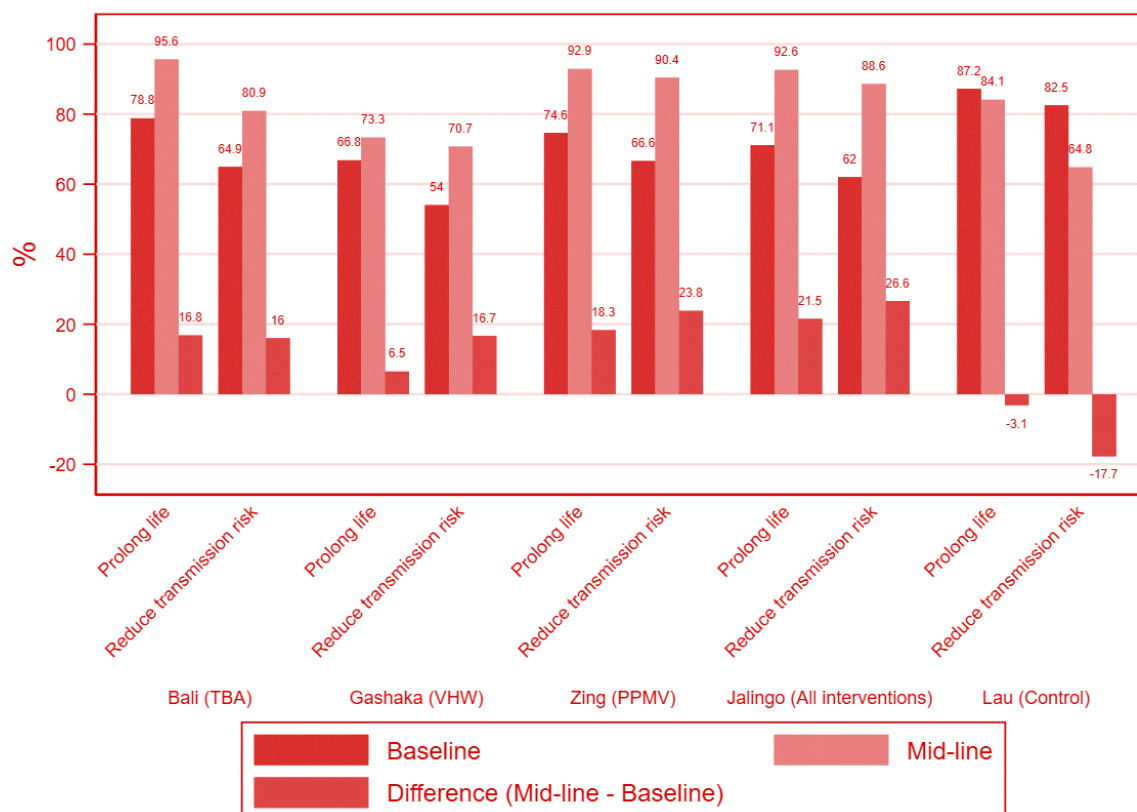


Figure 7: Respondents' knowledge of drugs that reduce risk of HIV transmission and those that prolong the life of persons with HIV/AIDS

The women respondents' self-perceived risk of contracting HIV is described in Table 12. Highest percentages (> 50%) of respondents in all the LGAs felt that their risk of contracting HIV was low (55.4% in Bali to 64.1% in Zing at baseline and 50.6% in Zing at midline to 79.5% in Bali at midline). Less than 10% felt they had high risk of contracting HIV and this ranged from 0.7% in Bali to 9.6% in Jalingo at baseline and from 1.2% in Lau to 8.1% in Gashaka at midline. Many other respondents felt they had "no risk" of contracting HIV (14.4% in Bali to 44.3% in Lau at baseline and 10.0% in Bali to 35.6% in Lau at midline). The reasons for the low self-perceived risk are shown in Table 13. While most of the respondents felt that their risk was low because they had one sexual partner, the reasons proffered by others revealed misconceptions, including "trust the partner", "God's protection/not destined to have HIV", etc. Reasons given by respondents who felt they had high risk are described in Table 14. Incidentally, these were the more legitimate reasons.

At baseline, more than 85% of the respondents who know about HIV in all the LGA (86.1 in Jalingo to 96.5% in Bali) knew where to obtain a HIV test; this increased at midline in all intervention LGAs to 95% in Gashaka to 99.8% in Bali at midline. In Lau, the control LGA, there was a decrease from 92.0% at baseline to 87.3% at midline (Figure 8). The details of respondents' knowledge about where to obtain HIV test are shown in Table 15. Highest percentages of the respondents mentioned General Hospitals, Primary Health Centres, Federal Medical Centres, private, and mission hospitals as places where HIV testing was available. The more popular sources of information on HIV/AIDS reported by the respondents are shown in Figure 9. Women respondents most frequently obtained information at baseline and midline from health workers, family and relatives, friends and Community Health Workers. This pattern was similar at midline even in the intervention LGAs.

Table 12: Respondents' self-perceived of risk of contracting HIV virus among those who are HIV negative or whose status is unknown by LGAs, intervention models and study phases

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW	PPMV			All Combined			Control				
Study Phase →	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff	Baseline	Mid-line	%Diff.
Risk Level	424* (%)	429 (%)		397* (%)	381* (%)		412* (%)	423* (%)		387 (%)	425* (%)		420 (%)	433 (%)	
No risk at all	61 (14.4)	43 (10.0)	-4.4	71 (17.9)	53 (13.9)	-3.9	114 (27.7)	129 (30.5)	2.8	79 (20.4)	173 (40.7)	19.8	186 (44.3)	154 (35.6)	-8.5
Low	235 (55.4)	341 (79.5)	24.2	238 (59.9)	253 (66.4)	6.4	264 (64.1)	214 (50.6)	-13.6	211 (54.5)	175 (41.2)	-13.8	229 (55.4)	225 (52.0)	-2.3
High	3 (0.7)	21 (4.9)	4.2	30 (7.6)	31 (8.1)	0.6	9 (2.2)	15 (3.5)	1.3	37 (9.6)	13 (3.1)	-6.6	4 (1.0)	5 (1.2)	0.2
No response	125 (29.5)	24 (5.6)	-23.8	58 (14.6)	44 (11.5)	-3.1	25 (6.1)	65 (15.4)	9.2	60 (15.5)	64 (15.1)	-0.6	1 (0.2)	49 (11.3)	11.1

Table 13: Respondents' reasons for low self-perceived of risk of contracting the HIV virus among those who are HIV negative or whose status is unknown by LGA, interventions, and study phases

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.
Reasons	235	341		238	253		264	214		211	175		229	225	
I have only one sex partner	184 (62.2)	260 (67.7)	5.5	155 (50.2)	176 (57.5)	7.3	278 (73.5)	282 (82.2)	8.7	96 (33.10)	153 (43.9)	10.8	222 (53.5)	231 (60.9)	7.4
I trust my partner	73 (24.7)	134 (34.9)	10.2	175 (56.6)	165 (53.9)	-2.7	99 (26.2)	123 (35.9)	9.7	133 (45.9)	209 (60.1)	14.2	200 (48.2)	126 (33.3)	-14.9

God will protect me/It is not my destiny	28 (9.5)	61 (15.9)	6.4	82 (26.5)	22 (7.2)	-19.3	96 (25.4)	71 (20.7)	-4.7	102 (35.2)	106 (30.5)	-4.7	103 (24.8)	122 (32.2)	7.4
I use condoms	79 (26.7)	56 (14.6)	-12.1	114 (36.9)	67 (21.9)	-15	6 (1.6)	4 (1.2)	-0.4	8 (2.8)	42 (12.1)	9.3	27 (6.5)	7 (1.9)	-4.6
I ensure injection with sterile needle	57 (19.3)	178 (46.4)	27.1	29 (9.4)	20 (6.5)	-2.9	15 (4.0)	117 (34.1)	30.1	74 (25.5)	25 (7.2)	-18.3	28 (6.8)	40 (10.6)	3.8
Spouse/partners has no other partner	29 (9.8)	72 (18.8)	9	14 (4.5)	34 (11.1)	6.6	48 (12.7)	77 (22.5)	9.8	41 (14.1)	105 (30.2)	16.1	65 (15.7)	41 (10.8)	-4.9
I abstain from sex	24 (8.1)	51 (13.3)	5.2	100 (32.4)	61 (19.9)	-12.5	31 (8.2)	16 (4.7)	-3.5	8 (2.8)	5 (1.4)	-1.4	18 (4.3)	3 (0.8)	-3.5
I ensure safe blood transfusion	57 (19.3)	179 (46.6)	27.3	16 (5.2)	18 (5.9)	0.7	4 (1.1)	106 (30.9)	29.8	54 (18.6)	18 (5.2)	-13.4	47 (11.3)	32 (8.4)	-2.9
I have a limited number of sex partners	8 (2.7)	18 (4.7)	2	33 (10.7)	4 (1.3)	-9.4	13 (3.4)	30 (8.8)	5.4	5 (1.7)	2 (0.6)	-1.1	28 (6.8)	4 (1.1)	-5.7
I avoid sex with sex workers	27 (9.1)	36 (9.4)	0.3	2 (0.7)	9 (2.9)	2.2	3 (0.8)	7 (2.0)	1.2	11 (3.8)	2 (0.8)	-3	14 (3.4)	51 (13.5)	10.1
I seek protection from a traditional healer	5 (1.7)	5 (1.3)	-0.4	1 (0.3)	0 (0.0)	-0.3	2 (0.5)	0 (0.0)	-0.5	4 (1.4)	3 (0.9)	-0.5	15 (3.6)	3 (0.9)	-2.7
Others	0 (0.0)	19 (4.9)	4.9	0 (0.0)	0 (0.0)	0	12 (3.2)	2 (0.6)	-2.6	2 (0.7)	3 (0.9)	0.2	6 (1.5)	0 (0.0)	-1.5

Table 14: Respondents' reasons for high self-perceived risk of contracting HIV among those who are HIV negative or whose status is unknown

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.
Reasons	3	21		30	31		9	15		37	13		4	5	
My Spouse/partners has other partners	2 (66.7)	19 (90.5)	23.8	18 (60.0)	28 (90.3)	30.3	7 (77.8)	10 (66.7)	-11.1	24 (64.9)	8 (61.5)	-3.4	2 (50.0)	5 (100.0)	50
Had blood transfusions	2 (66.7)	19 (90.5)	23.8	18 (60.0)	28 (90.3)	30.3	7 (77.8)	10 (66.7)	-11.1	24 (64.9)	8 (61.5)	-3.4	2 (50.0)	5 (100.0)	50



Do not use condoms	0 (0.0)	16 (76.2)	76.2	23 (76.7)	16 (51.6)	-25.1	2 (22.2)	1 (6.7)	-15.5	19 (51.4)	4 (30.8)	-20.6	3 (75.0)	0 (0.0)	-75
Share sharp objects	1 (33.3)	6 (28.6)	-4.7	3 (10.0)	0 (0.0)	-10	4 (44.4)	7 (46.7)	2.3	6 (16.2)	3 (23.1)	6.9	2 (50.0)	0 (0.0)	-50
I have more than one sex partner	1 (33.3)	8 (38.1)	4.8	6 (20.0)	2 (6.5)	-13.5	0 (0.0)	0 (0.0)	0	2 (5.4)	0 (0.0)	-5.4	3 (75.0)	0 (0.0)	-75
Others	0 (0.0)	1 (4.8)	4.8	0 (0.0)	0 (0.0)	0	5 (55.6)	0 (0.0)	-55.6	3 (8.1)	2 (15.4)	7.3	0 (0.0)	0 (0.0)	0
Have had injections	0 (0.0)	0 (0.0)	0	2 (6.7)	0 (0.0)	-6.7	1 (11.1)	1 (6.7)	-4.4	1 (2.7)	0 (0.0)	-2.7	1 (25.0)	1 (20.0)	-5
Sex with sex workers	0 (0.0)	2 (9.5)	9.5	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0

\*Multiple responses permitted

Table 15: Respondents' knowledge of places where HIV tests were done

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	%Diff .	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff.	Baseline	Mid-line	%Diff .	Baseline	Mid-line	%Diff .
Knows where HIV test may be done (n)	n = 425 (%)	n = 429 (%)		n = 398 (%)	n = 382 (%)		n = 413 (%)	n = 425 (%)		n = 387 (%)	n = 430 (%)		n = 423 (%)	n = 434 (%)	
Yes	410 (96.5)	428 (99.8)	3.3	349 (87.7)	363 (95.0)	7.3	383 (92.7)	416 (97.9)	5.2	333 (86.1)	419 (97.4)	11.3	389 (92.0)	379 (87.3)	-4.7
No	15 (3.5)	1 (0.2)	-3.3	49 (12.3)	19 (5.0)	-7.3	30 (7.3)	9 (2.1)	-5.2	54 (14.0)	11 (2.6)	-11.4	34 (8.0)	55 (12.7)	4.7
Place to get tested for HIV															
General Hospital	293 (71.5)	291 (67.9)	-3.6	210 (60.2)	192 (52.9)	-7.3	300 (78.3)	316 (75.9)	-2.4	219 (65.8)	232 (55.4)	-10.4	111 (28.5)	147 (38.8)	10.3
Primary Health Centre	207 (50.5)	313 (73.1)	22.6	186 (53.3)	188 (51.8)	-1.5	119 (31.1)	139 (33.4)	2.3	190 (57.1)	302 (72.1)	15	229 (58.9)	319 (84.2)	25.3

Primary Health Clinic	87 (21.2)	208 (48.6)	27.4	56 (16.0)	57 (15.7)	-0.3	106 (27.7)	163 (39.2)	11.5	148 (44.4)	160 (38.2)	-6.2	168 (43.2)	60 (15.8)	-27.4
Federal Medical Centre	20 (4.9)	107 (25.0)	20.1	6 (1.7)	22 (6.1)	4.4	33 (8.6)	14 (3.4)	-5.2	256 (76.9)	246 (58.7)	-18.2	73 (18.8)	81 (21.4)	2.6
Private hospital/Clinic	113 (27.6)	105 (24.5)	-3.1	10 (2.9)	8 (2.2)	-0.7	30 (7.8)	51 (12.3)	4.5	74 (22.2)	69 (16.5)	-5.7	52 (13.4)	58 (15.3)	1.9
Health post	64 (15.6)	61 (14.3)	-1.3	19 (5.4)	31 (8.5)	3.1	32 (8.4)	89 (21.4)	13	23 (6.9)	37 (8.8)	1.9	36 (9.3)	58 (15.3)	6
Mission House	30 (7.3)	76 (17.8)	10.5	50 (14.3)	55 (15.2)	0.9	24 (6.3)	97 (23.3)	17	2 (0.6)	1 (0.2)	-0.4	10 (2.6)	13 (3.4)	0.8
Field Worker	45 (11.0)	57 (13.3)	2.3	0 (0.0)	3 (0.8)	0.8	9 (2.3)	4 (0.9)	-1.4	2 (0.6)	19 (4.5)	3.9	5 (1.3)	10 (2.6)	1.3
Outreach /Mobile Clinic	27 (6.6)	55 (12.9)	6.3	0 (0.0)	1 (0.3)	0.3	6 (1.6)	24 (5.8)	4.2	13 (3.9)	31 (7.4)	3.5	7 (1.8)	5 (1.3)	-0.5
Other public sector facility	11 (2.7)	21 (4.9)	2.2	27 (7.7)	0 (0.0)	-7.7	0 (0.0)	2 (0.5)	0.5	7 (2.1)	11 (2.6)	0.5	3 (0.8)	8 (2.1)	1.3
Non-Governmental Organisation	11 (2.7)	36 (8.4)	5.7	2 (0.6)	1 (0.3)	-0.3	1 (0.3)	2 (0.5)	0.2	12 (3.6)	11 (2.6)	-1	10 (2.6)	7 (1.9)	-0.7
Family Planning Clinic	16 (3.9)	28 (6.5)	2.6	0 (0.0)	2 (0.6)	0.6	3 (0.8)	3 (0.7)	-0.1	8 (2.4)	24 (5.7)	3.3	5 (1.3)	3 (0.8)	-0.5
Traditional Birth Attendants	7 (1.7)	68 (15.9)	14.2	0 (0.0)	0 (0.0)	0	1 (0.3)	0 (0.0)	-0.3	3 (0.9)	9 (2.2)	1.3	5 (1.3)	4 (1.1)	-0.2
Standalone VCT Centre	1 (0.2)	21 (4.9)	4.7	2 (0.6)	0 (0.0)	-0.6	1 (0.3)	0 (0.0)	-0.3	0 (0.0)	2 (0.5)	0.5	3 (0.8)	2 (0.5)	-0.3
Others	0 (0.0)	0 (0.0)	0	2 (0.6)	11 (3.0)	2.4	3 (0.8)	5 (1.2)	0.4	1 (0.3)	2 (0.5)	0.2	0 (0.0)	1 (0.3)	0.3

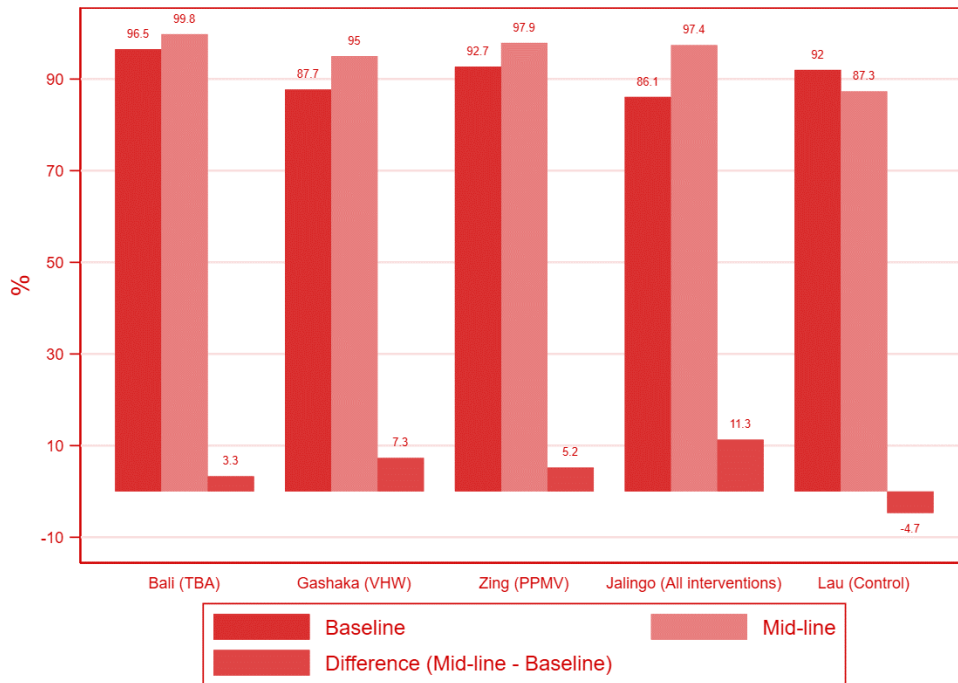


Figure 8: Women respondents' knowledge of where to obtain HIV test by LGA, interventions, and study phases.

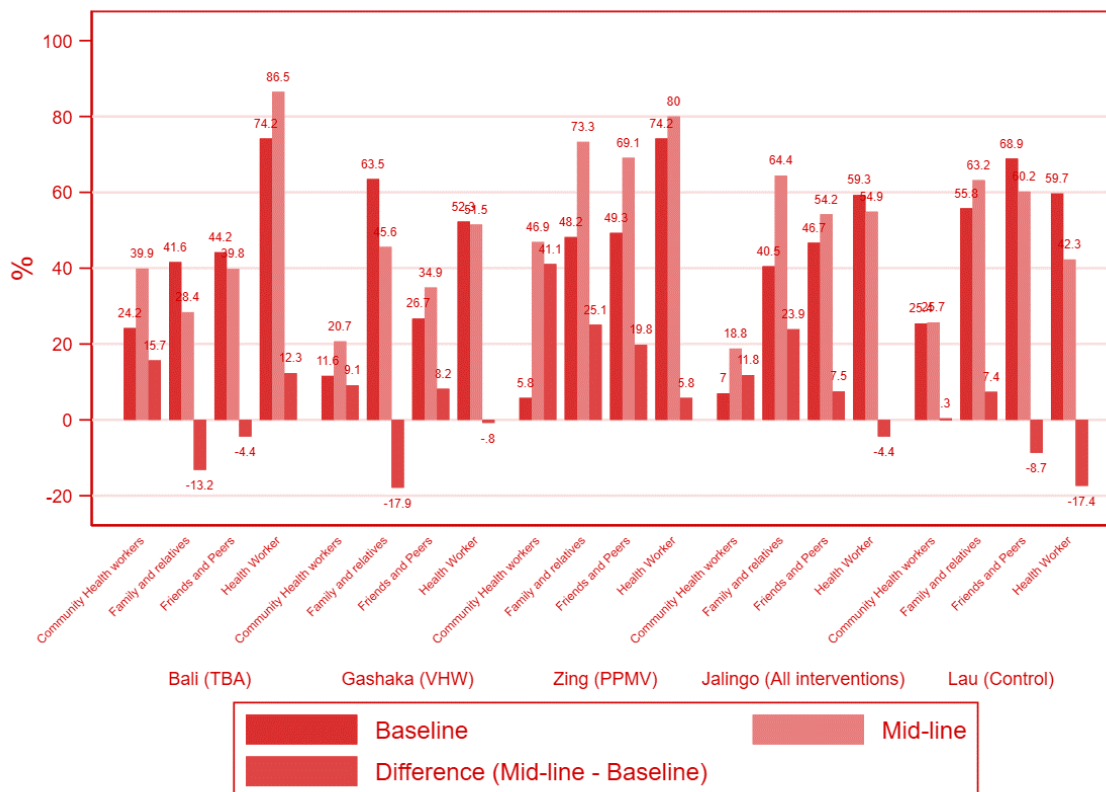


Figure 9: Respondents' more popular sources of information by LGA, interventions models, and study phases

### 3.5 Exposure to community HTS referral

Exposure of the women respondents to community referral for HTS within the one year preceding the baseline and midline surveys, are shown in Figure 10 and Table 16. The percentage of women referred for HIV testing increased markedly in Bali, where TBAs provided intervention from 16.9% - 66.9% compared to the other intervention and control LGAs where marginal increases in percentages were observed. In all the LGAs, more than 8 out of 10 of all those counselled or referred for HIV test complied at baseline (range: 88.9% - 95.8%) and also at midline (range 83.2% - 99%). In Bali where the greatest increase was observed, TBAs accounted for 116 (40.6%) of the referrals at midline compared to nil (0.0%) at baseline. This further compares to 12 (18.5%) women referred by VHW at midline in Gashaka, nil (0.0%) referred by PPMVs in Zing and a total of 87 (64.9%) were referred in Jalingo where all three models of intervention were provided. In Lau, the control LGA, the three categories of community-based providers together referred 51 (47.7%) of the women. Referrals were also provided by facility-based health workers, husbands and relatives in all the LGAs (Table 16). The more common places where the mothers were referred for test were the public health facilities – General Hospital, Primary Health Centres and Federal medical centre in Jalingo (Table 17).

Referral of children 0 – 14 years was low in all the LGAs at baseline (<10.0%) but this increased marginally in all the LGAs including in Lau, the control LGA. More children, 129 (10%) at baseline and 139 (11.8%) midline were observed in Zing where PPMVs intervened compared to other LGAs (Figure 11, and Tables 18&19). However, none of the referred children was referred by PPMVs. Percentage differences between midline and baseline surveys for exposure to community-based HTS referral as shown in Annex Tables A3a – A3f.

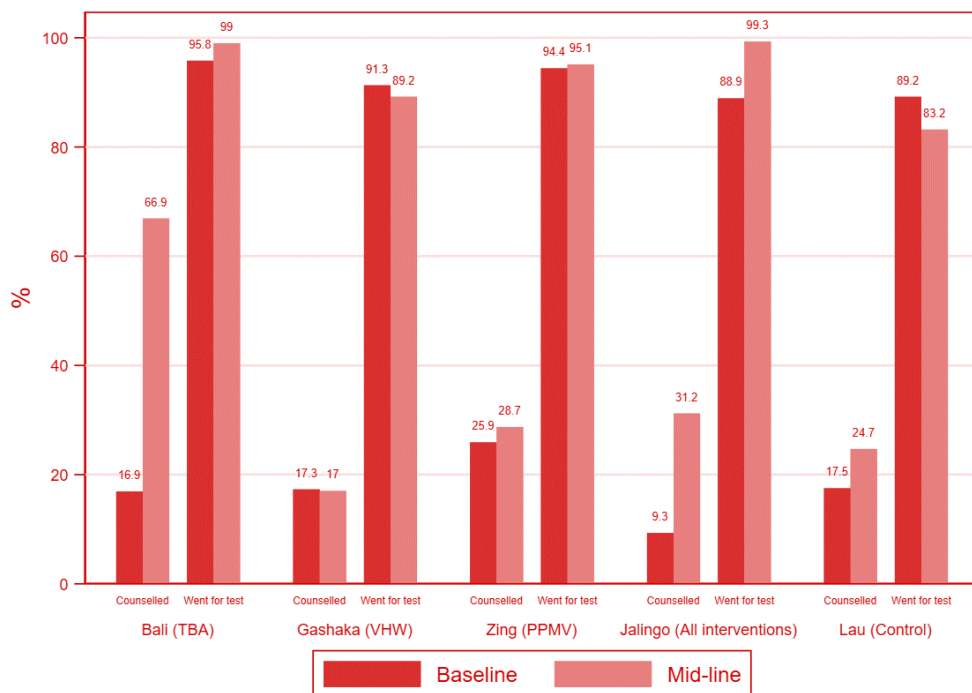


Figure 10: Exposure to community-based counselling: Referral and compliance of the mothers to referral by LGAs, intervention models and study phases

Table 16: Exposure to community-based counselling: referral of women respondents and compliance with referral by LGAs, intervention models and survey phases

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHWs		PPMV		All combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
Counselled/Referred?	n = 425 (%)	n = 429 (%)	n = 398 (%)	n = 332 (%)	n = 413 (%)	n = 425 (%)	n = 387 (%)	n = 430 (%)	n = 423 (%)	n = 434 (%)
Yes	72 (16.9)	287 (66.9)	69 (17.3)	65 (17.0)	107 (25.9)	122 (28.7)	36 (9.3)	134 (31.2)	74 (17.5)	107 (24.7)
No	353 (83.1)	142 (33.1)	329 (82.7)	267 (80.4)	306 (74.1)	303 (71.3)	351 (90.7)	296 (68.8)	349 (82.5)	327 (75.3)
Providers referring*	n=72 (%)	n=287 (%)	n=69 (%)	n=65 (%)	n=107 (%)	n=122 (%)	n=36 (%)	n=134 (%)	n=74 (%)	n=107 (%)
Traditional Birth Attendant	0 (0)	116 (40.4)	4 (5.8)	7 (10.8)	2 (1.9)	1 (0.8)	2 (5.6)	15 (11.2)	6 (8.1)	23 (21.5)
Village/Voluntary Health Worker	10 (13.9)	10 (3.5)	10 (14.5)	12 (18.5)	1 (0.9)	17 (13.9)	1 (2.8)	57 (42.5)	9 (12.2)	23 (21.5)
Patent Medicine Vendors/Chemist	4 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (11.1)	15 (11.2)	7 (9.5)	5 (4.7)
Facility Based Health Worker	29 (40.3)	123 (42.9)	14 (20.3)	8 (12.3)	30 (28.0)	31 (25.4)	15 (41.7)	28 (20.9)	37 (50.0)	17 (15.9)
Husband	15 (20.8)	66 (23.0)	25 (36.2)	22 (33.8)	40 (37.4)	61 (50.0)	7 (19.4)	19 (14.2)	11 (14.9)	34 (31.8)
Relative	10 (13.9)	7 (2.4)	11 (15.9)	2 (3.1)	18 (16.8)	6 (4.9)	4 (11.1)	6 (4.5)	0 (0.0)	13 (12.1)
Religious Leader	3 (4.2)	3 (1.0)	3 (4.3)	11 (16.9)	4 (3.7)	3 (2.5)	3 (8.3)	3 (2.2)	4 (5.4)	12 (11.2)
Self	1 (1.4)	3 (1.0)	1 (1.4)	0 (0.0)	1 (0.9)	2 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)
Friend	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.5)	6 (5.6)	2 (1.6)	0 (0.0)	3 (2.2)	0 (0.0)	1 (0.9)
Others	0 (0.0)	1(0.3)	1 (1.4)	7 (10.8)	5 (4.7)	1 (0.8)	0 (0.0)	1 (0.7)	0 (0.0)	0 (0.0)
Went for test										
Yes	69 (95.8)	284 (99.0)	63 (91.3)	58 (89.2)	101 (94.4)	116 (95.1)	32 (88.9)	133 (99.3)	66 (89.2)	89 (83.2)
No	3 (4.2)	3 (1.0)	6 (8.7)	7 (10.8)	6 (4.9)	6 (4.9)	4 (11.10)	1 ((0.7)	8 (10.8)	18 (16.8)
Reasons for not testing	n = 3 (%)	n = 3 (%)	n = 6 (%)	n = 7 (%)	n = 6 (%)	n = 6 (%)	n = 4 (%)	n = 1 (%)	n = 8 (%)	n = 18 (%)
Not necessary	1 (33.3)	0 (0.0)	4 (66.7)	7 (100.0)	4 (66.7)	6 (100.0)	3 (75.0)	0 (0.0)	3 (37.5)	6 (33.3)



Cost of testing	0 (0.0)	0 (0.0)	2 (33.3)	0 (0.0)	2 (33.3)	0 (0.0)	1 (25.0)	0 (0.0)	3 (37.5)	10 (55.6)
Husband /family did not allow	1 (33.3)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	2 (25.0)	2 (11.1)
My religion does not allow it	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Afraid of possible outcome	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	1 (33.3)	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

*\*Multiple responses allowed*



Table 17: Where the test was conducted, and assistance to go for test by LGAs, intervention models and study phases

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All combined		Control	
Study Phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
Place where test was done	n = 69 (%)	n = 284 (%)	n = 63 (%)	n = 58 (%)	n = 101 (%)	n = 116 (%)	n = 32 (%)	n = 133 (%)	n = 66 (%)	n = 89 (%)
General Hospital	48 (66.7)	75 (26.1)	20 (29.0)	13 (20.0)	53 (49.5)	46 (37.7)	8 (22.2)	17 (12.7)	6 (8.1)	8 (7.5)
Primary Health Centre	12 (16.7)	160 (55.8)	26 (37.7)	22 (33.9)	22 (20.6)	11 (9.0)	8 (22.2)	17 (12.7)	32 (43.2)	80 (74.8)
Primary Health Clinic	3 (4.2)	40 (13.9)	4 (5.8)	17 (26.2)	18 (16.8)	33 (27.1)	10 (27.8)	42 (31.3)	26 (35.1)	6 (5.6)
Health post	2 (2.8)	0 (0.0)	7 (10.1)	5 (7.7)	5 (4.7)	11 (9.0)	8 (22.2)	39 (29.1)	2 (2.7)	1 (0.9)
Federal Medical Centre	2 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (8.1)	1 (0.9)
Mission House	0 (0.0)	3 (1.1)	8 (11.6)	4 (6.2)	2 (1.9)	6 (4.9)	7 (19.4)	29 (21.6)	1 (1.4)	4 (3.7)
Private hospital/Clinic	3 (4.2)	6 (2.1)	0 (0.0)	1 (1.5)	7 (6.5)	8 (6.6)	0 (0.0)	1 (0.8)	0 (0.0)	6 (5.6)
Non-Governmental Organisation	0 (0.0)	0 (0.0)	2 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.8)	3 (2.2)	0 (0.0)	0 (0.0)
Other public sector facility	0 (0.0)	0 (0.0)	1 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)
Others	2 (2.8)	0 (0.0)	1 (1.5)	2 (3.1)	0 (0.0)	3 (2.5)	0 (0.0)	3 (2.2)	0 (0.0)	
<b>Received assistance from provider/counsellor*</b>										
Yes	38 (55.1)	146 (51.4)	47 (74.6)	37 (63.8)	62 (61.4)	80 (69.0)	14 (43.8)	90 (67.7)	25 (37.9)	53 (59.6)
No	31 (44.9)	138 (48.6)	16 (25.4)	21 (36.2)	39 (38.6)	36 (31.0)	18 (56.3)	43 (32.3)	41 (62.1)	36 (40.4)
<b>Form of assistance received*</b>										
Provided/Paid for transportation	27 (71.1)	116 (79.5)	42 (89.4)	30 (81.1)	47 (75.8)	64 (80.0)	6 (42.9)	33 (36.7)	3 (12.0)	41 (77.4)
Accompanied you to the place	10 (26.3)	28 (19.2)	40 (85.1)	14 (37.8)	18 (29.0)	24 (30.0)	9 (64.3)	62 (68.9)	21 (84.0)	23 (43.4)
Others	5 (13.2)	4 (2.7)	1 (2.1)	3 (8.1)	3 (4.8)	0 (0.0)	0 (0.0)	1 (1.1)	1 (4.0)	5 (9.4)

\*Multiple responses allowed

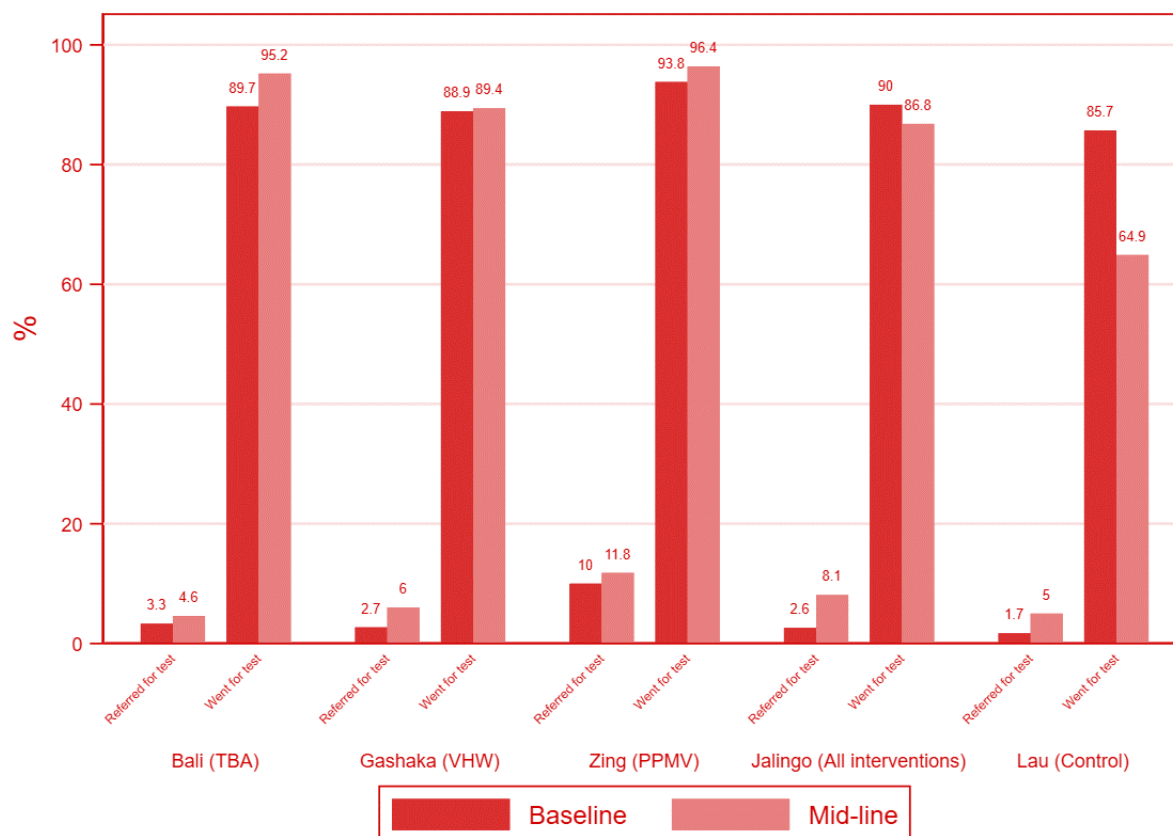


Figure 11: Exposure to community-based counselling: referral and compliance of children 0 – 14 for HTS services and care by LGAs, intervention models and study phase

Table 18: Exposure to community-based counselling: referral and compliance of children 0 – 14 for HTS services and care by LGAs, intervention models and study phase

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
<b>Referred for HIV screening</b>	<b>1173 (%)</b>	<b>918 (%)</b>	<b>1340 (%)</b>	<b>1094 (%)</b>	<b>1286 (%)</b>	<b>1182 (%)</b>	<b>1143 (%)</b>	<b>1130(%)</b>	<b>1263 (%)</b>	<b>1141 (%)</b>
Yes	39 (3.3)	42 (4.6)	36 (2.7)	66 (6.0)	129 (10.0)	139 (11.8)	30 (2.6)	91 (8.1)	21 (1.7)	57 (5.0)
No	1134 (96.7)	876 (95.4)	1304 (97.3)	1028 (94.0)	1157 (90.0)	1043 (88.2)	1113 (97.4)	1039 (91.9)	1242 (98.3)	1084 (95.0)
<b>Providers referring*</b>	<b>n = 39 (%)</b>	<b>n = 42 (%)</b>	<b>n = 36 (%)</b>	<b>n = 66 (%)</b>	<b>n = 129 (%)</b>	<b>n = 139 (%)</b>	<b>n = 30 (%)</b>	<b>n = 91 (%)</b>	<b>n = 21 (%)</b>	<b>n = 57 (%)</b>
Traditional Birth Attendant	0 (0)	9 (21.4)	0 (0)	7 (10.6)	0 (0)	0 (0.0)	0 (0)	15 (16.5)	1 (4.8)	27 (47.4)
Village/Voluntary Health Worker	3 (7.7)	0 (0.0)	12 (33.3)	36 (54.6)	2 (1.6)	17 (12.2)	0 (0.0)	47 (51.7)	1 (4.8)	23 (40.4)
Patent Medicine Vendors/Chemist	7 (17.9)	0 (0.0)	0 (0)	1 (1.5)	0 (0)	0 (0.0)	6 (20)	30 (33.0)	3 (14.3)	3 (5.3)
Father of child	21 (53.8)	0 (0.0)	5 (13.9)	0 (0.0)	59 (45.7)	89 (64.1)	7 (23.3)	0 (0.0)	0 (0.0)	0 (0.0)
Facility Based Health Worker	7 (17.9)	5 (11.9)	5 (13.9)	7 (10.6)	43 (33.3)	21 (15.1)	2 (6.7)	9 (9.9)	13 (61.9)	23 (40.4)
Religious Leader	0 (0.0)	0 (0.0)	9 (25)	9 (13.6)	4 (3.1)	0 (0.0)	1 (3.3)	4 (4.4)	3 (14.3)	5 (8.8)
Relative	1 (2.6)	0 (0.0)	5 (13.9)	0 (0.0)	16 (12.4)	4 (2.9)	5 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)
Others	0 (0.0)	33 (78.6)	0 (0.0)	14 (21.2)	5 (3.9)	8 (5.6)	9 (30.0)	8 (8.8)	0 (0)	12 (21.1)
<b>Went for test</b>										
Yes	35 (89.7)	40 (95.2)	32 (88.9)	59 (89.4)	121 (93.8)	134 (96.4)	27 (90.0)	79 (86.8)	18 (85.7)	37 (64.9)
No	4 (103)	2 (4.8)	4 (11.1)	7 (10.6)	8 (6.2)	5 (3.6)	3 (10.0)	12 (13.2)	3 (14.3)	20 (35.1)
<b>Reasons for not testing</b>	<b>n = 4 (%)</b>	<b>n = 2 (%)</b>	<b>n = 4 (%)</b>	<b>n = 7 (%)</b>	<b>n = 8 (%)</b>	<b>n = 5 (%)</b>	<b>n = 3 (%)</b>	<b>n = 12 (%)</b>	<b>n = 3 (%)</b>	<b>n = 20 (%)</b>
Not necessary	2 (50.0)	1 (50.0)	3 (75.0)	7 (100.0)	8 (100.0)	1 (20.0)	2 (66.7)	12 (100.0)	1 (33.3)	19 (95.0)
Afraid of possible outcome of test	0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Cost too much	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (40.0)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)
Too far/no transportation	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (20.0)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)
Husband/family did not allow	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Facility not opened	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
No female provider at facility	2 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (20.0)	1 (33.3)	0 (0.0)	0 (0.0)	1 (5.0)

\* Percentage that did test was based on number of children identified and referred.

Table 19: Where the test was conducted for children 0-14 yrs, and assistance to go for test by LGAs, intervention models and study phases

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study phase →	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
Place where test was done	n = 35(%)	n = 40 (%)	n = 32 (%)	n = 59 (%)	n = 121 (%)	n = 134 (%)	n = 27 (%)	n = 79 (%)	n = 18 (%)	n = 37 (%)
General Hospital	33 (84.6)	17 (40.5)	7 (19.4)	13 (19.7)	51 (39.5)	71 (51.1)	8 (26.7)	17 (18.7)	1 (4.8)	6 (10.5)
Primary Health Centre	5 (12.8)	17 (40.5)	10 (27.8)	40 (60.4)	19 (14.7)	7 (5.0)	8 (26.7)	8 (8.8)	10 (47.6)	35 (61.4)
Primary Health Clinic	0 (0.0)	6 (14.3)	2 (5.6)	10 (15.2)	24 (19.6)	8 (5.8)	2 (6.7)	42 (46.2)	3 (14.2)	2 (3.5)
Health post	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.5)	10 (7.8)	12 (8.6)	4 (13.3)	0 (0.0)	1 (4.8)	0 (0.0)
Private hospital/Clinic	0 (0.0)	2 (4.8)	0 (0.0)	1 (1.5)	13 (10.1)	29 (20.9)	1 (3.3)	0 (0.0)	0 (0.0)	0 (0.0)
Mission House	1 (2.6)	0 (0.0)	4 (11.1)	0 (0.0)	7 (5.4)	1 (0.7)	0 (0.0)	3 (3.3)	0 (0.0)	3 (3.3)
Non-Governmental Organisation	0 (0.0)	0 (0.0)	8 (22.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	0 (0.0)
Federal Medical Centre	0 (0.0)	0 (0.0)	1 (2.8)	0 (0.0)	1 (0.8)	0 (0.0)	5 (16.6)	18 (19.8)	0 (0.0)	4 (7.0)
Other public sector facility	0 (0.0)	0 (0.0)	4 (11.1)	0 (0.0)	0 (0.0)	0 (0.0)	2 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)
Field Worker	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	5 (23.8)	0 (0.0)
Outreach /Mobile Clinic	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.5)	1 (0.8)	8 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Family planning clinic	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (3.3)	0 (0.0)	0 (0.0)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.6)	3 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Received assistance from person making referral										
Yes	31 (88.6)	30 (75.0)	16 (50.0)	6 (10.2)	86 (71.1)	96 (71.6)	17 (63.0)	67 (84.8)	5 (27.8)	18 (48.7)



No	4 (11.4)	10 (25.0)	16 (50.0)	53 (89.8)	35 (28.9)	38 (28.4)	10 (37.0)	12 (15.2)	13 (72.2)	19 (51.4)
<b>Form of assistance received*</b>										
Provided/Paid for transportation	28 (90.3)	26 (86.7)	15 (93.8)	4 (66.7)	49 (57.0)	93 (96.9)	8 (47.1)	15 (22.4)	0 (0.0)	8 (44.4)
Accompanied you to the place	10 (32.3)	11 (36.7)	14 (87.5)	2 (33.3)	51 (59.3)	20 (20.8)	9 (52.9)	54 (80.6)	5 (100.0)	12 (66.7)
Others	1 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.2)	0 (0.0)	0 (0.0)	2 (3.0)	0 (0.0)	0 (0.0)

*\*Multiple responses allowed*

### 3.6 HIV testing experience of the women respondents

HIV testing experience of the respondents at baseline and midline surveys are described in Figure 12. At baseline, more than three-quarters of respondents in all the LGAs ever had an HIV test. The proportion increased at midline to more than 9 of 10 in all the intervention LGAs but dropped in Lau, the control LGA to 7 out of 10. Similarly, between 8 and 9 respondents out of 10 had HIV test during the last pregnancy at baseline and this increased marginally in all the intervention LGAs (93.3% in Gashaka to 96.6% in Jalingo). The quality of testing services improved during the first year of intervention since higher percentages of the respondents in all intervention LGAs had pre-test counselling, received test result, and had post-test counselling. This is in clear contradiction to the experience of women respondents in Lau, the control LGA. In Lau, the percentages of women who had HIV test during the last pregnancy, those who had pre- and post-test counselling, and those who received test result were much lower than in the intervention LGAs (Figure 12 and Annex table A4a). The results of HIV test on the mothers and their infants from the last pregnancy are shown in Table 20. Very few respondents and respondents' infants tested positive. Almost all who tested positive have been initiated on ART or commenced treatment.

Other details of the respondents' testing experience showed that the major reasons for never having had HIV test were that the respondents considered the "test unnecessary", "husband/family did not allow" or test centres were "too far" (Annex Table A4b). Highest percentages of the respondents had the test in public health facilities (Annex Table A4c). Respondents' reasons for not doing an HIV test during the last pregnancy are shown in Annex Table A4d. The reasons were similar to those expressed for never having had HIV test - "test unnecessary", "husband/family did not allow" or test centres were "too far".



Uptake of HTS among children 0-14 years is shown in Table 21. There was a marginal increase in the proportion of children in household survey who had HIV test in the last year among the intervention LGAs ranging from PPD 0.4 in Bali to 5.4 in Jalingo. In contrast there was a decrease between midline and baseline in Lau the control LGA with PPD of 0.3. At baseline there was only one case of HIV positive child aged 0-14 years found across all the LGA, whereas there were 5 at midline and all cases are from Zing LGA. The only case found at baseline was reported to have commenced ART while only two of the cases found at midline reported to have commenced ART, and only one was reported to be currently on ART.

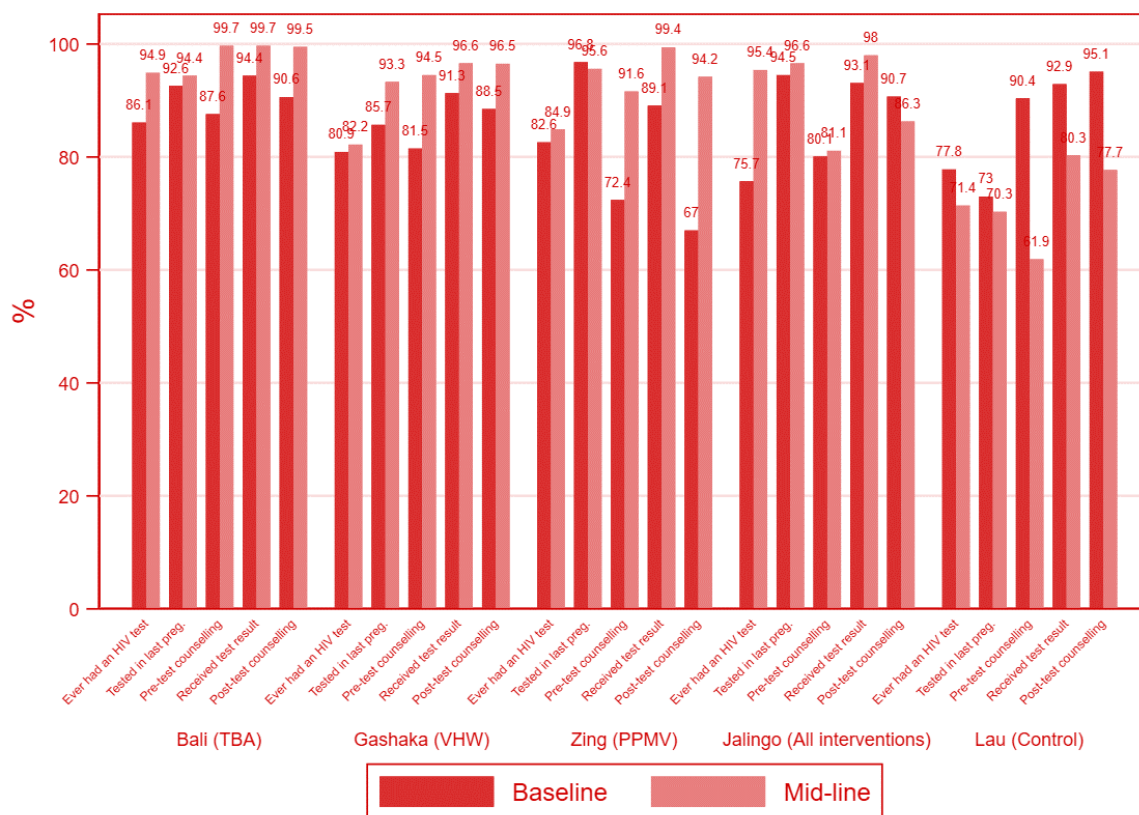


Figure 12: HIV testing experiences of the mothers by LGAs, intervention models, and study phases

Table 20: Result of HIV test conducted during last pregnancy for mothers and their infants and initiation and maintenance of ART by LGAs, intervention models and study phases.

Local Government Areas, Intervention Model and Study Phase										
LGAs	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model	TBA		VHW		PPMV		All Combined		Control	
Study Phase	Baseline	Midline	Baseline	Midline	Baseline	Midline	Baseline	Midline	Baseline	Midline
Mother's Test result	320	383	252	283	294	343	258	388	223	175
Negative	317 (99.1)	383 (100.0)	249 (98.8)	283 (100.0)	288 (98.0)	334 (97.4)	255 (98.8)	385 (99.2)	219 (98.2)	172 (98.3)
Positive	2 (0.6)	0 (0.0)	1 (0.4)	0 (0.0)	3 (1.0)	7 (1.2)	2 (0.8)	2 (0.52)	4 (1.8)	1 (0.6)
Don't know	1 (0.3)	0 (0.0)	2 (0.8)	0 (0.0)	3 (1.0)	2 (0.6)	1 (0.4)	2 (0.52)	0 (0.0)	2 (1.1)
Mother received treatment to prevent MTCT	2	0	1	0	3	9	2	2	4	1
Yes	1 (50.0)	0 (0.0)	1 (100.0)	0 (0.0)	3 (100.0)	7 (77.8)	2 (100.0)	2 (66.7)	4 (100.0)	1 (33.3)
No	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (22.2)	0 (0.0)	1 (33.3)	0 (0.0)	2 (66.7)
Initiated on ART										
Yes	1 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)	3 (100.0)	4 (44.4)	2 (100.0)	2 (66.7)	4 (100.0)	1 (33.3)
No	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (55.6)	0 (0.0)	1 (33.3)	0 (0.0)	2 (66.7)
Reasons for not commencing ART										
Not necessary	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (66.7)	2 (40.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)
Others	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	2 (40.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (50.0)
Currently on ART										
Yes	2 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)	2 (66.7)	4 (100.0)	2 (100.0)	2 (100.0)	4 (100.0)	1 (100.0)
No	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Last child tested for HIV										
Yes	30 (8.9)	26 (6.8)	18 (6.5)	24 (8.2)	56 (17.0)	74 (21.5)	15 (5.4)	77 (19.4)	11 (4.6)	21 (9.6)
No	309 (91.1)	358 (93.2)	258 (93.5)	269 (91.8)	274 (83.0)	271 (78.5)	262 (94.6)	319 (80.6)	229 (95.4)	197 (90.4)

Result of test										
Negative	30 (100.0)	26 (100.0)	18 (100.0)	24 (100.0)	55 (98.2)	72 (97.3)	15 (100.0)	77 (100.0)	9 (81.8)	21 (100.0)
Positive	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Don't know	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.7)	0 (0.0)	0 (0.0)	2 (18.2)	0 (0.0)
Child commenced on medication										
Yes	0 (0.0)	-	0 (0.0)	-	1 (100.0)	-	0 (0.0)	-	0 (0.0)	-
No	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-
Child currently on medication										
Yes	0 (0.0)	-	0 (0.0)	-	1 (100.0)	-	0 (0.0)	-	0 (0.0)	-
No	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-	0 (0.0)	-

Table 21: Uptake of HIV services for children 0 – 14 years

Local Government Areas, Intervention Model and Study Phase															
LGAs <input type="checkbox"/>	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model <input type="checkbox"/>	TBA			VHW			PPMV			All Combined			Control		
Study Phase	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
	1173 (%)	1173 (%)	%	1340 (%)	1340 (%)	%	1286 (%)	1286 (%)	%	1143 (%)	1143 (%)	%	1263 (%)	1263 (%)	%
Child had HIV test last one year															
Yes	61 (5.2)	51 (5.6)	0.4	60 (4.5)	67 (6.1)	1.6	162 (12.6)	198 (16.8)	4.2	57 (5.0)	118 (10.4)	5.4	47 (3.7)	39 (3.4)	-0.3
No	1112 (94.8)	867 (94.4)	-0.4	1280 (95.5)	1027 (93.9)	-1.6	1124 (87.4)	984 (83.2)	-4.2	1086 (95.0)	1012 (89.6)	-5.4	1216 (96.3)	1102 (96.6)	0.3
Why child was not tested															
Not necessary	955 (85.9)	730 (84.2)	-1.7	1001 (78.2)	896 (87.2)	9	870 (77.4)	838 (85.2)	7.8	986 (90.8)	904 (89.3)	-1.5	1105 (90.9)	952 (86.4)	-4.5
Cost too much	14 (1.3)	43 (4.9)	3.6	182 (14.2)	39 (3.8)	-10.4	246 (21.9)	68 (6.9)	-15	28 (2.6)	5 (0.5)	-2.1	11 (0.9)	132 (12.0)	11.1
Husband /family did not allow	78 (7.0)	39 (4.5)	-2.5	216 (16.9)	63 (6.1)	-10.8	21 (1.9)	8 (0.8)	-1.1	47 (4.3)	37 (3.7)	-0.6	26 (2.1)	41 (3.7)	1.6
Too far/no transportation	14 (1.3)	17 (2.0)	0.7	53 (4.1)	71 (6.9)	2.8	81 (7.2)	78 (7.9)	0.7	6 (0.6)	3 (0.3)	-0.3	55 (4.5)	43 (3.9)	-0.6
Afraid of possible outcome of test	0 (0.0)	1 (0.1)	0.1	86 (6.7)	18 (1.8)	-4.9	3 (0.3)	0 (0.0)	-0.3	3 (0.3)	0 (0.0)	-0.3	18 (1.5)	6 (0.5)	-1
My religion does not allow it	2 (0.2)	0 (0.0)	-0.2	2 (0.2)	0 (0.0)	-0.2	4 (0.4)	1 (0.1)	-0.3	1 (0.1)	0 (0.0)	-0.1	4 (0.3)	0 (0.0)	-0.3
Facility not opened	0 (0.0)	0 (0.0)	0	3 (0.2)	1 (0.1)	-0.1	0 (0.0)	2 (0.2)	0.2	1 (0.1)	0 (0.0)	-0.1	2 (0.2)	4 (0.4)	0.2
No female provider at facility	0 (0.0)	1 (0.1)	0.1	2 (0.2)	0 (0.0)	-0.2	0 (0.0)	0 (0.0)	0	1 (0.1)	0 (0.0)	-0.1	0 (0.0)	0 (0.0)	0



Others	96 (8.6)	103 (11.9)	3.3	37 (2.9)	23 (2.2)	-0.7	83 (7.4)	40 (4.1)	-3.3	72 (6.6)	66 (6.5)	-0.1	14 (1.2)	8 (0.7)	-0.5
<b>Months ago since child was tested</b>															
1 – 4	29 (47.5)	27 (52.9)	5.4	40 (66.7)	44 (65.7)	-1	68 (42.0)	89 (45.0)	3	28 (49.1)	75 (63.6)	14.5	12 (25.5)	14 (35.9)	10.4
5 – 8	17 (27.9)	18 (35.3)	7.4	7 (11.7)	15 (22.4)	10.7	60 (37.0)	82 (41.4)	4.4	15 (26.3)	35 (29.7)	3.4	20 (42.6)	10 (25.6)	-17
9 – 11	15 (24.6)	6 (11.8)	-12.8	13 (21.6)	8 (11.9)	-9.7	34 (21.0)	27 (13.6)	-7.4	14 (24.6)	8 (6.7)	-17.9	15 (31.9)	15 (38.5)	6.6
<b>Had pre-test counselling</b>															
Yes	60 (98.4)	50 (98.0)	-0.4	55 (91.7)	60 (89.6)	-2.1	151 (93.2)	196 (99.0)	5.8	54 (94.7)	105 (89.0)	-5.7	45 (95.7)	34 (87.2)	-8.5
No	1 (1.6)	1 (2.0)	0.4	5 (8.3)	7 (10.5)	2.2	11 (6.8)	2 (1.0)	-5.8	3 (5.3)	13 (11.0)	5.7	2 (4.3)	5 (12.8)	8.5
<b>Received test result</b>															
Yes	61 (100.0)	50 (98.0)	-2	59 (98.3)	65 (97.0)	-1.3	148 (91.4)	198 (100.)	8.6	57 (100.0)	118 (100.0)	0	45 (95.7)	37 (94.9)	-0.8
No	0 (0.0)	1 (2.0)	2	1 (1.7)	2 (3.0)	1.3	14 (8.6)	0 (0.0)	-8.6	0 (0.0)	0 (0.0)	0	2 (4.3)	2 (5.1)	0.8
<b>Why test result was not received</b>															
I did not return to collect my results	0 (0.0)	0 (0.0)	0	1 (100.0)	0 (0.0)	-100	1 (7.1)	-	-92.9	0 (0.0)	-	0	2 (100.0)	2 (100.0)	100
I was afraid	0 (0.0)	0 (0.0)	0	1 (100.0)	0 (0.0)	-100	0 (0.0)	-	0	0 (0.0)	-	0	0 (0.0)	0 (0.0)	0
Others	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	13 (92.7)	-	92.7	0 (0.0)	-	0	0 (0.0)	0 (0.0)	0
It was not necessary	0 (0.0)	1 (100.0)	100	0 (0.0)	2 (100.0)	100	0 (0.0)	-	0	0 (0.0)	-	0	0 (0.0)	0 (0.0)	0
<b>Received post-test counselling</b>															
Yes	59 (96.7)	50 (100.0)	3.3	54 (91.5)	61 (93.9)	2.4	132 (89.2)	197 (99.5)	10.3	55 (96.5)	111 (94.1)	-2.4	42 (93.3)	35 (94.6)	1.3
No	2 (3.3)	0 (0.0)	-3.3	5 (8.5)	4 (6.1)	-2.4	16 (10.8)	1 (0.5)	-10.3	2 (3.5)	7 (5.9)	2.4	3 (6.7)	2 (5.4)	-1.3
<b>Test result</b>															

Negative	61 (100.0)	50 (100.0)	0	59 (100.0)	65 (100.0)	0	147 (99.3)	193 (97.5)	-1.8	57 (100.0)	118 (100.0)	0	45 (100.0)	37 (100.0)	0
Positive	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (0.7)	5 (2.5)	-0.2	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0
<b>Commenced of ART</b>															
Yes	-	-		-	-	0	1 (100.0)	2 (40.0)	-60	-	-		-	-	
No	-	-		-	-	0	0 (0.0)	3 (60.0)	60	-	-		-	-	
<b>Currently/still on ART</b>						<b>0</b>			<b>0</b>						
Yes	-	-		-	-	0	1 (100.0)	1 (20.0)	-80	-	-		-	-	
No	-	-		-	-	0	0 (0.0)	4 (80.0)	80	-	-		-	-	

### 3.7 Cost effectiveness analysis

#### 3.7.1 Cost Analysis

We estimated the cost of using Traditional Birth Attendants as community mobilizers over a one-year period in Bali LGA as €173,884.47 (\$195,038.79) [Table 22]. We estimated the cost of using Village Health Workers as community mobilizers over a one-year period in Gashaka LGA as €161,801.68 (\$181,486.05). We estimated the cost of using Proprietary and Patent Medicine Vendors as community mobilizers over a one-year period in Zing LGA as €166,132.04 (\$186,343.23). Finally, we estimated the cost of using the three types of community mobilizers within one LGA as community mobilizers over a one-year period in Jalingo LGA as €185,629.16 (\$208,212.32). The breakdown of the cost analysis is shown in Annex Table A1.

Table 22: Aggregated cost by model of intervention

Currency	TBA (Bali)	VHW (Gashaka)	Combined (Jalingo)	PPMV (Zing)
Naira	66,371,701.38	61,759,701.38	70,854,651.38	63,412,601.38
USD	195,038.79	181,486.05	208,212.32	186,343.23
EURO	173,884.47	161,801.68	185,629.16	166,132.04

#### 3.7.2 Program Beneficiaries

From the routine monitoring and evaluation report for the intervention in one year in each study LGA, Jalingo LGA (combined model) had the highest number of pregnant women referred from the communities for HTS (14,752), number of pregnant women who were referred, tested (14,732), number of pregnant women who got tested that were HIV positive (80), and number of those who were positive and commenced on treatment (76) [Table 23]. Similarly, Jalingo LGA had the highest number of beneficiaries across the four categories among children <15 years old. and Gashaka LGA (VHW) had the least for persons refereed and test ed while Zing LGA (PPMV) had the least for persons positive and place on treatment for both pregnant women and children <15 years.

Table 23: Project beneficiaries by model of intervention

Model of intervention (LGA)	Pregnant women referred	Pregnant women tested	Pregnant women tested positive	Pregnant women commenced treatment	Children <15 Referred	Children <15 tested	Children <15 tested positive	Children <15 commenced treatment
TBA (Bali)	10,639	10,367	72	72	20,032	19,720	56	55
VHW (Gashaka)	3,792	3,792	24	18	13,310	13,310	11	8
PPMV (Zing)	5228	5228	17	16	18,102	18,102	8	8
Combined (Jalingo)	14,752	14,732	80	76	26,742	2,6742	46	43

### 3.7.3 Cost per beneficiary

We only conducted cost per beneficiary estimation for referral and HIV testing because of the smaller frequencies for HIV positivity and commencement of treatment. By dividing the costs of intervention in each LGA (i.e. model of intervention) and the total persons reached by the intervention in that LGA, we observed that the combined model in Jalingo had the lowest cost per beneficiary for pregnant women referred from the communities for HTS (\$14.11, €12.58), pregnant women who were referred and got tested for HIV (\$14.13, €12.60) as well as children <15 years old referred from the communities for HTS (\$7.79, €6.94), children <15 years old referred from the communities and got tested for HIV (\$7.79, €6.94) [Table 24]. The highest cost per beneficiary was found in Gashaka LGA (VHW) across the four categories.

Table 24: Cost per beneficiary by model of invention

Model of Intervention (LGA)	Currency	Pregnant women referred	Pregnant women tested	Children <15 Referred	Children <15 tested
TBA (Bali)	Naira	6,238.53	6,402.21	3,313.28	3,365.70
	USD	18.33	18.81	9.74	9.89
	EURO	16.34	16.77	8.68	8.82
VHW (Gashaka)	Naira	16,286.84	16,286.84	4,640.10	4,640.10
	USD	47.86	47.86	13.64	13.64
	EURO	42.67	42.67	12.16	12.16
Combined (Jalingo)	Naira	4,803.05	4,809.57	2,649.56	2,649.56
	USD	14.11	14.13	7.79	7.79
	EURO	12.58	12.6	6.94	6.94
PPMV (Zing)	Naira	12,129.42	12,129.42	3,503.07	3,503.07
	USD	35.64	35.64	10.29	10.29
	EURO	31.78	31.78	9.18	9.18

### 3.7.4 Program effectiveness

Program effectiveness was estimated as the difference in the post-estimation predicted probability of having the outcome of interest (referred for HTS or and took HIV test) when each intervention LGA is compared with the control in fitted probit regression models using the various outcomes of interest as the dependent variable, and intervention status as the independent variable for each regression specification. Due to the large number of regression models generated, only the differences in margins (i.e. marginal effect) are reported here. These marginal effects represent the difference between the outcome of interest for one group compared and that in a comparative group. Each marginal effect represents the comparative probability of having the outcome of interest, in this case, being referred for HTS, between each model and Lafiyan Yara Project Enhancing Access of Children to HIV Services Using Existing Community Mechanisms in selected LGAs of Taraba State, Nigeria

a reference group, in this case no intervention. The values provide an estimate of the magnitude of the effect of exposure to the intervention.



In the LGA where TBAs were used as community mobilizers, respondents had a higher probability of being referred by a TBA for HTS than in the control LGA, where no intervention occurred (marginal effect 0.22,  $p=0.02$ ) [Table 25]. This was also the case in the LGA where the combined model was used (marginal effect 0.08,  $p<0.001$ ). However, in the LGA where VHW were used, respondents had lower probability of being referred for HTS by a VHW in the intervention LGA than the control LGA but the finding was not statistically significant (marginal effect -0.02,  $p=0.065$ ). In the LGA where only PPMVs were used as community mobilizers, no respondent at the midline assessment reported that she was referred by a PPMV for HTS during her last pregnancy, hence margins could not be estimated. For referred women who were tested, the LGA where TBAs were used had a marginal effect of 0.10 ( $p=0.145$ ) and the LGA with VHW had 0.35 ( $p=0.007$ ). In the LGA with the combined model, all respondents who said they were referred by any of the type of community mobilizer all went to get the HIV test done, hence margins could not be computed.

In the LGA where TBAs were used, respondents' children less than 15 years old had lower probability of being referred for HTS by a TBA in the intervention LGA than the control LGA, and the finding was statistically significant (marginal effect -0.01,  $p=0.013$ ). Converse was the case in the LGA where VHW model was used (marginal effect 0.01  $p=0.061$ ) as well as the combined model (marginal effect 0.04,  $p<0.001$ ). Similar to the mothers, in the LGA where only PPMVs were used as community mobilizers, no respondent at the midline assessment reported that her child <15 years old was referred by a PPMV for HTS in the past one year, hence margins could not be estimated. For referred children who got tested, the LGA

where TBAs were used did not have any such child tested, the LGA with VHW had a marginal effect of 0.16 ( $p=0.086$ ), and the LGA with the combined type had marginal effect of 0.19 ( $p=0.029$ ) and the LGA with VHW had 0.35 ( $p=0.007$ ). In the LGA with the combined model, all responded who said they were referred by any of the type of community mobilizer all went to get the HIV test done.

Table 25: Marginal effects derived from probit regression modelling by model of intervention

Intervention Outcome and Model of Intervention	Marginal effect	95% CI		Delta method SE	P
Mothers referred by comm. mobilizer					
TBA vs No intervention	0.22	0.17	0.26	0.02	0.000
VHW vs No intervention	-0.02	-0.00	-0.05	0.01	0.065
Combined <sup>#</sup> vs No intervention	0.08	0.04	0.13	0.02	0.000
PPMV vs No intervention	-				
Referred Mothers tested					
TBA vs No intervention	0.10	0.04	0.25	0.07	0.145
VHW vs No intervention	0.35	0.1	0.61	0.13	0.007
Combined vs No intervention	-				
PPMV vs No intervention	-				
Child referred by comm. mobilizer					
TBA vs No intervention	-0.01	-0.00	-0.02	0.01	0.013
VHW vs No intervention	0.01	0.02	0.03	0.01	0.061
Combined vs No intervention	0.04	0.02	0.06	0.01	0.000
PPMV vs No intervention	-				
Referred child did test					
TBA vs No intervention	-				
VHW vs No intervention	0.16	0.02	0.35	0.09	0.086
Combined vs No intervention	0.19	0.02	0.36	0.09	0.029
PPMV vs No intervention	-				

*TBA: Bali LGA; VHW: Gashaka LGA; Combined: Jalingo LGA; PPMV: Zing LGA*

### 3.7.5 Average costs and outcomes

For each intervention, average cost-effectiveness was estimated for those that yielded marginal effect as displayed in Table 26 below. The cost presented in the table represent the cost needed to get an additional unit of the respective outcomes compared to a scenario of no intervention. Referring pregnant women for HTS using TBA as community mobilizers had the lowest average cost effectiveness (ACER: \$83.32 / HTS referral, €74.27/ HTS referral) while converting referral to testing was most effective with VHW (ACER: \$188.10/HIV test, €167.70/HIV test). Referring children <15 years old for HTS using the combined approach had the lowest average cost effectiveness (\$194.75/HTS referral, €173.50/HTS referral) and converting the referral to testing was equally most effective with the combined approach (\$41.00/HIV test, €36.53/HIV



test). Average cost effectiveness were not estimated for the outcomes that were not found to be effective from the estimation of program effectiveness (i.e. negative marginal effects).

Table 26: Average Cost effectiveness ratio by model of intervention

LGA	Currency	Pregnant women referred	Pregnant women tested	Children <15 Referred	Children <15 tested
TBA	Naira	28,356.95	64,022.10	-	-
	USD	83.32	188.10	-	-
	EURO	74.27	167.70	-	-
VHW	Naira	-	46,533.83	464,010.00	29,000.63
	USD	-	136.74	1,364.00	85.25
	EURO	-	121.91	1,216.00	76.00
Combined	Naira	60,038.13	-	66,239.00	13,945.05
	USD	176.38	-	194.75	41.00
	EURO	157.25	-	173.50	36.53
PPMV	Naira	-	-	-	-
	USD	-	-	-	-
	EURO	-	-	-	-

## 4 Key findings, Conclusions and recommendations

### 4.1 Key findings

#### 1. Characteristics of the Households and Women of Child-bearing Age Group Enrolled in the Study

Generally, the populations studied at baseline and midline are similar and there were no sizeable changes in their background characteristics.

#### 2. Reproductive History and Pregnancy Intention

Fifty-six respondents (2.6%) were pregnant during the survey while 32.2% reported that they would like to be pregnant in the year; 68.0% of the respondents had 1 – 4 pregnancies in the past and 77.8% had 1 – 4 deliveries. One in 6 of the respondents had lost a child in the past while 31.8% of these had lost more than one child and most of the deaths (68%) occurred before the child was a year old. Higher percentages of the respondents reported attending antenatal care in the last pregnancy in all the intervention LGAs with percentage point difference (PPD) ranging from 3.1 in Zing to 11.8 in Gashaka. However, the percentage of women who reported attending antenatal care for the last pregnancy was lower in Lau, the control LGA, Lafiya Yara Project Enhancing Access of Children to HIV Services Using Existing Community Mechanisms in selected LGAs of Taraba State, Nigeria

with PPD of -18 points.

### **3. Antenatal Care Utilisation**

The proportions of respondents who used antenatal care at their last pregnancy increased in the four intervention LGAs from 83.7%, 84.0%, 86.3% and 89.3% at baseline to 88.1%, 95.8%, 89.4% and 95.8% at mid-line respectively in Bali, Gashaka, Zing and Jalingo, while in Lau LGA, the proportion dropped from 80.5% at baseline to 62.5% at mid-line. While it may be a stretch, it may be connected to activities of the community mobilizers within the study LGAs. Antenatal care functions provided at baseline and midline are described in Table 4. Generally, checking of vital signs in pregnancy was almost universal in all the LGAs at midline compared to baseline except in Lau, the control LGA. Concerning information on HIV testing, prevention, and prevention of mother-to-child transmission, the percentages of women who had exposure to these pieces of information during ANC were higher in all the intervention LGAs at midline compared to baseline but lower in Lau, the control LGA.

### **4. Knowledge, Opinions and Attitudes and Self-risk perception about HIV/AIDS**

Comparing baseline with mid-line findings, there has been increase in knowledge about HIV. At the midline, a positive increase in the proportion of respondents who knew about transmission of HIV during pregnancy, during delivery and during breastfeeding was seen in all intervention LGAs whereas a decrease was seen in these three parameters for the control LGA, Lau. While we are not aware of any other specific HIV intervention ongoing in the state, this may be connected to the activities of the community mobilizers directly informing pregnant women about HIV and AIDS. Also, respondents were better informed that a healthy looking person could have be HIV infected at midline compared to baseline. The percentage of respondents who were aware of the mother-to-child route of transmission increased at midline survey in all the LGAs and remarkably so in Bali where TBAs were used as mobilizers). The percentages of respondents who knew the important ways to avoid HIV/AIDS, such as avoiding sharing of sharp objects, staying with one partner, avoiding sex with commercial workers, etc. were high at the baseline survey and increased marginally at the midline survey. However, myths such as "praying to God", delaying onset of sexual intercourse, use of antibiotics, seeking protection from traditional healers and "doing nothing" were still prevalent at midline survey.

### **5. Exposure to Community-based HTS and Uptake of HIV Testing**

Compared to the control LGA, there was an increase in the knowledge of respondents of where to get tested for HIV in all the intervention LGAs between baseline and midline assessment. Similarly, in three of the four intervention LGAs, there was appreciable increase in the proportion of respondents who were counselled or referred by someone in the community for HIV testing (community-based referral) during the last pregnancy between baseline and midline assessment. Also, there were slight increases in the proportion of those who went for the test after being referred in Bali (89.7% to 95.2%, TBA model), Gashaka, (88.9% to 89.4%, VHW model), and Zing 93.4% to 96.4%, PPMV model). Across the LGAs there was a marginal increase in the number of children referred in the last one year to a health facility for HIV screening at midline in all the intervention LGAs (Bali, 3.3% to 4.6%; 2.7% to 6.0%; Jalingo, 2.6% to 8.1% and in Zing, 10.0% to 11.8%). Fathers and other relatives play important roles as part of the referral processes of mothers and their children for HTS across all the study LGAs at both baseline and midline assessment. This includes being the ones to tell them to go for HIV testing.

All the intervention LGAs had increased proportion of women who had HIV test in their last pregnancy while this decreased in the control LGA. The increases were much higher in Bali where TBAs provided intervention

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and in Jalingo where all the intervention models were implemented. In addition, respondents were aware that there was treatment that could reduce the risk of transmission and also prolong life of people living with HIV. The quality of testing services seems to have improved during the first year of intervention since higher percentages of the respondents in all intervention LGAs had pre-test counselling, received test result, and had post-test counselling. This is in clear contradiction to the experience of women respondents in Lau, the control LGA. In Lau, the percentages of women who had HIV test during the last pregnancy, those who had pre- and post-test counselling, and those who received test result were much lower than in the intervention.

## **6. Cost effectiveness**

Using TBAs as community mobilizers for referring pregnant women for HTS appears to be a very cost effective approach to driving access to HTS (ICER: \$83.32, €74.27). Using VHW was more cost effective for completion of referral resulting in actual testing also among pregnant women (ICER: \$188.10, €167.70). However, the combination approach was more cost effective for referring children <15 years and completing the referral resulting in HIV testing (\$41.00, €36.53). In the case of the combined model for converting referral to actual testing for HIV, marginal effect, hence average cost effectiveness could not be estimated only because margins examination requires contrast in both the outcome and independent variables. This was not achieved only because all respondents who reported to have been referred under that model also reported to have all got HIV test done following the referral. Thus, it is very much a useful approach to take. Using PPMV was not cost effective at all for either pregnant women or children <15 years-old.

However, the approach we took to estimate cost effectiveness in this research has a number of limitations. From an understanding that measuring intervention effectiveness is determined largely by the choice of research design, we were limited in the choice of research design we could adopt. Randomized control trials, in which individuals are randomly assigned to treatment and control groups, are often considered to be the "gold standard". Such approach was not feasible in this study since we could not conduct a real pre- and post-test assessment since eligible respondents must have been pregnant in the last year preceding data collection. The quasi-experimental design that we used in the alternative only allowed us to compare participants with non-equivalent participants, and only a post-test-only design was available for quantifying program effectiveness. Also, measurement error in exposure to interventions is very likely since exposure was assessed based on response of participants to a question on whether they were referred for HTS by any categories of person during their pregnancy in the past one year. These reports are subject recall bias, hence both under- or over-reporting.



## 4.2 Conclusion

As the study proposed, an increased numbers of women of childbearing age group and their children 0 – 14 years were identified and referred for HTS by community-based cadres investigated in the study. It appears that TBAs performed better than VHW and PPMVs in identifying and referral of women of childbearing age group. The role of facility health workers, the children's fathers and others is noted in referring for HTS. With respect to the cost effectiveness of the various community based referral models it seems the combined approach was must useful achieving scalable effects of increased uptake of HTS among pregnant women and children less than 15 years old. In particular, the combination of TBA and VHW appears promising since the use of PPMV did not have any appreciable effectiveness. It is however important to note the interventions in this study took place during the COVID-19 pandemic, and for some part, during the ensuing lockdown with limited possibility of movement. The findings in this research may thus have been different in the absence of the COVID-19 pandemic.

## 4.3 Recommendations

The following the recommendations in view of the findings from this survey:

1. This study shows that TBAs alone or in combination with other approaches is cost effective in enhancing access to HIV testing services. We recommend that this group of community mobilizers

should be further strengthened while ensuring that they practice within the boundaries of their competency.

2. PPMV were less effective in driving uptake of HTS than the other types of community mobilizers, however, it might still be possible to modify the approach being used with PPMV such as considering giving them stipends for every completed referral.
3. We find that there are other structures within the community that are important for pregnant women and children to health facilities for HTS, in particular, husbands/fathers and other relatives. It may be important to incorporate these persons into future interventions for driving uptake of HTS among pregnant women and children.

# Annexes

Table A1: One year cost analysis for the Lafiyan Yara Project

Item	Bali	Gashaka	Jalingo	Zing	Field Office	HQ Project related expenses
Tracking Incentive (Reimbursable cost)	2,978,700.00	1,710,200.00	4,147,400.00	2,356,600.00		
Wages allowance	400,000.00	320,000.00	595,000.00	-		
Transport Stipend	160,000.00	128,000.00	238,000.00	-		
Community Health Workers support for communication	126,000.00	117,000.00	205,000.00	99,000.00		
Community Volunteers (previously CBO staff)	161,000.00	205,000.00	244,000.00	125,000.00		
Mobilizers inception training	12,000.00	12,000.00	34,000.00	10,000.00		
Community Health Care Workers inception training	21,000.00	24,000.00	30,000.00	24,000.00		
Community Volunteers (CBO Staff) inception training	2,000.00	2,000.00	4,000.00	2,000.00		
Covid 19 Training and Supportive Supervision	257,605.88	257,605.88	257,605.88	257,605.88		
Cost of test kits	7,553,750.00	4,284,250.00	10,400,000.00	5,838,750.00		
State Level stakeholders Inception meeting					155,000.00	
Selection of project Communities					162,000.00	
Supportive Supervision					1,358,185.00	



Fuel for Vehicle					86,300.00	
MVO Wages					559,000.00	
Vehicle repairs & maintenance					54,100.00	
Transportation (Before use of vehicle)					261,274.00	
Contribution for Janitorial					70,000.00	
Modems					78,000.00	
Internet					112,000.00	
Communication					161,000.00	
Postage & Delivery					23,000.00	
Stationeries & Office supplies					132,000.00	
Field office Bank Charges					110,258.00	
Estimated rent for Office space					100,000.00	
Field Office Asset					4,027,234.00	
National steering committee & Advocacy						1,377,825.00
Salaries						27,553,155.35
HQ Supportive Supervision						734,038.28
Common Costs						20,651.68
Project Inception						813,223.67
Purchased Furniture and Equipment						1,284,000.00

Professional Services AUDIT						842,232.59
Professional Services SAP						32,878.57
Contract Services - Security/Janitorial/Other						157,607.19
Professional Services RECRUITMENT FEES						770,480.38
Office and equipment maintenance						621,009.32
Fire and Peril Insurance (613008)						30,243.94
Utilities/Electricity/Fuel for generator						149,464.87
Stationaries and office supplies						123,328.18
Internet						117,640.76
Communication						518,897.64
Administration Fee (10% of the total project cost)						6,200,429.15
Postage & Delivery						50,136.83
HQ Bank Charges						217,663.94
LOE: Finance (10%)						916,219.83
LOE: M&E (10%)						650,794.01
LOE: HUMAN RESOURCES (5%)						261,933.35
LOE: INTERNAL AUDIT (2.5%)						215,730.91
LOE: PROGRAM STAFF (10%)						3,590,709.06
Total (Naira)	11,672,055.88	7,060,055.88	16,155,005.88	8,712,955.88	7,449,351.00	47,250,294.50

Table A2: Women's pregnancy history, number (%) with living or dead children and ages of the children at time of death.

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VHW		PPMV		All Combined		Control	
Study Phase →	Baseline	Midline	Baseline	Midline	Baseline	Midline	Baseline	Midline	Baseline	Midline
	430 (%)	430 (%)	430 (%)	431 (%)	430 (%)	430 (%)	437 (%)	440 (%)	439 (%)	434 (%)
<b>Currently pregnant</b>										
Yes	2 (0.5)	8 (1.9)	7 (1.6)	8 (1.9)	23 (5.2)	8 (1.8)	9 (2.1)	12 (2.8)	15 (3.4)	1 (0.2)
No	428 (99.5)	422 (98.1)	423 (98.4)	423 (98.1)	416 (94.8)	426 (98.2)	421 (97.9)	418 (97.2)	422 (96.6)	439 (99.8)
<b>Intends to get pregnant within the next one year</b>										
Yes	126 (29.4)	253 (60.0)	165 (39.0)	250 (59.1)	124 (29.8)	66 (15.5)	136 (32.3)	84 (20.1)	138 (32.7)	139 (38.5)
No	302 (70.6)	169 (40.0)	258 (61.0)	173 (40.9)	292 (70.2)	360 (84.5)	285 (67.7)	334 (79.9)	284 (67.3)	270 (61.5)
<b>Number of pregnancies ever had</b>										
1 – 2	196 (45.6)	272 (63.3)	163 (37.9)	211 (49.0)	187 (42.6)	191 (44.0)	186 (43.3)	211 (49.1)	173 (39.6)	195 (44.3)
3 – 4	131 (30.5)	130 (30.2)	113 (26.3)	118 (27.4)	142 (32.4)	117 (27.0)	119 (27.7)	124 (28.8)	124 (28.4)	128 (29.1)
5 and above	103 (24.0)	28 (6.5)	154 (35.8)	102 (23.6)	110 (25.0)	126 (29.0)	125 (29.0)	95 (22.1)	140 (32.0)	117 (26.6)
<b>Number of deliveries ever had</b>										
1 – 2	205 (47.7)	291 (67.7)	168 (39.1)	215 (49.9)	204 (46.5)	204 (47.0)	209 (48.6)	228 (53.0)	188 (43.0)	216 (49.1)
3 – 4	130 (30.2)	113 (26.3)	118 (27.4)	120 (27.8)	137 (31.2)	114 (26.3)	121 (28.1)	123 (28.6)	134 (30.7)	125 (28.4)
5 and above	95 (22.1)	26 (6.0)	144 (33.5)	96 (22.3)	98 (22.3)	116 (26.7)	100 (23.3)	79 (18.4)	115 (26.3)	99 (22.5)
<b>Status of the children</b>										
Respondents with living children	370 (86.0)	370 (86.0)	342 (79.5)	342 (79.5)	358 (81.5)	358 (81.5)	365 (84.9)	365 (84.9)	376 (86.0)	376 (86.0)

Respondent who have lost one or more children died	60 (14.0)	60 (14.0)	88 (20.5)	88 (20.5)	81 (18.5)	81 (18.5)	65 (15.1)	65 (15.1)	61 (14.0)	61 (14.0)
<b>*Number of respondents' child(ren) that died</b>										
1 child only	39 (65.0)	19 (73.1)	53 (60.2)	23 (79.3)	53 (65.4)	35 (60.3)	56 (86.2)	29 (64.4)	41 (67.2)	66 (70.2)
2 – 3 children	19 (31.7)	6 (23.1)	31 (35.2)	5 (17.2)	24 (29.6)	18 (31.0)	9 (13.8)	14 (31.1)	18 (29.5)	22 (23.4)
4 children and above	2 (3.3)	1 (3.8)	4 (4.6)	1 (3.5)	4 (4.9)	5 (8.6)	0 (0.0)	2 (4.4)	2 (3.3)	6 (6.4)
<b>Total number of child(ren) died</b>										
Children died	93	35	143	39	128	95	77	68	94	147
<b>Age of children when died (years)</b>										
Less than 1 (Infants)	76 (81.7)	19 (54.3)	98 (68.5)	34 (87.2)	59 (46.1)	37 (39.0)	53 (68.8)	53 (77.9)	55 (58.5)	86 (58.5)
1 – 4 (Under-five)	17 (18.3)	16 (45.7)	39 (27.3)	5 (12.8)	54 (42.2)	52 (54.7)	18 (23.4)	13 (19.1)	35 (37.2)	56 (38.1)
5 years and above	0 (0.0)	0 (0.0)	6 (4.2)	0 (0.0)	15 (11.7)	6 (6.3)	6 (7.8)	2 (3.0)	4 (4.3)	5 (3.4)

Table A3a: Exposure to community-based testing: percentages of women respondents who were counselled or referred for HTS, and those who went for the test at baseline and midline by LGAs and interventions

Local Government Areas, Intervention Model and Study Phase										
LGAs →	Bali		Gashaka		Zing		Jalingo		Lau	
Intervention Model →	TBA		VVHWs		PPMV		All combined		Control	
Study Phase →	Baseline	VHW	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line	Baseline	Mid-line
	425 (%)	429 (%)	398 (%)	332(%)	413 (%)	425 (%)	387 (%)	430 (%)	423 (%)	434 (%)
Counselled	72 (16.9)	287 (66.9)	69 (17.3)	65 (17.0)	107 (25.9)	122 (28.7)	36 (9.3)	134 (31.2)	74 (17.5)	107 (24.7)
Went for test*										
Yes	69 (95.8)	284 (99.0)	63 (91.3)	58 (89.2)	101 (94.4)	116 (95.1)	32 (88.9)	133 (99.3)	66 (89.2)	89 (83.2)
No	3 (4.2)	3 (1.0)	6 (8.7)	7 (10.8)	6 (4.9)	6 (4.9)	4 (11.10)	1 ((0.7)	8 (10.8)	18 (16.8)

Table A3b: Providers (including others persons) who referred the women for HTS by LGAs, intervention models and study phases

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All combined			Control		
Study Phase →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Providers	n=72 (%)	n=287 (%)		n=69 (%)	n=65 (%)		n=107 (%)	n=122 (%)		n=36 (%)	n=134 (%)		n=74 (%)	n=107 (%)	
Traditional Birth Attendant	0 (0)	116 (40.4)	40.4	4 (5.8)	7 (10.8)	5.0	2 (1.9)	1 (0.8)	-1.1	2 (5.6)	15 (11.2)	5.6	6 (8.1)	23 (21.5)	13.4
Village/Voluntary Health Worker	10 (13.9)	10 (3.5)	-10.4	10 (14.5)	12 (18.5)	4.0	1 (0.9)	17 (13.9)	13.0	1 (2.8)	57 (42.5)	39.7	9 (12.2)	23 (21.5)	9.3
Patent Medicine Vendors/Chemist	4 (5.6)	0 (0.0)	-5.6	0 (0.0)	0 (0.0)	0.0	0 (0.0)	0 (0.0)	0.0	4 (11.1)	15 (11.2)	0.1	7 (9.5)	5 (4.7)	-4.8
Facility Based Health Worker	29 (40.3)	123 (42.9)	2.6	14 (20.3)	8 (12.3)	-8.0	30 (28.0)	31 (25.4)	-2.6	15 (41.7)	28 (20.9)	-20.8	37 (50.0)	17 (15.9)	-34.1
Husband	15 (20.8)	66 (23.0)	2.2	25 (36.2)	22 (33.8)	-2.4	40 (37.4)	61 (50.0)	12.6	7 (19.4)	19 (14.2)	-5.2	11 (14.9)	34 (31.8)	16.9
Relative	10 (13.9)	7 (2.4)	-11.5	11 (15.9)	2 (3.1)	-12.8	18 (16.8)	6 (4.9)	-11.9	4 (11.1)	6 (4.5)	-6.6	0 (0.0)	13 (12.1)	12.1
Religious Leader	3 (4.2)	3 (1.0)	-3.2	3 (4.3)	11 (16.9)	12.6	4 (3.7)	3 (2.5)	-1.2	3 (8.3)	3 (2.2)	-6.1	4 (5.4)	12 (11.2)	5.8
Self	1 (1.4)	3 (1.0)	-0.4	1 (1.4)	0 (0.0)	-1.4	1 (0.9)	2 (1.6)	0.7	0 (0.0)	0 (0.0)	0.0	0 (0.0)	1 (0.9)	0.9
Friend	0 (0.0)	0 (0.0)	0.0	0 (0.0)	1 (1.5)	1.5	6 (5.6)	2 (1.6)	-4.0	0 (0.0)	3 (2.2)	2.2	0 (0.0)	1 (0.9)	0.9
Others	0 (0.0)	1(0.3)	0.3	1 (1.4)	7 (10.8)	9.4	5 (4.7)	1 (0.8)	-3.9	0 (0.0)	1 (0.7)	0.7	0 (0.0)	0 (0.0)	0.0

Table A3c: Places where respondents were referred for HIV screening by LGAs and Intervention, and study phase

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All combined			Control		
LGAs →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Intervention Model →	n=72 (%)	n=287 (%)		n=69 (%)	n=65 (%)		n=107 (%)	n=122 (%)		n=36 (%)	n=134 (%)		n=74 (%)	n=107 (%)	
Study Phase →	48 (66.7)	75 (26.1)	-40.6	20 (29.0)	13 (20.0)	-9	53 (49.5)	46 (37.7)	-11.8	8 (22.2)	17 (12.7)	-9.5	6 (8.1)	8 (7.5)	-0.6
Primary Health Centre	12 (16.7)	160 (55.8)	39.1	26 (37.7)	22 (33.9)	-3.8	22 (20.6)	11 (9.0)	-11.6	10 (27.8)	42 (31.3)	3.5	32 (43.2)	80 (74.8)	31.6
Primary Health Clinic	3 (4.2)	40 (13.9)	9.7	4 (5.8)	17 (26.2)	20.4	18 (16.8)	33 (27.1)	10.3	8 (22.2)	39 (29.1)	6.9	26 (35.1)	6 (5.6)	-29.5
Health post	2 (2.8)	0 (0.0)	-2.8	7 (10.1)	5 (7.7)	-2.4	5 (4.7)	11 (9.0)	4.3	0 (0.0)	0 (0.0)	0	2 (2.7)	1 (0.9)	-1.8
Federal Medical Centre	2 (2.8)	0 (0.0)	-2.8	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	7 (19.4)	29 (21.6)	2.2	6 (8.1)	1 (0.9)	-7.2
Mission House	0 (0.0)	3 (1.1)	1.1	8 (11.6)	4 (6.2)	-5.4	2 (1.9)	6 (4.9)	3	0 (0.0)	1 (0.8)	0.8	1 (1.4)	4 (3.7)	2.3
Private hospital/Clinic	3 (4.2)	6 (2.1)	-2.1	0 (0.0)	1 (1.5)	1.5	7 (6.5)	8 (6.6)	0.1	0 (0.0)	3 (2.2)	2.2	0 (0.0)	6 (5.6)	5.6
Others	2 (2.8)	0 (0.0)	-2.8	1 (1.5)	2 (3.1)	1.6	0 (0.0)	3 (2.5)	2.5	1 (2.8)	3 (2.2)	-0.6	0 (0.0)		0
Non-Governmental Organisation	0 (0.0)	0 (0.0)	0	2 (2.9)	0 (0.0)	-2.9	0 (0.0)	0 (0.0)	0	1 (2.8)	0 (0.0)	-2.8	0 (0.0)	0 (0.0)	0
Other public sector facility	0 (0.0)	0 (0.0)	0	1 (1.5)	0 (0.0)	-1.5	0 (0.0)	0 (0.0)	0	1 (2.8)	0 (0.0)	-2.8	0 (0.0)	0 (0.0)	0
Family Planning Clinic	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (1.4)	0 (0.0)	-1.4
Outreach/mobile clinic	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (1.5)	1.5	0 (0.0)	4 (3.3)	3.3	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0
Traditional Birth Attendant	0 (0.0)	3 (1.1)	1.1	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (0.9)	0.9

Table A3d: Exposure to community-based testing: Number and % of children referred and those that complied by LGAs, intervention models and study phase

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff .	Baseline	Mid-line	% diff .	Baseline	Mid-line	% diff.
	1173 (%)	918 (%)	%	1340 (%)	1094 (%)		1286 (%)	1182 (%)		1143 (%)	1130(%)		1263 (%)	1141 (%)	
Referred	39 (3.3)	42 (4.6)	1.3	36 (2.7)	66 (6.0)	3.3	129 (10.0)	139 (11.8)	1.8	30 (2.6)	91 (8.1)	5.5	21 (1.7)	57 (5.0)	3.3
Did Test*	35 (89.7)	40 (95.2)	5.5	32 (88.9)	59 (89.4)	0.5	121 (93.8)	134 (96.4)	2.6	27 (90.0)	79 (86.8)	-3.2	18 (85.7)	37 (64.9)	-20.8

\* Percentage that did test was based on number of children identified and referred.



Table A3e: Providers (including others persons) who referred the child for HTS by LGAs, intervention models and study phases

Local Government Areas, Intervention Model and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
Who counselled or referred child*	n=39	n=42		n=36	n=66		n=129	n=139		n=30	n=91		n=21	n=57	
Traditional Birth Attendant	0 (0)	9 (21.4)	21.4	0 (0)	7 (10.6)	10.6	0 (0)	0 (0.0)	0	0 (0)	15 (16.5)	16.5	1 (4.8)	27 (47.4)	42.6
Village/Voluntary Health Worker	3 (7.7)	0 (0.0)	-7.7	12 (33.3)	36 (54.6)	21.3	2 (1.6)	17 (12.2)	10.6	0 (0.0)	47 (51.7)	51.7	1 (4.8)	23 (40.4)	35.6
Patent Medicine Vendors/Chemist	7 (17.9)	0 (0.0)	-17.9	0 (0)	1 (1.5)	1.5	0 (0)	0 (0.0)	0	6 (20)	30 (33.0)	13	3 (14.3)	3 (5.3)	-9
Facility Based Health Worker	7 (17.9)	5 (11.9)	-6	5 (13.9)	7 (10.6)	-3.3	43 (33.3)	21 (15.1)	-18.2	2 (6.7)	9 (9.9)	3.2	13 (61.9)	23 (40.4)	-21.5
Religious Leader	0 (0.0)	0 (0.0)	0	9 (25)	9 (13.6)	-11.4	4 (3.1)	0 (0.0)	-3.1	1 (3.3)	4 (4.4)	1.1	3 (14.3)	5 (8.8)	-5.5
Relative	1 (2.6)	0 (0.0)	-2.6	5 (13.9)	0 (0.0)	-13.9	16 (12.4)	4 (2.9)	-9.1	5 (16.7)	0 (0.0)	-16.7	0 (0.0)	0 (0.0)	0
Father of child	21 (53.8)	29 (69.0)	15.2	5 (13.9)	0 (0.0)	-13.9	59 (45.7)	89 (64.1)	18.4	7 (23.3)	0 (0.0)	-23.3	0 (0.0)	0 (0.0)	0
Others	0 (0.0)	0 (0.0)	0.0	0 (0.0)	14 (21.2)	21.2	5 (3.9)	8 (5.6)	1.7	9 (30)	8 (8.8)	-21.2	0 (0)	12 (21.1)	21.1

\*Multiple responses allowed

Table A3f: Places where children 0-14 years old were referred for HIV screening by LGAs and Intervention, and study phase

LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.	Baseline	Mid-line	% diff.
Where referred															
General Hospital	33 (84.6)	17 (40.5)	-44.1	7 (19.4)	13 (19.7)	0.3	51 (39.5)	71 (51.1)	11.6	8 (26.7)	17 (18.7)	-8	1 (4.8)	6 (10.5)	5.7
Primary Health Centre	5 (12.8)	17 (40.5)	27.7	10 (27.8)	40 (60.4)	32.6	19 (14.7)	7 (5.0)	-9.7	8 (26.7)	8 (8.8)	-17.9	10 (47.6)	35 (61.4)	13.8
Primary Health Clinic	0 (0.0)	6 (14.3)	14.3	2 (5.6)	10 (15.2)	9.6	24 (19.6)	8 (5.8)	-13.8	2 (6.7)	42 (46.2)	39.5	3 (14.2)	2 (3.5)	-10.7
Health post	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (1.5)	1.5	10 (7.8)	12 (8.6)	0.8	4 (13.3)	0 (0.0)	-13.3	1 (4.8)	0 (0.0)	-4.8
Private hospital/Clinic	0 (0.0)	2 (4.8)	4.8	0 (0.0)	1 (1.5)	1.5	13 (10.1)	29 (20.9)	10.8	1 (3.3)	0 (0.0)	-3.3	0 (0.0)	0 (0.0)	0
Mission House	1 (2.6)	0 (0.0)	-2.6	4 (11.1)	0 (0.0)	-11.1	7 (5.4)	1 (0.7)	-4.7	0 (0.0)	3 (3.3)	3.3	0 (0.0)	3 (3.3)	3.3
Non-Governmental Organisation	0 (0.0)	0 (0.0)	0	8 (22.2)	0 (0.0)	-22.2	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (4.8)	0 (0.0)	-4.8
Federal Medical Centre	0 (0.0)	0 (0.0)	0	1 (2.8)	0 (0.0)	-2.8	1 (0.8)	0 (0.0)	-0.8	5 (16.6)	18 (19.8)	3.2	0 (0.0)	4 (7.0)	7
Other public sector facility	0 (0.0)	0 (0.0)	0	4 (11.1)	0 (0.0)	-11.1	0 (0.0)	0 (0.0)	0	2 (6.7)	0 (0.0)	-6.7	0 (0.0)	0 (0.0)	0
Field Worker	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (0.8)	0 (0.0)	-0.8	0 (0.0)	0 (0.0)	0	5 (23.8)	0 (0.0)	-23.8
Outreach /Mobile Clinic	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (1.5)	1.5	1 (0.8)	8 (5.8)	5	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0
Family planning clinic	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	3 (3.3)	3.3	0 (0.0)	0 (0.0)	0
Others	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	2 (1.6)	3 (2.2)	0.6	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0

Table A4a: HIV testing experience of the mothers by LGAs, intervention models, and study phases

Local Government Areas, Intervention Models and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Interventions →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Ever had an HIV test	425 (%)	429 (%)		398 (%)	382 (%)		413 (%)	425 (%)		387 (%)	430 (%)		423 (%)	434 (%)	
Yes	366 (86.1)	407 (94.9)	8.8	322 (80.9)	314 (82.2)	1.3	341 (82.6)	361 (84.9)	2.3	293 (75.7)	410 (95.4)	19.7	329 (77.8)	310 (71.4)	-6.4
No	59 (13.9)	22 (5.1)	-8.8	76 (19.1)	68 (17.8)	-1.3	72 (17.4)	64 (15.1)	-2.3	94 (24.3)	20 (4.6)	-19.7	94 (22.2)	124 (28.6)	6.4
Had HIV test during last pregnancy															
Yes	339 (92.6)	384 (94.4)	1.8	276 (85.7)	293 (93.3)	7.6	330 (96.8)	345 (95.6)	-1.2	277 (94.5)	396 (96.6)	2.1	240 (72.9)	218 (70.3)	-2.7
No	27 (7.4)	23 (5.6)	-1.8	46 (14.3)	21 (6.7)	-7.6	11 (3.2)	16 (4.4)	1.2	16 (5.5)	14 (3.4)	-2.1	89 (27.1)	92 (29.7)	2.7
Received information (pre-test counselling)															
Yes	294 (87.5)	383 (99.7)	12.1	225 (81.5)	277 (94.5)	13	239 (72.4)	316 (91.6)	19.2	222 (80.1)	321 (81.1)	1	217 (90.4)	135 (61.9)	-28.5
No	42 (12.5)	1 (0.3)	-12.1	51 (18.5)	16 (5.5)	-13	91 (27.6)	29 (8.4)	-19.2	55 (19.9)	75 (18.9)	-1	23 (9.6)	83 (38.1)	28.5
Received test result															
Yes	320 (94.4)	383 (99.7)	5.3	252 (91.3)	283 (96.6)	5.3	294 (89.1)	343 (99.4)	10.3	258 (93.1)	388 (98.0)	4.9	223 (92.9)	175 (80.3)	-12.6
No	19 (5.6)	1 (0.3)	-5.3	24 (8.7)	10 (3.4)	-5.3	36 (10.9)	2 (0.6)	-10.3	19 (6.9)	8 (2.0)	-4.9	17 (7.1)	43 (19.7)	12.6

Reasons for not receiving test result	n =19 (%)	n = 1(%)		n = 24 (%)	n = 10 (%)		n = 36 (%)	n = 2 (%)		n = 19 (%)	n = 8 (%)		n = 17 (%)	n = 43 (%)	
I did not return to collect my results	0 (0.0)	0 (0.0)	0	9 (37.5)	5 (50.0)	12.5	4 (11.1)	1 (50.0)	38.9	7 (36.8)	1 (12.5)	- 24.3	8 (47.1)	28 (65.1)	18
It was not necessary	3 (15.8)	0 (0.0)	-15.8	15 (62.5)	4 (40.0)	- 22.5	0 (0.0)	1 (50.0)	50	4 (21.1)	2 (25.0)	3.9	3 (17.7)	15 (34.9)	17.2
I didn't know where to get the results	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	13 (68.4)	3 (37.5)	- 30.9	4 (23.5)	2 (4.7)	-18.8
I was afraid	0 (0.0)	0 (0.0)	0	8 (33.3)	3 (30.0)	-3.3	0 (0.0)	0 (0.0)	0	1 (5.3)	2 (25.0)	19.7	1 (5.9)	0 (0.0)	-5.9
Others	16 (84.2)	1 (100.0)	15.8	4 (16.7)	1 (10.0)	-6.7	32 (88.9)	0 (0.0)	- 88.9	2 (10.5)	0 (0.0)	- 10.5	2 (11.8)	2 (4.7)	-7.1
<b>Received post-test counselling</b>															
Yes	290 (90.6)	381 (99.5)	8.9	223 (88.5)	273 (96.5)	8	197 (67.0)	323 (94.2)	27.2	234 (90.7)	335 (86.3)	-4.4	212 (95.1)	136 (77.7)	-17.4
No	30 (9.4)	2 (0.5)	-8.9	29 (11.5)	10 (3.5)	-8	97 (33.0)	20 (5.8)	- 27.2	24 (9.3)	53 (13.7)	4.4	11 (4.9)	39 (22.3)	17.4

Table A4b: Women respondents' reasons for never ever had HIV test by LGAs, intervention models, and study phases

Local Government Areas, Intervention Models and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Reasons for not having HIV test	n = 59	n = 22		n = 76	n = 68		n = 72	n = 64		n = 94	n = 20		n = 94	n = 124	
Not necessary	31 (52.5)	15 (68.2)	15.7	64 (84.2)	58 (85.3)	1.1	23 (31.9)	43 (67.2)	35.3	80 (85.1)	17 (85.0)	-0.1	63 (67.0)	100 (80.7)	13.7
Husband /family did not allow	9 (15.3)	8 (36.4)	21.1	19 (25.0)	6 (8.8)	-16.2	1 (1.4)	1 (1.6)	0.2	4 (4.3)	3 (15.0)	10.7	4 (4.3)	3 (2.4)	-1.9
Too far/no transportation	3 (5.1)	3 (13.6)	8.5	4 (5.3)	7 (10.3)	5	15 (20.8)	5 (7.8)	-13	3 (3.2)	0 (0.0)	-3.2	9 (9.6)	8 (6.5)	-3.1
Cost too much	1 (1.7)	8 (36.4)	34.7	11 (14.5)	5 (7.4)	-7.1	44 (61.1)	15 (23.4)	-37.7	12 (12.8)	0 (0.0)	-12.8	4 (4.3)	13 (10.5)	6.2
Afraid of possible outcome of test	1 (1.7)	0 (0.0)	-1.7	4 (5.3)	1 (1.5)	-3.8	6 (8.3)	9 (14.1)	5.8	5 (5.3)	0 (0.0)	-5.3	21 (22.3)	9 (7.3)	-15
My religion does not allow it	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (1.5)	1.5	1 (1.4)	0 (0.0)	-1.4	0 (0.0)	0 (0.0)	0	3(3.2)	0 (0.0)	-3.2
Facility not opened	0 (0.0)	0 (0.0)	0	1 (1.3)	0 (0.0)	-1.3	1 (1.4)	1 (1.6)	0.2	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (0.8)	0.8
Others	20 (33.9)	3 (13.6)	-20.3	5 (6.6)	1 (1.5)	-5.1	10 (13.9)	12 (18.8)	4.9	5 (5.3)	0 (0.0)	-5.3	3 (3.2)	1 (0.8)	-2.4

\* Multiple responses

Table A4c: Where the women respondents received HIV test in last pregnancy by LGAs, intervention models, and study phases

Local Government Areas, Intervention Models and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Place	n = 366	n = 407		n = 322	n = 314		n = 341	n = 361		n = 293	n = 410		n = 329	n = 310	
General Hospital	205 (60.5)	114 (29.7)	-30.8	82 (29.7)	104 (35.5)	5.8	161 (48.8)	145 (42.0)	-6.8	48 (17.3)	51 (12.9)	-4.4	20 (8.3)	29 (13.3)	5
Primary Health Centre	86 (25.4)	179 (46.6)	21.2	108 (39.1)	110 (37.5)	-1.6	50 (15.2)	34 (9.9)	-5.3	66 (23.8)	157 (39.7)	15.9	95 (39.6)	160 (73.4)	33.8
Primary Health Clinic	12 (3.5)	49 (12.8)	9.3	21 (7.6)	23 (7.9)	0.3	66 (20.0)	83 (24.1)	4.1	70 (25.3)	70 (17.7)	-7.6	93 (38.8)	9 (4.1)	-34.7
Private hospital/Clinic	12 (3.5)	9 (2.3)	-1.2	9 (3.3)	5 (1.7)	-1.6	22 (6.7)	15 (4.4)	-2.3	21 (7.6)	26 (6.6)	-1	8 (3.3)	5 (2.3)	-1
Federal Medical Centre	4 (1.2)	0 (0.0)	-1.2	1 (0.4)	4 (1.4)	1	1 (0.3)	0 (0.0)	-0.3	58 (20.9)	76 (19.2)	-1.7	8 (3.3)	5 (2.3)	-1
Mission House	3 (0.9)	4 (1.0)	0.1	35 (12.7)	29 (9.9)	-2.8	13 (3.9)	32 (9.3)	5.4	0 (0.0)	2 (0.5)	0.5	2 (0.8)	4 (1.8)	1
Health post	12 (3.5)	1 (0.3)	-3.2	7 (2.5)	9 (3.1)	0.6	12 (3.6)	28 (8.1)	4.5	6 (2.2)	2 (0.5)	-1.7	7 (2.9)	4 (1.8)	-1.1
Other public sector facility	1 (0.3)	0 (0.0)	-0.3	12 (4.3)	0 (0.0)	-4.3	0 (0.0)	0 (0.0)	0	5 (1.8)	0 (0.0)	-1.8	0 (0.0)	0 (0.0)	0
Outreach /Mobile Clinic	1 (0.3)	1 (0.3)	0	0 (0.0)	1 (0.3)	0.3	1 (0.3)	1 (0.3)	0	1 (0.4)	1 (0.3)	-0.1	5 (2.1)	1 (0.5)	-1.6
Field Worker	3 (0.9)	4 (1.0)	0.1	1 (0.4)	0 (0.0)	-0.4	3 (0.9)	0 (0.0)	-0.9	0 (0.0)	2 (0.5)	0.5	1 (0.4)	1 (0.5)	0.1
Family Planning Clinic	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (0.4)	0 (0.0)	-0.4
Traditional Birth Attendants	0 (0.0)	22 (5.7)	5.7	0 (0.0)	0 (0.0)	0	1 (0.3)	0 (0.0)	-0.3	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0
Others	0 (0.0)	1 (0.3)	0.3	0 (0.0)	8 (2.7)	2.7	0 (0.0)	7 (2.0)	2	2 (0.7)	9 (2.3)	1.6	0 (0.0)	0 (0.0)	0

Table A4d: Women respondents' reasons for not doing HIV test during last pregnancy by LGAs, intervention models, and study phases

Local Government Areas, Intervention Models and Study Phase															
LGAs →	Bali			Gashaka			Zing			Jalingo			Lau		
Intervention Model →	TBA			VHW			PPMV			All Combined			Control		
Study Phase →	Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line		Baseline	Mid-line	
Reasons	n = 27	n = 23		n = 46	n = 21		n = 11	n = 16		n = 16	n = 14		n = 89	n = 92	
Not necessary	16 (59.3)	20 (87.0)	27.7	36 (78.3)	19 (90.5)	12.2	6 (54.6)	11 (68.8)	14.2	8 (50.0)	8 (57.1)	7.1	70 (78.7)	61 (66.3)	-12.4
Husband /family did not allow	7 (25.9)	12 (52.2)	26.3	3 (6.5)	4 (19.1)	12.6	0 (0.0)	0 (0.0)	0	1 (6.3)	1 (7.1)	0.8	3 (3.4)	7 (7.6)	4.2
Cost too much	6 (22.2)	1 (4.4)	-17.8	4 (8.7)	2 (9.5)	0.8	2 (18.2)	4 (25.0)	6.8	0 (0.0)	0 (0.0)	0	5 (5.6)	7 (7.6)	2
Afraid of possible outcome of test	3 (11.1)	0 (0.0)	-11.1	1 (2.2)	0 (0.0)	-2.2	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	3 (3.3)	3.3
Too far/no transportation	2 (7.4)	4 (17.4)	10	2 (4.4)	0 (0.0)	-4.4	1 (9.1)	1 (6.3)	-2.8	0 (0.0)	0 (0.0)	0	8 (9.0)	5 (5.4)	-3.6
No female provider at facility	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (4.8)	4.8	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	1 (1.1)	0 (0.0)	-1.1
My religion does not allow it	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	0 (0.0)	0	0 (0.0)	1 (1.1)	1.1
Others	6 (22.2)	1 (4.4)	-17.8	8 (17.4)	1 (4.8)	-12.6	3 (27.3)	1 (6.3)	-21	8 (50.0)	5 (35.7)	-14.3	5 (5.6)	15 (16.3)	10.7