A Study on Community Based Malaria Control Interventions (Case study in Naungcho, Northern Shan State)

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ABSTRACT

The study was done in one of the highest malaria risk area, Naungcho Township in Northern Shan State(NSS). In Myanmar, people residing in rural areas constitute nearly 70% of the total population , and to build a developed nation, community development and poverty alleviation should be focused on rural population.This study is intended to highlight the fact that structural coverage does not mean the functional coverage. There still are many areas with demands for effective health care services. Community mobilization on malaria prevention and control could be done by efficient voluntary health workers through effective trainings, followed by proper supervision, utilization of realistic motivating mechanisms, proper monitoring and careful manipulation on feedbacks. It was found that Voluntary Health Workers (VHW) developed by CESVI (one of the International Non Government Organization) had performed well in malaria control activities and community's perception on these volunteers was highly satisfactory. Involvement of voluntary health workers should be assumed as a good approach for community mobilization in malaria control programs. Moreover, the study disclosed that community mobilization through voluntary health workers in malaria control activities could contribute distinctively to reduction of malaria burden, which in turn would improve the socio-economic status of Myanmar rural people.

Key Words: malaria, malaria prevention and control project, community-based, Village Health Worker, VHW, development, rural

1. INTRODUCTION

Malaria, although life-threatening, is a preventable and curable disease caused by parasites that are transmitted to people through the bites of infected mosquitoes.

Basic health service is one of the essential components of rural health development scheme. Access to health care for 70% of country's population residing in rural areas has been improved through the expansion of the health infrastructure and health manpower in terms of basic health staff and voluntary health workers, i.e. community health workers and auxiliary midwives (San-Shwe-Win, 2008).

A single rural health centre serves an average of 44 villages, with a population of 22,000. One midwife is responsible for providing basic health care for 5,000 people (San-Shwe-Win, 2008).

According to health man power and population ratio, 3500 people are cared by one basic health staff in Northern Shan State, and due to communication constraints, malaria prevention and control is difficult to implement without the participation of local people (San-Shwe-Win, 2008).

Malaria prevention and control is the concern of everyone (individuals, families, communities, health staff, donors, etc). The use of Village Health Volunteers to deliver community-based malaria control interventions is one of the approaches being considered to be scaled up to contain malaria transmission in Myanmar. It is noted that there are several on-going malaria control projects in Myanmar that include delivery of services by the Village Health Volunteers for malaria prevention and control.

This study intended to explore and identify performance of volunteers in malaria control among underserved villages. This identifies ways and means for strengthening malaria control by community mobilization and highlights socio-economic impact by reducing malaria burden.

Analytic method of the study was designed to use secondary data from Department of Health, World Health Organization and Cooperazione e Sviluppo (CESVI) Myanmar's

"Community based malaria prevention and control project" which was to be compared with the survey. Primary data on perceptions of Voluntary Health Workers (VHWs) on community based malaria control method was collected through person to person interviews. Questions relating to Perception on works of VHWs, impact of malaria control strategies were asked to 72 villagers from 60 target villages.

Focused group discussions (one male group, one female group and one mixed group) were conducted to VHWs and each group consisted of 7 to 8 participants. The main issues were focused on factors that affect the performance of VHWs and motivating factors that sustain the volunteers in health care works.

2. GLOBAL, MYANMAR AND NAUNGCHO MALARIA SITUATION

Malaria is a major cause of mortality and morbidity in the tropical and subtropical regions of the world. An estimated 300-500 million persons suffer from and more than one million die of malaria each year. Deaths can be reduced through effective use of standard treatment (WHO, 2005) Malaria is especially a serious problem in Africa, where one in every five (20%) childhood deaths is due to the effects of the disease. And every 30 seconds a child dies from malaria (WHO, 2009). Malaria causes about 2414 deaths a day. It is both a disease of poverty and a cause of poverty slowing economic growth by 1.3% per year in endemic areas (WHO, 2009).

In Myanmar, malaria is one of the priority public health problems. About 70% of the total population lives in malaria endemic areas. The disease is endemic in 284 out of 325 townships, mainly in rural areas and in some pen-urban malaria risk areas (29% or 15.74 million in high-risk areas, 24% or 13.03 million in moderate risk areas, and 18% or 9.77 million in low risk areas).

Malaria accounts for more than 10% of total outpatient attendance and about 16% of total hospital admissions. Actual cases and deaths could be much higher considering that significant proportion of cases either self-medicate or seek treatment from private formal and informal sector and are not included in routine health information system The majority of cases are undocumented (Breman, 2001).

Aside from those who reside in high-risk areas, the high-risk groups are the internal migrants (laborers in development projects such as dams, irrigations, road, mining, logging, rubber plantation, etc), people who resettled in endemic areas, subsistence farmers in the forest and forest fringes, wood and bamboo cutters and other forest related workers. Ethnic minority groups are also identified as malaria risk group.

Malaria is a re-emerging public health problem due to climatic changes, uncontrolled population migration, ecological changes, existence of multi-drug resistant malaria parasite, appearance of insecticide resistant vector and change in behavior of vector. Long-term trend shows decreasing malaria morbidity and mortality in Myanmar.

In Naungcho Township, malaria was the top leading cause of morbidity from 2006 to 2010 and mortality from 2006 to 2009 (THD, 2011). Incidence of Malaria was quite high till 2007 and gradually tailed off afterwards.

3. MALARIA CONTROL BY GOVERNMENT AND NON-GOVERNMENT SECTORS THROUGH VOLUNTEERS

Myanmar, after gaining independence, established campaigns to fight against major infectious diseases. Since 1978, integration of health services was carried out where the campaign or vertical programmes were all integrated into Basic Health Services using Primary Health Care approach. Among different strategies in combating malaria, one of the solutions to cover the uncovered area with essential health care is the use of Voluntary Health Volunteers who are individuals, willing to provide their services on their free will without charges. Voluntary Health Workers are categorized on their primary

function as community health worker (CHW), auxillary midwives (AMW), trained traditional birth attendants (TTBA) and ten household health worker (THHW). According to Health in Myanmar, Ministry of Health (2010) trained a total of 39,383 Community Health Workers (CHW), 23,322 auxiliary midwives (AMW) and 15,704 trained traditional birth attendants (TTBA). Health Care Coverage of rural population by VHWs in Myanmar

- Community Health Worker : Population = 1 : 900
- Auxillary Midwife : Population = 1 : 1,258

(Source: San Shwe Win)

In Naungcho Township, township health department trained 176 VHWs of which 73 (41.477%) are functioning in 2010. Several Local and International Non Government Organizations (INGOs) have been working for malaria control all over the country. CESVI (Cooperazionne e Svillupo) is Italy based INGO implementing Community Based Malaria control programme since 2007 in priority villages of Pyin Oo Lwin, Naungcho, Kyauk mae and Hsipaw collaborating with the Project teams in the various malaria control initiatives undertaken at community level. These villages were selected according to following criteria: (a) highly malaria affected (b) marginally located along townships borders, (c) having poor health infrastructures, (d) lacking access to health care facilities, (e) accessible all through the year by road, (f) villages of ethnic minorities.

At least one volunteer was selected for each of the project villages. A volunteer should have middle school education, be permanent residences, and have keen interest and volunteer spirit. They are people who can spare or share their private time. Middle age reliable male or female were mainly selected and these selections were agreed by local Basic Health Staff. Before the selection of volunteers, advocacy meetings were carried out at State and Division level, township level and village level with concerned authorities. Village leaders were assigned to select 2 or 3 VWH candidates from each of their villages. Final selection was done together by village leaders and CESVI team leaders.

Initial 3 days training was given by project staffs and staffs from Department of Health using the guide manuals developed by WHO. Training is to enable VHWs performing an early diagnosis of malaria with Rapid Diagnostic Test (RDT) kits, to provide prompt treatment with Artesunate Combination Therapy (ACT) and timely refer complicated cases to fully equipped health centres. The training will also enable VHWs to provide health education to villagers and bed net impregnation with insecticides. Refresher trainings were also given for 2 days every 6 months. During regular mobile field visits, VHWs were monitored, retrained and evaluated (CESVI, 2009). The VHWs also ensured full support for the organizations of project activities, including logistical support and securing coordination with village authorities.

4. SURVEY ON COMMUNITY-BASED MALARIA CONTROL

The survey was done in 60 villages of Naungcho Township situated in Northern Shan State. Township covers an area of 1,265.61 sq km and half of the township area is mountainous. Average altitude is 2750 ft above sea level. The temperature ranges from 6° to 34° C. Total population was 135176 in 2007. Agriculture and agriculture based industry is the major economy of the township with some mines and a cement factory project in progress (majority of population are manual laborers). The study was done in 60 villages of Naungcho Township during 2007 and 2011. These villages are in high malaria endemic area and are located at the border of Shan State and Mandalay, and their access to Lashio health services is not convenient. Tea leaf plantation and timber extraction in Naungcho attracted people from other areas of Myanmar who are not immune to severe malaria in Naungcho. Prisoners' camps in Naungcho contribute to increase malaria mortality and

morbidity rates. The study was conducted on 60 VHWs and found that male to female ratio was nearly equal (52:48). Most of them (65%) were younger than 30 years, (87%) of them got basic education level and (13%) were graduates or still studying for university degree (76%) of female VHWs and (55%) of male VHWs were single.

Ninety seven percent of male VHWs were farmers and some carpenters (3%) were involved in voluntary work. Most of female VHWs were also farmers (66%) and others were temporary labour (17%), seller (7%), tailor (7%) and carpenter (3%).

Shan constituted the most (40%) followed by Myanmar (32%) and substantial involvement from Dahnu (20%). Minorities were Gukha (5%), Kachin (2%) and Shan-Dahnu (2%).

According the performance of VHWs from survey data in table (1),The total patients attended to VHWs revealed seasonal fluctuation with higher cases during monsoon (June to September). The total patients attended in the year (2007-2008) was around 200 cases monthly and hit 800 cases per month during high season. The second project year (2008-2009) showed higher utilization of patients which reached 1200 cases per month during rainy season followed by downstream pattern of total patients attended in next two successive years.

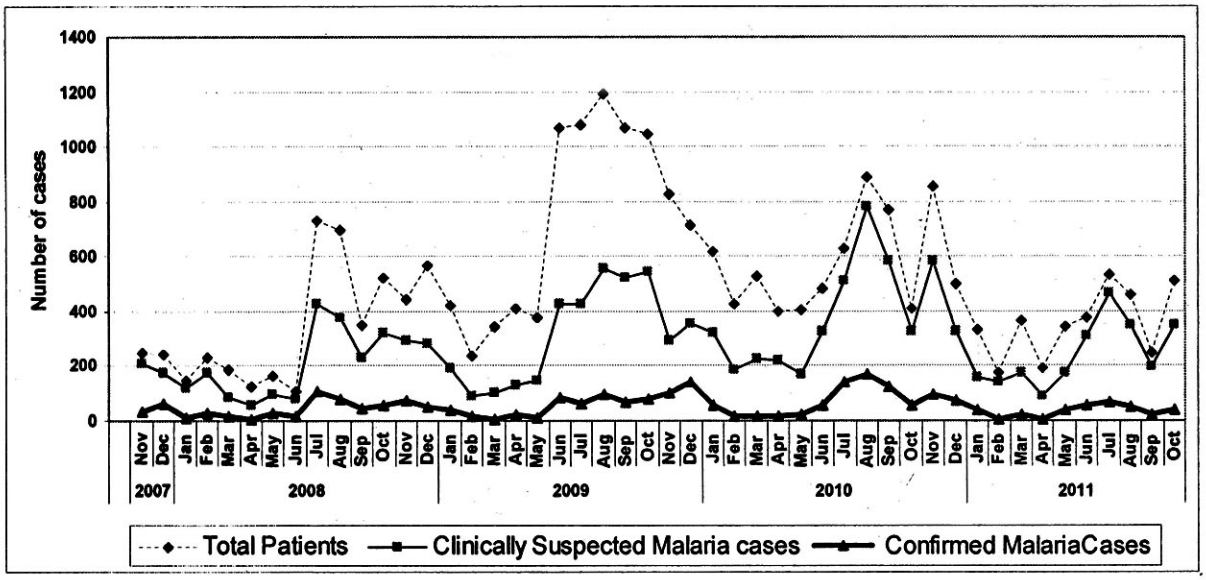
Table 1 : Performance of VHWs during November 2007 to October 2011 (Survey Period)

Year	Month	Total Patients	Suspected Malaria cases	Confirmed Malaria Cases	Total Malaria Treatments	Treatments < 24 h	Bednets Impregnated	No. of Health Education Sessions
2007	Nov	250	209	32	211	27	0	164
	Dec	241	175	61	193	30	0	140
2008	Jan	145	118	14	118	3	0	14
	Feb	229	172	27	169	36	0	36
	Mar	183	82	18	83	13	0	30
	April	124	59	8	8	11	0	24
	May	163	98	27	82	24	68	17
	June	107	78	17	77	24	0	19
	July	733	429	108	452	137	0	138
	Aug	697	375	76	429	173	0	109
	Sep	349	232	47	249	87	0	83
	Oct	525	321	58	318	85	0	53
	Nov	442	291	72	254	59	0	97
	Dec	566	279	48	272	81	0	135
2009	Jan	421	191	38	166	51	0	112
	Feb	237	92	16	80	34	0	32
	Mar	345	102	8	72	28	0	42
	April	408	131	20	110	34	0	19
	May	375	148	12	71	17	2221	42
	June	1066	429	83	233	67	1876	100
	July	1081	429	61	133	21	157	70
	Aug	1194	559	98	132	13	0	71
	Sep	1066	522	70	93	11	13	79
	Oct	1043	548	76	88	5	0	50
	Nov	824	295	101	108	13	0	69

	Dec	715	353	138	138	9	0	44
2010	Jan	619	321	57	59	1	0	42
	Feb	430	186	16	16	0	0	42
	Mar	527	225	15	22	1	0	67
	April	400	222	16	16	1	0	37
	May	404	169	25	25	2	0	52
	June	484	325	59	60	5	0	44
	July	629	511	138	140	37	2575	33
	Aug	886	780	167	168	39	0	16
	Sep	771	582	124	124	27	0	54
	Oct	412	324	56	58	12	0	37
	Nov	855	584	97	109	17	0	89
	Dec	502	324	73	74	11	430	27
2011	Jan	332	155	40	41	11	0	46
	Feb	175	141	8	8	0	0	18
	Mar	364	175	24	24	4	0	29
	April	190	92	6	6	1	0	21
	May	344	174	37	38	5	0	36
	June	377	307	55	56	30	0	26
	July	532	468	67	67	31	0	13
	Aug	463	349	50	50	22	0	43
	Sep	247	194	22	23	10	0	30
	Oct	513	350	39	44	14	0	71

Source. Survey

Figure 1: Total Patients, Clinically Suspected and Confirmed Malaria Cases Detected by 60 VHWs (2007 Nov – 2011 Oct)



Source: Data from Table 1

More and more cases of clinically suspected malaria were detected from 2007 to 2010 with seasonal fluctuation reveal the better performance in malaria case detection by VHWs.

But in 2011, lower detection of clinically suspected malaria cases might reflect the impact of the project and the health care contributed by VHWs.

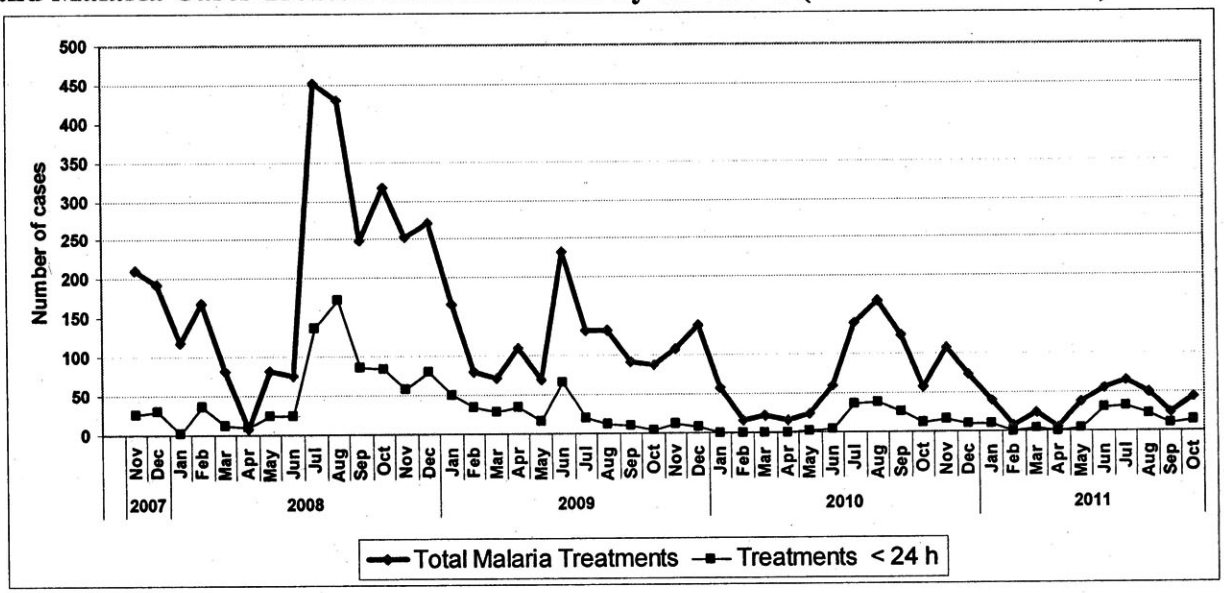
The pattern of clinically suspected malaria cases detected was not coinciding with the pattern of total patients attended cases and that could be due to reduction in non-malaria cases visiting VHWs after realizing that the project primarily was aiming to control malaria only

Table 2: Seasonal Index of Malaria Cases Treated by VHWs

period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
seasonal factor %	78.3	22.8	44.0	21.2	48.5	81.9	205.1	213.9	128.6	93.3	126.5	136.1

Source: Survey

Figure 2: Responsiveness of VHWs in Malaria Control: Total Malaria Cases Treated and Malaria Cases Treated within 24 Hours by 60 VHWs (2007 Nov – 2011 Oct)

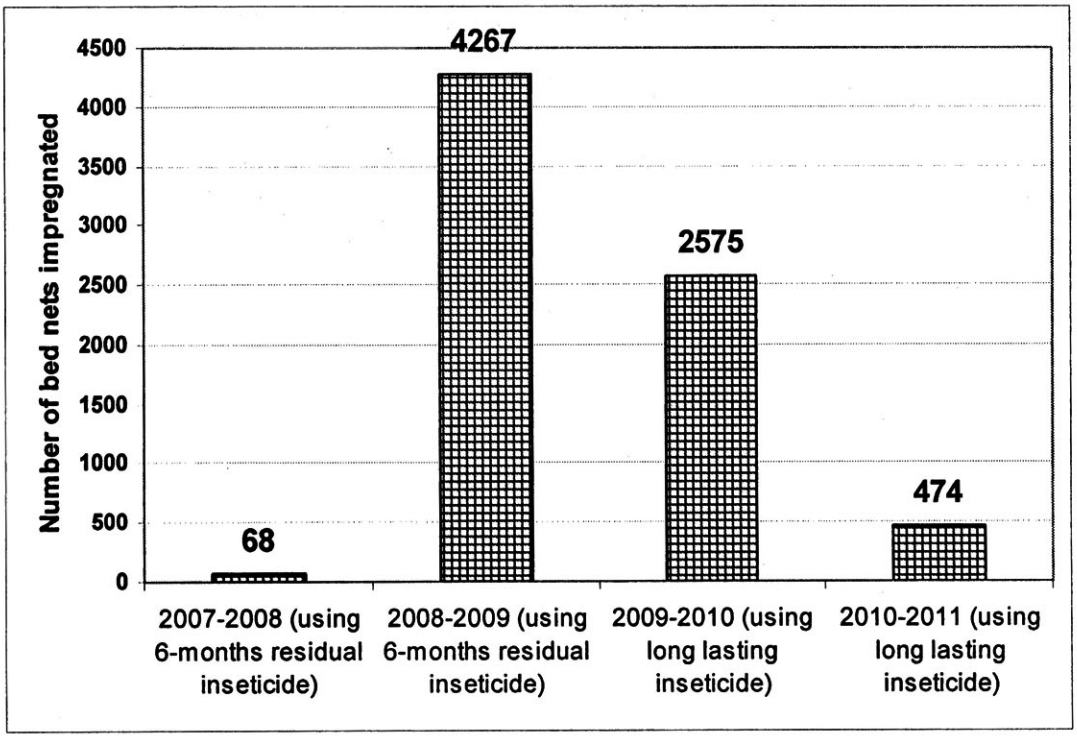


Source: Survey

After first project year, the pattern of treated malaria cases showed downward trend till 2011. It could reflect the better performance of VHWs in treating malaria.

Number of malaria cases treated within 24 hours showed the responsiveness and performance of VHWs in malaria control .The substantial depression of malaria cases treated within 24 hours was found after 2 years of project implementation which alarmed the lower motivation of VHWs. It also coincided with low season of incidence. It could be due to possible emotional swing of VHWs after 2 years period.

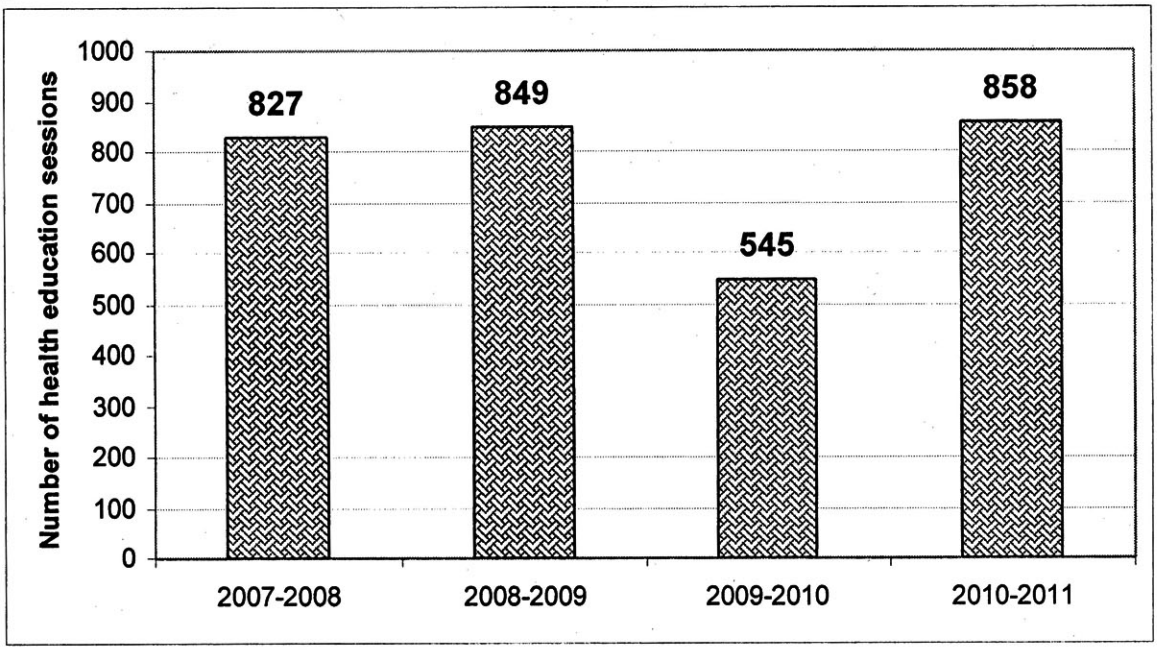
Figure 3: Number of Bed-nets Impregnated by 60 VHWs (2007 Nov – 2011 Oct)



Source: Survey

Number of bed-nets impregnated was higher especially in second project year and it might reflect great contribution and performance of VHWs. Lesser number of bed-nets impregnated in the following two successive years was due to the use of long lasting insecticide tablets, which efficacy lasted for 2 years.

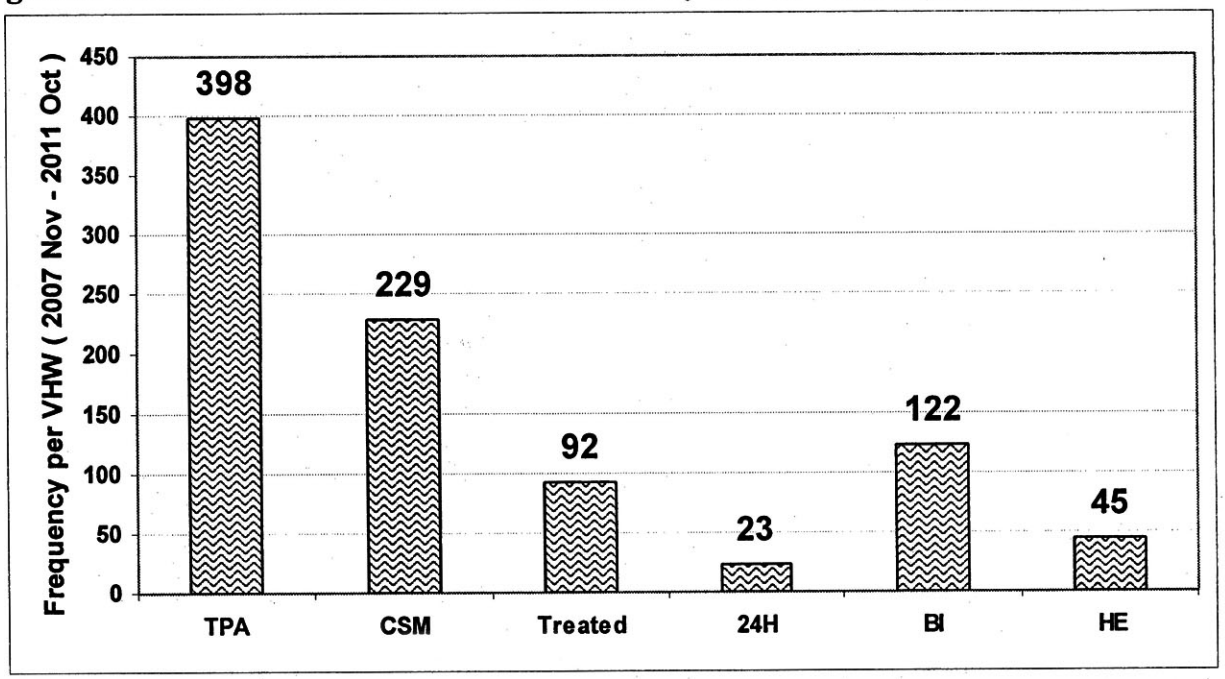
Figure 4: Number of Health Education Sessions by 60 VHWs (2007 Nov – 2011 Oct)



Source: Survey

Over 800 sessions on health education had conducted annually except in 2009-2010. This reduction of activity in 2009 and 2010 coincided with election period.

Figure 5: Malaria Control Activities Performed by one 60 VHWs (2007-2011)



(TPA = Total patients attended, CSM = clinically suspected malaria cases, Treated = total number of malaria cases treated, 24H = number of malaria cases within 24 hour of onset of symptoms, BI = number of bed nets impregnated with insecticide, HE = number of health education sessions conducted)

Source: Survey

On average, 398 patients attended to utilize each VHW, where 229 clinically suspected malaria cases were detected and 92 cases were given malaria treatment. Moreover, each VHW could treat 23 malaria cases within 24 hours, impregnated 122 bed-nets and delivered 45 health education sessions.

Performance of VHWs was assessed by interviewing 72 villagers for their subjective perception. The questions asked include whether their income increased or not after project implemented with VHWs, whether their houses and buildings became better or not after the project, whether village roads became better or not, whether there are more traditional donation ceremonies in the village or not, whether their health status improved or not, whether there were many malaria cases or not before the start of this project, whether the malaria situation was the same or not after VHW work, whether there were less malaria cases or not after VHW work, whether there was no malaria after VHW work, whether their health education status improved or not, whether their knowledge on malaria improved or not, whether having a VHW is beneficial or not, whether they like VHWs or not, and whether they want to support VHWs or not on completion of the project to continue their functions.

Community showed satisfaction on highly improved health status (94%), mark reduction in number of malaria cases observed during project period,(over 90%), improved health education (96%) and improved malaria knowledge (93%).

The answer was cross checked by asking if there was any difference in malaria situation after VHW activities and (11%) responded no difference. Validity was counter checked by disappearance of malaria in their villages after VHW was answered yes by (40%).That contributed as good impact indicator and malaria was not anymore a major health problem.

Community attitudes towards the work of VHWs revealed that (97%) of community liked VHWs and (99%) want to support VHW .Respect gained from villagers during and after working as VHWs was greatly increased (45% before to 97% during and after). Most of the VHWs enjoyed being a VHW and their families were also proud of them.

VHWs were also interview to know their own perception on their volunteer work. The questions being asked are whether they are rely by the villagers or not, whether they are respected by the villagers before, during and/or after they started to work as VHW, whether mutual relationships with the villagers and village leaders had improved after being a VHW, whether they like VHW work, and whether they were supported by their families for VHW work or not.

Focused group discussions (one male group, one female group and one mixed group) were conducted to VHWs and each group consisted of 8 participants. Researcher as a facilitator and two project staffs as note takers tried to explore strengthening and sustainable mechanism of volunteers in malaria control. The main issues were focused on factors that affect the performance of VHWs and motivating factors that sustain the volunteers in health care works. Following factors were discovered.

Table 3: Factors Affecting the Performances of VHWs

Number	Factors affecting the performance of VHWs
1	Level of education
2	Use of simple training methods (Participatory approach)
3	Equipped with guideline manual
4	On job training (During supervision)
5	Personal workload (Usually seasonal relating to their agricultural, educational and economic situations)
6	Diverting of interest during festival period
7	Travelling for various reasons

Source: Survey

Table 4: Motivating Factors that Sustain the Volunteers

Number	Motivating factors that sustain the volunteers
1	Community acceptance, appreciation and support
2	Training, refresher training (Other health care training)
3	Regular logistics support (RDTs, ACTs, KO tabs)*
4	Regular supportive supervision and monitoring
5	Annual evaluation and planning meeting
6	Incentive in cash/kind (Watch, T shirt, Bed net, Bag, Hat, Umbrella and Water proof rain coat)
7	Rewards based on performance
8	Excursion with health staff
9	Encouraged by health staff or local authorities

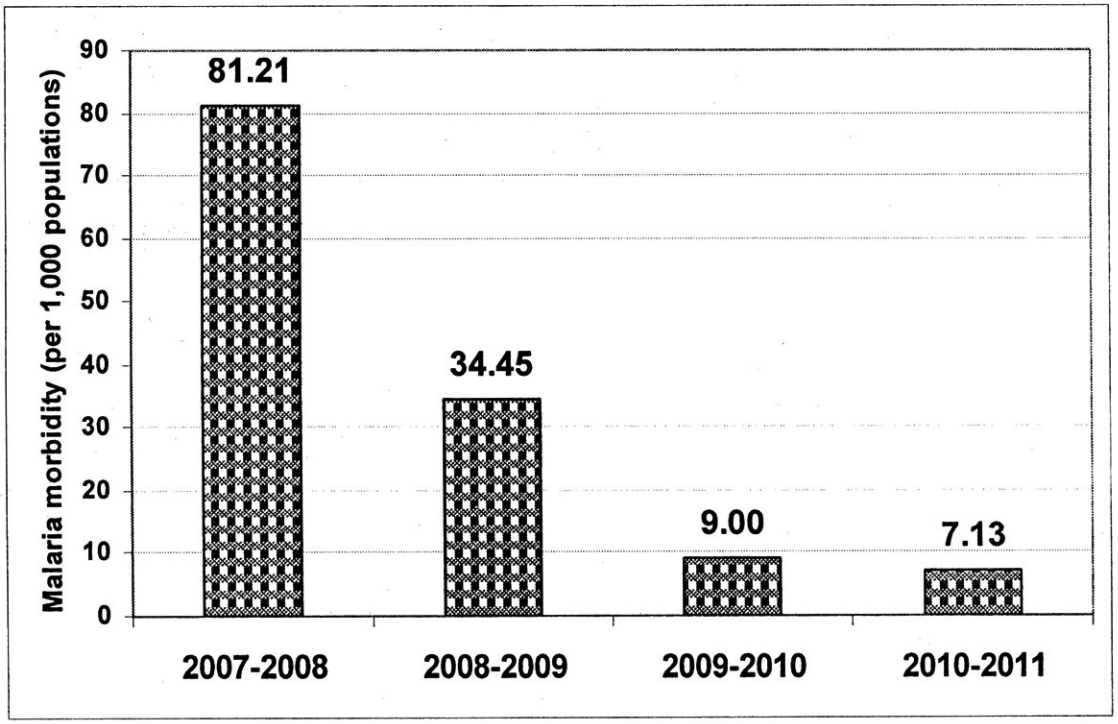
Source: Survey

* RDTs = Rapid diagnostic tests, ACTs = Artemesinin Combination Therapy (Anti-malaria treatment), KO tabs = KO tablets (Used for bed-nets impregnation)

Detail check to the characteristics of VHWs on attrition reveals that , greater risk of attrition was found with aged 30 and younger, female, single, farmer and laborer. General laborers were temporary type of workers and farmers were very busy with their field especially during the time of seedling and ploughing. No attrition was found with university and graduated education level. Cause of attrition was inquired by in-depth interview to voluntary health workers or their family members. During 4 years period, 52 VHWs (86.7%) had adhered to their work. The reasons of attrition were asked to their family members, relatives and neighbors. Main cause of attrition was migration

for primary work to fulfill their basic needs. Other reasons included time mostly needed for house work, and lost of interest on volunteer work.

Figure 6: Impact on Malaria Morbidity (cases per 1000 populations) of 60 Project Villages



Source: Survey

The project impact was assessed by malaria morbidity indicator and found that more than 50% reduction was seen after first year. Nearly 90% reduction after two years and more than 90% reduction after three years of project implementation was observed.

The malaria morbidity data of project villages were compared with that of national figures and it was found that malaria morbidity of Myanmar was around 10 per 1,000 populations while that of project villages was 81 per 1,000 populations in 2007-2008.

The change in socio-economic status due to VHWs performance was inquired to 72 villagers and they noticed that there was marked increased in their income (81%), could build their houses better (79%),could construct better village road (82%) and could make more activities on religion and donations in their village (78%).

5. DISCUSSION

In Myanmar health care system, there are well designed health care structure, clear description of National Health Policy, long term development plan (Myanmar Health Vision 2030), short term National Health Plan (2006-2011) and legal provision of health laws (MOH, 2011).

Peripheral level health care was well organized down to Rural Health Sub Center in which midwife is primary health care staff. It shows that there had been still uncovered villages but health care system made effort to cover these under-served areas through production of voluntary health workers. Naungcho Township Health Department (THD) statistics reveled only 41% of VHWs trained were functioning in the township (THD, 2011).

Primary health care is a system-wide approach to design health services based on primary care, which is regarded as a means to reduce medical expenditures and provide

more effective and equitable care to populations. As developing countries are more likely to have inequitable access to health services, it is important to assess the extent to which health policies improve the situation.

Regarding malaria control indicator, malaria morbidity of the country was around 10 per 1,000 populations whereas malaria morbidity of villages in Naungcho Township was 81 per 1,000 populations.

Equity in health could also be analyzed by checking health man power distribution. Health financing is an important part of broader efforts to ensure social protection in health. Health financing in South East Asia Region (2009) described Myanmar as the lowest percentage of health expenditure contributed by government (only 10%) and 90% of health care expenditure comes out of pockets of the people.

Percentage of gross domestic product (GDP) used for total health expenditure was only 2% during 1998 to 2007 period. Spending by Ministry of Health as a financing agent constitutes the major share in the public spending on health and also taken into account the availability of data, estimates on public expenditures on health by financing entities were based solely on spending by the ministry. Analyzing on Public expenditures on health by functions, it was found out that health administration and health insurance accounted only around 3% to 4% in 2009-2010 (MOH, 2011).

According to demand for health theories, nations' health budget constraints can be eased by reducing budget on other consumption, or efficient use on current health budget.

There is a need to strengthen the rural health systems.

Community participation is crucial to better understanding and discussing the future of VHW programmes. Integrating VHWs into its health services and institutionalized community health committees as part of health services can sustain social participation. So that community participation does not become an alternative but an integral part of the state's responsibility for health care system.

More and more cases of clinically suspected malaria were detected from 2007 to 2010 with seasonal fluctuation might reveal better performance in malaria case detection

From this study, it was proved that voluntary health workers could perform well on their malaria control activities by checking objective indicators and performances of individual workers. It was also found that performance of VHWs perceived by community in positive aspects showed satisfactorily high revealing improved health status, lesser malaria cases after project and improved health education and malaria knowledge of villagers. As project villages were selected according to their higher morbidity, reduction of malaria burden in project area could contribute a great fraction in reducing malaria morbidity and mortality of whole Naungcho Township. Malaria profile of Naungcho Township Health Department also supported on consistent finding and positive impact on malaria burden by the effort of voluntary workers.

According to the performances, VHWs had provided a valuable contribution to community development and can improve an access to and coverage of communities with basic health services. It is evident that VHWs can undertake actions that lead to improved health outcomes, especially, but not exclusively, in the field of malaria control.

Although there were positive impacts by VHWs, there still were issues and challenges to maintain the activities of VHWs. The attitudes and interactions of health personnel in the formal health services with VHWs have an immediate impact on critical aspects of VHW programme management, such as selection, continuing training and supervision. Furthermore, many health personnel lack the background and orientation to provide a supportive environment for VHW programmes.

Proportion of malaria cases treated within 24 hours could be assumed as responsiveness of VHWs in malaria control. Responsive in health care was directly related

with performance of health care provider. The reality is that VHWs as a rule and by their very nature provide services in environments where formal health services are inaccessible and people are poor. Attrition was attributed to multiple causes in addition to inadequate income, including family reasons, lack of community support, and upgrading of health posts (Chevalier et al., 1993). High attrition rates cause several problems. Frequent turnover of VHWs means a lack of continuity in the relationships established among a VHW, community, and health system. In some villages VHWs "discontinued their work due to lack of time, lack of 'profit', and family's disapproval. Focused group discussions disclosed that motivating factors that sustain the volunteers were community recognition, capacity building trainings, regular logistics support, periodic and supportive supervision, close monitoring, incentives in cash or kind, reward based on performance, excursion with health staffs and encouraged by health staff.

Health professionals often perceive VHWs as lowly aid (WHO, 1990; Walt, 1992). The curricula of the medical and other health science teaching institutions often do not equip health professionals to undertake priority tasks that must be performed to deal with the health problems of communities (WHO, 1985). A study of Nigerian medical students found that community health was one of the subjects that students disliked most. Attitudes to VHWs inevitably suffer as a result.

Country level VHW systems required substantial increases in support for training, management, supervision and logistics.

VHW programmes are neither an alternative of weak health systems nor a cheap option to provide access to health care for underserved populations.

In Naungcho, malaria morbidity of the initial priority project villages (total 30 villages) was 81.2 per thousand populations in the project year one and the last project year three's morbidity data (2010-2011) was 7.13 per thousand populations. Village health workers in the area greatly contributed to this dramatic reduction of malaria morbidity.

Reducing malaria burden is a cost effective strategy as malaria is not only health problem but it can also affect productive force and had much higher effect on socio-economic impact. It could be agreeable that malaria control activities performed by VHWs in high malaria had resulted reducing malaria burden and which in turn might have contributed in some share on socio-economic impact.

6. CONCLUSION

Critical review on Health Care System of Myanmar highlighted that even though there were clear statements of Health Policy, a well specified National Health Plan and a well, health status in the nural areas was still low according to the health impact indicators. designed Health Care Organization. It indicated that structural coverage did not mean functional coverage to rural population especially in grass root level. It should not be pleased with structural coverage in health care, but it is still necessary to improve functional capacity and capability. There is definitely a need to strengthen rural health systems.

As VHWs represent an important health resource to cover underserved area, their potential in providing and extending a reasonable level of health care to underserved populations must be fully tapped. To make the performance of VHWs to be better, appropriate selection, effective capacity building, encouragement of health service staff and improvement in supervision and motivation are essential requirements.

Although VHWs have been trusted and recognized by the community in fulfilling social needs, in fulfilling social needs the community would be trustrated by the lack of the basic needs. Capacity building and motivation is the key to strengthening and sustaining voluntary works.

Community had very high positive attitudes towards the work of VHWs and VHW which could be assumed as a role model and an entry point for community mobilization in

health care. From community participation and involvement to community empowerment is the proper approach for strengthening rural health services and rural health development.

Risk of attrition was high with young people, single, and unstable economic condition with temporary work. Main cause of attrition was struggling for primary income generation work or related to earn their livelihood. International donors and organization should understand the needs of voluntary health workers. Charitable, altruistic, non self oriented volunteers are ideal for the community based projects, yet it is hardly pragmatic especially in developing countries.

Public sector should be willing to encourage voluntary health workers not technically only, but also psychologically and there should have clear supervision and monitoring mechanisms with proper logistics supply systems.

Reducing high prevailing disease burden is the cost benefit strategy for community development. Malpractices can be developed with voluntary health workers and they should follow their roles accordingly and community should not expect beyond their capacity.

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