



# နယ်လှည့်ကျောပိုးအိတ်ကျန်းမာရေးလုပ်သားအဖွဲ့ Back Pack Health Worker Team

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## BPHWT

### Internal Assessment Survey

#### Summary Report



Foreword by

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Since its founding over a decade ago, the Back Pack Health Worker Team (BPHWT) has maintained a strong dedication to the collection of quality data, and to using that data to inform and improve its interventions. This report, the latest in a series of biannual program evaluations, speaks to this commitment, and further demonstrates that cross border monitoring and evaluation is not only possible, but is being successfully carried out across the Thai-Burma border.

BPHWT reaches some of the most vulnerable populations in eastern Burma with pioneering and effective interventions addressing trauma, reproductive health and infectious disease. This access is key to decreasing preventable mortality and morbidity, and stemming the regional spread of infectious disease: the highest rates of HIV, TB, and malaria in China, India, and Thailand are in their border areas with Burma.

In partnership with Global Health Access Program (GHAP) as well as academic institutions, BPHWT has been one of a handful of community-based organizations to provide accurate data to track the health of the border populations. These partnerships have facilitated the collection of high quality data suitable for peer-review —and represent the only published reports from otherwise unreachable regions. These publications influence not only the technical health community but also the deliberative bodies of major governments and foundations around the world.

GHAP has been a partner of BPHWT since its early days, providing training for BPHWT health workers, program coordinators, and data staff, as well as on-going technical support.

For the Internal Assessment Survey, GHAP provided sample size calculations and helped develop the sampling strategy, with BPHWT taking the lead on questionnaire design, surveyor training, and data collection and entry. GHAP worked with BPHWT to clean program evaluation survey data and resolve inconsistencies. GHAP also assisted with data

analysis for the program evaluation survey, traditional birth attendant assessment, and health worker assessment, and worked with BPHWT staff to develop the report and its recommendations.

The data presented includes information about the survey's scope and context, as well as program evaluation. The recommendations were developed based on an understanding of BPHWT's service delivery model and with an eye to complying with international standards as much as possible within the constraints of a conflict-affected region.

GHAP supports BPHWTs efforts to continuously assess and improve its health programs, and believes the recommendations coming out of this report will positively impact health access and quality in BPHWT target areas. The efforts of BPHWT in learning more about the performance of its staff and impact, juxtaposing population level indicators and service level indicators, strengthens the validity of the results presented here and lends valuable information for the ultimate goal of providing quality health services to internally displaced persons inside Burma.

*Jen Leigh*

Field Director

GHAP — the health branch of Community Partners International

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## **Executive summary**

### **Background**

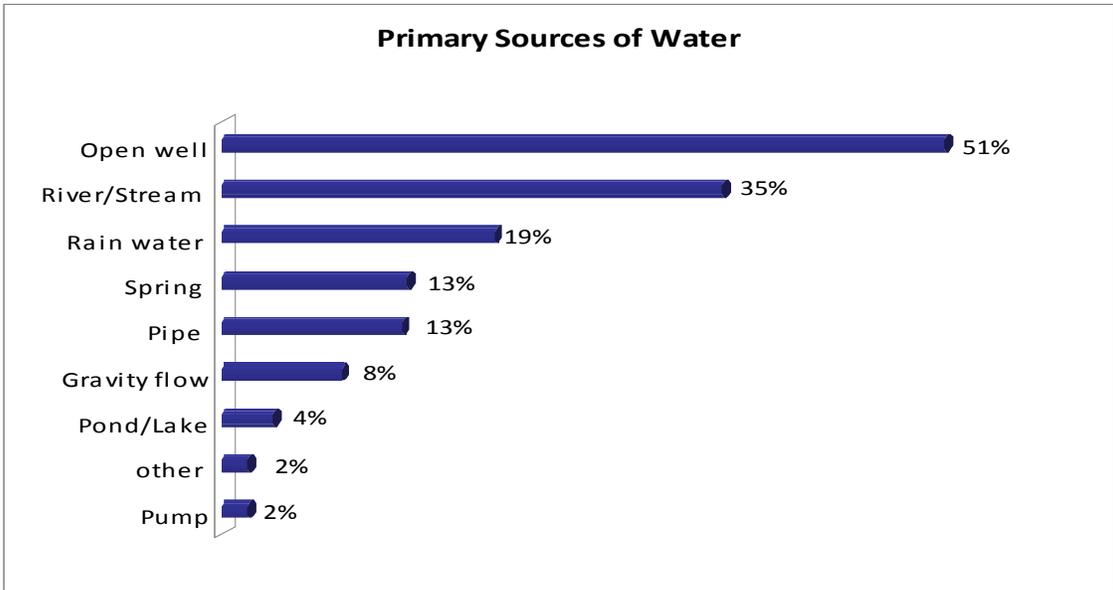
This report is based on BPHWT's latest attempt at a more systematic review of its operations, both in terms of population health in its target area and in terms of the human resources providing care and services in target areas. Three sources of data were used to assess operations: a program evaluation survey, a traditional birth attendant (TBA) assessment, and a health worker assessment.

The program evaluation survey included questions to determine access to care and services, behaviors or practices related to malaria, reproductive health, and water/sanitation. It was a cluster. The TBA assessment focused on experience level and care and education practices. The health worker assessment focused on experience level, management perceptions, and diagnosis and treatment skills in several common illnesses.

### **Results**

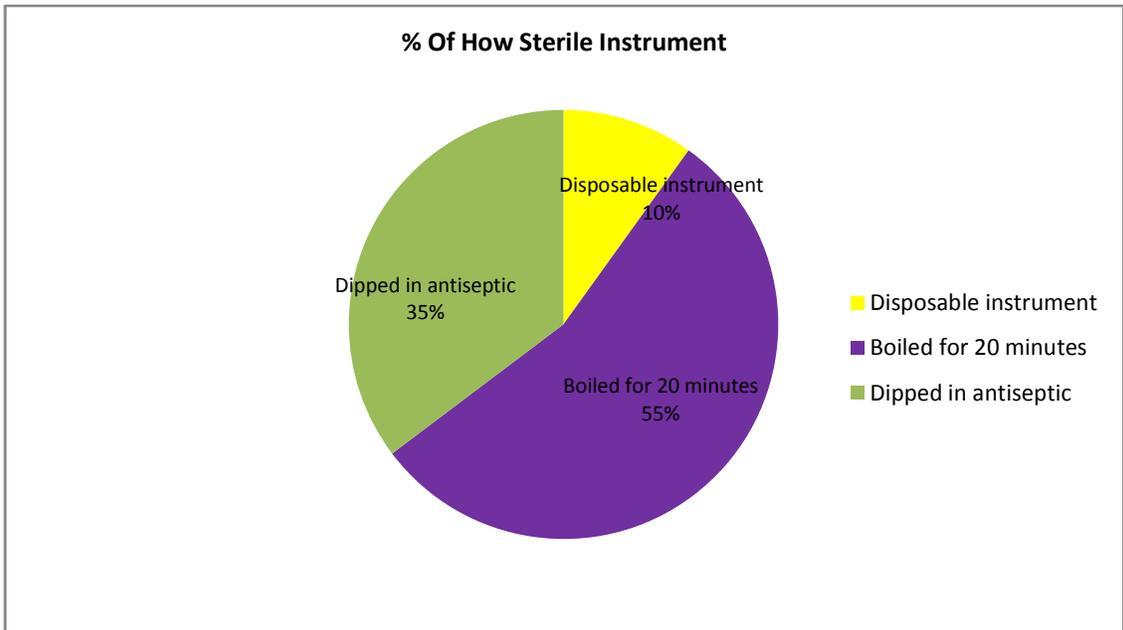
Given the variety of sources and indicators (see Appendices for examples), only a few examples will be mentioned here.

Water and sanitation situations remain challenging based on results from the program evaluation survey: over half of respondents mentioned using at least one surface water source for drinking and about the same proportion mentioned not boiling water before use in the past 24 hours.



Additionally, while hand-washing practices were inconsistent (only 6.5% washed in all four common situations), almost all respondents washed their hands before eating. ITN use within 24 hours of the survey was about 53% of all household members, and malaria prevalence among respondents based on RDTs was over 8.6%. Unmet need for contraceptives was 69%.

TBA assessment results indicate generally good adherence to hygiene and antenatal and post-natal visits.



However, they lack comprehensive knowledge of when to refer pregnancy complications – only 45% identified all three major signs of complications requiring referral. Furthermore, a lack of specific standards for a variety of care or education areas, such as timing of post-natal visits, required maternal education topics, etc., made many parts of the TBA assessment impractical to assess. Finally, many of the TBAs have not yet had the comprehensive training outlined by BPHWT needed for their work.

Based on the health worker assessment, a relatively high proportion are new to the job (less than 3 years' experience). Due to questionnaire design it has difficult to ascertain whether or not health workers plan to commit the minimum three years of work expected by BPHWT. In terms of diagnosis and treatment skills, no health workers achieved the 95% correct score that is BPHWT's target. In particular scores were weak in confirmation of diagnosis by patient interview and somewhat low in malaria treatment.

<b>Assessment On Diagnosis and Treatment - 2010</b>			
<b>No</b>	<b>Area</b>	<b>Total respondents</b>	<b>Correct score</b>
1	Pa An	16	76%
2	Papun	14	68%
3	Kawkareik	3	67%
4	Thaton	21	67%
5	Taungoo	12	61%
6	Kler Lwee Htoo	16	72%
7	Dooplaya	13	76%
8	Palaung	3	86%
9	Mergue/Tavoy	9	90%
10	Kayan	5	75%
11	Lahu	4	74%
	<b>Total (weighed average)</b>		<b>72%</b>

## **Recommendations**

Methodologically, more pre-testing and linking of questions to specific BPHWT goals needs to be done across all assessment tools in order to allow more rigorous assessment and targeted recommendations.

Water and sanitation issues need to be explored more in order tailor behavior change initiatives in communities as well as to determine how much of the issue is linked to a lack of local resources or options. ITN usage needs to be better understood and increased, whether that is through community education or additional provision of nets, or other, more appropriate, approaches. Unmet contraceptive need needs to be better understood in order to increase outreach, supplies, or other activities to decrease this rate.

TBAs and their work need more specific, concrete guidelines in order to better assess their work and progress in development. In particular, a way needs to be found so that TBAs meet the minimum training standards for BPHWT to perform their work effectively.

Health workers' low diagnosis and treatment assessment results need to be better understood – whether low results are due to how the assessment is administered combined with language barriers, whether the targets set by BPHWT are unrealistic, or whether their skills are truly at that level and need to be improved. In particular, malaria treatment practices need to improve in order to prevent the spread of artemisinin resistance in the area.

## **Introduction**

Established in 1998, the Back Pack Health Worker Team (BPHWT) coordinates health efforts among workers along the Thai-Burma border and provides healthcare services to Internally Displaced Persons (IDP) inside Burma. Nearly all inhabitants served by BPHWT are from rural settings, and all are subject to the insecurity of a wartime environment. BPHWT started with 32 teams in Karen, Mon, and Karenni States and today fields 81 teams providing healthcare to approximately 180,000 persons every year in Karen, Mon, Shan, Karenni, Arakan, , Kachin and including Chin States. The three major programs of BPHWT are the Medical Care Program (MCP), Community Health Education and Prevention Program (CHEPP) and the Mother and Child Healthcare Program (MCHP).

Since 2000 different surveys have been undertaken by BPHWT to attempt to assess different programmatic aspects of BPHWT's work, with the most coordinated effort to date occurring in 2007 across three thematic areas: nutrition, water/sanitation, and malaria. During this last project, a variety of methodological and comparability issues were raised, and as a result a more coherent internal assessment process was developed by BPHWT in the form of this Impact Assessment Survey. The goal is to be able to not only learn about the past year's outcomes but also be able to compare to other time periods to determine trends that could be linked to BPHWT's activities.

This Impact Assessment Survey is done every two years in order to evaluate program effectiveness. The purpose of this assessment is to help BPHWT plan activities to improve health outcomes for its target populations. This report is based on results and recommendations drawing from the results of a household-based program evaluation survey as well as two different health worker assessments. Specific topics from the survey include knowledge, attitudes, practices, and resources related to water and sanitation, malaria and reproductive health as well as under-five mortality. Health worker assessments include management and diagnosis assessments.

While this assessment is titled as impact-related, the focus is specifically on the outputs of the processes of BPHWT, with the hope that these outputs make an impact in the organization achieving its targets in regards to population health indicators.

## **Program evaluation survey**

### ***Methodology***

#### **Sample**

BPHWT used a cluster sampling method where 15 service areas in eastern Burma (Kayah, Kayan, Taungoo, Kler Lwee Htoo, Thaton, Papun, Pa An, Dooplaya, Kawkareik, Win Yee, Mergue/Tavoy, Yee West-North, YeeChaungpya, Moulmein-Thaton, and Shan areas) were surveyed. A total of 54 clusters were randomly selected from these areas' villages proportional to area populations. Each cluster consisted of 30 households in a village for a total of 1620 planned households to be surveyed. The sample was designed so that there

would be sufficient power for overall indicators as well as for disease prevalence rates by sub-regions.

Within each village, the surveyor randomly selected 30 households, conducting interviews with the female head of the household. If the female head of the household was not available, the male head of household was interviewed. When no one at the selected house was available, medics would interview the adjacent house.

**Table 1. Planned versus reached survey areas**

No	Area Name	# of plan households	Actual # of households	Variances
1	Kayah	240	236	2%
2	Kayan	60	57	5%
3	Taungoo	150	150	0%
4	Kler Lwee Htoo	150	143	5%
5	Thaton	60	59	2%
6	Papun	90	90	0%
7	Pa An	90	90	0%
8	Dooplaya	30	28	7%
9	Kawkareik	30	30	0%
10	Win Yee	60	59	2%
11	Mergue/Tavoy	210	210	0%
12	Yee West-North	60	55	8%
13	YeeChaungpya	60	52	13%
14	Moulmein-Thaton	120	120	0%
15	Shan	210	134	36%
<b>Total</b>		<b>1620</b>	<b>1513</b>	<b>7%</b>

### **Instrument**

The survey form was originally developed in English with the technical support of the Global Health Access Program. The survey form was developed into four languages: English, Burmese, Karen, and Shan. The questions were based on those in the previous IAS survey, which can serve as a baseline for this survey. See ***“Appendix 1. Program evaluation survey instrument”*** for the English language version of the instrument.

### **Surveyor Training**

Thirty-one surveyors from Shan, Mon, Mergue/Tavoy, and Karen State were trained in early May 2009 in surveying techniques specific to this survey, including interviewing and sampling techniques, disease case definitions, informed consent protocols, mid-upper arm

circumference (MUAC) measurements, and Paracheck malaria rapid diagnostic test administration. Surveyors were recruited from the BPHWT medic pool.

### **Data collection and analysis**

Data were collected from 2009 and returned for data entry and analysis to the head office. Questionnaires were coded immediately following each interview for quality control in the field. At the central headquarters, data were entered using Access. Stata was used to clean data and generate the results for the descriptive analyses in this report. Depending on the question, the unit of analysis could vary: either the question referred to the household, or to the individual respondent or the respondent's female partner.

### **Limitations**

One of the main limitations of this assessment process is the reliance on self-reporting of behaviors. Another major limitation is that security affects data return and may affect who was actually surveyed. For example, some villages selected for clusters could not be accessed because of security concerns, and those who are in more security-compromised areas may have outcomes or experiences that are different from those who do not live in those areas. In particular, the low return rates from Shan and YeeChaungpya areas means it is very likely the results from those areas are not generalizable at the area level.

Concerning the instrument, the variety of translation steps and could result in questions shifting in meaning between versions and regions. Finally, the instrument development and surveyor training emphasized local languages and speakers who could communicate in those languages, but the training itself was only in Burmese, as were the assessment tools used during the training. It is possible that some surveyors had difficulty understanding the content of the surveyor training or could have been assessed lower because of language difficulties, which could lead to less consistency between surveyors concerning household selection and interviews.

### ***General Health Status***

1619 surveys were returned for analysis. 106 did not consent to being interviewed, with a resulting total number of valid respondents being 1513. The majority of respondents were female heads of household (1377); 99 respondents were male heads of households and the

remaining 4 surveys' respondents' genders are unknown. The total household population surveyed was 7646. The average number of people per household was 4.7, and the average age of female respondents was 35.

The survey found that 67% of the surveyed children had received Vitamin A and de-worming medicine in the last six months prior to the survey. BPHWT's targets are to provide Vitamin A and de-worming medicine to 90% of children under 12 annually. In terms of Vitamin A and de-worming, the survey question, which measures in a six month timeframe, cannot be completely comparable to BPHWT's goals, which are on an annual timeframe. However, given the relatively high proportion who had received these medicines in the past six months, it seems relatively likely that the annual target is being met.

BPHWT used MUAC as an indicator for malnutrition. Medics measured the Middle Upper Arm Circumference (MUAC) of the youngest child under age five and for each mother who was interviewed and whose age was between 15 and 49 years. Although the MUAC does not provide information on deficiencies of specific vitamins and minerals, it does provide information on malnutrition due to insufficient caloric intake. The total number of children aged one to five who were measured for MUAC was 762. Of those, per WHO guidelines, 54 children (7.1%) would be classified as severely acutely malnourished and 81 (10.6%) would be moderately acutely malnourished. The total number of women aged between 15 and 49 who were measured for MUAC was 1422. 10.9% of women between aged 15 and 49 classified as malnourished.

**Table 2. Under-5 acute malnutrition rates**

<b>Under Five Children Malnutrition</b>	<b>Percent (%)</b>
Severe acute	7.1%
Moderate acute	10.6%
Mild acute	14.6%
Global Acute Malnutrition Rate (sum of severe and moderate)	17.7%

Concerning under-5 mortality, a total of 111 child deaths were reported by respondents. Approximately 40% of the under-5 deaths were children under age 1, which is the

proportion typically found in under-five mortality. By gender, 57.9% were male and 42.1% were female.

## **Recommendations**

Many aspects of general population health are ones that BPHWT cannot directly address due to the model of care provision. For example, Vitamin A and de-worming are an ongoing activity, and VHVs or teachers are more likely to be capable of sustaining the continual provision of these supplements and medications rather than medics on circuit who do not stay in any one location for an extended period of time.

Of the issues explored here, the one with the greatest priority for resolving is that of childhood malnutrition. Malnutrition of any type is unacceptable; for severe acute malnutrition the typical recommendation for alleviating this condition is an in-patient targeted feeding program; for other levels of malnutrition, outpatient monitoring and food supplementation are sufficient. As these kinds of work are beyond the scope of BPHWT, the most reasonable option seems to continue to leverage BPHWT's advantages in reach while partnering with other ethnic health organizations that have more permanent facilities locally for referral.

Thus, efforts should be made to contact other organizations to see where these referral systems could be put into place for targeted feeding programs.

## ***Water and sanitation***

Diarrhea was common in the surveyed population, with 10% (439 people) of adult and with 21% (256 people) of under-5 children having suffered from diarrhea in the two weeks prior to the survey. Loss of fluids and salts during diarrhea can lead to malnutrition and even death if dehydration becomes severe; for these reasons, diarrhea is the leading cause of malnutrition for children under five. The effects of diarrhea could be mitigated through consumption of oral dehydration salts (ORS) - a mixture of water, salt, and sugar that is cheap and can be easily made at home. In surveyed communities, only 55% (140 children) of children under five who had diarrhea took ORS.

Hand-washing and hand-washing with soap is an important way to prevent disease such as diarrhea and ARI. However, this practice is not common. The proportion of respondents

who report practicing consistent good hand washing hygiene – that is, reported washing their hands before eating, before preparing food, after making stool, and after changing diapers – is still very low at only 6.5%. Respondents do, however, practice these hygiene activities to varying degrees on a case-by-case basis: 99% of respondents reported that they wash their hands before eating, 63.8% before preparing food, 39% after making stool, and 11% after changing diapers. Additionally, 45% of people use soap when they wash their hands.

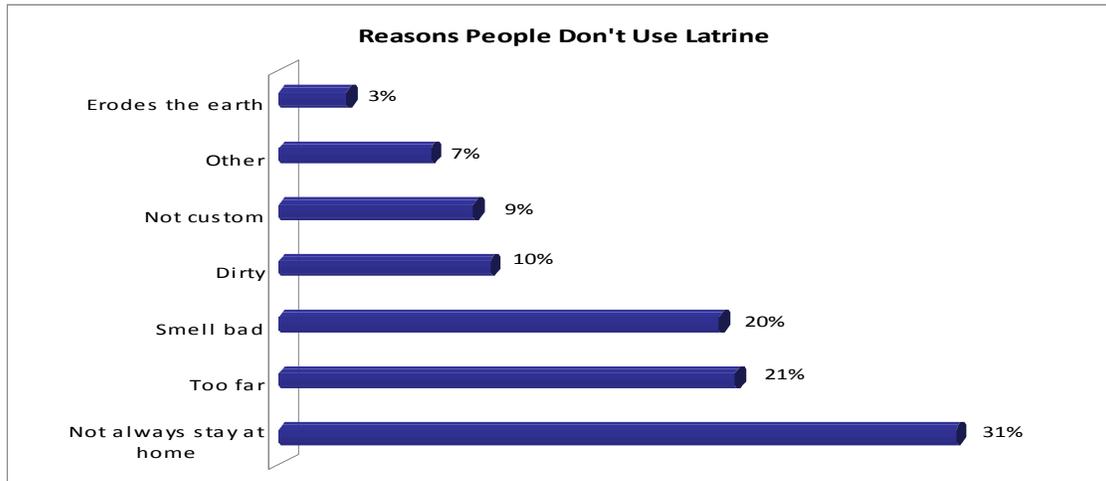
30% of respondents reported not owning a latrine. 98% of households report using the latrine always or sometimes; possession of a latrine seems to be associated with this. Reasons for not having latrines varied, but often were connected to household resources.

**Table 3. Reasons for not having a latrine**

No	Why don't have a latrine	Frequency	Percentage
1	No money to build a latrine	206	49%
2	No materials to build a latrine	218	52%
3	No time to build a latrine	107	26%
4	Don't know how to build a latrine	41	10%
5	No land to build a latrine on	29	7%
6	Others	69	17%

Latrine usage also varies based on personal attitudes and latrine conditions. Using a latrine is the best way to dispose of human waste, but some adults continue to use an open field. The most commonly reported reasons why people don't use a latrine are because latrines are not available where they work, they smell bad, and they are too far away.

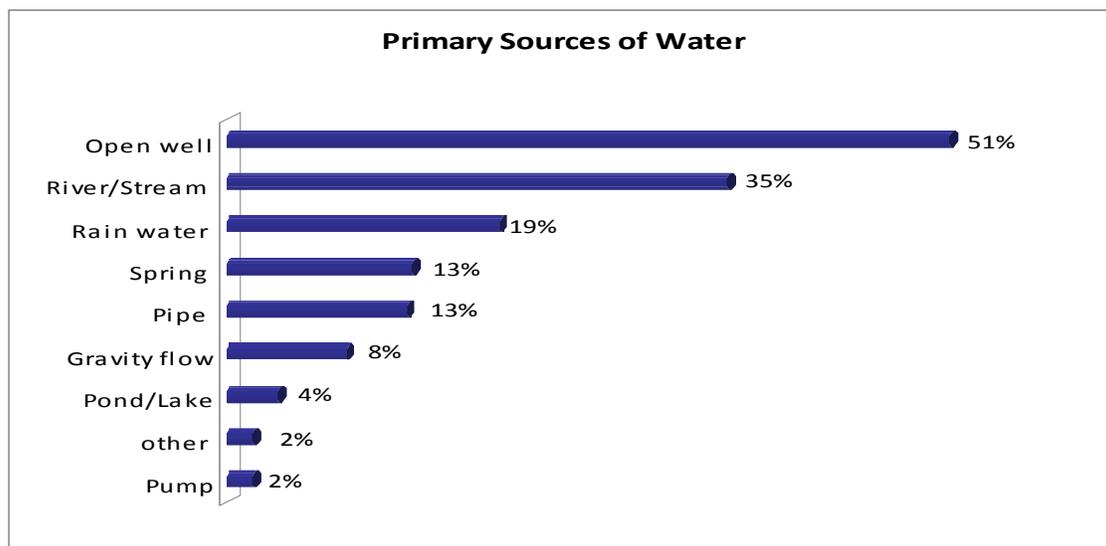
**Figure 1. Reasons people don't use latrines**



### **Water sources**

Concerning water sources, multiple responses were given by respondents. The most frequently mentioned source was open (uncovered) wells, followed by rivers or streams, rain, and natural springs. The percentage of respondents who mentioned at least one surface water source overall was 48.8%. The areas with the highest percentage of people reporting river as at least one of their water sources were Shan and Dooplaya areas. Finally, in 57% of households someone still drank water that was not boiled or filtered in the last 24 hours.

**Figure 2. Sources of water**



## **Recommendations**

Overall, there seem to be many gaps concerning water and sanitation; the use of surface water by the majority of respondents, combined with relatively low rates of boiling, varying levels of hand washing hygiene, and about a third of the population not owning a latrine can offset nutrition initiatives or increase the local need for ORS treatment. The high rates of diarrhea and low use of ORS are troubling when combined with the malnutrition data as there is often an association between stunting/wasting and diarrhea.

Specific measures should be undertaken in terms of adopting hygiene behaviors concerning hand washing not related to eating and more consistent boiling of water before drinking. Improving water and latrine systems would also be helpful; in particular, for latrines, major reasons for not having one concerned cost and materials, combined with attitudes that latrines smell bad and are dirty. Developing a system of setting up improved latrines, such as a ventilated improved pit latrine, would address some of the attitudes concerning unwillingness to use latrines when they exist. Another factor to consider is that one of the major reasons for not using a latrine is that they are located near households, not places of work. It may be necessary to either determine whether this question should be specifically limited to latrine use around households or whether latrines should be available near fields and other areas of work.

There is not clear information concerning soap use and whether the lack of use is due to knowledge or resources (ability to pay issue). While soap use should be increased, the mechanisms to enable this should be more thoroughly examined.

## ***Malaria***

Malaria was also very common in the surveyed population, with 8.6% of people testing positive for malaria when taking the malaria RDT. The average number of household members that slept under an ITN in the last 24 hours prior to the survey is 2.8 while the average household size is 4.7. The total number of people who slept under ITN in the last 24 hours was 4019 people. The overall proportion of people in households who slept under an ITN in the last 24 hours prior to the survey is 53%.

43% (358) out of 831 respondents reported that the last person who had a fever was tested for malaria using RDT; of these who tested positive, 93% were treated. 74% of households reporting a person with malaria were visited by a medic/VHV to ensure that they were treated properly at least one time.

### **Recommendations**

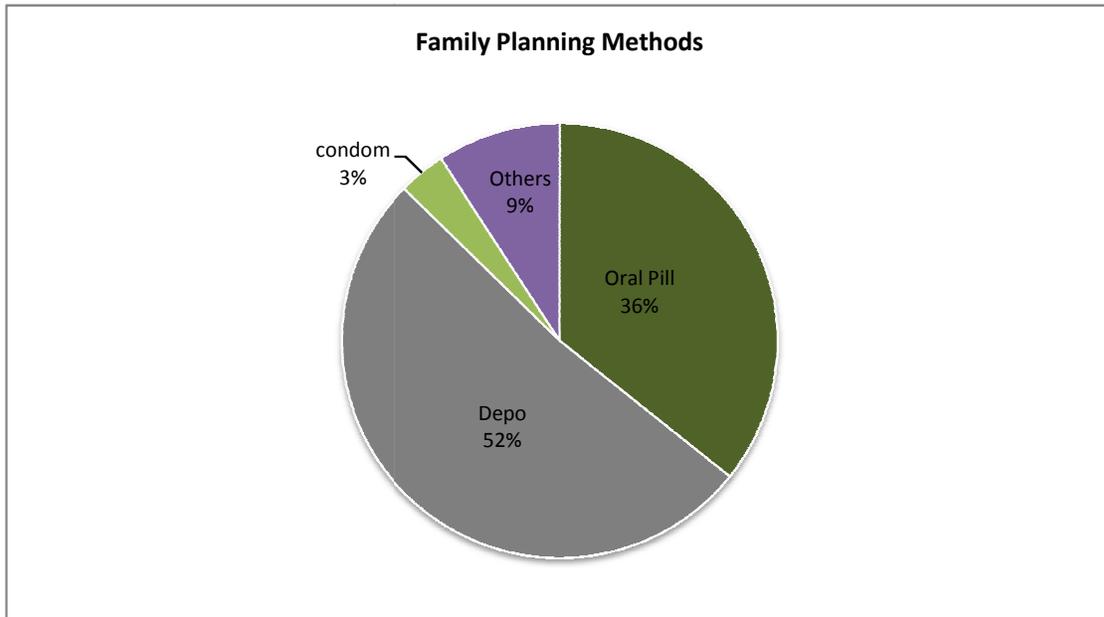
One option is to reduce exposure to possibly malaria-carrying mosquitoes. This could be reduced by sleeping under ITNs. However, as the data shows, the number on average who sleep under nets is significantly lower than the average family size. The reasons behind this need to be further understood – particularly whether it is a lack of ITNs, unawareness of the benefits of sleeping under an ITN, or something else.

From a treatment standpoint, the issue is more challenging. Medics are in circuits and often cannot stay and “catch” all malaria cases, or follow-up for treatment. Because of this, without additional, settled health workers to assist in case detection and treatment, an emphasis on prevention may be more effective in terms of BPHWT’s scope of work.

### ***Reproductive Health***

Contraceptive use was reported by 22.9% (311) of respondents, with the most commonly reported methods being oral pills (36%) and injectables (52%). BPHWT provides oral pills, injectables, and condoms.

**Figure 3. Family planning methods**

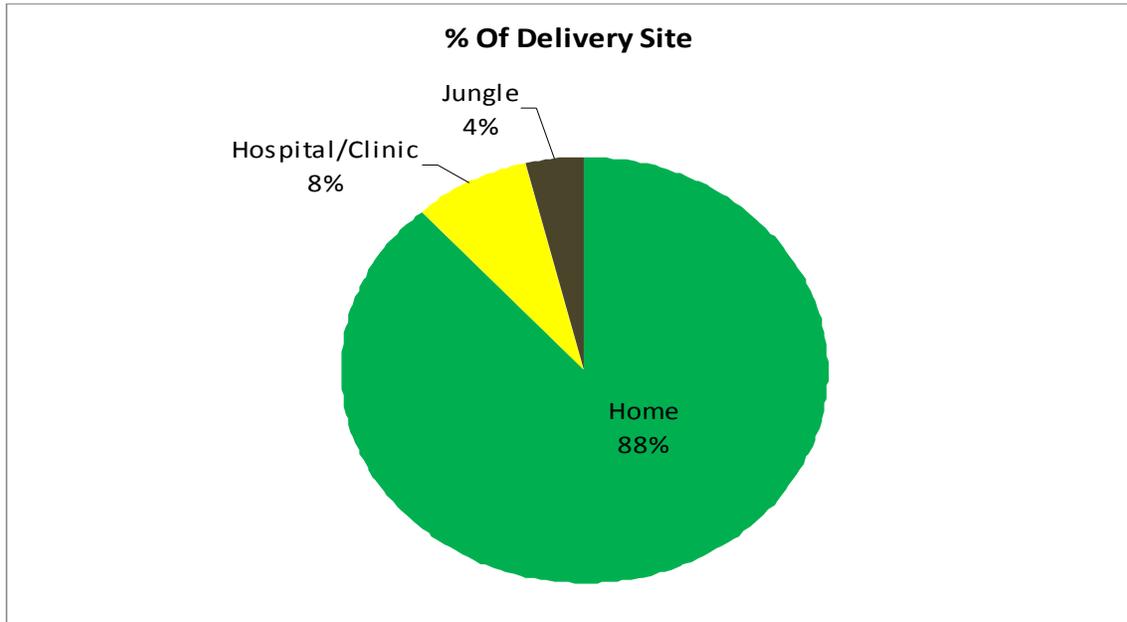


While over 86.6% of those who used contraceptives reported using modern methods, they are a small overall proportion of the entire set of respondents (only 20.1%). The unmet need, based on responses from those currently not using contraceptives and desire not to have additional children, is 69%.

Concerning maternal health, the total percentage of women who received antenatal care during their current or last pregnancy was 59% (813 women) out of 1432 women. Sources of care varied; 44.4% (363) women received antenatal care from health workers, 74% (605) from TBAs, and 8.5% (69) from others. 44.7% received antenatal care four or more times, which is the recommended care guideline from WHO. Most of the women (82.5%) received antenatal care at home, followed by care at a clinic (26.6%) and in the jungle (1.7%).

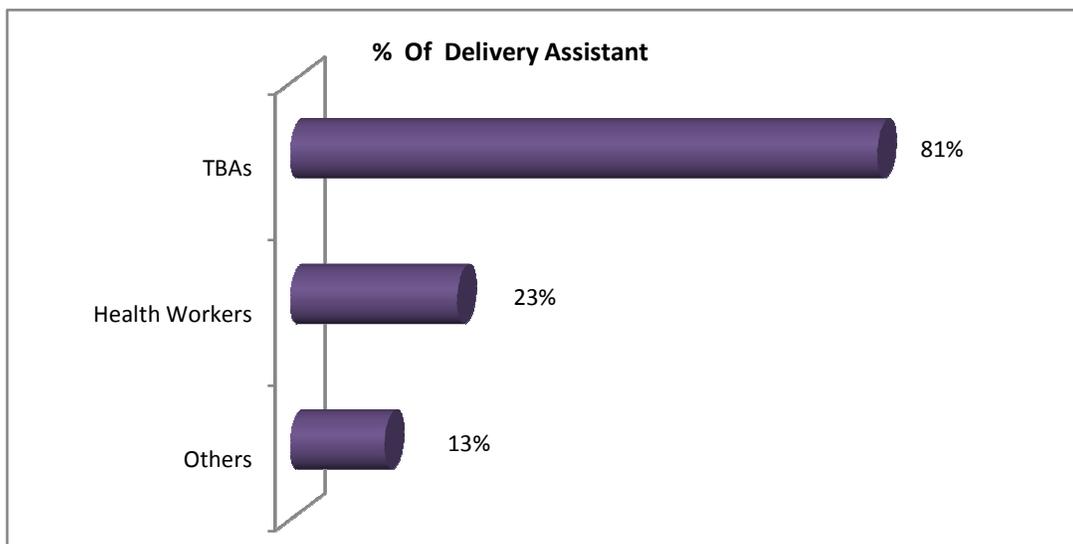
The primary delivery sites of women for their last pregnancy were the home, hospitals/clinics, and jungle. However, the majority of these children were born at home (88.2%). Of note is the jungle as the place of delivery in Shan state – at 13%, it was the highest of any area.

**Figure 4. Delivery sites**



For delivery assistance, women mentioned TBAs, MHWs, and others. Most reported delivery being attended by TBAs (81%), followed by HWs (23%) (It is sometimes included TBAs because they are also sometimes with the HWs when delivering) and others (13%). Troublingly, some women reported that they delivered their last child alone. Add

**Figure 5. Sources of delivery assistance**



## **Recommendations**

A significant area to consider is the high level of unmet contraceptive need. Areas to consider for unmet need include acceptability of modern contraceptives, particularly condoms (as revealed in a previous assessment), whether general supply/access issues are affecting this indicator, a lack of education concerning family planning, or something else altogether.

Overall antenatal care rates are low, with only about half of those actually receiving the minimum recommended number of visits. Work should be done to better understand why women do not receive care – whether it is due to lack of trained individuals, lack of awareness of the need, or some other reason. Concerning antenatal care visits not achieving the minimum four, reasons why BPHWT-trained TBAs are not providing this standard of care needs to be assessed and remedied. Finally, delivery alone should be avoided at all costs, and steps should be taken to prevent this from happening.

## **Traditional birth attendant assessment**

### ***Methodology***

The second main component of this assessment was the TBA self-evaluation. BPHWT conducted the TBA assessment in all areas where there are MCH programs: Kayah, Kayan, Taungoo, Kler Lwee Htoo, Thaton, Papun, Pa An, Dooplaya, Kawkareik, Win Yee, Mergue/Tavoy, Yee West-North, YeeChaungpya, Moulmein-Thaton, and Lahu areas. There are 414 TBAs responded the questions from these fifteen areas. Generally speaking, the missing forms were missing from an entire area standpoint rather than scattered across all areas. Because only 44% out the responded TBAs can read and write, VHVs and other health workers assisted those who could not fill out the print form by themselves by reading out loud the questions and recording the TBAs' answers.

**Table 4. Number of TBA response by area**

No	Area Name	Number of TBAs
1	Kayah	49
2	Kayan	30
3	Taungoo	20
4	Kler Lwee Htoo	30
5	Thaton	66
6	Papun	39
7	Pa An	60
8	Dooplaya	30
9	Kawkareik	0
10	Win Yee	30
11	Mergue/Tavoy	20
12	Yee West-North	0
13	YeeChaungpya	0
14	Moulmein-Thaton	20
15	Lahu	20
<b>Total</b>		<b>414</b>

### **Limitations**

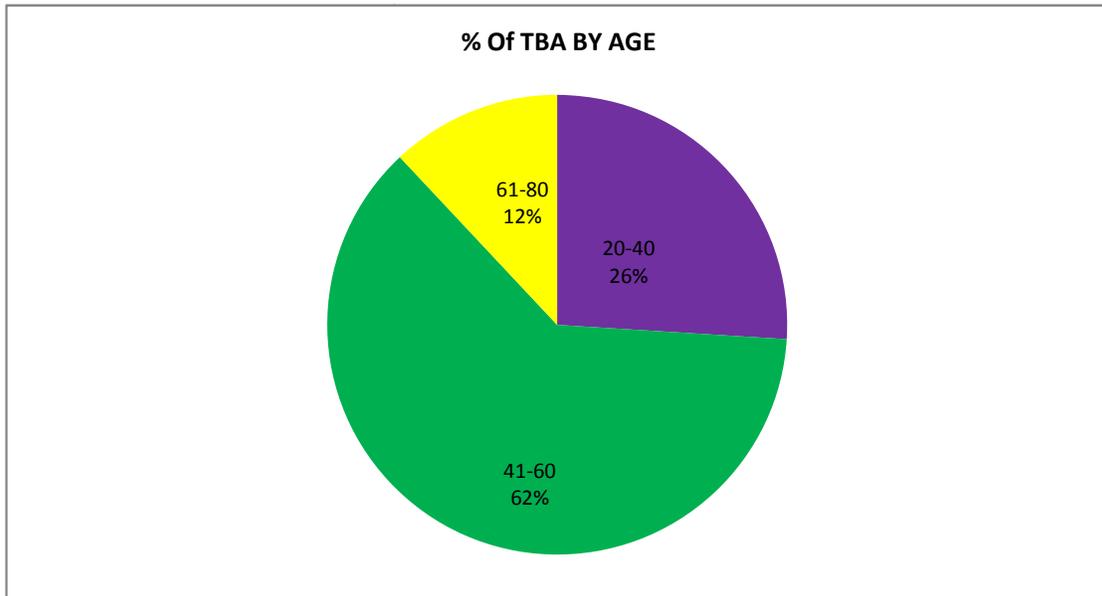
Because of the 7<sup>th</sup> of November election, fighting broke out in several places within Burma. Therefore, the assessment could not be conducted some areas such as Kawkareik, YeeChaungpya, and Yee West-North.

Additionally, as this assessment involved self-reporting, there may be a bias toward TBAs writing what they know should be the correct answer rather than their actual practices. Finally, the assessment was not pre-tested and confusing questions may have affected responses.

### **Results**

Most of TBAs who responded this assessment were female (81%). Concerning age, most of the TBAs are between the age 41 and 60 (62%), with 26% between 20 and 40, and 12% over 60.

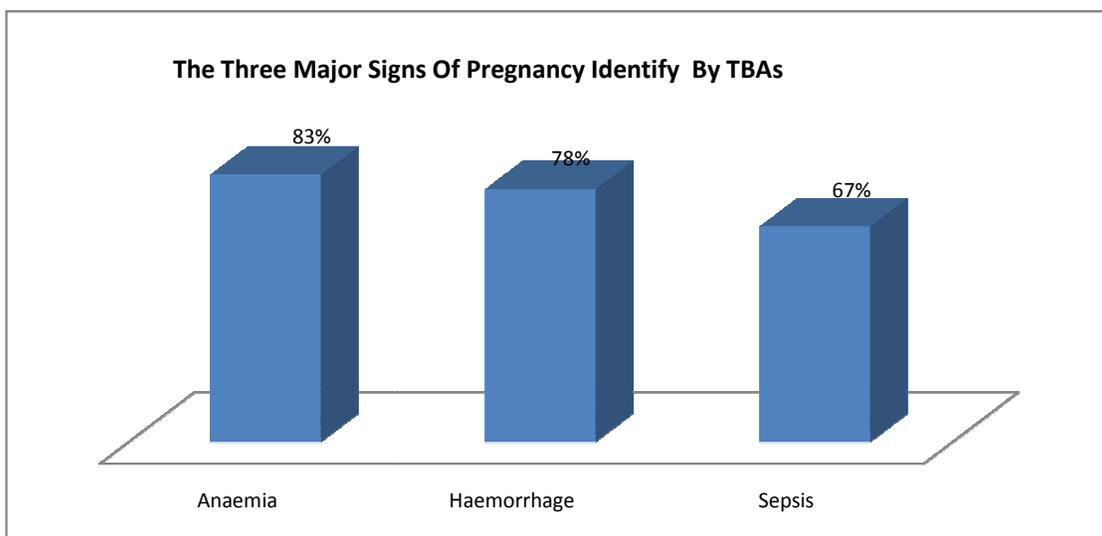
**Figure 6. Age breakdown of TBAs**



55 % of TBAs visited the mothers before delivery three or more times. This question is not quite identical to the household survey question (which asked about four visits), but the numbers seem to roughly support each other.

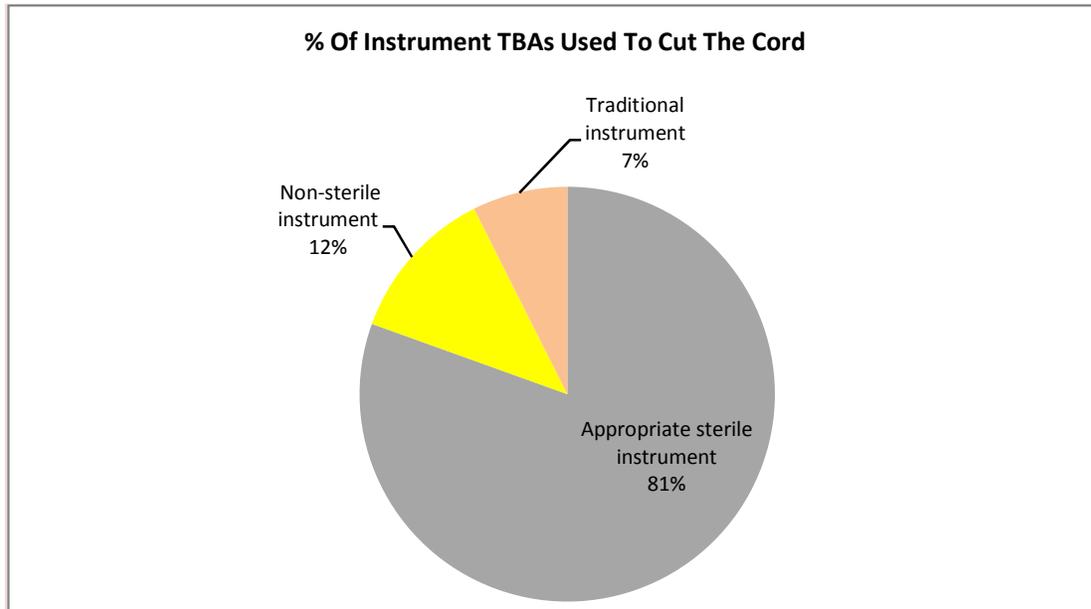
45% of TBAs can correctly identify three major signs of pregnancy complications; rates for individual major signs varied from 66% to 82%.

**Figure 7. Three major signs of pregnancy complication recognized by TBAs**

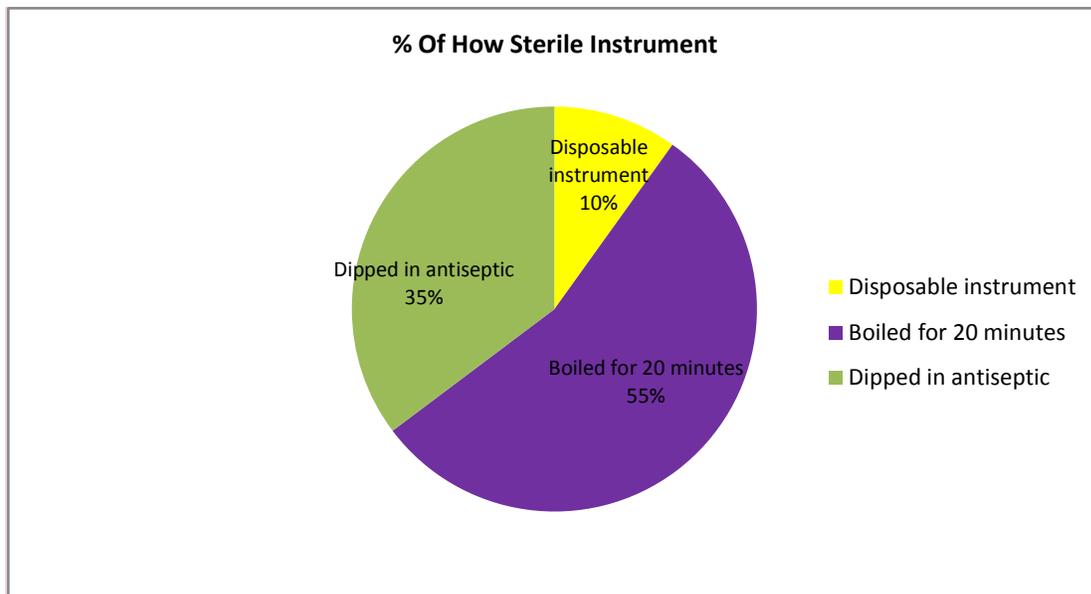


Concerning hygiene, 91% of TBAs reported washing their hands before delivery, 81% of TBAs reported using appropriate sterile instruments such as disposable sterilized supplies, instruments soaked in boiled water for 20 minutes and antiseptics.

**Figure 8. Kinds of instruments TBAs reported using to cut umbilical cords**

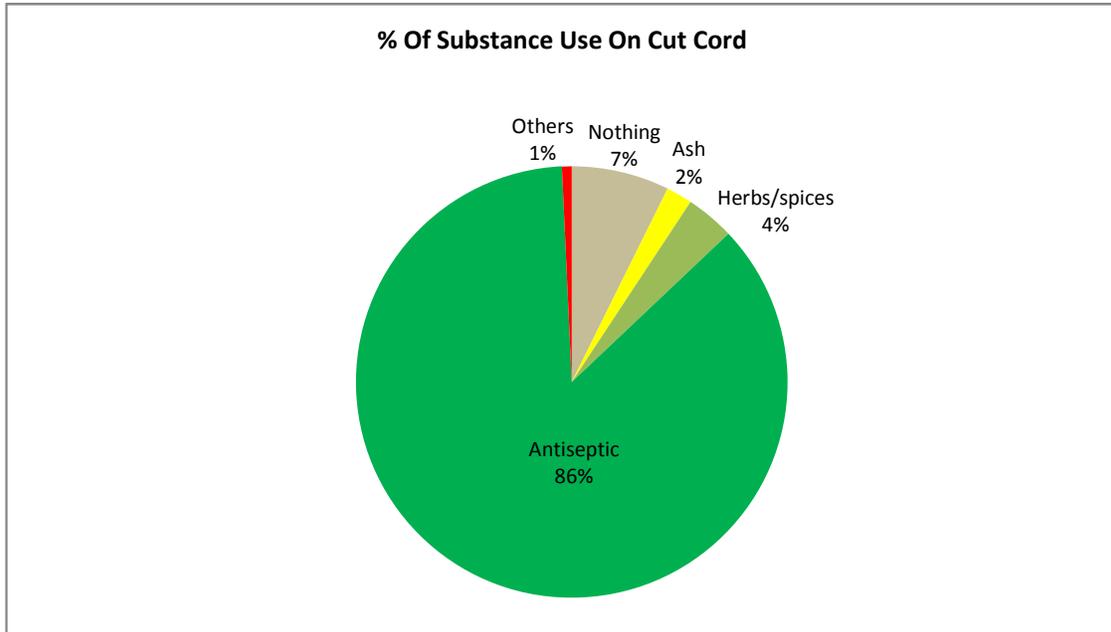


**Figure 9. Ways TBAs sterilized equipment**



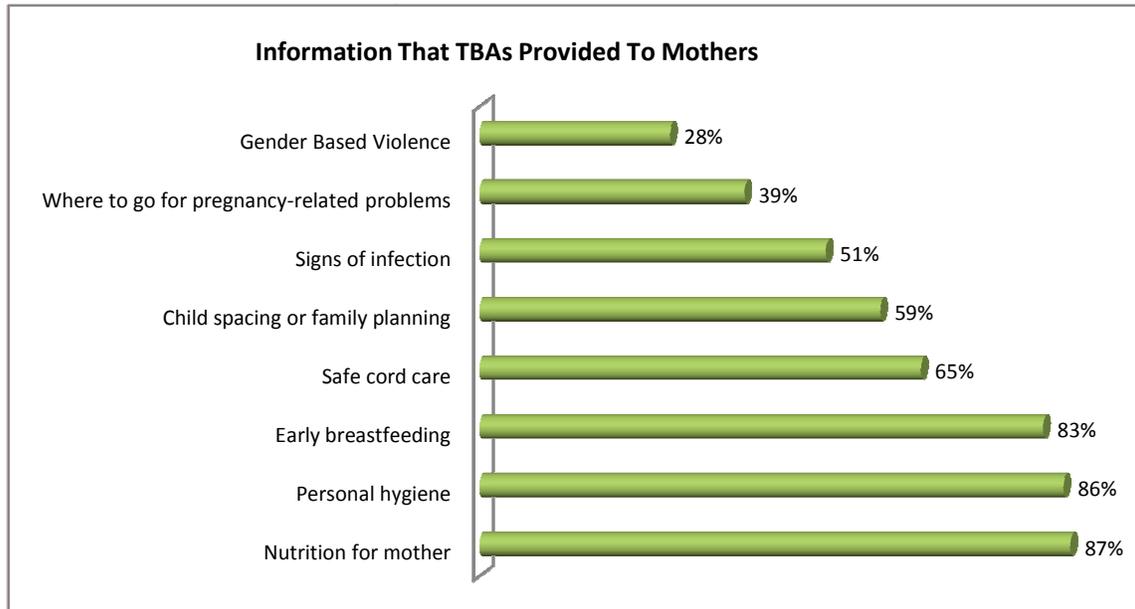
86% of TBAs reported putting anti-septic/alcohol on the umbilical cord after delivery. Currently there are no formal targets or standards for TBAs concerning hygiene practices.

**Figure 10. Substances used to clean cut umbilical cords post-delivery**



59% of TBAs reported providing three or more post-natal care visits to the last mother they assisted; BPHWT's goal is at least three visits post-delivery. The TBAs reported that during their visits, they also provided health education to mothers. There are specific topics TBAs are supposed to educate on post-birth, including child spacing or family planning, early breastfeeding, safe cord care, nutrition for mother, where to go for pregnancy-related problems, signs of infection, and personal hygiene. Currently, though, there are not specific guidelines concerning education.

**Figure 11. Kinds of information provided to mothers during post-natal visits**

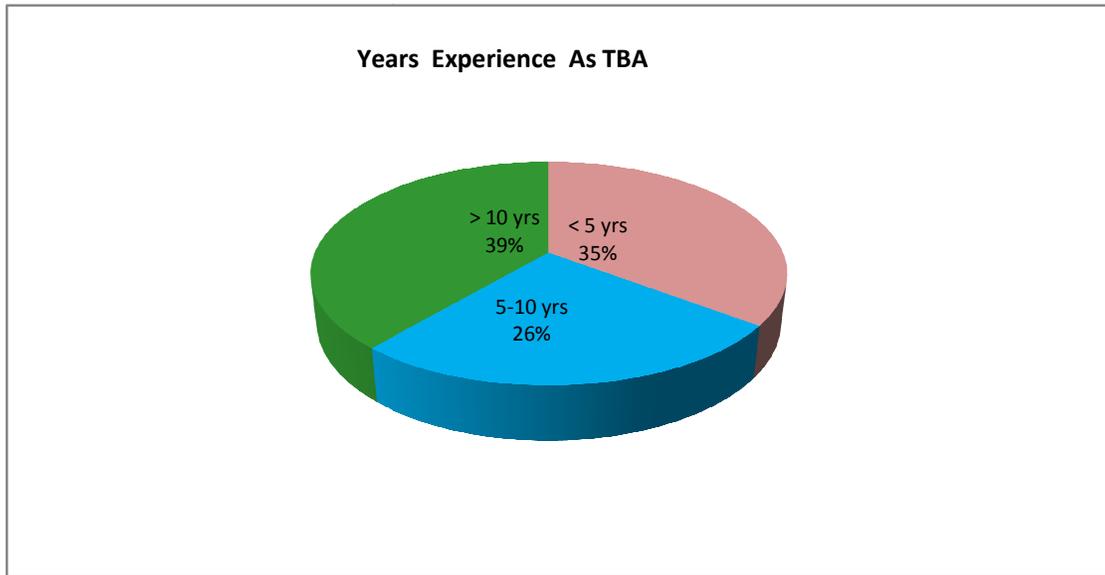


TBAs were asked whether they had seen women with complications resulting from an incomplete or unsafe abortion (either spontaneous or induced). 57% of TBA had seen women with complications in the past year.

BPHWT has a specific set of guidelines defining who is a trained TBA – at the time of this assessment TBAs had to attend at least one BPHWT TBA workshop every year and at least one, more specialized and field-based, TBA training, during their work as a TBA. However, only 65% out of 403 who responded this question have attended TBA training before they started working as a TBA. During the last six months, 6% have not attended a birth, 55% of TBAs reported that they provided care to less than four pregnant women or mother after delivery and 39% TBAs reported that they provided care to four or more than four pregnant women or mother after delivery.

As can be seen in the chart below, most TBAs who have worked with BPHWT have been in the field for at least five years.

**Figure 12. Years of experience as TBA**



### ***Recommendations***

Many results came from this assessment, but there are limited areas for interpretation due to training standards or specific goals being unclear. For example, there are general expectations rather than specific goals set concerning required post-natal education and sterile tool use/hygiene. More clear standards should be developed in these areas in order to develop more targeted trainings and a more systematic method of assessment.

One specific area for increased clarity of an existing target is in post-natal care standards. While BPHWT has a standard of three post-natal visits, WHO standards for this area focus both on the number of visits and the timing – for example, the “6-6-6-6” standard where mothers and children are visited after 6 hours, 6 days, 6 weeks, and 6 months as the most critical period is early on post-birth.

Future standards for BPHWT TBAs plan to include attendance 2 BPHWT-organized workshops a year and 1 BPHWT-organized training in their career. However, a large proportion have not yet attended the training, and the way data was collected leaves uncertainty concerning whether people are attending workshops often enough to even achieve the previous goal of 1 training lifetime and 1 workshop annually. More needs to be learned concerning why people are not attending the required trainings and what could be done to improve this situation.

## Health worker assessment

### *Methodology*

The health worker assessment is done every two years; the most recent assessment was done in 2010. There are two parts of the assessment: management and diagnosis/treatment skills. In the diagnosis/treatment components, it covers three common diseases, namely, malaria, diarrhea and acute respiratory infections. The assessment form was brought to every BPHWT target area by the program in-charges who participated the six month meeting in Mae Sot. The total number of health workers who answered this assessment is 115 in eleven areas. Data was entered into a set of Excel spreadsheets, from which summary statistics were calculated.

No	Area name	Male	Female	Total
1	Dooplaya	6	7	13
2	Kawkareik	2	1	3
3	Kayan	3	2	5
4	Kler Lwee Htoo	15	1	16
5	Lahu	3	1	4
6	Megue/Tavoy	4	5	9
7	Pa An	5	11	16
8	Paluang	0	3	3
9	Papun	11	3	14
10	Taungoo	6	6	12
11	Thaton	8	13	21
	<b>Total</b>	<b>63</b>	<b>53</b>	<b>116</b>

## Limitations

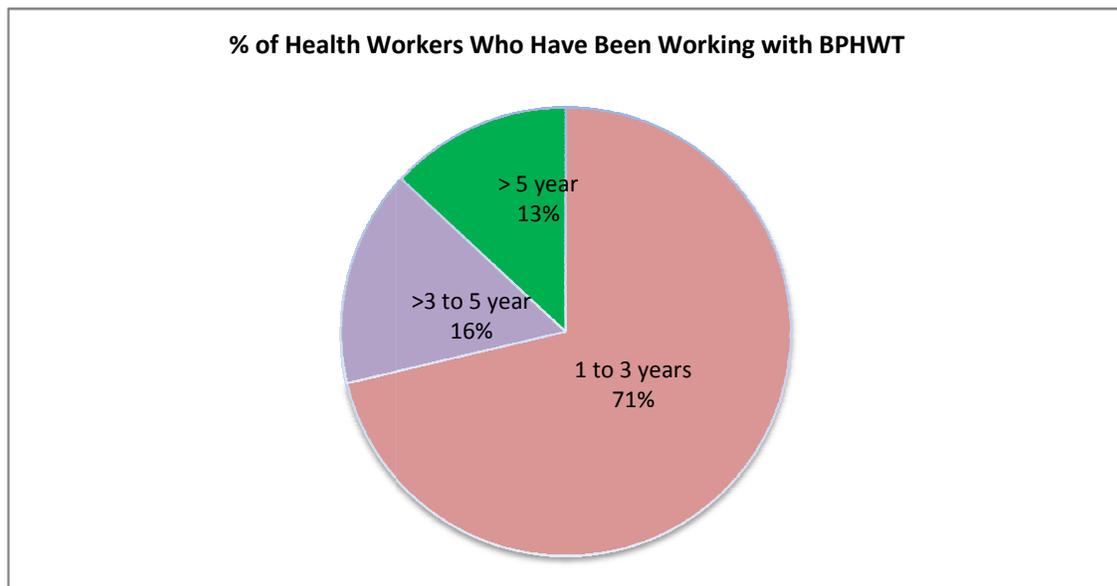
The management skill assessment is based on self-reporting as well as perceptions of what management “should be.” Some questions concern BPHWT’s expected standards for management, but others do not. As with other self-reporting tools, responses are not necessarily what individuals could or would do in the field. Finally, there were a relatively low proportion of health workers assessed. While some of it is certainly due to security, it is possible that a lack of understanding of the instrument as it was given only in Burmese, a lack of follow-up by supervisors. Because these factors are not definitively known, it is possible that the health workers who did not respond are different enough as a group from those who did that the results found here are not actually generalizable across the entire population of health workers.

## Results

### Management and human resources

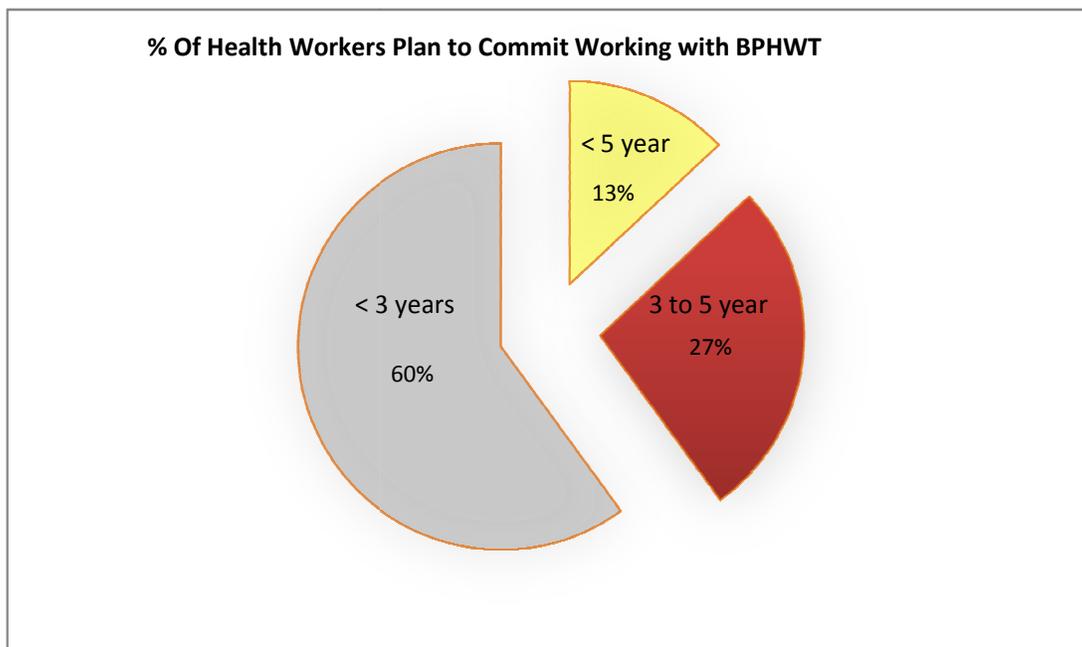
Many health workers from the BPHWT target areas are new or less-experienced health workers. According to the pie chart, 71% of all respondents have been working with BPHWT for 1 to 3 years, with the remainder having worked with BPHWT for three or more years.

**Figure 13. Number of years as a BPHWT health worker**



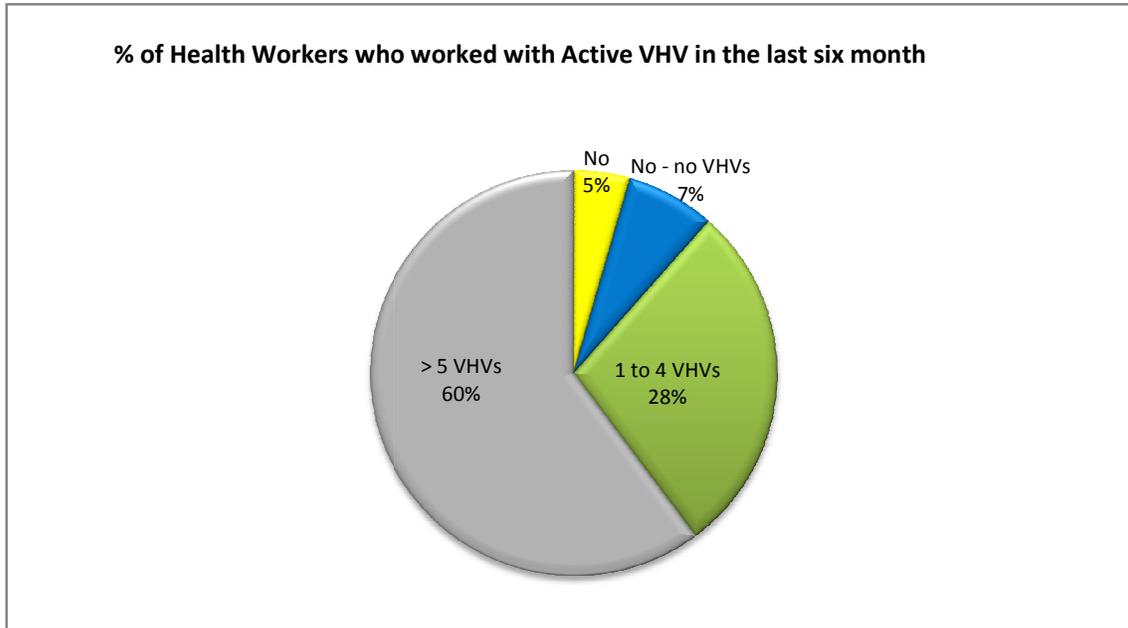
The BPHWT has an established system that has health workers commit to at least three years of work. While the structure of the assessment does not allow direct comparison to this, based on the breakdown of feedback concerning future work commitment, it is possible that health workers will leave before the end of their three year commitment, as 60% said they plan to commit under 3 years. The remained said that they plan to commit greater than three years to BPHWT.

**Figure 14. Planned future commitment to working with BPHWT**



32 (28%) health workers reported that they worked with 1 to 4 active VHVs and 68 (60%) health workers reported that they worked with more than 5 active VHVs. However, 5 (5%) said they did not work with VHVs and 8 (7%) are in areas where there are no VHVs. Where VHVs exist health workers are expected to interface with them, as they are the local connection to the village and should have a better understanding of current and emerging local health issues.

**Figure 15. Health workers' work with active VHVs in the last six months**



### **Diagnosis and treatment skills**

The BPHWT targets for case-based assessment of health workers' diagnosis and treatment skills are at least 95% for all scores. However, no health workers by area achieved the target, either in individual components or overall.

The closest to this goal overall were health workers in Mergue/Tavoy followed by Palaung; otherwise, overall scores were in the mid-60% to mid-70% range.

**Table 5. Overall average scores on diagnosis and treatment assessment, by area**

<b>Assessment On Diagnosis and Treatment</b>			
<b>No</b>	<b>Area</b>	<b>Total respondents</b>	<b>Correct score</b>
1	Pa An	16	76%
2	Papun	14	68%
3	Kawkareik	3	67%
4	Thaton	21	67%
5	Taungoo	12	61%
6	Kler Lwee Htoo	16	72%
7	Dooplaya	13	76%
8	Palaung	3	86%
9	Mergue/Tavoy	9	90%
10	Kayan	5	75%
11	Lahu	4	74%
	<b>Total (weighed average)</b>	<b>116</b>	<b>72%</b>

Concerning specific skills assessed, health workers scored the lowest in the confirming diagnosis through patient interview activity, with scores ranging between 30% and 58%. Other notably weak areas included initial diagnosis of diarrhea and malaria Pf positive treatment.

**Table 6. Sub-score breakdowns for diagnosis and treatment assessment**

<b>No</b>	<b>Health Worker Assessment Summary: percentages of correct answers by participants - 2010</b>	
<b>1</b>	<b>Malaria Case</b>	<b>Correct percentages</b>
	(1) Initial Diagnosis	88%
	(2) Confirmed diagnosis through interview	58%
	(3) Treatment	86%
	(4) Contraindications	84%
<b>2</b>	<b>Diarrhea Case</b>	
	(1) Initial Diagnosis	51%
	(2) Confirmed diagnosis through interview	30%
	(3) Treatment	80%
	(4) Education	85%
<b>3</b>	<b>ARI Case</b>	
	(1) Diagnosis	77%
	(2) Treatment	83%
<b>4</b>	<b>PF Positive Treatment</b>	
	Para-Check Diagnosis	92%
	(1) < 8 year old child	77%
	(2) Pregnant Women	62%
	(3) > 8 year old and Adult	67%

### ***Recommendations***

The assessment in terms of retention questions needs to be modified so as to more easily match up the individual's years of experience with BPHWT as well as their future commitment. In particular, the latter question should use the options 1, 2, 3, or more than 3 years. Without both pieces of information it is difficult to make recommendations concerning retention or experience trends. However, if the trend currently is interpreted as staff leaving earlier than their level of commitment, more information needs to be learned to understand the reasons for this and whether there is anything BPHWT can do to minimize it.

Concerning skills, in general, the results for this assessment were not good. A few overall approaches should be considered: one, making sure that the instrument was understandable as it (presumably) was not pretested, two, considering changing the method of assessment from written to role-plays or other, more realistic, situations for evaluation, and three, re-evaluating whether a 95% score is a realistic target for all assessment areas.

The malaria treatment scores in particular are worrying in that appropriate treatment is critical to mitigating artemisinin resistance along the border. Without strong numbers in this area external support for continued cross-border malaria treatment may be jeopardized. More information is needed to understand these low scores so that training can be developed to increase skills. Starting points include reviewing the importance of completing treatment and steps to undertake if there are delays in slide confirmation. Based on previous assessments, completeness in confirmation was an issue – while most could at least partly answer correctly, having an exhaustive and complete answer was an ongoing issue in the past concerning malaria treatment. Paracheck interpretation has increased as compared to the last assessment, though.

Concerning the general weakness in confirming diagnosis, different training activities could be developed to improve skills, such as role plays with triads or ongoing case studies to practice with. Given previous comments from the last time this assessment was conducted, it is possible that the written method is not completely capturing the ability of health workers to diagnose and treat. It may be beneficial to consider how supervisors could continue to provide on-the-job mentoring and support to improve their skills in this and other areas – assuming that their skill levels are better than the average health worker and they possess training skills.

## **Conclusions and recommendations**

### ***Interpretation limitations***

Generally speaking, indicators given here for population sub-groups, such as by area, children, or pregnant women, do not have enough power to be conclusive evidence for the population as a whole. However, indicators for the entire population, such as ITN use, can

be considered as fairly reliable. Additionally, the low (about half of planned) returns from Shan and YeeChaungpya areas means that most likely any indicators for this sub-area are not necessarily generalizable to the entire area.

For the health worker assessment, less respondents results in decreased ability to generalize across the entire health worker population.

For the TBA assessment, the relatively more respondents that the results for this component are relatively likely to be representative of the entire population of TBAs from which data was collected, but questions and a lack of specific targets to use as benchmarks for performance limit interpretation.

Comparability across previous surveys or data sources is limited due to different methods used for each (or at least not identical implementation) as well as different populations reporting in each assessment, even in this report.

With those caveats, based on the data collected, the following areas of recommendation should be prioritized.

### ***Assessment tools***

Overall, some techniques should be implemented to increase power and thus reliability of results to ensure that the amount of time and effort invested by BPHWT to assess has the greatest possible return:

- **Increase connection between BPHWT operational targets and assessment/survey questions.** For example, if the target for work commitment is three years, then it is necessary to ask both the start date of a respondent's work with BPHWT and their expected length commitment as of the day of the assessment. Or, if target is minimum 4 ANC visits, make sure that surveys and TBA assessments both ask about less than 4 and more than 4 visits.
- **Document survey and assessment pre-testing with different language focus groups.** This may increase return rates as well as more accurate responses to questions, as well as possibly assessing if additional languages need to be used in both the

instrument and training of surveyors or administrators. Documenting this also makes the final report easier to compile, as these kinds of details can be forgotten.

- **Explore other ways to assess diagnosis/treatment skills in health workers.** Role play with observer scoring may capture better their actual practices and explain lower scores in some areas of a written assessment, particularly if it is in the local language they use typically.
- **Focus on increasing return rate for health worker assessments**

### ***General health indicators***

- **Explore how to link into non-mobile referral systems for child nutrition.** BPHWT does not have the model to do the inpatient care needed for acute severe malnutrition, but other ethnic health organizations in the area may do so.

### ***Water and sanitation***

- **Focus on education and predisposing factors to increase comprehensively local hygiene habits.** For example, many respondents are washing their hands before eating, but are not consistent on other times when hands should be washed. These areas should be the focus of ongoing education campaigns.
- **Build improved latrines, but consider location of latrines.** This result is complicated by a large proportion mentioning they do not use latrines in the fields/while working as latrines are located near their houses. This issue needs to be better understood – either questions should focus on latrine use at home or latrines need to be considered near work areas. Finally, other reasons for not using latrines – such as smell – would be mitigated by improved latrine systems.

### ***Malaria***

- **Focus on reducing malaria prevalence.** BPHWT's model does not make it easy to monitor testing and treatment of endemic diseases such as malaria, so a focus could be on increasing use of ITNs for the entire household and to increase testing and treatment for targeted population.

## ***Reproductive health***

- **Focus on antenatal and post-natal visit targets and timing.** These visits, and when they take place, are crucial to maternal and child health, and better alignment with evidence-based targets for the reproductive health program followed by ongoing monitoring should positively affect maternal and child health indicators.
- **Explore ways to decrease unmet contraceptive need.** This rate is quite high, albeit based on a small sample; the issues around contraceptive use and family planning need to be better understood before a specific set of actions can be undertaken by BPHWT.

## ***HW assessment***

- **Focus on increasing skills of health workers in confirmation of diagnosis**
- **Focus on increasing skills of health workers in terms of malaria treatment**

## ***TBA assessment***

- **Increase proportion of TBAs who participate in BPHWT minimum training standards.** The assessment here did not provide much information as to why so many TBAs have not yet had the minimum training. This may first have to be explored, and, following those results, strategies developed to find the most effective way to reach them for training.
- **Develop more specific standards and goals concerning TBA practices.** Then, link this more closely to TBA trainings so that it can be ensured that individuals are being assessed on what they are actually being trained to do.

# Appendix 1. Program evaluation survey instrument

## Back Pack Program Evaluation Survey (E) 300410

Date   /   /   Surveyor ID   Village name: \_\_\_\_\_

BP ID       Cluster ID   Household #

Start time (use 24 hour time):   :

**READ THE FOLLOWING CONSENT TO THE RESPONDENT BEFORE STARTING THE SURVEY:**

*We will ask questions about your family's health situation and knowledge. This information will be used by the Back Pack Health Worker Team so that they can improve health programs in your area. Some questions might be sensitive and personal. All responses will be kept confidential. Please stop me if you have any questions. Please tell me if you prefer not to answer a particular question or continue with the survey.*

**Do you want to complete the survey?.....**  0 = No (Refusal – DO NOT CONTINUE THE INTERVIEW)  
1 = Yes (CONTINUE INTERVIEW)

Back Pack Program Evaluation Survey (E) 300410

**Section (1) Household Member List**

List the age & sex of **all people** living in this household (when I say "household" in this survey I mean everyone who lives in your house, shares meals, and sleeps under the same roof. This includes everyone who has lived in your house for at least two months.) Don't forget to include yourself, children, & infants.

1.A. MARK 'X' FOR PERSON ANSWERING QUESTIONS	1.B. AGE		1.C. SEX	1.D. Did this person take a Vitamin A pill (like this) in the past 6 months?	1.E. Did this person take a De-worming pill in the last 6 months?	1.F. Has this person had Diarrhea in the last 2 weeks?	1.G. Has this person had ORS in the last 2 weeks?	1.H. May I test you for malaria?	1.I. FOR CHILDREN < 5 YEARS AND FEMALE 15-49 YEARS OLD A RECORD MUAC
	For both YEARS and MONTHS								
	1.		Yrs						
	2.		Yrs						
	3.		Yrs						
	4.		Yrs						
	5.		Yrs						
	6.		Yrs						
	7.		Yrs						
	8.		Yrs						
	9.		Yrs						
	10.		Yrs						
	11.		Yrs						
	12.		Yrs						
	13.		Yrs						

Back Pack Program Evaluation Survey (E) 300410

**Section (2) Malaria**

1.	How many people in this household slept under a mosquito net last night?	Number of people who slept under a mosquito net 88=Refused 99=Don't know	<input type="text"/>
2.	Since the beginning of the last rainy season in June, 2009 until now, please think about all the people in this household who had fever. Was the person who most recently had fever tested for malaria?	0=No one had fever 1=No, person did not get tested 2=Yes, person got tested 8=Refused 9=Don't know	<input type="checkbox"/> If "0" skip to #5.
3.	For the person who most recently had fever, was he/she treated for malaria?	0=No, person did not get treatment 1=Yes, person got treatment 8=Refused 9=Don't know	<input type="checkbox"/> If "0" skip to #5.
4.	When this person took the malaria medicine, did a medic, VHV, or HW come to the house at least once to ensure that they took all of the medicine and took the medicine at the right time?	0=No 1=Yes 8=Refused 9=Don't know	<input type="checkbox"/>

**Section (3) Water and Sanitation**

5.	When do you wash your hands?  (Choose all that apply) SURVEYOR: DO NOT READ ANSWER CHOICES  If the respondent answers, "I do not wash my hands" Skip to # 7	<input type="checkbox"/> I do not wash my hands. <input type="checkbox"/> After using the toilet. <input type="checkbox"/> Before preparing food. <input type="checkbox"/> Before eating <input type="checkbox"/> After helping a child go to toilet/changing a diaper <input type="checkbox"/> Other ( ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
6.	Show me how you wash your hands. Please do it exactly as you usually do it.  (Choose all that apply) SURVEYOR: DO NOT READ ANSWER CHOICES	<input type="checkbox"/> Used water <input type="checkbox"/> Washed for at least 20 seconds <input type="checkbox"/> Used soap or ash <input type="checkbox"/> Rubbed hands together <input type="checkbox"/> Refused to show <input type="checkbox"/> Don't know	
7.	Does your household have its own latrine?	0=No 1=Yes 8=Refused 9=Don't know	<input type="checkbox"/> If "1" skip to #9
8.	Why doesn't your household have a latrine?  (Choose all that apply) SURVEYOR: DO NOT READ ANSWER CHOICES	<input type="checkbox"/> No money to build a latrine <input type="checkbox"/> No materials to build a latrine <input type="checkbox"/> No time to build a latrine <input type="checkbox"/> Don't know how to build a latrine	If the respondent have no

Back Pack Program Evaluation Survey (E) 300410

		<input type="checkbox"/> No land to build a latrine on <input type="checkbox"/> Other ( _____ ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	latrine skip to #12
9.	Please describe how your latrine is constructed.  (Choose all that apply) <b>SURVEYOR: DO NOT READ ANSWER CHOICES</b>	<input type="checkbox"/> Has a roof <input type="checkbox"/> Has walls <input type="checkbox"/> Has a door <input type="checkbox"/> Has a plastic bowl <input type="checkbox"/> Has a ceramic bowl <input type="checkbox"/> Has an air flow pipe <input type="checkbox"/> Has a deep hole <input type="checkbox"/> It is dirty/has a bad smell <input type="checkbox"/> It doesn't have enough water <input type="checkbox"/> Other ( _____ ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
10.	Do you use the latrine that you have?	1=Always 2=Sometimes 3= Never 8=Refused 9=Don't Know	<input type="checkbox"/> If "1" skip to # 12
11	Why don't you use the latrine that you have?  (Choose all that apply) <b>SURVEYOR: DO NOT READ ANSWER CHOICES</b>	<input type="checkbox"/> Dirty <input type="checkbox"/> Smells bad <input type="checkbox"/> Not my custom <input type="checkbox"/> Too far <input type="checkbox"/> Erodes the earth <input type="checkbox"/> Other _____ <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
12	Where do you usually get water for drinking?  (Choose all that apply) <b>SURVEYOR: DO NOT READ ANSWER CHOICES</b>	<input type="checkbox"/> Pipe (plastic or bamboo) <input type="checkbox"/> Pump <input type="checkbox"/> Gravity flow <input type="checkbox"/> River/Stream <input type="checkbox"/> Pond/Lake <input type="checkbox"/> Spring <input type="checkbox"/> Open Well <input type="checkbox"/> Rain Water (basin, pot or bamboo) <input type="checkbox"/> Other ( _____ ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
13.	How long does it take you to get to your main source of water for drinking?	0=0 - 5 minutes 1=6 - 15 minutes 2=More than 15 minutes 8=Refused 9=Don't know	<input type="checkbox"/>

Back Pack Program Evaluation Survey (E) 300410

14.	In the last day (the last 24 hours), did you drink any water that was not boiled or filtered?	0=No 1=Yes 8=Refused 9=Don't know	<input type="checkbox"/>
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**Section (4) Reproductive Health**

(Skip these RH questions if the person who you will ask is a single woman or a single man). If you interview a married man, ask about his wife.

15.	Are you currently pregnant?	0=No 1=Yes 8= Refuse 9= Don't know	<input type="checkbox"/>
16.	How many times have you been pregnant? (Include current pregnancy and all previous pregnancies, including spontaneous/induced abortions and miscarriages)	Number of pregnancies 88=Refused 99=Don't know	<input type="text"/> <input type="text"/> If "0" skip to # 23
17.	Did you see anyone for antenatal care during your last/current pregnancy?	0=No 1=Yes 8= Refused 9= Don't know	<input type="checkbox"/> If "0" skip to # 21
18.	Who provided antenatal care to you during your last/current pregnancy? (Choose all that apply)	<input type="checkbox"/> Doctor/Medic/Nurse/HW <input type="checkbox"/> Traditional birth attendant <input type="checkbox"/> Other ( ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
19.	Where did you receive antenatal care during your last/current pregnancy? (Choose all that apply)	<input type="checkbox"/> Home <input type="checkbox"/> Hospital/clinic <input type="checkbox"/> Jungle <input type="checkbox"/> Other ( ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
20.	How many antenatal care visits did you have during your last/current pregnancy?	0=Three or fewer visits 1=Four or more visits 8=Refused 9=Don't know	<input type="checkbox"/>
21.	Where did you deliver your last baby?	0=Current first pregnancy 1= Home 2= Hospital/clinic 3= Jungle 4=Other ( )	<input type="checkbox"/> If "0" Skip to # 23

Back Pack Program Evaluation Survey (E) 300410

		8= Refused 9= Don't know	
22.	Who delivered your last baby? (Choose all that apply)	<input type="checkbox"/> Doctor/Medic/Nurse/HW <input type="checkbox"/> Traditional birth attendant <input type="checkbox"/> Other ( _____ ) <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
23.	Do you want another child?	0=No 1=Yes 8=Refused 9=Don't know	<input type="checkbox"/>
24.	Do you or your husband currently do anything to prevent or delay pregnancy?	0=No 1=Yes 8=Refused 9=Don't know	<input type="checkbox"/> If "0" skip to # 26
25.	What are you doing (which method are you using) now to delay or prevent pregnancy?	0=None 1=Oral pills 2=Depo 3=Condom 4=Other ( _____ ) 8=Refused 9=Don't know	<input type="checkbox"/>

Back Pack Program Evaluation Survey (E) 300410

(26) Since the beginning of the rainy season in June 2009 until now, did any of the members of your household under age 5 die? Please include every baby that cried or showed signs of life when they were born but later died.

AGE AT DEATH					SEX
For both YEARS and MONTHS 88=Refused 99=Don't Know					1=Female 0=Male 8=Refused 9=Don't know
1.		Yrs		Mths	<input type="checkbox"/>
2.		Yrs		Mths	<input type="checkbox"/>
3.		Yrs		Mths	<input type="checkbox"/>
4.		Yrs		Mths	<input type="checkbox"/>
5.		Yrs		Mths	<input type="checkbox"/>

End time (use 24 hour time) :  :

## Appendix 2. TBA assessment instrument

*Note: this is a partial translation used to aid in summarizing results of this report; it was originally developed in Burmese.*

### Traditional Birth Attendant Questionnaire

Date of Interview     TBAs Name   
Area  Township  Village

---

When was the last time that you attended a birth?

0=In the last week    1=In the last 6 months    2=In the last year    3=In the last year    4=More than 1 year ago    5=Missing/Don't Know

2. For the last pregnancy you delivered, how many antenatal care visits did you give?

0 = Did not visit

1 = One time

2 = Two times

3 = Three times

4 = Four times

5 = More than four times

9 = Missing/ Don't now

3. When you conducted your antenatal care visits, which services did you provide? (Don't need to read options; please record the answer based on what they say)

3a. Iron

3b. Folic

3c. De-worming

3d. Counseling

3e. Transfer

3f. Vitamin A

4. What warning signs during pregnancy, delivery, and after delivery are serious problems that would cause you to refer the woman to the Maternal Child Health Center?

4a vomiting / poor appetite

4b anaemia / pallor / fatigue / breathlessness / palpitations

4c hypertension / headache / swelling / fits / caesarian section

4d eclampsia / coma / difficulty breathing / history of stillbirth

- 4e previous bad obstetric history / history of stillbirth / prolonged labor
- 4f abnormal lie / cessation of fetal movement / baby does not move
- 4g light bleeding before delivery / heavy bleeding during or after delivery / narrow pelvis
- 4h too many pregnancies / abdomen too large / severe abdominal pain
- 4i too many contractions / peritonitis / ectopic pregnancy
- 4j sepsis / foul smelling discharge / cervical tear / fever / abdominal pain after birth / low birthweight infant / premature delivery
- 4k other


5. At the last pregnancy that you delivered, did you wash your hands before helping the mother?

- 0=No
- 1=Yes
- 9=Missing/Unknown

6. At the last pregnancy that you delivered, how did you use to cut the cord?

- 1=Appropriate sterile instrument (new razor blade, sterile scissors, etc)
- 2=Appropriate non-sterile instrument (razor blade, scissors, etc)
- 3=Traditional instrument (bamboo, reed, etc)
- 9=Missing/Unknown

7. How did you use sterile instruments at the last pregnancy that you delivered?

- 0 = Never
- 1 = New sterile instrument
- 2 = Clean twenty minutes in boiled water before using
- 3 = ??? (dropped as uses techniques not available locally, such as autoclave)
- 4 = ??? (dropped as uses techniques not available locally, such as autoclave)
- 5 = Wrong answer
- 9 = Missing/ Unknown

8. At the last pregnancy that you delivered, did you put anything on the cord after it was cut?

- 0=Nothing
- 1=Ash
- 2=Herbs/spices
- 3=Povidine / Iodine or other antiseptic
- 4=Other
- 9=Missing/Unknown

9. At the last pregnancy that you delivered, what advice and information did you provide to the mother?

- 9a Child spacing or family planning
- 9b Early breastfeeding
- 9c Gender Based Violence
- 9d Safe cord care
- 9e Nutrition for mother
- 9f Where to go for pregnancy-related problems
- 9g Signs of infection
- 9h Personal hygiene
- 9i Other


10. After the last pregnancy you delivered, how many times did you visit the mother and baby to check on their health?

- 0=Did not visit
- 1=One time
- 2=More than one time
- 9=Missing/Unknown

--

11. When was the last time you saw a woman with complications resulting from an incomplete or unsafe abortion (either spontaneous or induced)?

- 0=Never Seen      3=In the last 6 months      5=More than 1 year ago
- 1=In the last week      4=In the last year      9=Missing/Don't Know
- 2=In the last month

--

12. How long have you been a TBA?

- 0 = less than one year
- 1 = one – two years
- 2 = three – four years
- 3 = five – ten years
- 4 = more than ten years
- 9 = Missing/ Unknown

13. Have you attended TBA training?

- 0=No
- 1=Yes
- 9=Missing/Unknown

--

14. When did you attend the first time to TBA training organized by BPHWT?

0 = Never

1 = Within last six months

2 = After last six months

3 = After last one year

9 = Missing/ Unknown

15. How many times did you attend TBA workshops organized by BPHWT?

0 = Never

1 = One time

2 = Two times

3 = Three times

4 = Four times

5 = Five times

6 = Above five times

9 = Missing/ Unknown

16. To how many pregnancies and delivered mothers did you provide health services?

0 = Never

(---) = Total number of people

999 = Missing/ Unknown

### Appendix 3. Health worker assessment instrument

#### Back Pack Health Worker Team (BPHWT)

#### Health Worker Assessment

Age -

Gender -

Position -

BP Area -

(1) What is your highest level of educational experience (Please tick the box below)

- Primary
- Secondary
- High school
- Post- ten

2) Language Skills (Please tick in the box below)

Languages	Basic	Good	Very good
<b>English</b>			
Read			
Write			
Speak			
<b>Burmese</b>			
Read			
Write			
Speak			
<b>Ethnic: _____</b> <b>(Write down your mother language)</b>			
Read			
Write			
Speak			

**The following questions ask about your history with BP**

3) How many years have you worked with BPHWT?

4) Please list all trainings with the date (day/month/year) you have attended.

No	Training	Date (DD/MM/YY)
1		
2		
3		
4		
5		

5) How many years will you continue working with the BPHWT? (Please tick one in the below)

- 1-3 years       3- 5 years       > 5 years

6) How many times did you attend field meeting last year or in 2009?

---

7) How many times did you attend field workshop last year or in 2009?

---

8) What trainings or workshops do you need to work more effectively in the BPHWT's program?

1) 

---

2) 

---

3) 

---

9) Other suggestions (What ideas do you have to increase worker performance, motivation and satisfaction?)

---

---

---

---

**The following questions ask about supervision.**

**Supervision of technical service quality**

(10) Does your supervisor assess your knowledge and skills through observation of your work?

**YES            NO**

(11) Does your supervisor assess your knowledge and skills by asking you to show them how to perform different tasks/procedures?

**YES            NO**

(12) Does your supervisor tell you (or give you ideas about) how you can perform tasks/procedures better?

**YES            NO**

(13) Do you have Treatment Guidelines (BBG)?

**YES            NO**

(14) Does your supervisor ask to see the written treatment guidelines that you use?

**YES            NO**

(15) Do you meet with field in-charge every six months?

**YES            NO**

**Supervisory style**

(16) Does your supervisor allow you enough time to talk about problems you are experiencing?

**YES      NO**

(17) Does your supervisor ever criticize you in front of patients?

**YES      NO**

(18) Do you have a good relationship with your supervisor?

**YES      NO**

(19) Does your supervisor have a good relationship with patients and/or community members?

**YES      NO**

(20) Does your supervisor praise you when you do your job well?

**YES      NO**

**The following questions ask about how you work with VHVs**

**VHV** Village Health Volunteers

(21) How many active VHVs helped you with your work in the past 6 months? \_\_\_\_\_

(22) Which specific activities did they do? Put an "x" next to all that apply

Malaria Screening

Health education

Treatment

Vitamin A

De-worming

Diagnosis

(23) Explain how you recruited VHVs.

(24) Explain how you trained them.

(25) How often did you meet with them?

(26) Did you have any problems or issues with using VHV to help you? If yes, explain

## Diagnosis and Treatment Assessment

The following questions ask about diagnosis and treatment of common illnesses.

### Case study 1

A woman of reproductive age, who has tested positive to a malaria RDT test, and her 5 years old daughter come to the clinic wrapped in blankets and complaining of fever. The woman says that she has not had a period for about three or four months. The child has a fever of 37.9° C. After taking their medical history, you learn that the child had body aches, chills, and fever in the past two days. The patients are both fully conscious and you do not observe any other symptoms. They are not allergic to any medications.

- (1) What is your initial diagnosis for each patient?
  - a. Woman:
  - b. Child:
  
- (2) What else would you do to confirm your diagnosis? What other questions would you ask the woman?
  
- (3) What treatment would you give her and the child?
  - a. Woman:
  - b. Child:
  
- (4) With your diagnosis and treatment in mind, what medicines are contraindicated for the woman and her child?
  - a. Woman:
  - b. Child:

### Case-study 2

During a home visit, you see a five-year-old girl who has passed five stools in the past 24 hours. She appears agitated and drinks thirstily when water is offered to her. After pinching her skin, you notice it goes back slowly. Her three-year-old brother has passed two stools in the past 48 hours. He appears normal. Their mother also has a five-month-old baby who appears normal. However, she says the baby has diarrhea and she is afraid to feed the baby when this happens. She used to breastfeed the baby but stopped a week ago because she heard rice water is better for the baby.

- (1) What is your diagnosis for these children?

- a. 5 years old child:
- b. 3 years old child:
- c. 5 months old child:

(2) Is there any other information that you would like to ask the mother? And how could this change your diagnosis?

(3) Based on your diagnosis, what treatment would you recommend for each child?

- a. Child 1:
- b. Child 2:
- c. Child 3:

(4) What are at least three health education topics you could provide to mother?

### Case-study 3

One day, three patients come to your clinic. The first patient is a 60-year-old female with high fever and a cough that produces green sputum. She said that she is having difficult to breath. The second patient is a five-year-old male who is visibly breathing fast. His RR is greater than 40 breaths/minute, but he has no cough or sputum. The third patient is a four-year-old girl with a runny nose, sore throat, and a little cough.

(1) What is your diagnosis for these three patients?

- a. Patient 1:
- b. Patient 2:
- c. Patient 3:

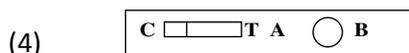
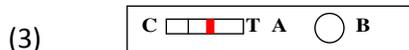
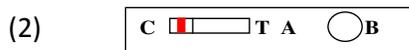
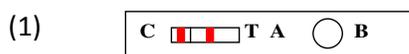
(2) Based on your diagnosis, what treatment would you recommend for these three patients?

- a. Patient 1:
- b. Patient 2:
- c. Patient 3:

(3) Would you make a referral for any of these patients? If so, where would you refer them? And why?

**The following questions ask about how to use Para-check, the malaria rapid diagnosis test.**

Look at each of Para-check test picture and match the correct answer below for each question. Write down the letter next to the pictures.



Question (1)

- (A) NEGATIVE (-)
- (B) POSITIVE (+)
- (C) TEST DID NOT WORK (Repeat Test)
- (D) NO CONTROL (Repeat Test)

**The following questions ask about malaria treatment.**

Five patients have signs of malaria and a positive RDT-PF test. They have not had treatment in the last two months. What medication would be your first choice to treat each patient? What medication would be your second choice for each patient? Write the letter that matches the treatment option next to the patient description.

You may choose from the following treatment options:

- (A) AS7D7
- (B) AS7C7
- (C) MAS3
- (D) CQ3
- (E) Q7
- (F) AS7
- (G) Q7D7
- (H) Q7C7
- (I) MAS7
- (I) Other treatment. Please specify what treatment you would provide instead.

Malaria Patients

- |  |              |               |
|--|--------------|---------------|
| (1) <b>A nine year-old child.</b>        | First Choice | Second choice |
| (2) <b>A seven year-old child.</b>       | First Choice | Second choice |
| (3) <b>A woman one month pregnant.</b>   | First Choice | Second choice |
| (4) <b>A woman four months pregnant.</b> | First Choice | Second choice |
| (5) <b>A 75 year-old man.</b>            | First Choice | Second choice |

(6) If a patient does not complete treatment for malaria, the treatment will not be as effective and might result in drug-resistant malaria. Circle true or false.

TRUE

FALSE

(7) If you suspect malaria for a patient, but you are not able to read the results of a blood smear (for example, at night or an emergency), you should begin treatment on the patient anyways. Circle true or false.

TRUE

FALSE

**The following questions ask about your experiences treating malaria patients according to the BPHWT diagnosis and treatment guidelines. Your honest answers will help BPHWT to create trainings and materials that better support you in the work that you do.**

(1) In the past 6 months, have you ever not been able to treat presumptive or confirmed malaria patients according to Treatment Guidelines. Circle yes or no.

YES

NO

(2) If yes, how often did this happen? Circle the response

ALWAYS

OFTEN

SOMETIMES

NEVER

(3) If yes, please circle the most common reason/s that you were not able to treat malaria patients according to treatment guidelines. You may choose more than one of the following options:

- a. medication shortage
- b. did not have treatment guidelines for reference
- c. could not make proper diagnosis because lacked confirmatory supplies (ie, no Para-check, Slide, MS or Optimal, and etc..)
- d. could not stay for full course of treatment (7 days) and so could not follow up with patient
- e. traditional beliefs of patient conflicted with treatment
- f. difficulty communicating with patient
- g. Other. Please specify \_\_\_\_\_

(5) How could BPHWT help you better treat malaria?

## Appendix4. BPHWT targets

Target	Program
Greater than 90% of children new born to < 12 years receive Vita A in the past year	CHEPP
Greater than 90% of children 6 months to < 12 years receive De-worming medicine in the past year	CHEPP
TBA conduct 3 or more time of PNC	MCHP
All TBAs participate in at least one TBA training in their lifetime and one TBA workshop in every six months	MCHP
All health workers commit to at least 3 years working with BPHWT	MCP, CHEPP, MCHP
All health workers score at least 95% on diagnosis and treatment assessment	MCP, CHEPP, MCHP

## Appendix5. Indicators and sources of data

Program Evaluation Survey indicator used
Average household size
% of children new born to < 12 years who received Vitamin A in the past six months
% of children 6 months to < 12 years who received De-worming medicine in the past six months
Global Acute malnutrition rate (> 12.5 cm MUAC for children less than 5 year)
# of child death < 5 years in the past year
% of adult reporting diarrhea in the past two weeks
% of children < 5 years reported with diarrhea in the past two weeks
% of children < 5 years who used ORS when having diarrhea
% of respondent who practice 4 hands washing hygiene activities
% of respondent who have a latrine
Reported sources of water
% of respondent who has drunk unboiled or unfiltered water in the past 24 hours

% of people who tested malaria PF positive
Average number of people who slept under ITN the last 24 hours
% of people who were tested for malaria treated by health workers
% of contraceptive used
% of unmet contraceptive needs
% of women who receive ANC during their current/last pregnancy
Sources of delivery assistant
<b>TBA assessment indicator used</b>
% of TBA who can correctly identify at least 3 major pregnancy complications
% of TBA who visits mothers 3 or more times before birth
% of TBA who practices safe hygiene during attending birth
% of TBA who conducted 3 or more times PNC visits
% of TBA who had seen at least one women with complication resulting from spontaneous or induce abortion in the past year
% of TBA who had attended TBA training
<b>Health Worker Assessment indicator used</b>
# of years health workers have been working with BPHWT
# of years health workers plan to commit to working with BPHWT
% of health workers who work with VHV in the last six months
% of health workers who score 95% or higher on diagnosis and treatment assessment