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Multi-level partnerships to promote health services among internally displaced in eastern Burma

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Abstract

Ethnic populations in eastern Burma are the target of military policies that result in forced labour, destruction of food supplies, and massive forced displacement. Despite international assistance to Burmese refugees along the Thai–Burma border, traditional humanitarian models have failed to reach these internally displaced persons (IDPs) within Burma. Nevertheless, through the cultivation of a model (cross border local-global partnerships) 300,000 IDPs in eastern Burma now receive critical health services where, otherwise, there would be none. We describe key elements of the partnership model's genesis in eastern Burma. The role of the local partner, Backpack Health Worker Team (BPHWT), is highlighted for its indigenous access to the IDP populations and its maintenance of programmatic autonomy. These local elements are potentiated by international support for technical assistance, training, resources, and advocacy. International policy and investment should prioritize support of locally-driven health initiatives that utilize local-global partnerships to reach not only IDPs but also other war-torn or traditionally inaccessible populations worldwide.

Keywords: *Internally displaced persons, local-global partnerships, Burma, human rights, indigenous health workers*

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Introduction

Worldwide, there are nearly twice as many internally displaced persons (IDPs) as there are refugees (US Committee for Refugees and Immigrants 2006). Nevertheless, most international humanitarian assistance and policies are directed toward refugees, with little reaching IDPs. For example, those who flee across international borders to become refugees are, at least in theory, protected under the United Nations (UN) Convention on Refugees (1951).¹ In contrast, no specific agency within the UN is responsible for IDPs, who are often unable to cross into neighbouring countries and, thus, have no similar recourse. Policy disparity leads to services disparity; for example, annually, over US\$40 million of direct humanitarian assistance reaches the roughly 150,000 Burmese refugees living in camps in Thailand. Meanwhile, the estimated 560,000 IDPs within Burma receive minimal support or protection from international aid agencies (Burmese Border Consortium 2003).

Not surprisingly, IDP populations can be afflicted by health crises and human rights abuses that can augment the spread of infectious disease (Beyrer et al. 2007, Mullany et al. 2007, Richards et al. 2007).² The health, human rights, and regional ramifications of inaction indicate a need for approaches that can effectively serve IDPs. Nowhere is this need more urgent than in Burma. According to UNHCR's 2005 Global Refugee Trends report (2006), in 2005 the highest numbers of new and appeal asylum claims originated from Burmese nationals (55,800). Yet, this crisis continues largely unattended (Deng 1999):

The displaced people of Burma are more than forgotten—they are virtually invisible. With the possible exception of North Korea, no country in the world has produced displacement on the scale of Burma with less response from the member states and agencies of the United Nations (Refugees International 2005).

When international efforts in Burma are made, they are generally disabled by the country's military regime. For example, in 2004 the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) signed contracts to deliver US\$98.4 million in aid to Burma over a 5-year period. Within the programme's first year, the Burmese government imposed such extreme restrictions on staff travel and the import of medical supplies that, by 2005, the Global Fund pulled out of Burma completely (Sipress and Nakashima 2005), followed shortly by the withdrawal of Médecins Sans Frontières–France (MSF) and the International Committee of the Red Cross (ICRC) (Stover et al. 2007).

According to Dr. Hervé Isambert, MSF programme manager, MSF's withdrawal was a result of how 'the Myanmar authorities do not want independent, foreign organizations to be close to the populations they want to control', making it virtually impossible to deliver healthcare to any, but in particular IDP, communities (MSF 2006). In 2006, the Burmese government formalized these restrictions (Beyrer et al. 2006, Stover et al. 2007), and the most recent August 2007 uprisings demonstrated how the Burmese regime remains immune to international pressure or involvement in its on-going human rights and other abuses (Cloud 2007).

In the absence of significant international effort to aid Burma's IDPs, indigenous local health care providers have organized to deliver essential healthcare to the IDPs where, otherwise, there would be none. In doing so, they have cultivated a humanitarian model, local-global partnerships, that unite local, regional, and international partners. This model employs a 'cross-border' strategy that enables technical expertise and resources to reach IDP populations. This article presents key elements of this partnership model, and suggests that it represents an important approach for serving vulnerable populations.

Background and significance

Since 1962, Burma has been ruled by a military junta, currently called the State Peace and Development Council (SPDC), known for its brutal suppression of the population. Historically, this oppression has been focused against the ethnic minority groups. In 1988, the regime's targets expanded to student democracy demonstrations against this leading party, ending in the killing of nearly 1,000 students and the flight of 10,000 'student protestors' from the country. Since then, the military has continued intensifying its violent campaigns against ethnic minorities, including the Karen, Karenni, Mon, and Shan communities of eastern Burma, designated as 'black zones'. These campaigns target all who live in the black zones and are intended to cut off food, funding, information, and recruits to the ethnic states through extensive and collective human rights violations, such as forced displacement, forced labour, and destruction of food supplies. These policies, along with the abusive extraction of natural resources, the large-scale production of illicit drugs, the deteriorating economy inside Burma, and the restriction of international humanitarian assistance have created a humanitarian crisis for a growing population of economic, political, and human rights refugees and internally displaced persons (Karen Human Rights Group 2000, MSF 2006).

While SPDC's general misrule has undermined the health of all Burmese (UNDP 2006), the focused persecution described above has generated an extreme health crisis among ethnic IDP populations in eastern Burma. Population-based surveys of IDP and war-afflicted households in Karen, Karenni, and Mon states, found under-5-year-olds mortality rates (U5MR) on par with the most dire in sub-Saharan Africa (Lee et al. 2006), and significantly higher than estimates for Burma's general population. Most morbidity and mortality was the result of preventable and treatable causes: malaria, diarrhoea, respiratory infections, and malnutrition. Exposure to human rights violations in this setting has been found to be an important determinant of mortality and morbidity (Mullany et al. 2007). These findings suggest that the health crisis in eastern Burma is not simply the product of poverty or inadequate healthcare, but is a result of the regime's human rights violations that both directly assault people and indirectly destroy health-supporting infrastructure (see Table 1).

Table 1. Families forced to move have higher risk of poor health outcomes.

Outcome	Increased risk
Child death	>2 times
Child malnutrition	>3 times
Landmine injury	>4 times

Source: Mahn et al. 2007, Mullany et al. 2007

Local-global partnership overview

The power of partnerships is in bringing together actors with diverse yet complementary skills and resources around a shared vision that none of the actors could realise by themselves (Bell and Stokes 2001).

For the reasons described above, significant health and public health services cannot be managed from within Burma. In response, Burma's IDPs organized a 'local-global' partnership between indigenous and international participants. The overarching strategy of this model is to 'cross borders' by channelling expertise, resources, and administration from relatively stable conditions outside of Burma to the local providers, communities, and IDPs inside Burma's black zones. It has become eastern Burma's primary approach for addressing its health crisis.

Cross-border work requires collaboration among multiple levels of partners, with each playing a distinct role (see Table 2 and Figure 1). At the heart of this endeavour are the indigenous health workers ('medics') of the Backpack Health Worker Team (BPHWT), who provide widespread primary healthcare services to IDP and other war-afflicted populations in the black zones (see Figure 3 for a map of the BPHWT's coverage). They work in local communities, empowered by the support of village-level leaders, community groups, and other individual village-level providers. Alongside the backpack medics are health workers from several other ethnic health organizations, providing health services in a similar fashion. Across the border in Thailand the partnership expands to incorporate the central management of BPHWT. This central management also serves to bridge local services to regional and international partners, such as international non-governmental, as well as governmental organizations and universities. The authors include staff members and volunteers from various local and international partners.

Local-global partnership members

Local service providers: Backpack Health Worker Team

The aim of the BPHWT is to provide primary and preventive health care to communities living in the black zones of Burma. It provides health services and education, equipping local villagers with the skills and knowledge necessary to manage health problems in their absence. BPHWT's services are backed by regional and international partners supplying material resources, training, and technical support. In this manner, the BPHWT functions in the interstices

Table 2. Key players in eastern Burma local-global partnerships.

Village-level partners	Local service providers	Central management	Regional and international partners
<ul style="list-style-type: none"> ● Village leaders ● Teachers ● Religious leaders ● Traditional healers ● Traditional midwives ● Village health volunteers ● Women's groups ● Youth groups ● Village health committees 	<ul style="list-style-type: none"> ● BPHWT health workers ● Other individual ethnic organization health workers (Karen, Karenni, Mon, Shan, etc.) 	<ul style="list-style-type: none"> ● Thailand-based BPHWT office staff ● Thailand-based ethnic organization staff ● 'Leading group' of BPHWT leaders and other ethnic health leaders 	<ul style="list-style-type: none"> ● Regional health organizations (Burma Medical Association, National Health and Education Committee, Mae Tao Clinic) ● International partners (Global Health Access Program, Center for Public Health and Human Rights)

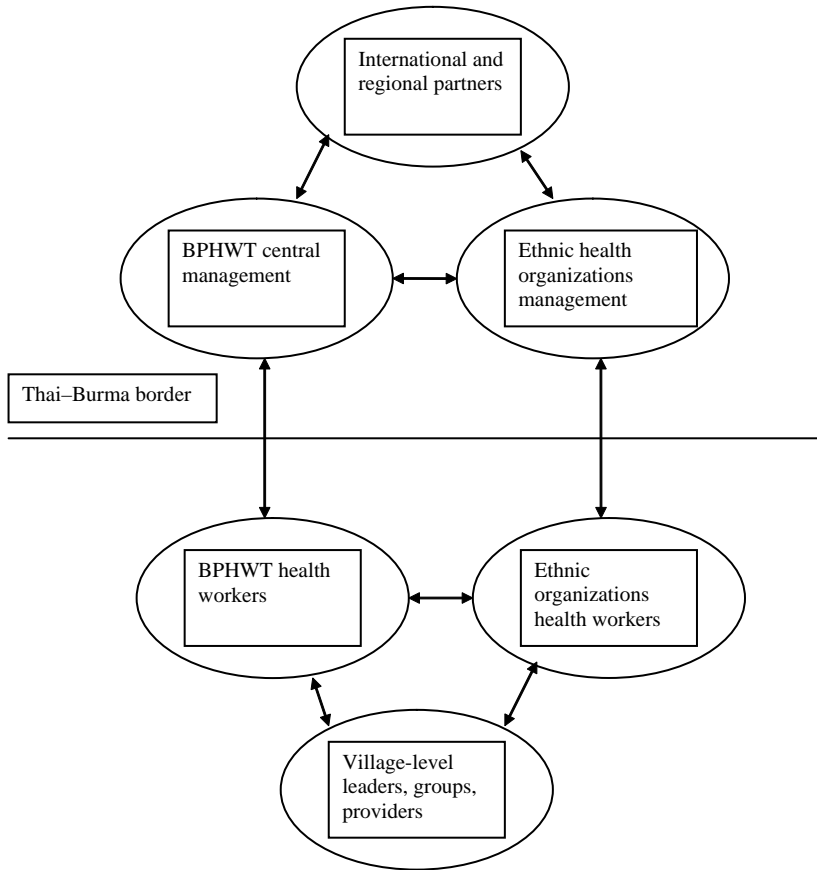


Figure 1. Multi-level cross-border partnerships.

between populations isolated inside of Burma and the regional and international entities attempting to support those populations from the outside.

To do so, BPHWT deploys mobile medical teams whose members originate from the various ethnic groups in the Karen, Karenni, Mon, and Shan states. Comprising approximately 76 teams of three to five indigenous healthcare workers (‘backpack medics’), plus support staff, the organization serves approximately 160,000 IDPs and war-affected residents living in the black zones along the border regions of the country (see Figures 2 and 3). There are more than 600 villages served, with a median size of 200 people.

For each team, BPHWT assigns a small catchment area, or village tract, to a supervisory ‘team leader’, who assigns each medic a number of villages (about 2,000 people) within the tract. The medics travel to as many villages as possible in their tract, as well as to numerous small temporary or displaced communities hiding from SPDC soldiers. To reach these populations, the backpack medics travel up to a month, largely on foot, carrying medical supplies, educational materials, and health data collection instruments.



Figure 2. Map of states in Burma. States of focus: Karen, Karenni, Mon, and Shan.

The BPHWT health workers generally receive between 6 months and 2 years of training, in addition to refresher trainings on a 6-monthly basis. Currently, they implement three main programmes. In the Medical Care Programme, backpack medics diagnose and treat prevalent illnesses, such as diarrhoea, malaria, and

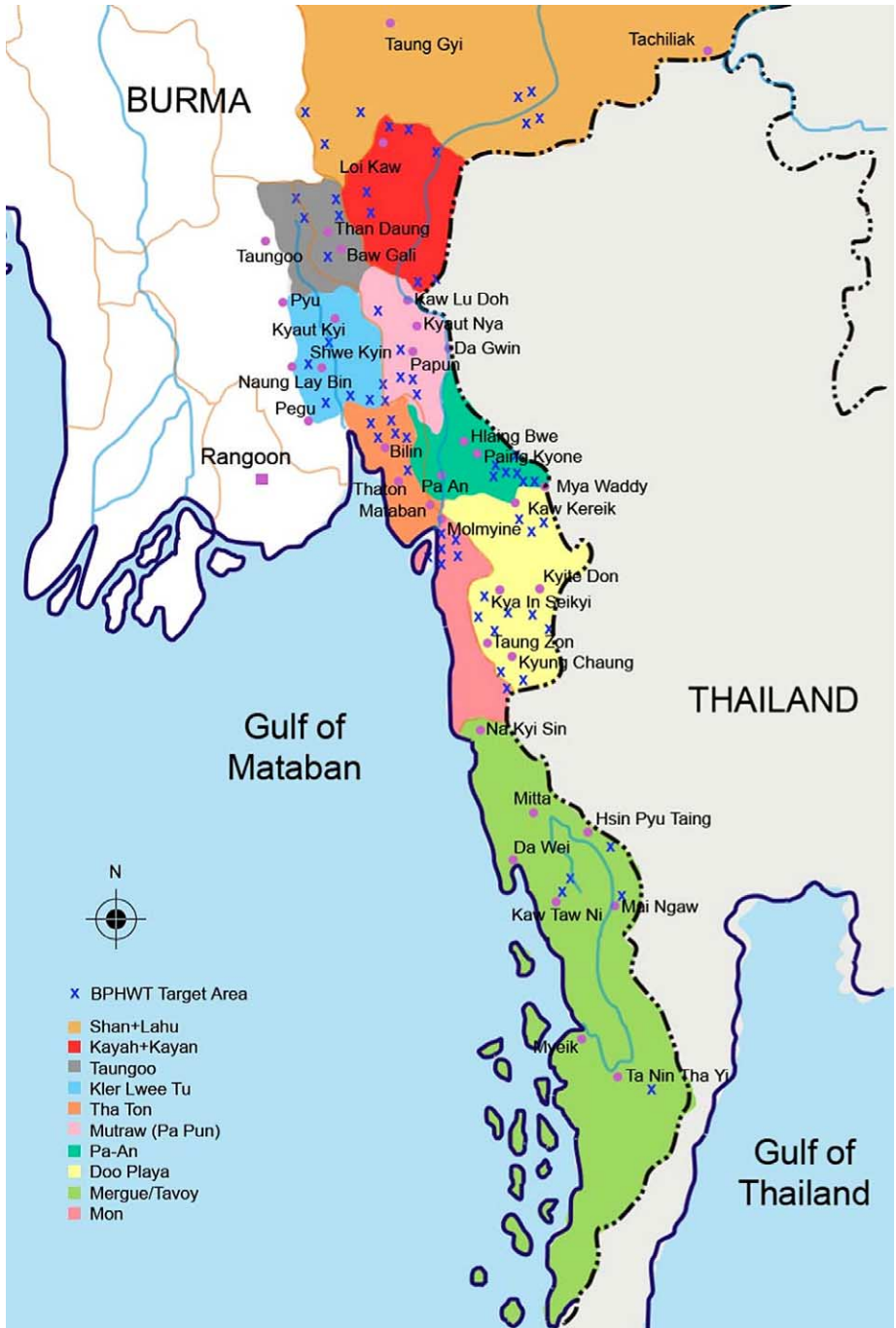


Figure 3. Map of BPHWT coverage area in eastern Burma.

acute respiratory infection. In the Maternal and Child Healthcare Programme, they train traditional birth attendants to use clean delivery kits and provide antenatal care in order to encourage safe deliveries and healthy infants. Finally, in

Table 3. BPHWT 2006 caseload.

Condition	<5	>5	Total
Anaemia	1,471	4,479	5,950
Acute respiratory infection, mild	3,783	6,985	10,768
Acute respiratory infection, severe (pneumonia)	1,087	2,213	3,300
Beri Beri	485	1,660	2,145
Diarrhoea	1,402	2,469	3,871
Dysentery	1,110	2,659	3,769
Injury, acute, gunshot	4	147	151
Injury, acute, landmine	1	27	28
Injury, acute, other	239	924	1,163
Injury, old	72	528	600
Malaria (presumptive)	2,722	6,658	9,380
Malaria (with para check)	676	1,718	2,394
Measles	158	141	299
Meningitis	22	81	103
Suspected AIDS	0	53	53
Suspected TB	30	383	413
Worms/infestation	2,848	4,518	7,366
Other	2,497	17,539	20,036
Total	18,607	53,182	71,789

Source: BPHWT 2006 annual report

Note: BPHWT reaches approximately 160,000 people, or 600 villages with a median size of 200 people each, from the total IDP population of over 560,000. Together with its partner, KDHW, these local health workers serve nearly 300,000 IDPs.

the Community Health Education and Prevention Programme, the backpack medics coordinate community health promotion activities, including the training of village health volunteers, school health activities, and community health

Table 4. Vitamin A supplementation programme 2005.

Children and postpartum women who received Vitamin A in 2005				
Age groups BPHWT area	0–12 months	1–12 years	Postpartum	Total
Kayah	437	3,996	75	4,508
Kayan	46	165	8	219
Taungoo	805	3,775	141	4,721
Kler Lwee Tu	794	1,739	135	2,668
Tha Ton	1,053	3,447	217	4,717
Pa Pun	531	2,497	93	3,121
Pa An	937	4,144	58	5,139
Du Pla Ya	616	2,766	88	3,470
Win Yaw	298	2,470	49	2,817
Kawkarake	661	1,726	99	2,486
Metgye/Tavoy	542	2,129	88	2,759
Mon 1	46	81	9	136
Mon 2	144	320	16	480
Mon 3	785	4,678	183	5,646
Total	7,695	33,933	1,259	42,887

Source: BPHWT 2006 annual report

education workshops. Prevention activities include bi-annual de-worming and Vitamin A supplementation for children.

BPHWT routinely monitors and updates medics' ability to correctly diagnose and treat patients. In 2005, BPHWT reported diagnosis and treatment of common illnesses (malaria, acute respiratory infections, diarrhoea and anaemia), with 93% and 86% accuracy, respectively (BPHWT 2005). One of the most common problems was the diagnosis of malaria. Bi-annually, medics are updated on the most current internationally approved case definitions and treatment protocols.

In 2005, the BPHWT treated nearly 78,000 cases throughout their IDP service areas (see Table 3). Backpack medics are now equipped with rapid diagnostic tests for malaria, as well as antimalarials, antibiotics for pneumonia and dysentery, and a variety of other essential medicines. They are trained in emergency care for injuries, and have some referral sources for more complicated diseases.

Backpack medics also administered nearly 43,000 doses of Vitamin A supplementation, as well as deworming treatments, to children and postpartum women in 14 Karen and Mon areas 2005 (see Table 4).

These service delivery figures do not directly demonstrate that this local-global partner model is changing population health status. However, they do indicate that a large number of people are receiving some level of vital healthcare where, otherwise, there would be none. When paired with the fact that BPHWT and its partners generally administer clinical protocols recognized as effective at reducing morbidity and mortality in similar settings worldwide (Heyman et al. 1997, Caulfield et al. 2004, West 2004, Hutagalung et al. 2005, WHO 2006), it seems reasonable to infer that successful implementation of the programme is having some degree of positive impact on health.

Local service providers: other ethnic health organizations

BPHWT is the largest, and most ethnically diverse, of several ethnic health organizations that manage clinics and mobile health teams inside Burma. In eastern Burma, the main ethnic groups, Karen, Karenni, Mon, and Shan, each manage their own health organization. Their cooperation with BPHWT allows local and regional-level coordination of health programmes, training, patient care, logistics, and security. Together with the BPHWT, these groups serve a total of 300,000 IDPs.

The Karen Department of Health and Welfare (KDHW) is a main partner of BPHWT. KDHW provides primary and emergency health care and public health services in a similar cross-border fashion, administering 33 clinics in the more stable areas of these black zones. The BPHWT refers many of its more critical or difficult to manage patients (for example, with TB, HIV, and high-risk pregnancies) to these more stable ethnic health department clinics. See Table 5 for a summary of the annual KDHW caseload.

Table 5. Karen Department of Health and Welfare annual caseload 2006.

Combined case data for KDHW clinics 2006 (31 of 33 clinics included)									
Condition	Anaemia	Acute respiratory infection	Malnutrition	Diarrhoea and dysentery	Injury	Malaria	Worms	Other	Total
Totals	11,375	23,124	4,615	10,687	2,947	18,852	5,795	35,079	113,474
Percentage	10.0%	20.4%	4.1%	9.4%	2.6%	16.6%	5.1%	30.9%	100.0%

Source: KDHW 2006 annual report

One of KDHWs most successful long-term interventions is the Malaria Control Program. The incidence of malaria (in particular, the dangerous *Plasmodium falciparum*) in Burma's IDP areas is significantly higher than in neighbouring Thailand (Richards et al. 2007). In these areas, the KDHW programme employs early diagnosis and treatment protocols, wide distribution of long-lasting insecticide treated nets, and malaria education. KDHW malaria patients are screened with microscopy, where available, or with a rapid diagnostic test (Paracheck[®]Pf), and treated with an artemisinin-based combination therapy. KDHW health workers regularly monitor treatment and bed net compliance, and communities are educated on how to recognize symptoms and seek appropriate care. Within the programme's first year, malaria prevalence dropped drastically among its approximately 2,000 person beneficiary population (KDHW 2006). KDHW has since expanded to cover over 50 target areas and 40,000 villagers, a quarter of whom are recent IDPs.

The malaria programme has been a vehicle for tightening local partnerships. KDHW has trained other ethnic health organizations to adapt and implement similar programmes in their own settings. Additionally, they have shared data collection forms, supply procurement strategies, and malaria prevalence and incidence data.

Village-level community partners

The effectiveness of these ethnic health organizations, and the delivery of culturally appropriate care, is dependent upon the support of community members and village organizations. Backpack medics earn this support through direct engagement, working closely with village leaders, religious leaders, teachers, traditional healers, traditional birth attendants, and village health workers. They also coordinate with local groups, such as village health committees, and local chapters of community-based organizations, such as women's, youth, and community development groups.

Because security and time constraints limit the backpack medics to only short stays in each village, they have increasingly come to rely on over 600 Village Health Volunteers (VHVs), who backpack medics have trained to deliver some of the more basic healthcare and prevention programmes in their absence. VHVs provide a more consistent source of services, and help increase self-reliance. They serve as early responders for trauma and other acute illnesses, monitor the use of bed nets, participate in the diagnosis and treatment of malaria and other prevalent diseases, including distributing Vitamin A and de-worming medicines. They also help to construct clean water and sanitation facilities. As one example of this collaboration, in 2005, BPHWT and its VHV partners established gravity flow and shallow well systems for 4,396 people, and built over 750 latrines.

VHVs are important community health educators, covering topics of prevention and safe practices related to malaria, HIV, diarrhoea, respiratory infections, worms, measles, and high-risk pregnancies and breastfeeding. In the first half of 2006, VHVs held community preventive health workshops for 8,349 villagers

(BPHWT 2006b). VHV's report that villagers living in conflict zones have little time or resources for prevention, with the exception of these workshops. Additionally, community members participate in local planning meetings to share ideas on ways to improve BPHWT health services to their communities. Medics relay these ideas and resolutions back to the Thailand-based central management of BPHWT.

Central management for local programmes

Twice annually, BPHWT team leaders cross from Burma into Thailand, to re-supply, receive training, and compile health information collected during their field term. These activities take place in the programme's central administrative headquarters, where management staff works year-round to prepare for the bi-annual meetings, garner resources, and coordinate with regional and international partners for technical support and advocacy. BPHWT receives overarching guidance from a central 'Leading Group', which functions similarly to a board: it conducts final decision-making on programme implementation and strategic planning, and its members are selected from among ethnic minority leaders and programme coordinators.

Regional and international partners

In addition to these local partners, the local-global partnership includes the regional Burma Medical Association, the National Health and Education Committee, and the Mae Tao Clinic, which conduct policy development, technical programme planning, and curriculum development. The Burma Medical Association serves as the professional association for health providers on the Thai-Burma border and provides clinical technical support. The National Health and Education Committee serves as the health and education department for the National Coalition Government of the Union of Burma (government in exile), and coordinates support from some international agencies. The Mae Tao Clinic, directed by Dr. Cynthia Maung (who also directs the BPHWT), annually cares for over 100,000 cases from the border region, and serves as the training centre for a multitude of health organizations throughout Burma. To date, it has trained over 800 health workers from more than eight different ethnic groups; many now work with BPHWT.

International partners include governmental entities, non-governmental organizations, and universities. Their primary role has been to provide resource support; capacity building, especially in monitoring and evaluation; technical assistance in programme planning, evaluation, and clinical guidelines; and international policy advocacy. Large-scale governmental and international NGO support has been limited, because current international policy constrains cross-border humanitarian strategies. BPHWT has collaborated with smaller-scale non-governmental organizations, such as the Global Health Access Program (GHAP), comprising medical and public health professionals, who have worked

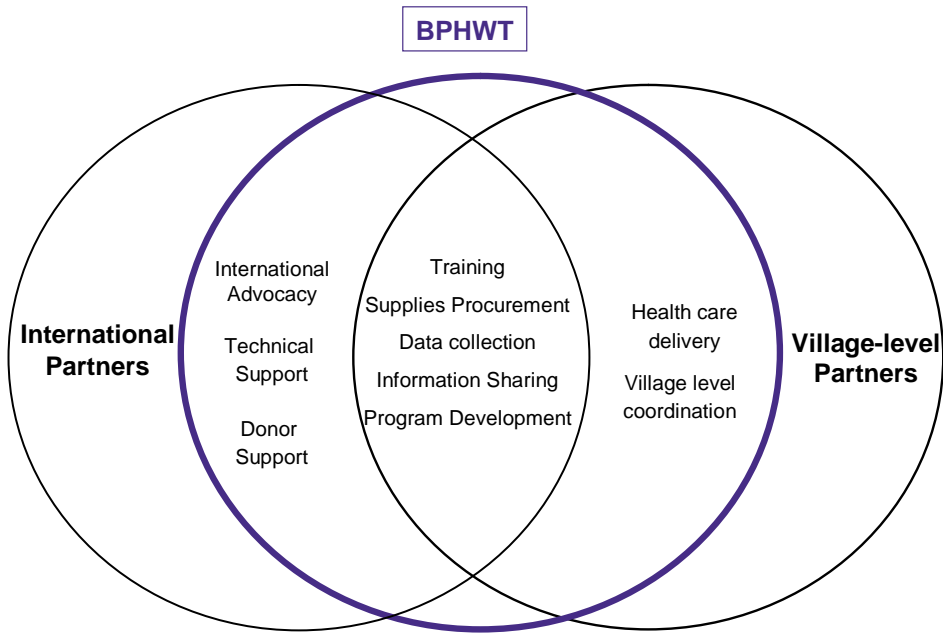


Figure 4. Local-international areas of collaboration.

closely with border health groups, including the BPHWT since 1998. GHAP emphasizes assistance in clinical and programmatic capacity building; procurement of resources; the development of local capacity in data collection, analysis, and utilization; and fundraising, publication, and advocacy.

International non-governmental organizations provide technical support for the local medical and public health programmes. They connect local care protocols to World Health Organization and other internationally recognized guidelines and standards, or to regional recommendations when appropriate, such as for the treatment of malaria. For example, the Burmese Border Guidelines, a regionally developed manual to standardize case definitions, and to facilitate recognition, treatment, and management of disease and medical conditions, forms the basis for the BPHWT medical programme protocols. International personnel work closely with regional leaders, central management, and field medics to facilitate workshops, and problem-solve issues in supply delivery, data collection, and health care delivery. Workshops are typically delivered by BPHWT staff in Burmese, with international facilitators acting as co-managers for curriculum development.

BPHWT also works in partnership with academic institutions, such as the Center for Public Health and Human Rights at the Johns Hopkins Bloomberg School of Public Health. This partnership provides technical assistance to design health information systems, and to analyse and interpret population-based health and human rights data collected by BPHWT. Working with BPHWT leaders, the Center also supports dissemination of BPHWT findings to an international audience through conferences and publications. In sum, at each level, and within each institution, specific functions are implemented, resulting in a non-

hierarchical network of collaborators, who revolve around the needs and circumstances of the local indigenous populations and care providers. Figure 4 illustrates the relationship of the different collaborators and their functions.

Critical elements for local-global partnerships

Local autonomy

Locally-based aid initiatives are increasingly viewed as being more effective, sustainable, and efficient in the field of humanitarian aid (UNHCR 2005). Accordingly, a critical element of the local-global partnership, presented here, is cultivation of local autonomy. The partnership, crossing local, ethnic, and international lines, strives to place ultimate control at the local level, with technical input provided by other partners according to their expertise. It does so primarily through building the technical capacity of local providers, and through preserving local control of decision-making processes.

Local autonomy is recognized in Sphere's latest guidelines, which state that aid organizations should include strong directives on participation and building local capacity among displaced persons, as outlined in the Common Standard 1: participation (see Panel 1). With respect to information systems, these approaches meet the Sphere guidance, that the 'disaster-affected population actively participates in the assessment, design, implementation, monitoring and evaluation of the assistance programme' (Sphere Project 2004: 29).

Panel 1. Sphere guidelines. Common Standard 1: participation. 2004.

Long-term sustainability: long-term benefits are usually realised during the course of strengthening local capacities to deal with disasters. A disaster response programme should support and/or complement existing services and local institutions in terms of structure and design and be sustainable after the external assistance stops (p. 29).

Local access

Unlike international relief organizations, indigenous health workers, who live and work within the displaced communities, have a unique opportunity to penetrate the inaccessible black zones of eastern Burma. Their familiarity with the local terrain and mobility allows them to access these previously unreachable populations. In addition, they have an in-depth understanding of the cultural context of health problems and possible solutions. Finally, because they are highly respected and trusted by the local population, they have a distinctive ability to mobilize communities, to impact attitudes and practices via health education, and to collect health information.

Multi-ethnic collaboration

Burma's multiple ethnic groups have traditionally maintained separate states, and have varied linguistic and ethnic backgrounds. However, under the coordination of BPHWT, these various groups overcome their ethnic and

political differences, for the common goal of achieving health for the IDP and war-affected communities of the black zones. Even amid tense and varied political contexts, health workers of all ethnicities have come together to attend BPHWT trainings and workshops. This type of multi-ethnic collaboration improves healthcare coordination, and distributes international support throughout the region.

Coordination

Employing multiple coordination strategies is vital for operating such an extensive and diverse partnership. One mechanism of coordination between local villager providers, BPWHT, and ethnic health organizations is the patient referral system. Patients who are too sick to be managed by a village health volunteer, for example a landmine victim, might require the services of a backpack medic. However, backpack medics are not always equipped to provide field transfusions or amputations, and so they (or VHV's) might deliver the patient to the nearest mobile clinic, run by an affiliated ethnic health organization, for trauma care.

In another example, BPHWT's central management works with other local ethnic health organizations for supply procurement and distribution. This collaboration is complex and presents many challenges, as supplies must come from a variety of international sources through local distributors, and then must be transported to various parts of the border. By joining efforts, the groups are able to leverage their resources, increasing efficiency and reducing costs. Cooperation is also essential to deliver the supplies across rivers and mountains and, most dangerously, past SPDC-controlled roads and military outposts. These groups also conduct joint trainings on health information systems, malaria control, reproductive health, and trauma management. The semi-annual meetings play a key role in the coordination of these workshops, which allow for the transfer of technical capacity from regional and international partners to BPHWT and ethnic health organizations.

Health information

The BPHWT and other local and international partners work closely to adopt feasible, standard methods for data collection that can produce interpretable health statistics. Since 1998, the BPHWT has collected health data for internal use. This health information has resulted in the implementation of major cross-border initiatives. For example, BPHWT data on the intense burden of malaria (BPHWT 2000) were presented at regional strategic planning meetings, resulting in a collective decision to develop a malaria control programme. Evaluation of the KDHW pilot programme, which applied internationally recognized principles, and state-of-the art technology, demonstrated reduced malaria burden (Shwe Oo 2005), and provided evidence supporting widespread expansion of the programme.

Recently, the partnership collected population-based data for the purpose of relaying Burma's health crisis to an international audience. By doing so, BPHWT and its partners hope to provide evidence of the health and human rights crisis in Burma, and demonstrate the feasibility of implementing effective long-term health programmes in conflict settings. For example, data collected by BPHWT, and traditional birth attendants, documented extremely high maternal mortality (1,000–1,200 maternal deaths per 100,000 live births), largely due to postpartum haemorrhage and sepsis (BPHWT 2006a). Presentation of these data in the USA helped garner support from the Gates Institute for Population and Reproductive Health at Johns Hopkins Bloomberg School of Public Health, for a large-scale reproductive health and basic emergency obstetric care programme in the black zones.

The health workers of the BPHWT play a critical role in this health information system. In the case of data collection, whereas external surveyors would have severe difficulties accessing information from the black zones, BPHWT medics have the local knowledge and community trust needed to obtain this information. When the backpack medics are not present to record vital events, or population displacement makes it difficult to maintain data on the size and location of the population served, they have relied upon village-level participation, e.g., training traditional birth attendants to record birth and pregnancy outcomes.

Capacity building is one of the main tenets of the health information system. BPHWT and KDHW central management staff and leaders receive training in survey methods, basic epidemiology, data management and entry, and analysis and interpretation. This capacity building has given local management and local health workers an active role in every step of the information process, making them decision-makers in their own health information system.

Advocacy

The health information collected through this partnership has not only shaped health interventions as described above, but has also been influential in advocating for changes to the political and policy environments affecting Burma's IDPs. For example, comprehensive findings on mortality, malaria, and human rights violations, throughout Karen, Karenni, and Mon areas (Lee et al. 2006, Mullany et al. 2007, Richards et al. 2007), particularly extremely high child mortality, have been presented through a variety of channels, including testimony to the Thai and UK parliaments and the United Nations.

Challenges

The BPHWT experience suggests that indigenous, locally controlled, yet globally connected, health partnerships can aid in the fight against major causes of morbidity and mortality in Burma's IDP regions. Nevertheless, the BPHWT has encountered significant challenges to their efforts, including barriers to service delivery, continuity of international support, and the verifiability of health data.

Service delivery

BPHWT medics do not always have sufficient supplies to serve all the health needs they encounter. Some of this shortfall stems from incorrect clinical diagnoses. In response, BPHWT is using rapid diagnostic tests (RDTs) to confirm diagnosis of *P. falciparum* malaria, thereby reducing presumptive use of anti-malarials. BPHWT also employs preventive public health interventions to decrease the need for treatment. Their distribution of long-lasting insecticide treated nets, Vitamin A, and deworming medications aim to prevent illness, thereby reducing demand on pharmaceutical supplies. Unfortunately, constant population instability, including forced displacement, limits this approach.

Even when supplies are sufficient, providing continuous care to communities is extremely difficult in this setting. Where possible, partners in the local-global model have established the mobile clinics, discussed earlier, to provide continuity of care. However, to provide remote villages and areas under active occupation with any coverage at all, BPHWT must remain highly mobile, sometimes travelling up to a month (on foot through treacherous terrain) to reach a community. The need to avoid SPDC forces often means BPHWT can only stay a few days in a village, and in some cases cannot reach a village at all, during its 6-month tour. BPHWT attempts to address these barriers in a few key ways. First, upon arrival in a community, the medics seek out the most acutely ill patients to maximize the time available for patient monitoring or administering treatments. Second, BPHWT trains VHV's. While the extent of VHV involvement varies by community and individual aptitude, VHV's are ideally able to carry on health education and observed treatments after the backpack medics depart. Adding this deeper community-level empowerment to the local-global partnership model provides some redress for continuity of care problems.

The instability and insecurity that plague eastern Burma confront the BPHWT medics directly as well. Since the inception of the programme, seven backpack medics and one traditional birth attendant have been killed as a direct result of their involvement in providing health care. Others have been detained by SPDC for carrying clinical and health information documents. BPHWT medics must weigh the personal risk of carrying medicines and data books against the community benefit. Though courageous, they cannot (nor should they be expected to) always overcome these threats.

Continuity of international support

As BPHWT has gained international recognition, more international organizations are supporting their work. Some of the key challenges in coordinating the international community's support include restrictions on supply procurement processes and health resource choices, and insufficient coordination and communication between international organizations, resulting in overlapping or competing efforts and burdensome reporting requirements for local staff.

Verifiability of health data

Collecting data in conflict settings presents significant methodological challenges, including limiting data verification (Lee et al. 2006). The local-global partnership has invested substantial resources on assurance-related activities, to secure the quality of the health information system. It has conducted iterative trainings in survey design, methods, and analysis, and employed complementary but independent research methods to corroborate findings.

Discussion

Traditional international humanitarian models have been unable to assist the people caught in the black zones of Burma. Behind the curtain of the military regime, a chronic emergency has continued for decades, with its magnitude, as measured by mortality indicators, only recently revealed (BPHWT 2006a). The BPHWT local-global partnership arose as the only method by which IDPs in eastern Burma could be accessed through outreach to villages by indigenous health organizations, with international organizations providing funding, training, technical support, and international advocacy.

This local-global partnership model is not unique in the world. Other examples of indigenous/local health brigades succeeding amidst war or health crises have been seen in Chalatenango, El Salvador, during its war years, and in Afghanistan under the Mujahadeen, as well as during the recent conflict. The Pan-American Health Organization found El Salvador's indigenous health programmes more successful at community care and engagement than some of the region's well-funded health projects (Smith-Nonini 1993: 21). In Afghanistan, local health workers were trained on-site, as well as across the border in Pakistan, to operate much-needed health care programmes for displaced or war-torn areas (Halbert et al. 1988, Library of Congress 2001, Anis 2003, Management Sciences for Health 2005). Other 'barefoot doctor' models of local health practitioners and 'health promoters' serving rural poor, have been successful all over the world, as in Jakhmed, India (Bhuiya et al. 1996) and, currently, among the Shuar and Puyo indigenous populations in Ecuador (CFHI 2007).

These examples corroborate the BPHWT approach. In the majority of these cases, local initiatives are linked to global partners, such as the International Red Cross, the International Medical Corps, Community Family Health International, and other INGOs providing technical, financial, and logistical support. While borne of necessity, their effectiveness in empowering local autonomy and, in this case, fostering multi-ethnic collaboration, suggests that such local-global partnerships may be an improvement over top-down humanitarian approaches that have classically been called upon in crises.

In the Burma setting, locally managed processes have also been documented as improving community morale, well-being, health, and coping mechanisms among Burma's displaced peoples (Lopes Cardozo et al. 2004). In addition, studies among Karen, Karenni, and Burmese refugees, and migrants in Thailand, have

documented that access to local health and support networks, and involvement in religious groups, has beneficial effects on measures of refugee anxiety, depression, post-traumatic stress disorder, and loss of identity (Allden 1996, Lopes Cardozo et al. 2004). Lopes Cardozo and colleagues concluded from their work that 'interventions need to be largely community-based, rather than health-facility based' (2004: 2641).

While Lopes Cardozo and colleagues focused on psychosocial burdens, the experience of the BPHWT, at the nexus of a cross-border local-global partnership, suggests that empowering indigenous, even displaced, populations can work to respond to the major causes of morbidity and mortality as well. Local ownership in an international network of health care and public health providers, trainers, information collectors, and advocates is worthy of international investment and support, certainly in Burma and, possibly, in IDP or conflict settings worldwide.

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Notes

¹ We do not suggest that support for refugees be limited, but that IDP support is insufficient. Both groups may benefit from an alternative approach.

² In 2002, USAID referred to Burma as the 'epicenter for HIV-AIDS in Southeast Asia', estimating that up to 4% of the general population is infected (USAID 2002); other evidence finds that, 'HIV/AIDS, tuberculosis, and malaria, are being transported across Burma's borders into China, India and Thailand' (Lowenkron 2006). WHO estimates Burma's malaria incidence at 3.6 cases per 1,000 population (0.36%) annually; higher in the border areas. Over half of Burma's cases of malaria are reported from just 100 townships, which account for only 25% of the population (13.7 million people) (Beyrer et al. 2006).

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