Partners In Health – Abwenzi Pa Za Umoyo

AMF-supported ITN Distribution Campaign
Sept. & Oct. 2008 – Feb. 2009
Neno District
Malawi

Post Distribution Report

INTRODUCTION

Partners In Health (PIH) is an international health NGO with field-based operations in several countries around the world, including three countries in Africa: Rwanda, Lesotho, and Malawi. Arriving in Malawi in February 2007, PIH operates as Abwenzi Pa Za Umoyo (APZU) – "Partners In Health" in Chichewa – and is working in partnership with the Ministry of Health (MOH) in the southwestern district of Neno, to strengthen and expand infrastructure and facilities, human resources, and clinical services. The goal of the partnership is to help develop the primary health care system for the district, and to provide high quality health care for all, including the provision of quality clinical care for HIV, TB and malaria using a community-based health model of delivery.

In 2008, PIH-APZU decided to undertake an intensive, district-wide insecticide treated net (ITN) distribution campaign prior to the arrival of the summer rains in Malawi (normally November/December). Together and in consultation with Neno District MOH colleagues, PIH-APZU decided to expand ITN distribution beyond the MOH's usual ITN targets of children under 5 and pregnant women, to include people living with HIV/AIDS, since it is well established that HIV+ individuals comprise another high risk group for mortality and morbidity from malaria. The aim of the campaign was to maximize rapid net distribution using existing health staff, including PIH-APZU's community-based village health workers. A second aim of the campaign was to collect useful information about malaria and net use in the district.

In order to determine a total number of ITNs needed in Neno District, PIH-APZU examined the MOH's estimated population data for the three vulnerable groups (children under 5, pregnant women, and people living with HIV/AIDS) using known percentages of the population represented by each group. From this, it was estimated that approximately 63,000 individuals in Neno district were considered to be at high-risk for malaria. However, since some children under 5 and pregnant women are also HIV+, and many HIV+ individuals are not aware of their status, we took the total number of estimated children under 5 and pregnant women (about 38,000 individuals) and added approximately half of the estimated HIV+ individuals (another 10,000) to reach our goal of acquiring and distributing ITNs to a total of 48,000 high-risk individuals. PIH-APZU-MOH presented this data in a proposal outlining an ITN distribution strategy to several donor organizations, and received generous support from two organizations that resulted in a total of 26,162 nets for this campaign. Against Malaria Foundation donated the majority of the nets (19,300), approving a proposed distribution to health centers based on the total population estimated to be living in each health center catchment area (See table below.)

PROJECTED ITNS NEEDED IN NENO DISTRICT BASED ON MALAWI MINISTRY OF HEALTH DATA APRIL 2007: ESTIMATED VULNERABLE POPULATIONS BY HEALTH CENTER. (Correction noted based on subsequent 2008 Malawi National Census data released Dec 2008 in last row).

Health Center	Total Est. Pop	Est. HIV+	Est. Under 5	Est. Pregnant	Total Est. Vul.Pop.	% Vul Pop/total	Targeted #High risk individuals per HC	#AMF ITNs/HC
Chifunga*	15511	2637	3313	776	6726	11%	5128	**2060**
Lisungwi	23217	3947	5340	1393	10680	17%	8142	**3274**
Luwani*	2510	427	577	150	1154	2%	880	**354**
Magaleta	15585	2650	3428	779	6857	11%	5227	**2102**
Matandani	10140	1724	2231	507	4462	7%	3402	**1368**
Matope*	18837	3202	4144	942	8288	13%	6318	**2541**
Neno District	20121	3421	4427	1006	8854	14%	6750	**2714**
Neno Parish	15398	2618	3388	770	6776	11%	5166	**2077**
Nkula*	1743	297	383	87	767	1%	585	**235**
Nsambe	18862	3207	4249	943	8399	13%	6403	**2575**
TOTAL	141924	24130	31480	7353	62963	100%	48000	19300
Adjusted from Natl Census results released 12/08	108987	18529	24175	5647	48351		39086	19300

(*) denotes the 4 health centers in Neno District without Village Health workers at time of distribution

Before the distribution campaign began, APZU employed approximately 300 trained village health workers (VHWs) at six of the ten health centers in the district (Neno Hospital, Neno Parish Health Center, Matandani Health Center, Nsambe Health Center, Magaleta Health Center and Lisungwi Health Center). VHWs liaison with ill patients in the communities, health centers and district hospital, and accompany patients living with HIV/AIDS, tuberculosis and other chronic diseases. Village health workers attend monthly trainings where they learn about various diseases, treatments, medication side effects and the like. They provide DOT (directly observed treatment) therapy for patients on HIV and TB treatment regimens, visiting patients up to twice daily to ensure medication compliance. They also assess side-effects and assist in malnutrition assessments. Moreover, they provide much needed social and psychological support to the patients they oversee in their communities, and accompany them to their appointments at the hospital.

PREPARATION

In August and September 2008, malaria-focused trainings for these VHWs were conducted to refresh their knowledge of malaria, high risk groups, patient education, measures that can decrease mosquito presence near homes, the utility of ITNs, and how to hang and care for ITNs in the community. Village health workers also received training on how to perform a household questionnaire consisting of 15 questions, which was to be offered to every household in their communities. The questionnaire was not only designed to collect information about net use in Neno District, but was also the tool with which community health workers determined the number of ITNs needed by a particular household. The questionnaire helped to assess the number of functional nets already in the household, the number of at-risk individuals living in a particular household, and the sleeping arrangements of the at-risk individuals. In this manner, coverage of at-risk individuals would be maximized with the fewest number of nets, reducing potentially unnecessary distributions to individuals adequately covered during prior ITN distributions by the MOH.

DISTRIBUTION

After the trainings, village health workers were given 5 days to administer the household questionnaires. If more than one VHW worked in a given village, they divided their community so as to not administer the questionnaire twice to the same household. The cost of providing string and tack to hang all the nets involved in the campaign was prohibitive; as such, at the time of the completion of the questionnaire, VHWs instructed patients deemed at high-risk and in need of ITNs to either obtain their own string, or to make twine from natural resources, which are readily available around every community. This practice is commonly employed by local people for other purposes, and is not felt to be destructive to the environment.

VHWs returned to their respective training health centers on a specified date for a quality control questionnaire review by the PIH-APZU/MOH campaign team. The numbers of ITNs needed per village health worker were then tallied from the questionnaires that were collected and reviewed. VHWs retained a list of the names of households, and how many ITNs each household was to receive. The APZU/MOH team then supplied the ITNs to the VHWs, who returned to their respective communities to carry out the distribution. Since the bundles of ITN can be quite heavy, VHWs had been asked to recruit and appear with volunteers from their communities to help carry the ITNs back to their communities for distribution.

Education on the use and care of nets, signs and symptoms of malaria, and prevention of malaria in the community (eliminating standing water, etc.) was given at time of net delivery to the net recipients. In order to ensure maximal utilization and benefit, the VHWs hung the nets directly in patient homes. This process helped ensure that nets will be used immediately for their intended purpose. An ITN sticker was placed by the VHW in the health passport of every patient that received a net. In addition, an ITN sticker was placed in the health passport of any other

individual sleeping under the same net (even if they were not high-risk). In this way, any individual that benefited from the distribution campaign would be easily identified by the clinical staff when seeking care at a health facility in the future. This process was also intended to decrease the number of redundant nets given out in the future by MOH staff. Of a total of 19,125 ITNs allocated for distribution in this fashion, 14,110 were from AMF and were distributed between September 23 and October 7, 2008.

As noted in the chart above, 4 health centers in the district did not have VHWs at the time of the distribution (Chifunga Health Center, Matope Health Center, Nkula Health Center, Luwani Health Center). At these four health centers, the clinical staff received a refresher training emphasizing the proper use and care of ITNs, as well as the importance of distributing nets to all high-risk patients. During a period of four weeks prior to the expected arrival of the ITNs from Against Malaria Foundation, clinical staff informed patients that a district-wide distribution targeting high risk individuals was imminent.

Once nets were made available to the clinics, health center staff began holding morning educational sessions for patients in waiting areas. These sessions reviewed malaria signs and symptoms, and demonstrated the proper use and care of ITNs. The distribution of ITNs was also incorporated into routine clinical activities that would naturally identify patients in the three at-risk groups; these activities included outreach immunization clinics for children, antenatal clinics, pediatric (under 5) clinics, and voluntary HIV testing sites at each health center. Through these activities, clinical staff would identify high risk patients and prescribe a net, They would they place a sticker in the health passport of the person receiving the net.

The nature of the distribution activities at the health centers meant that the available ITNs would take longer to distribute, when compared to the village health workers (who were typically able to canvass their communities in 1 to 3 days). Indeed, the average time to complete distribution at the health centers took 8-16 weeks, depending on the population served by the health center. Of a total of 7,037 ITNs allocated for distribution in this fashion, 5,190 were from AMF, and were distributed beginning October 14 and 15, 2008, after the VHW phase of the distribution had been completed.

Combining village-based and health center-based ITN distribution activities leveraged the available health systems and resulted in an efficient, community-based approach to ITN delivery. Six months after the distribution, we hope to compare the efficacy of the two methods, using prospective MOH malaria incidence data from each health center in the district.

In August 2008, while PIH-APZU was awaiting delivery of the donated ITNs, the Malawian Ministry of Health launched an unanticipated emergency ITN campaign. Through this campaign, the MOH distributed 1.2 million nets throughout

the country, targeting only children under 5 and pregnant women. Neno District received 8,555 ITNs as a part of this campaign. PIH-APZU coordinated efforts with the MOH to avoid redundant distribution. In fact, the house-to-house visitation by VHWs ensured this in a majority of the district. APZU-PIH received 19,300 nets from AMF, and received 6,862 nets from a generous donation made by Together Against Malaria (TAM-TAM). As a result of the three net sources (AMF, TAM-TAM, and the emergency MOH campaign), 34,662 ITNs were distributed throughout Neno District.

RESULTS (Information presented below represents an initial review available at the time of writing this post-distribution summary. Some changes may be realized when fully evaluated).

Information about net use specifically in Neno District had never been compiled before this distribution, but results from a study done in Malawi in 2000 in Blantyre District (where the most populated city in the country is located) indicated that the percentage of households owning any mosquito net (treated or untreated) was low (about 13%). The percentage of households owning a treated net (ITN) was even lower (about 5%). In fact, this study helped spark the development of a stronger malaria prevention strategy by the Ministry of Health.

VHW-based ITN Distribution

VHWs in Neno District administered the PIH-APZU questionnaire to 16,133 households in 149 communities, covering 85-90% of the estimated households in the catchment areas of 6 out of the 10 health centers in the district. In total, the VHWs evaluated 66,642 individuals, representing 62% of the district's population, determining ITN eligibility using the house-to house method. Of the population evaluated, 22,081 individuals living in 11,237 households were identified as high-risk individuals (under 5, pregnant, or HIV+). A total of 14,963 ITNs were handed out for those not already sleeping under an intact ITN. It should be kept in mind that this was after the emergency distribution of ITNs by the MOH in August 2008.

Health Center based ITN Distribution

In our non-VHW communities, we can estimate the number of high-risk individuals using the above information (assuming it is reliable). If we assume that the proportion of high-risk individuals is uniform throughout the district, the proportion of the population we identified as high-risk in the VHW communities (33.13%) should be similar in non-VHW communities. The total population of Neno District is currently estimated at 108,987, and 33.13% of this is 36,111 high-risk individuals throughout the district. (Of note, this is only 7.5% off of our targeted population of 39,086 from Table 1.) We identified 22,081 of these individuals in the VHW communities, leaving 14,030 remaining in the non-VHW communities. A total of 7,037 nets were given to these 4 non-VHW health centers; 5,190 of these nets were donated by AMF.

Baseline ITN Coverage

Of the households questioned, 42% owned one or more mosquito nets. Of household owning nets, only 26% had nets that were functional and usable (no holes, etc.). We did not determine which of these nets had been insecticide-treated, but none of them were long-lasting ITNs (LLINs) such as those provided by AMF, since the Malawi MOH has not distributed LLINs in Neno district. The questionnaire results indicate that, of the usable nets, 87% of households were using them correctly (in other words, if the net was functional, the ITN was being hung and tucked-in appropriately at night). On average, 16% of households indicated they had purchased the net they already owned, whereas the other 84% of households reported that their nets had been given freely by MOH facilities, as is standard. These numbers varied from one health center to the next. Approximately 70% of all households had high-risk individuals *not* in possession of a functional ITN.

Reported Understanding of Benefit

Over 97% of households questioned felt that the use of ITNs helped to prevent malaria, whereas 2.5% did not. This indicates that perception and understanding of the benefits of ITN use is very good among the general population in Neno district. Although it varied greatly from one village to the next, an average of 36% of all children under 5 and an average of 33% of all pregnant women included in the questionnaire were sleeping under a mosquito net prior to the distribution.

Fever and self-referral

Approximately one third (32.1%) of all children under 5 included in the questionnaire had had a fever in the 4 weeks prior, and of these, 60% had sought attention at their respective health center, where questionnaire respondents reported that these children received anti-malarial treatment 100% of the time. This may represent the fact that without lab services in most health centers (without the ability to conduct a basic malaria test), in a hyper endemic setting, a diagnosis of malaria is often made on clinic grounds alone when a child has a fever. Indeed, it is standard practice in Malawi, and other countries with high burden of malaria, that in resource limited areas without laboratory services an empiric treatment regimen be given for clinical presentations.

Campaign Strategy and Questionnaire Limitations

Because population densities differ from one community to another, in the areas visited by the VHWs, some communities did not demonstrate a need for the total number of ITNs that had been estimated for their use, these nets were used for other communities, where the estimated number of ITNs was insufficient. When handing out ITNs to VHWs, the AMF ITNs, which came packaged much more tightly, were handed out preferentially because of the ease of transporting these nets on foot or bicycle. All the AMF nets were, therefore, distributed as part of the campaign. This resulted in an initial surplus of non-AMF-donated ITNs originally targeted for the distribution. These nets were utilized in several ways.

First, some villages that exist in the district were not recorded on either the MOH or the VHW list of villages in the district, and thus were technically "off the medical grid," so to speak. The existence of these villages had never been realized by the Ministry of Health before, and so new communities were "discovered" in the process of planning for the distribution. After the household distributions were completed, VHWs went above and beyond their work duties, and volunteered to meet with the village headmen from these communities, and determined the number of needed ITNs for distribution based on number of children under 5 and pregnant women. The VHWs did not conduct the complete questionnaire in these communities, and so these communities are not reflected in the results. However, approximately 800 nets were delivered in this fashion.

Second, Nsambe Health Center, a former fee-for-service CHAM (Christian Health Association of Malawi) facility, entered into an agreement with PIH-APZU in December of 2007 whereby PIH-APZU provides infrastructure support, medicines and clinic supplies, as well as human resource support at the health center. In exchange, CHAM agrees to remove user fees and provide all services to patients free of charge. As soon as the user-fees were removed at Nsambe, the health center saw a significant uptake in utilization. Part of this uptake was a result of communities in the district that borders Nsambe, where the closest health center is also a fee-for-service CHAM-facility. PIH-APZU utilized some of the extra nets to cover these communities, since they are patients who receive health care at a health center in Neno District. These were distributed centrally by health center staff, and on a few occasions via outreach clinics.

Third, according to the questionnaire results, the number of HIV+ individuals reached by the VHW distribution arm of the campaign was less than that targeted (about 23% of target). A total of 1,512 HIV+ individuals received nets from this part of the campaign, whereas the targeted number of HIV+ individuals (based on 2008 census data, with the aim of reaching 50% of estimated HIV+ population) was approximately 5800. The reason for this discrepancy is probably due to issues of HIV stigma, which is prevalent in the district. Such stigma may have caused under-reporting of status to the VHWs conducting the questionnaires. Additionally, the VHWs collected information about each household from only one respondent, who may not always have known the HIV status of every individual in his/her household.

Similarly, in the non-VHW health center distribution arm, fewer HIV+ individuals were captured than were targeted (about 17% of target). A plausible reason for this finding is that the majority of HIV+ individuals may not have had reason to seek clinical care at the health center during the period of time when nets were being distributed. Alternatively, these individuals may not have been adequately informed about the net availability and distribution by health center staff. Surplus nets were, therefore, kept by VCT (voluntary HIV counseling and testing) centers at the district health centers for continued distribution to individuals testing positive. ITNs were also distributed throughout the district to

HIV+ support groups with ties to the MOH and PIH-APZU, to reach individuals not covered through this campaign effort.

Finally, a small surplus of a few hundred nets were retained by Neno District Hospital for continued distribution to high-risk individuals seen in clinic or admitted to the hospital, since NDH sees more patients than any other health center in the district.

Post-distribution Follow-up

A follow-up questionnaire to evaluate ITN utilization, duration, and to provide an opportunity for re-education about proper net use, is planned for April 2009 in the same villages covered in the initial questionnaire. Also, outpatient registry data of malaria cases in Neno district will be evaluated to compare pre- and post-ITN distribution incidence of malaria.