

Trauma & Resilience: the mental health of
backpack medics in eastern Burma's conflict zones

By Andrew George Lim

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Committee in charge:

Professor Eric Stover, Co-chair

Professor Douglas Jutte, Co-chair

Professor Jodi Halpern

Professor Harvey Weinstein

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Abstract

Background: International humanitarian law demands the protection of medics, patients, and clinics present in areas of conflict, but parties to a conflict often ignore these rules and target medical personnel. In such threatening environments, medics are exposed to stressors that may lead to poor mental health outcomes. This paper aims to explore and characterize the mental health challenges faced by medics who serve the ethnic Karen in eastern Burma, using a mixed methods approach.

Methods: Psychometric screening surveys were administered to 74 Karen medics during annual training courses, incorporating the 12-item general health questionnaire (GHQ-12) to measure non-specific psychiatric disorders (anxiety and depression), and the posttraumatic checklist for civilians (PCL-C). Semi-structured qualitative interviews were conducted with 30 medics to investigate local idioms of distress, personal and professional sources of distress, traumatic life events, and the support and management of medics' stressors.

Results: GHQ-12 score average was 2.5 (SD 2.1, scored on a range of 0-12 with high numbers representing marked symptoms of anxiety and depression), suggesting a best threshold cutoff of 3 or greater for the screening of non-specific psychiatric disorders among this population of medics. PCL-C score average was 36.2 (SD 9.7, scored on a range of 17-85 with high numbers representing marked PTSD symptoms), suggesting a prevalence rate between 9.5% and 66% of PTSD symptoms in the sample population depending upon the cutoff score used. There was significant correlation (Pearson's R-correlation .47, $P < .05$) between the two scales.

Qualitative results revealed a wide range of work-, family-, conflict-, and early trauma-related stressors among respondents. These stressors were characterized in terms of Burmese and Karen idioms of distress. The most common sources of distress included inadequate skills training, isolation from families and home communities for extended periods, fear of attack from Burmese soldiers, threat of landmine injury, and the experience of forced displacement in early life. Substantial evidence emerged of human rights violations committed by Burmese soldiers against the medics, clinics, patients, and their communities. The management of stressors included a strong emphasis on peer-group interactions and support within medic teams, in addition to a variety of social- and individual-centered coping strategies. Some medics discussed their personal and professional goals in relation to their families and leadership aspirations.

Conclusion: Low rates of PTSD, anxiety, and depression symptoms were found using standardized questionnaires, but in-depth interviews revealed numerous and serious sources of distress. This discrepancy between the qualitative and quantitative findings suggests a limitation of screening measures and/or a mental resilience among the medics that constrains the emergence of full-blown psychiatric disorders despite significant lifetime traumatic experiences.

The importance of peer-group support in protecting against individual distress suggests that future mental health interventions may best serve the medics by emphasizing community- and peer-based coping strategies.

*This work is dedicated to the people of Burma, and the medics who work relentlessly to
relieve their suffering,*

*To KDHW, BPHWT, GHAP, Community Partners International, the UC Berkeley Human
Rights Center, the Schoeneman family, and the staff, faculty, and students of the UC
Berkeley – UCSF Joint Medical Program who turned this idea into a reality,*

*To my parents,
Uncon, Ahma,
Stan, & Liz –
who inspire me always.*

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I. Introduction

In conflict settings around the world, medics¹ are often dispatched to address the emergent health needs of civilian populations that do not otherwise have access to healthcare. International humanitarian law demands protection for patients, medical facilities, and vehicles. It also grants protection for medical personnel so long as they perform their humanitarian duties and do no harm to the enemy (International Committee of the Red Cross, 1949). In many civil conflicts these rules of medical neutrality are often ignored, and medical personnel and their patients become targets (PHR, 1996).

Given the high stress environments and low-resource work settings they operate in, medics are at risk for developing mental health disorders such as anxiety, depression, and post-traumatic stress disorder (PTSD) (Dewane, 1984). In these demanding environments, medics may be unable to cope with their mental stressors and may develop chronic psychological symptoms, increasing the risk for drug and alcohol abuse. Additionally, such mental health issues may adversely affect medics' performance, leading to compromised efficacy in treating their target populations.

Using a mixed-methods approach, this paper examines the potential mental health sequelae of mobile medics providing basic and surgical care to war-torn communities in eastern Burma². It will also explore the civil conflict between the Burmese military and the Karen³ ethnic resistance movement that has led to the dangerous conditions for those providing care. To the author's knowledge, this paper is the first study to elucidate the mental health effects of trauma⁴ among medics working in IDP areas of eastern Burma. More generally, the paper aims to elucidate the mental health concerns of health providers in low-resource conflict settings in order to inform the development of specific interventions that might mitigate the effects of conflict exposure.

¹ In this study, the term *medic* will be used broadly to encompass civilian or military personnel responsible for the delivery of health services, and who may lack national or internationally-recognized professional credentials.

² Although *Myanmar* is the official English name of the country as of 1989, many states (such as the USA, UK, Australia, and Canada) refer the nation by its previous name Burma. For the purposes of this document, Myanmar and Burma will be used interchangeably. This distinction also extends to other locations with multiple names; for example, *Rangoon* for the former Burmese capital city rather than the official *Yangon*.

³ pronounced *kah-REN*. Also, seen as Burmese transliteration Kayin (*kah-YIN*).

⁴ *Trauma* as used in this paper refers to any potentially life-threatening situations or threats to the self or others, even if an individual is not physically harmed (Elkin, 1999). *Mental trauma* refers to the psychological or psychiatric effects of these events, whereas *physical trauma* describes the injuries incurred during a traumatic event (including war trauma such as gunshot wounds, landmine blasts, etc.)

II. Background

This background section begins by reviewing pertinent literature on mental health and trauma in conflict zones. Then, I discuss theories of resilience, cognitive appraisal, and self-efficacy that may function to diminish the adverse effects of trauma. Afterwards, I describe the context of civil warfare in Karen State, eastern Burma, and the resultant public health impact. Finally, I introduce the community-based organizations that employ mobile medics to address the needs of the vulnerable Karen populations.

A. Mental health of service providers in conflict and post-conflict settings

Mental health is a core public health concern, particularly among populations impacted by social upheavals due to armed conflicts. Studies show an increase in the incidence and prevalence of PTSD, anxiety, and depression among civilian populations as a consequence of war (Pham, Vinck, Kinkodi, & Weinstein, 2010; Vinck & Pham, 2010). Prevalence is associated with gender, age, the degree of trauma, success of coping mechanisms, and the availability of physical and emotional support (Murthy & Lakshminarayana, 2006; Tremblay, Pedersen, & Errazuriz, 2009; Elbedour, Onwuegbuzie, Ghannam, Whitcome, & Hein, 2007; Pham, Vinck, Kinkodi, & Weinstein, 2010; Vinck & Pham, 2010).

Much of the discussion around conflict and mental health has revolved around clinical diagnoses of individuals as found in the Diagnostic and Statistical Manual of Mental Health Disorders (DSM), such as PTSD (Brewin, 2003; Young, 1995; Bracken, Giller, & Summerfield, 1995). However, psychiatrists, psychologists, anthropologists, and other health professionals working in war-afflicted communities have recognized the need to broaden the focus of mental health studies beyond the frame of the individual psyche. This is particularly critical in low-resource areas of civil conflict, where the medical model of understanding individual suffering and trauma must be supplemented by a deeper investigation of the unique cultural and social determinants of collective suffering (Pedersen, 2002; Summerfield, 1999; Kienzler, 2008; Ehrensaft, 1995).

It is well documented that civilian health personnel undergo unique stressors when navigating situations that may be dangerous to themselves or their patients (Frank, 2006; Alden, Regambal, & Laposa, 2008; Laposa & Alden, 2003; Clohessy & Ehlers, 1999). Professionals who repeatedly listen to narratives of fear, pain, and suffering for their patients may be susceptible to *vicarious traumatization*, which, in turn, may lead to manifestations of PTSD or a sense of futility for their benevolent actions (Palm, Polusny, & Follette, 2004) McCann & Pearlman, 1990; Janoff-Bullman, 2002; Pines & Maslach,

1978). In the long term, these professionals may experience burnout⁵ (Maslach & Leiter, 2006). The cognitive model of *persistent*, or *chronic* PTSD has been suggested to explain those who are afflicted not by a single traumatic memory in a point of time, but consistent exposure to less severe, or secondary traumatic events (Ehlers & Clark, 2000; Herman, 1992/1997).

Though extensive studies have investigated PTSD and the effects of war-trauma for combatants and civilians, far less is written regarding the unique mental health consequences affecting medics in conflict settings. A qualitative study of veteran medical personnel (corpsmen, field medics, and field hospital nurses) from the Vietnam War revealed that feelings of helplessness, survivor guilt, anger, isolation, estrangement, and low tolerance of frustration were commonplace (Dewane, 1984). Although the duty of combat medical personnel is to prevent loss, they likely experience loss more profoundly since they are often present during and after the catastrophe – leading to extraordinary exposure to trauma and intensity of stress.

Resilience, self-efficacy, coping and cognitive appraisal:

Resilience is a term that may be used to describe the ability to adapt, cope or recover successfully despite threatening or challenging situations – such as the extreme stress and trauma inherent in conflict settings. Alternatively, resilience has been described as sustained competence in response to demands that tax coping resources (Wilson & Drozdek, 2004). Within the field of trauma studies, resilience is ‘efficacious adaptation regardless of significant traumatic threats to personal and physical integrity’ (Harel, Kahana, & Wilson, 1993).

It is clear that an individual’s ability to form successful strategies for coping is critical in shaping their capacity for resilience to trauma. Resilience to trauma may derive from individuals’ physiological or psychological coping processes, or from external risk or protective factors (Rutter, 2006). Coping has been defined as an individual’s cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person’s resources (Lazarus & Folkman, 1984b). Thus, resilience has been discussed as an ability to successfully adapt to challenging environments – whether due to an ability to successfully cope with traumatic stressors, or due to an ability to remain competent despite demands that exceed the one’s ability to cope.

An individual’s sense of self-efficacy is another critical factor in determining resilience to trauma. Bandura asserts that individuals make causal contributions to their own functioning through mechanisms of personal agency. The most crucial mechanism of agency is the belief of self-efficacy: described as a person’s capability to exercise control over their own level of functioning and over events that affect their lives

⁵ Maslach describes burnout as a prolonged response to chronic interpersonal stressors on the job, characterized by exhaustion, cynicism, and inefficacy (as opposed to the positive experiences of engagement).

(Bandura, 1993). Self-efficacy is composed of four major components: cognitive, motivational, affective, and selection processes.⁶

Of Bandura's components of self-efficacy,⁷ cognitive, affective, and selection processes relate most to cognitive appraisal; essentially, one's ability to weigh evidence as the basis for short- or long-term decisions and to create goals based on that information is essential for successful coping strategy and mental resilience. The ability to conduct secondary appraisal essentially hinges on the effectiveness of cognitive and motivational processes to determine what can be considered a goal challenge instead of harmful situation – ultimately, better self-efficacy determines one's ability to conduct secondary appraisal. The product of affective process can determine a person's ability to conduct primary appraisal, since affect (and ability to cope) is crucial in an individual's perception of threat in their environment. Finally, selection process ultimately can lead to better-informed coping strategies. The following graphic gives a basic visual representation of the relationship between resilience, coping, self-efficacy, and cognitive appraisal:

⁶ Cognitive processes refer to the "forethought embodying cognized goals" and are influenced by self-appraisal of one's capabilities. A stronger perceived self-efficacy correlates with firmer commitment to goal challenges. These self-beliefs of efficacy are pivotal in shaping motivation processes.

Motivational processes are constructed from the exercise of forethought designed to realize a valued future: the formation of beliefs of what one can accomplish, and the anticipation of the outcomes of their actions.

Affective processes refer to the relationship between self-efficacy and the experience of emotion in response to life stressors. An individual's perceived self-efficacy can also affect the magnitude and experience of stress and depression during difficult or traumatic situations. Poor efficacy to control stressors can lead to anxiety arousal and coping deficiencies, and a perception of their environment as dangerous and unsafe. Those with strong perceived self-efficacy to control threats tend to lack disturbing thought patterns, and have stronger coping mechanisms that have been honed by "guided mastery experiences" of handling difficult situations without stressful emotional reaction.

Selection processes refers to an individual's belief of self-efficacy and how it shapes their life choices of activities and environments. People generally avoid activities and situations that they perceive to exceed their coping mechanisms, while they accept challenges that they decide they are capable of handling. Thus, a person's life choices - based on the perception of their efficacy to cope with the outcome - are crucial to an individual's personal development.

⁷ Bandura's model of self-efficacy has some elements in common with the Folkman-Lazarus model of cognitive appraisal. Folkman and Lazarus developed a model of psychological stress reaction in which an individual's cognitive appraisal of a stressor determines a process-oriented coping mechanism (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus, 1984). In this theory, cognitive appraisal is defined as a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well-being [*primary appraisal*]. If a person has something at stake in the encounter, the individual then assesses whether it is primarily threatening (potentially harmful), or challenging (offering the possibility for mastery or benefit) and what can be done to minimize loss or maximize benefit from the event [*secondary appraisal*]. The coping mechanisms that arise are either categorized as regulating stressful emotions [*emotion-focused coping*] or altering the source of distress arising from the interaction with the environment [*problem-focused coping*]. In reality, coping is usually a combination of both functions. An important characteristic of this model is that no assumptions should be made about what is 'good' or 'bad' coping - coping is defined simply as the person's efforts to manage demands, whether or not these efforts are successful. Nevertheless, both the effort and success in establishing coping mechanisms may be crucial in developing a positive resiliency against trauma.

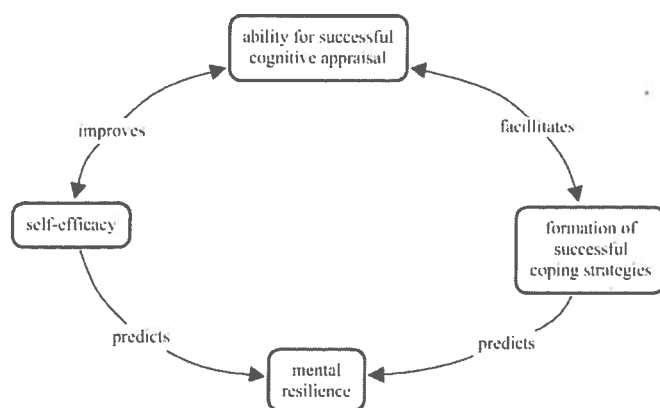


Figure 5: Factors of mental resilience, concept map

B. The context of civil conflict in eastern Burma

To better understand the high-stress environment in which the Karen medics work, we need to examine the historical context of the armed conflict in eastern Burma.

In 1962, Burma's existing democratic republican government was toppled in a coup d'état led by General Ne Win. He imposed a socialist, military dictatorship known as the Burma Socialist Programme Party (BSSP) and made moves to consolidate political and economic power around the military. In order to garner support for a new Burma united under socialist military rule, Ne Win introduced a nationalist campaign of "Burmanization", or sovereignty of the Burman ethnic group over the roughly 135 different ethnic groups recognized to be living within Burma's borders (Roughneen, 2010). Ne Win began military offensives to quell the various ethnic independence movements along the borders of Burma (Desai, 1987). These offensives have continued under subsequent ruling military dictatorships – the State Law & Order Restoration Council (SLORC) from 1974 until 1988, followed by the State Peace and Development Council (SPDC) from 1988 up until 2011. On March 2011, the SPDC was dissolved and democratic elections swore in Thein Sein – leader of the Union Solidarity and Development Party – as the new president of Myanmar. Political analysts and Burmese democracy advocacy groups have broadly decried this supposed transfer of power to civilian rule as a sham. The majority of the current government leaders are former prominent members of the SPDC, and Than Shwe, the former SPDC general and junta leader, is said to keep close control of power from behind the scenes ("President Sworn In, Junta Dissolved," 2011).⁸

Of all the liberation movements, the Karen National Union (KNU) and its military branch, the Karen National Liberation Army (KNLA), have garnered significant international attention. Nearly six decades of civil conflict in Karen State between the Burmese military and the ethnic Karen resistance forces have led to widespread and well-documented human rights violations committed by Burmese forces intentionally targeting

⁸ As the data was collected before the dissolution of the SPDC, many of the quotations presented in this paper will refer to the Burmese military or Burmese government as the SPDC.

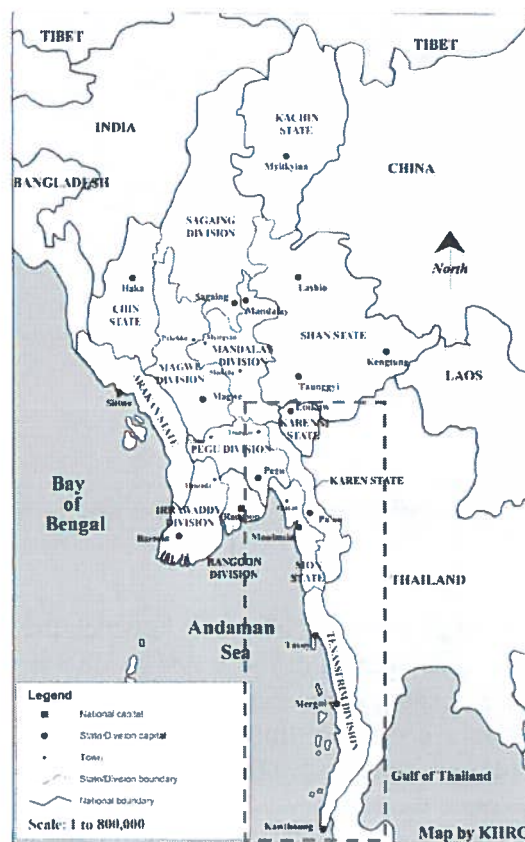


Figure 1: Political map of Burma with box showing Karen state and Tenasserim Division, also known as the Merguy-Tavoy District according to the KNU (Karen Human Rights Group, 2004)

Karen civilians (Checchi, Elder, Schäfer, Drouhin, & Legros, 2003; Petersen, 1997). In the conflicts with the Karen, as well as in many other ethnic minority states, the Burmese government has implemented a military strategy known as the “four cuts policy” which intentionally targets four crucial links between resistance groups and ethnic minority populations: food, financial support, recruits, and information (Lee et al., 2006). The widespread human rights abuses committed by the Burmese troops against Karen citizens include forced relocation of populations, the systematic use of rape as a military weapon, torture, forced labor, and the laying of landmines near farmland and villages (University of California, Berkeley Human Rights Center & Johns Hopkins Bloomberg School of Public Health, Center for Public Health and Human Rights, 2007). In recent years, these military campaigns have resulted in the destruction of over 3,300 villages, the deterioration of social services (including neglect of basic healthcare, education, food security, sanitation, and other infrastructure), and the forced relocation of an estimated half million villagers into remote hiding areas (Thailand Burma Border Consortium, 2009).⁹

⁹ As of January 2012, the Burmese government signed a ceasefire agreement with the KNU. However, the legacy of displacement, violence, and other trauma will likely remain for coming generations. Furthermore, landmine injuries will still persist due to years of laying mines in conflict areas. It is yet to be determined if social services improve in these areas because of these peace agreements.

The civil conflict and violations of international humanitarian law in eastern Burma have resulted in large swaths of territory with extreme, unmet healthcare needs neglected by Burmese national health services. In 2002, population-based surveys conducted by Thai border-based health organizations in eastern Burma yielded estimates of infant mortality rate at 135 per 1,000 live births, and under-5 mortality rates at 291 per 1,000 live births (The Back Pack Health Worker Team, 2006). Human rights organizations report that a few state-run village clinics are built in ethnic areas as a show of SPDC support, but suggest that these clinics are routinely left unsupported and understaffed by the national or regional governments (Human Rights Documentation Unit- National Coalition Government of the Union of Burma, 2008). Furthermore, international aid and donor organizations – such as the International Committee of the Red Cross (ICRC) and the Global Fund – have been severely limited in their access to these populations by the Burmese government (University of California, Berkeley Human Rights Center & Johns Hopkins Bloomberg School of Public Health, Center for Public Health and Human Rights, 2007). This has left the Karen and other ethnic leadership to develop alternative healthcare provisions for their vulnerable populations.

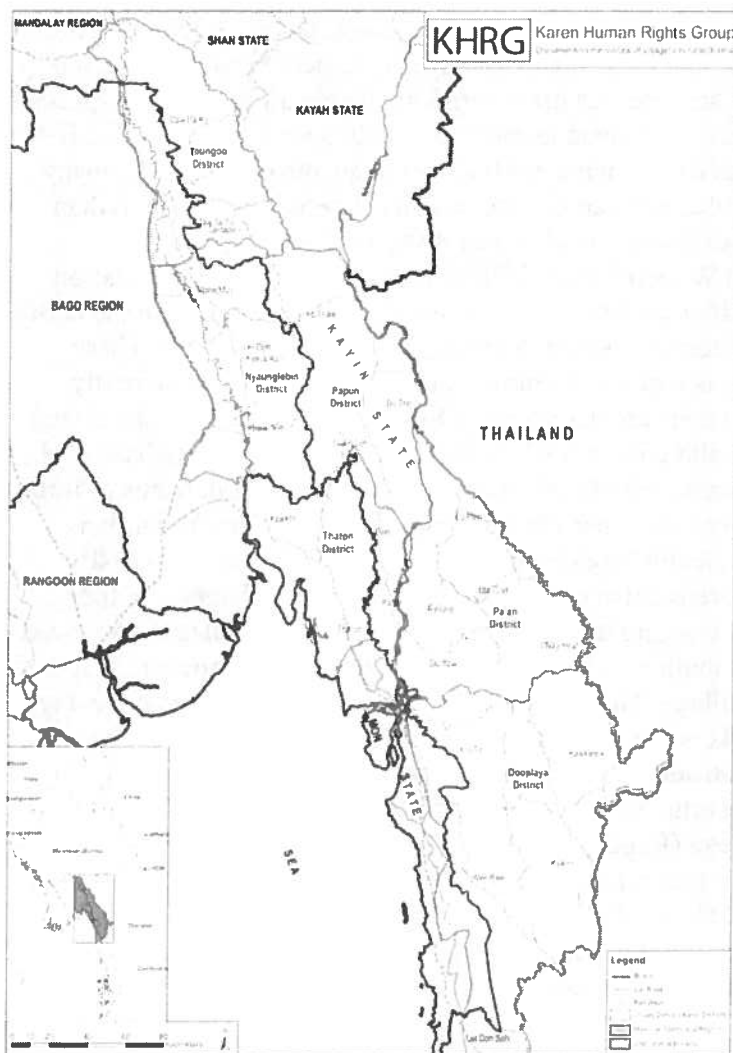


Figure 2: Locally defined northern and central Karen districts (Taung Oo, Kler Lwe Htoo / Nyaunglebin, Mu Traw / Papun), central districts (Thatoon, Pa'An, Doo Pla Ya) and northern border of southern district (Merguya Tavoy / Tenassarim) (Karen Human Rights Group, 2011)

C. Community-based health response: the mobile medic population

Several community-based health organizations based along the Thai-Burma border have taken on the task of providing basic primary medical care, disease prevention, and public health education services to the villagers in the internally displaced population (IDP) areas of eastern Burma. This paper focuses on the health personnel employed by the KNU and a separate non-governmental organization, the Back Pack Health Worker Team.

The KNU provides health services through two organizations: the Karen Department of Health and Welfare (KDHW) is the civilian and village-wide health department, whereas the KNLA medical branch deploys its own medic personnel exclusively for military purposes. KDHW manages 37 mobile health clinics, each staffed by an average of ten healthworkers and each providing care to 3,500-5,000 forcibly-displaced and war-affected residents of Karen State (KDHW, 2011; Richard et al., 2009). The clinics are mobile in the sense that they are based in bamboo structures and are designed to relocate rapidly in the event of an attack. KNLA sends one or two mobile medics per platoon of soldiers, and these medics are highly experienced in managing war-related trauma wounds. These medics often carry small side arms for the purposes of self-defense in the field, but are not trained as soldiers. Medics work for either KDHW or the KNLA medical branch, but cannot work for both simultaneously. However, many KNLA medics work for a number of years for the military before joining the civilian KDHW. Both groups of medics operate in all seven districts of Karen State.

The Back Pack Health Worker Team (BPHWT) is a multiethnic organization formed in 1998 to deliver health care services to the most remote areas within the conflict zones of the eastern states of Burma – Karen, Karenni, Mon and Shan states. These mobile teams serve village areas that are the most inaccessible, including internally displaced populations who try to evade detection by SPDC military patrols, and do not have access to even mobile health clinics, such as those run by KDHW (Richard et al., 2009). BPHWT consists of approximately 290 healthworkers working in teams of three to five per unit, providing care for more than 180,000 people within the most conflict-affected villages (Back Pack Health Worker Team, 2010). BPHWT medics usually deploy in uninhabited jungle areas between clusters of two to four villages that they serve. Mobile teams of health workers are assigned specific tracts of villages and travel through these villages in six-month rotations, dispensing care from mobile tent “clinics” or traveling directly to each village. The minimum duration in one village is three days, but in some areas, health workers stay for almost the entire six-month period. The BPHWT service area extends from Merguy-Tavoy (Tenassarim) District in the south to Karenni (Kayah) State in the north, and from the Thai-Burmese border to slightly west of the Sittang River in eastern Pegu (Bago) Division.

A medic’s education begins after completion of their secondary education (roughly at the age of 17-19). The medics-in-training from both organizations undergo basic community healthworker training supplemented by additional training in advanced care topics (management of traumatic injury, shock resuscitation, burn care, basic

surgery, obstetric emergency management, health and human rights surveillance, malaria control, tuberculosis treatment and prevention, public health education, and other skills).

These healthworkers persevere despite perilous security situations, as clinics and mobile medic teams are often targets of Burmese soldiers. Human rights groups report that health clinics have been burned and non-combatant backpack medics have been shot and killed by Burmese soldiers (Karen Human Rights Group, 2004; Karen Human Rights Group, 2010; Back Pack Health Worker Team, 2010).

These reported acts of violence against medical personnel and patients represent egregious violations of international humanitarian law (International Committee of the Red Cross, 1949; Breitegger, 2011) and have profound negative health implications for the population of Eastern Burma. Multiple studies have explored the intersection of poor health outcomes and human rights abuses for the population of IDPs living in Karen State (Burma Medical Association, National Health and Education Committee, Back Pack Health Worker Team, Global Health Access Program, 2010; Mullany et al., 2010; Mullany et al., 2007; The Back Pack Health Worker Team, 2006). However, research has yet to be conducted exploring the effects of chronic conflict and displacement on the medical personnel serving IDP areas.

D. Summary and gaps in the literature

In the preceding background, I briefly described the modern development of the western conception of mental trauma, and how this model has been both adapted to and contrasted against non-western means of understanding distress. Most notably, this has meant expanding the definition of trauma beyond a biomedical, individual-centered approach – taking into account local idioms of distress as well as social and cultural factors. Additionally, models have been proposed to understand the unique stressors present for those who provide social services for traumatized populations, including the concept of *vicarious traumatization* to describe the effects on health providers during disaster relief work.

For nearly 60 years in eastern Burma, civil war between the ethno-national KNU and the Burmese government have caused egregious human rights abuses and public health concerns for the Karen ethnic minority populations. The medics of BPHWT and KDHW are a small but essential force providing some of the only healthcare services available in the region. They work despite large barriers to service delivery, including under-resourced and under-staffed clinics, and limited training capacity for complex medical procedures. Additionally, the medics and their clinics become targets for SPDC soldiers, leading to their persecution and isolation while working in the field.

As noted previously, while mental health evaluation studies have been carried out among refugee populations living in Thailand along the Burmese border Burma, studies have not been conducted with IDP populations who still live and work inside Karen State. Furthermore, no studies have explored the mental health issues of the health providers who serve the displaced populations and remote villages within Karen State, despite their perilous work environments.

E. Proposed research project

The study detailed in this paper primarily aims to explore and characterize the mental health challenges faced by medics who serve the ethnic Karen in eastern Burma, using a mixed methods approach.

Semi-structured qualitative interviews and psychometric quantitative evaluations will be used to answer the following questions:

- 1) What *challenges and stressors* are present in the life of a Karen medic, which may contribute to poor mental health outcomes?
- 2) What are the *local idioms of distress* used by the Karen to describe concepts of mental health, and how do they manifest emotionally and physiologically for the Karen medics?
- 3) Are there *factors of resilience* that protect medics from poor mental health outcomes? What coping strategies do the medics use to mediate the effects of stressors?
- 4) Using existing psychometric screening tools, what is the measured burden of *non-specific psychiatric disorders (general anxiety and depression) and post-traumatic stress disorder* amongst the medic population?
- 5) How do the results obtained from standardized screening tools compare to the information obtained from qualitative methods of data collection?

Understanding the unique challenges the Karen mobile medics face in delivering healthcare can lead to further development of mental health interventions designed for them. Basic mental health needs – for the village populations and for the medics themselves – are only beginning to be addressed by community-based health organizations (BPHWT 2004, Human Rights Center 2007). Both BPHWT and KDHW have begun to introduce mental health training to their maternal/child health, trauma management, and senior medic training programs.

The goals of these new trainings are twofold. First, the organizations hope to address the mental health issues of the villager populations who have suffered from human rights abuses including forced displacement, extortion, torture, and rape at the hands of Burmese soldiers. Second, the organizations plan to educate the medics themselves about ways to manage their own mental health concerns. It is hoped that this mental health training will lead to improved preventive and early interventions for these medics in the form of group therapy, peer counseling (in the form of modified western models), and other interventions that may be more culturally-related.

Ultimately, improving health providers' mental health and increasing their counseling skills can benefit the health of the populations they serve. Since the medic teams are often the sole healthcare providers for many village populations, their emotional wellbeing is vital to the effective provision of health services to these areas. Through direct communication with the KDHW and BPHWT mental health program leadership, the findings of my research may have direct implications for improving the effectiveness of these community health worker teams. In a broader scope, my work aims to inform mental health interventions for medics working in other conflict settings worldwide.

III. Methodology

A. Assessment of mental health – a mixed methods approach

Several methods have been developed to assess the emotional effects of trauma and the prevalence of mental illnesses in low-resource, refugee, or war-afflicted settings. Though quantitative psychometric screening instruments have proven quite effective (De Jong et al., 2001; Mollica et al., 1992; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Goldberg, 1978/1981; (Tremblay et al., 2009), psychometric evaluations are not meant to replace the clinical interview. However, brief psychometric surveys can be used to efficiently screen potential cases of mental illness in large populations (Silove et al., 2007).

However, some recommend that psychometric screening evaluations for trauma effects should be accompanied by qualitative studies identifying local idioms of distress and its sequelae (Pedersen, Tremblay, Errázuriz, & Gamarra, 2008). This is especially important, given the "ever-expanding and inclusive definition of trauma" that has made its objective application to diverse societies and cultures problematic. Although biological mechanisms are important for understanding PTSD, the effects of trauma involve additional cognitive and social mechanisms mediated by the personal and cultural meaning of traumatic events (Kirmayer, Kienzler, Hamid Afana, & Pedersen, 2010). The impact of trauma and disasters should be evaluated beyond clinical manifestations, and take into consideration broader social, economic and political contexts. Furthermore, it is critical to look beyond simple Western psychiatric-diagnostic frameworks of PTSD, anxiety, and depression, and explore the mechanisms of human growth, self-transformation, and resilience¹⁰ by which individuals confronted with trauma develop myriad outcomes of functioning (Wilson, 2006). In other words, the expanding concept of trauma may have grown so non-specific to be impractical, yet the narrowly defined and clinically focused definition of PTSD may entirely overlook manifestations of trauma as they are experienced in other cultures – a balance must be sought that tailors the evaluation of trauma for specific cultural settings.

Thus, this study incorporated open-ended interviews to accompany traditional psychometric screening instruments to elucidate how mental trauma manifests on a social/community level, and how medics retain psychological resilience in an environment of constant conflict and political turmoil.

¹⁰ Resilience is discussed at length in the *Discussion* section.

B. Field sites and participant sample

Study sites and participants are summarized in Table 1. For interviews, I drew a convenience sample of 30 participants from two medic-training courses – Phases 1 and 2 (described below). In both training sites where interviews were conducted, selection criteria prioritized interviewees with at least one year of actual field experience as a medic. For psychometric evaluations, all participants from two training courses included in Phases 2 and 3 responded to the surveys (74 total medics). Those in Phase 1 were not included as the psychometric surveys had not yet been translated. The project was discussed with local leaders (field directors, program coordinators, district secretaries) at each training location who gave their permission to carry out the study with the support of the local organizations. The University of California, Berkeley Committee for the Protection of Human Subjects approved this study in November 2010, with subsequent revisions made until June 2011.

The first phase of data collection occurred during a six-week period from July to August 2010, during an annual training for 22 senior BPHWT medics located near Mae Sot, Thailand. These medics work in northern and central districts of Karen state: Doo Pla Ya, Mu Traw / Papun, Pa' An, Thaton, Kler Lwe Htoo / Nyaunglebin, and Taungoo. All medic trainees were approached for participation in the qualitative study and 15 of the 22 medics agreed. The only reason given for non-participation was insufficient time outside of the training schedule.

The second phase of data collection occurred in January 2011 during one week of an annual trauma management training for 45 medics (both KDHW and KNLA medical branch) and other KNU staff near Suan Phueng, Thailand. These medics worked in the southern Karen district of Merguy-Tavoy. All 45 medics answered the psychometric surveys. Demographic data were collected for all 45 participants, but were collected separately from psychometric scores without a means to link the two data sets. Only six of the medics (who were also interviewed) had PCL-C and GHQ-12 responses that were also linked to demographic data, due to alterations in survey administration made during the study. For the qualitative study, I identified fifteen of the most experienced medics based on demographic pre-screening to be interviewed. Two medics with less than a year of field experience were interviewed, after interviewing all 13 medics with one or more years of experience.

<i>Phase of data collection:</i>	Phase 1	Phase 2	Phase 3	
<i>Training Site:</i>	northern/central	southern	northern/central	Total subjects:
<i>Organization:</i>	BPHWT	KDHW & KNLA	BPHWT	
<i>Training Date:</i>	Jul-Aug 2010	Jan 2011	Jun-Jul 2011	
<i># medics present at training:</i>	22	45	29	
<i># qualitative interviews conducted:</i>	15	15	0	
<i># psychometric evaluations administered (GHQ-12 & PCL-C):</i>	0	45	29	74

A third phase of data collection occurred during a six-week period from June to July 2011, during the following BPHWT senior medic training. The author hired and trained a research assistant to administer the psychometric surveys to all 29 senior medics in attendance. No qualitative interviews were conducted at that time. All medics' psychometric evaluation responses were linked to demographic data. Subjects were recruited identically as in the first two data collection phases.

C. Interviews and coded analysis

The interview guide was based on literature review and modified based on key informant recommendations. The author developed a preliminary, semi-structured guide for the interviews, and the questions were modified iteratively during the course of data collection based on review of previous sessions.

Five key informants were interviewed - four of these sessions were conducted in English and one was interpreted from Karen. These informants all hold leadership positions within the KNU, KDHW or BPHWT, and all are either former medics, or currently practicing in other settings (refugee camps, Thai clinics). Their titles within their respective organizations included secretary, district in-charge, district 2nd-in-charge, office coordinator, and refugee camp medic. Information from these interviews helped in the iterative formation of the interview guide, but was not included in the qualitative analysis, since none of the individuals were currently working as medics in eastern Burma.

The author conducted semi-structured interviews with 30 total medic participants. Twenty-seven interviews required the assistance of an interpreter, with medics' responses translated from either Skaw Karen or Burmese to English by an interpreter working at the training site. Of these interviews, one was in Burmese and twenty-six were in Skaw Karen. Three medic interviews were conducted fully in English.

With the consent of participants, interviews were conducted with maximal attention to privacy at training locations, meeting rooms, or personal quarters during breaks between or following daily instruction. Sessions commenced with an explanation of informed consent and obtaining permission for participation in the study. Verbal informed consent, written as a guide in English, communicated the purpose of the study and the rights of the participants prior to each interview, including their right to stop the interview at any time or refuse to answer any questions. Participants were assured that all personal identifying information would be handled with utmost confidentiality throughout the course of the study and publication. Basic demographic data were recorded before initiation of interviews. Each interview lasted approximately 45 minutes to 1.5 hours. All interviews were audio-recorded and English translations were used for analysis.

The author utilized open-ended questions as much as possible throughout the interviews, with an emphasis on encouraging personal narratives. Participants were asked to discuss the challenges and difficulties faced in their roles as medics and how these events impacted them on an emotional or physiologic level. The medics were also asked to share experiences that characterize mental health terms commonly used in Burmese

and Karen (“local idioms of distress”, see next section) and to describe the emotional and physiological manifestations associated with these experiences. These local idioms are discussed in the results section. The author then sought further permission to hear personal accounts of traumatic events, either during or before starting work as a medic, and the participant’s emotional reactions to those events. Finally, participants were asked to give examples of coping mechanisms used to deal with their life stressors, and to talk about their personal hopes and aspirations for the future.

The 30 interviews transcribed in English were analyzed using grounded theory-based techniques of qualitative analysis. In light of this approach, efforts were made to generate general theoretical statements from the contextual analysis of specific actions and events, as reported by the participating medics (Charmaz, 2006). An initial phase of descriptive coding using HyperRESEARCH v2.6 yielded a total of 677 descriptive codes.

These descriptive codes were edited for redundancies, indexed to the source data, and grouped under one of 54 categorical codes using Microsoft Excel 2004. Each categorical code was further organized into one of eight categorical code families, the organization of which formed the basis of the analytical memos. Ultimately, these memos informed the theoretical constructs presented in this research (see *results* section).

D. Mental health screening – psychometric surveys

Two psychometric screening tools were used in this study to supplement the qualitative data: the Posttraumatic Checklist for civilians (PCL-C), and the 12-question General Health Questionnaire (GHQ-12).

The PCL is a self-report instrument designed to assess symptoms of PTSD based on DSM-IV diagnostic criteria. There are military (PCL-M), civilian (PCL-C), and specific trauma (PCL-S) versions, all considered to be well-validated measures (Wilkins, Lang, & Norman, 2011). The PCL-M focuses on combat-based stressful experiences, whereas the PCL-S focuses on a single, specific trauma event; the PCL-C was picked for the medic population for being the most general of the three, defining stressful experiences most broadly. When responses are answered on a five-point value Likert scale (1-5), the total score ranges from 17 to 85 (85 representing the maximum extreme of PTSD symptoms). It has been shown to demonstrate reliable psychometric properties compared to other well-established self-reporting instruments (Ruggiero, Del Ben, Scotti, & Rabalais, 2003) and correlates well with diagnostic clinician-administered surveys (Blanchard et al., 1996).

A typical cut-off of 44 is used to screen for PTSD in civilian settings (Blanchard et al., 1996), and 30-34 in military settings (Bliese, 2008).¹¹ However, there is wide discrepancy in the cutoff scores determined for the PCL, depending on the setting and intended use of the survey as a screening tool, a clinical diagnostic tool, or population-wide prevalence estimation tool. Ideally, threshold cutoffs should be based on a “gold-standard” reference (usually a clinical interview), taking into account factors of spectrum effects, bias, and the true population prevalence of PTSD (McDonald & Calhoun, 2010).

¹¹ See Table 7 in the discussion of quantitative results for more details.

In contrast, the GHQ-12 is used as a community-level screening tool to detect potential non-specific psychiatric disorders (Goldberg, 1978/1981). Depending on the research goals, the tool can be validated using a diagnostic clinical interview as a “gold standard.” For example, previous studies have used the GHQ to screen for symptoms of current depression, agoraphobia, panic disorder, generalized anxiety disorder, neurasthenia (chronic fatigue), and mixed anxiety-depression (Montazeri et al., 2003). When responses are answered on a four-point value Likert scale (0-3), the total score ranges from 0 to 36 (36 representing the maximum representation of non-specific symptoms of psychiatric disorder). Alternatively, the same GHQ-12 Likert scale responses can be scored on a two-point scale (4-point scale responses translate to 0-0-1-1). The mental health status of the respective patients is measured with the help of the four subscales: somatisation, anxiety, social dysfunction, and depression (Kienzler, 2008).

Researchers have examined the significance and utility of screening cutoff thresholds for the GHQ survey. One study examined the wide variation of validated GHQ scale threshold scores across cultures, sites, and populations (Goldberg, Oldehinkel, & Ormel, 1998), despite similar methods in administering the survey. Despite the high variability of the actual threshold score across studies, they found that the mean GHQ score for a given population of respondents provides the best screening threshold for non-specific psychiatric disorders.¹² Furthermore, they determine that the mean score found in a pilot study provides a rough guide to the best screening threshold, and will not be far from that found in a more extensive study.

The screening instruments were translated into Skaw Karen by a Karen-English translator and back-translated by a second translator. The back-translations were discussed by the primary author and the second translator, edited, and incorporated into a second Skaw Karen version. The new survey was pre-tested with a KDHW office employee in Mae Sot, Thailand who had attained comparable education level to a field medic. Based on comments from pre-test, the survey was revised a final time. Surveys omitted personal identifying information, but included questions on basic demographic data (age, sex, number of years working as a healthworker, job description, district location). Respondents were instructed to take 30-60 minutes to answer both surveys with written responses in a private location of their choosing. The final surveys in English and Karen are included in Appendix A. For a discussion on the limitations of survey instruments and sampling, please see “Limitations of Study” in the *Discussion* section.

¹² Their study examined symptoms for depression, agoraphobia, panic disorder, generalized anxiety disorder, neurasthenia (chronic fatigue) and mixed anxiety-depression, according to the Composite International Diagnostic Interview (CIDI).

IV. Quantitative data analysis and findings

A. Demographics and psychometric score distribution

For the GHQ-12, the 74 medics' scores averaged 10.7 (SD 5.0) and 2.5 (SD 2.1) when using the 4-point and 2-point scales described above, respectively. The PCL-C scores averaged 36.2 (SD 9.7). The demographic characteristics and psychometric survey results of the 74 surveyed medics (and the n=35 subset, in which psychometrics were linked to demographics) is shown in Table 2. See Figures 3 & 4 for graphical representations of psychometric scale scores in the total sample population.

B. Analysis

Due to the limitation in data linkage described in the methods section, statistical associations between demographic variables and psychometric scales could only be analyzed for the n=35 subset shown above. For the 35-person subset, no statistically significant ($p < .05$) correlations were found in Pearson's r-correlation coefficients between GHQ and PCL scores with continuous quantitative variables (age, years of experience). Two sample t-tests (with unequal variances) were performed between GHQ and PCL scores with sex, marital status, and location, but yielded no statistically significant associations.

With the n=74 group, Pearson's r-correlation coefficient was observed between PCL-C and GHQ-12 scores. Results showed moderate and statistically significant correlations ($P < .05$) between PCL scores and both scoring methods of GHQ-12. Distribution of GHQ-12 (0-12 range) appeared to have significant right skew; distributions of GHQ-12 (0-36 range) and PCL-C were more congruent, perhaps explaining the more significant Pearson coefficient correlation.

Table 2: Demographics and psychometric score distributions

Variable	Total (n = 74)			Demographically linked subset (n = 35)		
		%			%	
<i>Sex:</i>						
Male	36	49%		27	77%	
Female	38	51%		8	23%	
<i>Age:</i>						
18-22	33	45%		7	20%	
23-27	17	23%		11	31%	
28-32	9	12%		8	23%	
33-37	5	7%		5	14%	
38-42	7	9%		3	9%	
43-47	3	4%		1	3%	
<i>Organization:</i>						
BPHWT	24	32%		22	63%	
KDHW	26	35%		7	20%	
KNLA	13	18%		3	9%	
Other affiliations	10	14%		2	6%	
No response	1	1%		1	3%	
<i>Number of years working as medic:</i>						
<1 (currently in training)	26	35%		0	0%	
1-5	19	26%		10	29%	
6-10	18	24%		16	46%	
11-15	5	7%		5	14%	
16-20	3	4%		3	9%	
no response	3	4%		1	3%	
<i>Location of work in Karen State, by district:</i>						
<i>(northern)</i>						
Taung Oo	4	5%		4	11%	
Kler Lwcc Htoo / Nyaunglebin	4	5%		4	11%	
Mu Traw / Papun	6	8%		6	17%	
<i>(central)</i>						
Thaton	3	4%		3	9%	
Pa'An	2	3%		2	6%	
Doo Pla Ya	5	7%		5	14%	
<i>(southern)</i>						
Merguy-Tavoy / Tenassarim	45	61%		6	17%	
(other Burma areas - not Karen State)	5	7%		5	14%	
<i>Marital Status:</i>						
Single	27	36%		19	54%	
Married, has children	15	20%		15	43%	
no response	32	43%		1	3%	
<i>Highest education attained:</i>						
monastery school-level	1	1%		1	3%	
literacy level	1	1%		1	3%	
2nd-4th standard	6	8%		6	17%	
5th-7th standard	10	14%		10	29%	
8th-10th standard	10	14%		10	29%	
no response	46	62%		7	20%	
	Mean	SD	Median	Mean	SD	Median
	(n = 74)			(n = 35)		
Psychometric Scale						
<i>GHQ-12, four-point scoring (range 0-36)</i>	10.7	5.0	11	11.2	4.3	11
<i>GHQ-12, two-point scoring (range 0-12)</i>	2.5	2.1	2	2.2	2.2	2
<i>PCL-C score (range 17-85)</i>	36.2	9.7	35.5	36.5	10.1	36

Table 3: Pearson's R-correlation coefficients between PCL-C and GHQ-12 (n=74)

Correlation of PCL-C with:	Correlation	P-value
GHQ-12 (0-36 range)	.4722	<.00005
GHQ-12 (0-12 range)	.4109	.0003

Figure 3: boxplots and histograms showing distributions of PCL-C, GHQ-12 (0-36 range), GHQ-12 (0-12 range) respectively [n=74].

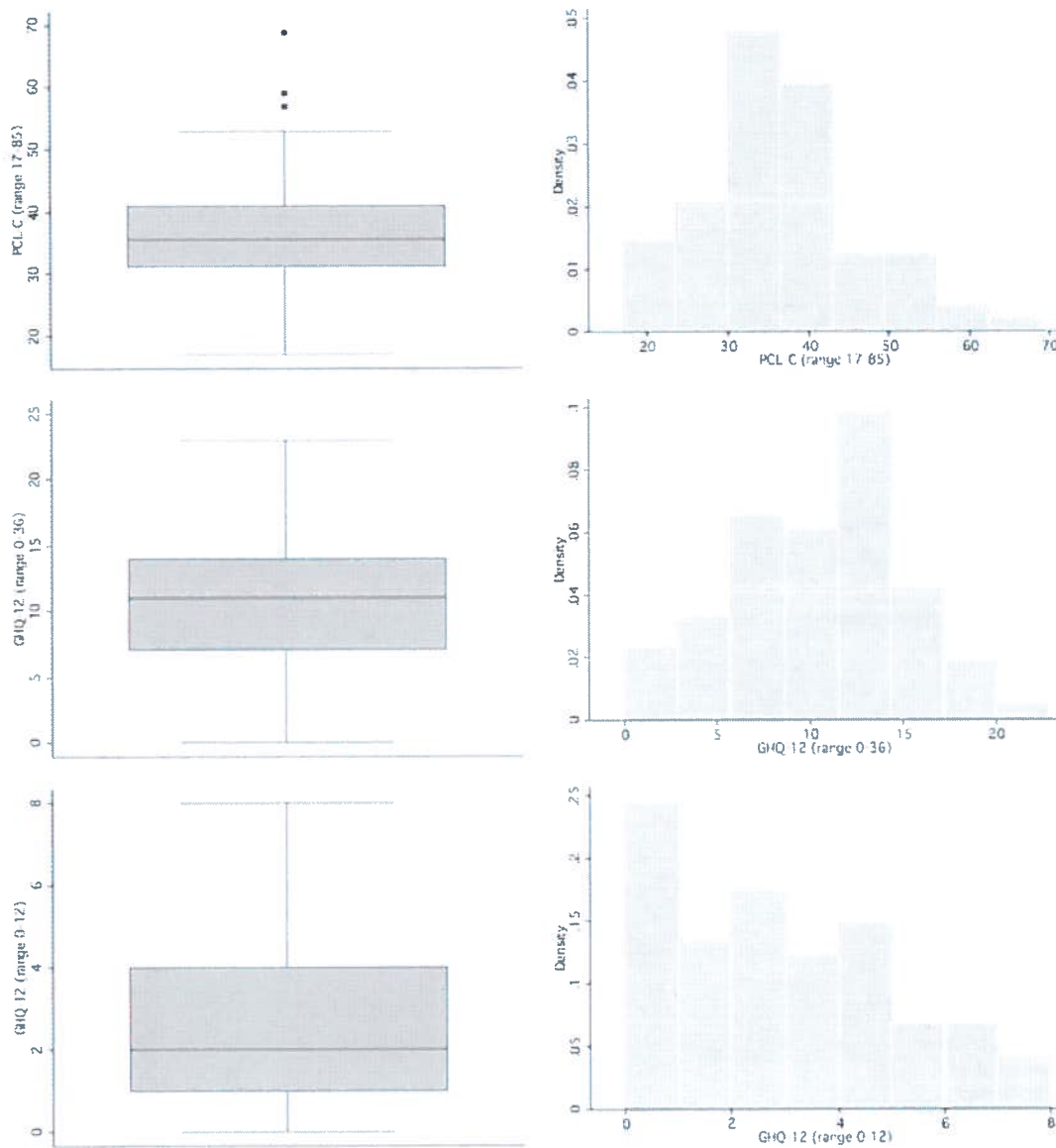
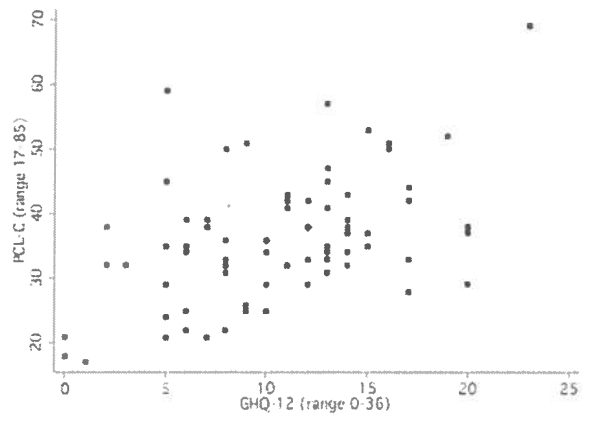


Figure 4: Graph showing PCL-C vs GHQ-12 (0-36 range) [n=74].



V. Qualitative data analysis and findings

This section begins by discussing the demographic survey results for the interviewed sample of medics, followed by a discussion of the local idioms of distress in Karen and Burmese to be referenced in the subsequent sections. Then, it introduces the medics' sources of distress arising from their professional duties, personal/family lives, and the challenges and difficulties relating to security issues, conflict, and Burmese military brutality. Finally, it explores some of the medics' sources of support and management of their mental stressors, including their peer group interactions, coping mechanisms, and the goals and motivations that may relate to the building of mental resilience to their life stressors.

A. Demographics

The demographic characteristics of the 30 interviewed medics are presented in Table 4. The medics were mostly young (66% between 20 – 29 years old), unmarried (73%), and had 1-10 years of experience (80%). The sample was well represented in gender (53% male) and organization (16 from BPHWT and 14 from KNU).

B. Local idioms of distress

Although the majority of interviews were conducted in Skaw Karen language, many terms have been transplanted from both Burmese and Karen to describe mental health idioms. The closest Burmese equivalents for depression (စိတ်ဓါတ်ကျ - romanized as *seik da'kya*), stress (စိတ်ဖိဆီးမှု - *seik hpizimu*), anxiety (စိတ်လှုပ်ရှား - *seik lo'shaa*), and mental

Table 4: Demographic characteristics of interview subjects

Variable	number (n = 30)	%
<i>Sex:</i>		
Male	16	53%
Female	14	47%
<i>Age:</i>		
20-24	10	33%
25-29	10	33%
30-34	5	17%
35-39	4	13%
40-44	1	03%
<i>Organization:</i>		
BPHWT	16	53%
KDHW	10	33%
KNLA	4	13%
<i>Number of years working as medic:</i>		
<1 (currently in training)	2	7%
1-5	10	33%
6-10	14	47%
11-15	2	7%
16-20	2	7%

Language spoken in interview:

Burmese	1	3%
Skaw Karen	26	87%
English	3	10%

Location of work in Karen State, by district:

(northern)		
Taung Oo	2	7%
Kler Lwec Htoo / Nyaunglebin	3	10%
Mu Traw / Papun	5	17%
(central)		
Thaton	2	7%
Pa'An	2	7%
Doo Pla Ya	1	3%
(southern)		
Merguy Tavoy / Tenassarim	15	50%

Marital Status:

Single	22	73%
Married, has children	4	13%
Unknown	4	13%

trauma (စိတ်ဒဏ်ယာ - *seik daan yaa*) were most often used. Even though Karen versions of these terms exist, the Burmese terms for mental health were apparently better recognized and accepted. Throughout the presentation and discussion of the medics' interview data, I will use the English terms as proxies for the Burmese or Karen equivalents for ease of comprehension (reference Table 5). Although these are transliterations of ultimately Western psychological concepts, exploring the cultural nuances of these translated terms provides an important backdrop for understanding the rest of the results.

Table 5: Local idioms of distress

English	Burmese	Burmese transliteration	Karen	Karen transliteration
Stress	<i>seik hpizimu</i> (စိတ်ဖိခီးမှု)	Mind-spirit suppression	<i>thar law bwi, thar ba hti tor</i>	Tired heart
Anxiety	<i>seik lo'shaa</i> (စိတ်လှုပ်ရှား)	Mind-spirit unsteadiness	<i>thut kot thar gaw</i>	Liver is hot, heart is red
Depression	<i>seik da'kya</i> (စိတ်ခါတိကျ)	Spirit fall	<i>thar law bwa</i>	The heart falls down
Mental trauma	<i>seik daan yaa</i> (စိတ်ဒဏ်ယာ)	Mind injury	<i>tha ba doe</i>	Heart-touch hit

Discussion of the terms often blended together during interviews, suggesting that the local idioms could be as overlapping and ambiguous as the equivalent colloquial English terms for anxiety, depression, stress, and trauma when describing mental disorders. The most stark linguistic characteristic was the ambiguity of the Burmese *seik* (meaning “mind”) and *seik da'* (meaning “spirit”). Although the Western concepts of “mind” and “spirit” are arguably distinct, the Burmese conceptions of *seik* and *seik da'* were much more difficult to distinguish. As we will see, this could be a factor explaining the Karen's integration of Western notions of physiology, psychology, and spirituality as overlapping explanations for the local idioms of distress. For example, respondents would often point to their chests when speaking of thought processes such as confusion – ideas that are thought to be contained “in the mind” by Western culture. Other

respondents spoke of spiritual reasons or superstitions that compelled them to act, feel or think in particular ways.

In southern areas, respondents commonly described their mental health using Karen idioms, though the above Burmese terms were still commonly used and understood. Similarly to the Burmese terms, the Karen idioms implied a culturally unique understanding and somatic experience of mental health symptoms. For example, an approximation of *seik lo'shaa* (worry or anxiety) in Karen was *thut kot thar gaw*, literally “liver is hot, heart is red.” *Seik da'kya* (depression) translates to *thar law bwa* in Karen, most closely meaning “the heart falls down.” *Seik hpizimu* (stress) translated best to *thar law bwi* or *tha ba hti tor*, literally “tired heart”. Finally, *seik daan yaa* (mental trauma) was *tha ba doe* in Karen, or “heart-touch hit”.

The medics typically perceived two general categories of mental health problems: disorders that could remain sub-acute for normally functioning people (anxiety, stress, depression, traumatic stress) and disorders that were deemed more serious, externally manifested, and obviously affecting social functionality (an example given being “psychotic” patients seen in some villages). Medics mostly discussed their personal experiences and struggles with the first category of mental health issues, and none of the interviewees mentioned feeling that they, or any of their peers, belonged in the second category.

Seik hpizimu (stress, or literally “mind suppression” or “spirit suppression”) was often characterized in terms of physiologic symptoms. Typical responses were heart palpitations, the heart “feeling tired,” an inability or unwillingness to eat, shaking, and losing sleep. *Seik hpizimu* was also described with psychological or emotional properties such as wanting to be antisocial, feeling afraid, having a “heaviness” on the mind, having a lot of worry, “not understanding oneself”, thinking too much, or thinking constantly about too many things. *Seik hpizimu* was said to be caused by many of the difficulties and challenges to be discussed in further sections: the inability to care for family and being away from home, the inability to care for patients or manage clinics, and the stress of security risks and conflict.

Seik lo'shaa (anxiety, worry or literally “mind unsteadiness” or “spirit unsteadiness”) was characterized during the interviews with a feeling described as “falling” or the “inability to stand” by some, which may be similar to faintness or light-headedness. An increased heartbeat was also frequently associated with this term. One subject associated *seik lo'shaa* with the inability to breathe. *Seik lo'shaa* was associated with the same causes as *Seik hpizimu* (security, work-related, and personal stresses) but also included some social sources of anxiety: worrying about losing the trust of the community if a patient dies, worrying about meeting patients’ expectations of medics, worrying about revealing weakness to patients or families, worrying about hearing “bad news” from their home community, and uncertainty about safety in the immediate or long-term future.

Seik da'kya (depression, or literally “spirit fall”) was commonly thought of as a “long-term” ailment and “kept in the mind-spirit”, not the body. Medics associated it with trembling, loss of appetite, desire to sleep excessively, social isolation, and domestic discontent. “Wanting to give up everything” was a common expression used to describe *Seik da'kya*. Stories regarding *Seik da'kya* involved being reminded of past turmoil,

uncertainty of the future, loss of self-control, an inability to reach goals and aspirations, powerlessness and weakness.

Seik daan yaa (mental trauma, or literally “mind injury”) could be related to either physical injury or verbal abuse. Some medics told stories about being beaten by Burmese soldiers in their youth. Medics recounted witnessing traumatic events that had left lasting impressions, such as the death of loved ones at the hands of Burmese soldiers, witnessing family members abused or assaulted by soldiers, and seeing the aftermath of bloodshed and slain people in destroyed villages. Some medics attributed trauma to hearing stories about horrific massacres and attacks on villages. Medics who had been involved in combat (especially those who had been soldiers formerly) commonly mentioned being sensitive to or easily startled by loud noises. Some medics who felt personally affected by *Seik daan yaa* reported having nightmares, or not being able to distinguish a dream about combat from real fighting.

Although I will discuss the medics’ personal trauma in more detail in the *Sources of Distress* section, certain stories are particularly pertinent to understanding the medics’ perceptions and manifestations of trauma. One medic recounted a story about another medic who was plagued by horrific images of seeing many corpses after a skirmish with soldiers nearby. Since that event, he became sensitive to whistle sounds and easily startled:

One of my [medic] friends, [...] they have fighting in another mountain, and at that time, there are a lot of SPDC soldiers camped for fighting. They [were] fighting a lot, and this is [...] serious fighting [for] them. So my friend, they are [in] groups, they also have to [move] together with the soldiers, [...] they go [to] help the soldiers. And he saw there a lot of bodies... and they, they have gunshot [wounds], there are many... many people are dead. And when he ran, at the time he saw one man is lie down and say 'help me, help me' because he was hit by a shot, and he told me 'help me, help me,' every time he pull this man, but when he heard the [troops] again, he... he afraid and he left the people, and run away from there. So up to that, when he came back, he thinks of [this]... When he hears the whistle, he lie down immediately, and whenever he hear the whistle, he lie down, like this, and even in the car, he heard the whistle, he lie down in the car. And he always in his mind, he always thinking, 'if I [could] help these people, how would we [be able to]? We both are dead, [we] will be dead [...]' and how, after I left him, ['what could we have done?']... he always thinking about this one, and this for a long time in his mind.¹³

Some medics felt that *Seik daan yaa*, if repeated over time, could result in people “losing control of their mind” and a change in facial features. One respondent talked about having nightmares and persistent, recurring thoughts of death related to horrific physical injury:

... Sometime, I maybe dream of... before I sleep, I have to think of if I heard the SPDC activities were in our area. So I had to plan where, I had to set up the people, the medics, and how many medics, and all we have to do when we're planning in my mind. I think of this after I sleep, I go to dream, and sometimes I got a nightmare... like gunshots and land mine injury.¹⁴

¹³ From interview with 36 year-old, female BPHWT medic, July 2010.

¹⁴ From interview with 33 year-old, male BPHWT medic, July 2010.

This quote captures how the constant worrying over logistics and the daily stress of constant security threats and physical danger can compound. For medics such as this individual, the constant feeling of *seik daan yaa* manifested as nightmares.

Another medic talked about his inability to determine whether he was really awake while in the moment of combat, or if he was actually in a dream:

In our fighting time, even when I'm shooting, uh, in the fighting, like a... it's like a dream. Sometimes when I wake up, I know 'oh it's fighting.' Sometimes I forgot, is like a dream. I dream it. Dream of it.¹⁵

Surely, not every medic had undergone such traumatic experiences or was so severely affected as the examples chosen for the section. However, the frequency of these stories in such a small sample of respondents suggests that mental effects due to trauma might have been very common among these medics. Further studies must explore causes, effects, and manifestations of traumatic stress for these medics. Any discussion of traumatic stress must take into account not only the experiences of the medics in their work-related lives, but also the experiences suffered in the past. The next sections will explore in greater depth the challenges and difficulties that may contribute to the mental distress of the Karen medics.

C. Sources of distress

The interviewed medics discussed a variety of hardships resulting from their roles as healthcare workers. These challenges can be roughly divided into 1) work-related challenges, 2) personal/family-related challenges, 3) challenges related to security, violence, and threats from the Burmese military, and 4) Early life trauma. See Table 6 for details.

1) Medics' professional duties: challenges and difficulties

Most work-related sources of distress for medics focused on feelings of inadequacy in their abilities to take care of patients. This included feeling insufficiently trained to handle situations requiring advanced medical procedures, lacking medicine and other resources, issues of transportation, and personnel issues such as understaffed clinics. The other major source of distress stemmed from the medics' social interactions within the village communities, where issues of compliance, trust, reputation, and community expectations can strain the medic-patient relationship.

¹⁵ From interview with 31 year-old, male BPHWT medic, July 2010.

Table 6: Medics' sources of distress

Professional/job-related challenges	Personal/family-related challenges	Challenges related to security threats, conflict, and Burmese military brutality	Early life traumatic experiences
-Inability / perceived lack of skills to treat patients	-Working away from family and home village for extended periods of time	-Providing medical services in/near areas of active fighting	-Early life trauma related to forced displacement
-Lack of medical supplies and other resources	-Inability to support family, and low compensation	-Limited ability to provide services due to security risks	-Early life trauma related to violence against family members
-Loss of personnel	-Fear for family's security	-Acts of violence against medics	
-Difficulties with patient interaction	-Family conflict due to resettlement issues	-Acts of violence against medics while transporting patients	
-Transportation and distance-related issues		-Acts of violence against clinics	
-Being a novice medic		-Threat of landmine injury	
-Upholding community expectations			

Professional challenges: perceived lack of skills or inadequate training

Ten out of thirty medics expressed feeling unconfident or inadequate in their ability to manage complex medical situations (such as traumatic injuries or making complicated diagnoses), even when the necessary tools and medicines were available. Although the medics had received approximately two years of community healthworker training followed by a number of intermediate medic training courses, medics reported learning most skills through field practice. Acute trauma due to a landmine blast was the most commonly mentioned complex medical emergency, with eight medics having had at least one encounter with a landmine victim. It should be noted that even the most experienced senior medics still expressed a constant need for more medical training. This response may have resulted from an awareness of the importance of continuing medical education, or from a sense of modesty and humility stemming from Karen cultural values.

The feeling of inadequacy was brought most sharply to focus in situations of patient death. When asked to give examples of work-related *seik daan yaa* and *seik lo' shaa*, six medics described stories in which they felt particularly distressed by a patient who died in their care, regardless of whether the medic attributed blame to their own faults or dearth of skills. Even if a patient's death was unavoidable, many medics expressed a strong feeling of obligation and responsibility to the patient and the patient's family. In cases, the patients' families accused the medic, blaming them for a death that the medic believed to be inevitable:

I will give [an] example about two patient[s] that I treat[ed]. They have malaria shock, hypotensive. The two of them are children. So, I know they come to me very late [in symptoms progression]. So the first one, I have to treat about five days, and [the child]

becomes better and better. But, for the other one, after two days [of treatment] ... they died. So, I know [that for the patient who died], before he arrived here, [he was] already [in] shock. So, I know that the time is very late for him.

So, the family [of the dead child] is not happy with me. So, at first I'm not happy also. So, at that time I feel sad, [...] because the dead family told me many thing, like I make a mistake. At that time I not... I feel not so good.¹⁶

Medics who spoke of feelings of ineptness in patient care also expressed feelings of shame, helplessness, and embarrassment. Some medics expressed feeling preoccupied by others' (medics, patients, or community members) opinions of their legitimacy and effectiveness as health workers. Medics often said they felt burdened by the social responsibility of patient care and the reactions of the patients they were unable to help:

For example, like me - I feel like every medic will feel [like this] too. Because when we are in field, when we treating the people, if we can cure them, they will say thank you. But if cannot, they will swear [at] you. So. And when I cure 20 people, if 10 people is not well, I feel – why it become like this? I have to think men die, and I think because of me, or because of why? What was? So [I think] this a lot, a lot, and it become trouble for [me].¹⁷

Although many medics were able to provide medical counseling or health knowledge or make referrals to the regional clinics, their inability to fulfill patients' expectations by treating acute ailments (whether due to lack of skills or lack of resources) was a commonly cited source of frustration:

We feel weak because when we take care of the patient we want this patient to [...] overcome the situation, and at the same time, the... their families, they believe that the medics... all of the medics have good... what you call... [that] they can treat the people and also they are very perfect person to treat the patient and to save the person. But for our medics, when even we saw, we know the symptoms and [the] disease, sometimes we don't have enough medicine, so we cannot do perfectly, so we cannot... what you call, we cannot help and we cannot reach that image they think of us, they believe of us, so it become difficult, and sometimes, even [when] we have to refer the patient, we don't, we cannot do for referring the patient. And so we can only... sometime we can give knowledge and we can do counseling in that area, so we also see ourselves... we are also weak in skill and we cannot help the people as they hope.¹⁸

This medic in particular talked about the reputation and image they felt obligated to uphold to their patients – that the medics could be relied upon to perform their duties perfectly to help patients. Failure to uphold this standard to the community would lead to feelings of shame, and thus they risked disappointing their patients and their communities. Many medics reported feeling the need to hide their self-doubts and insecurities while interacting with patients:

Sometimes I feel maybe depression strikes, but I don't want to, I always [inaudible] and even something is happen inside of my mind, I always have to smile to patients, because I

¹⁶ From interview with 26 year-old, male KDHW medic, January 2011.

¹⁷ From interview with 28 year-old, male BPHWT medic, July 2010.

¹⁸ From interview with 36 year-old, female BPHWT medic, July 2010.

don't want them to be disappointed. So I always have to pretend myself in front of them. And for my body, I don't feel anything that's in my body.¹⁹

Particular challenges arose for the young and relatively inexperienced medics relating to the stressors of being novices in the field. A substantial portion of the sample of interviewed medics tended to be younger in age; whether this age breakdown is representative of the wider population of medics was not known. There were 12 interviewed medics between the ages of 20-25, with an average of three years of field experience each (of these medics, there were 3 men and 9 women). While many of their complaints related to the general feeling of inadequate training, for the young medics, this presented as a lack of mentorship during their formative early years in the field and during training. For these younger medics, a common theme associated with *seik lo'shaa* related to the expectation of being community leaders, or at least sources of support amongst the village communities:

For other [more experienced medics], when they go to the field [to] work, they have a high [position]... but for me, I'm the low [position]. And as we are all teachers, [...] I believe that every teacher – As we are all teachers and we are all medic[s], we must be able to do everything. So sometimes I feel sad, unhappy.²⁰

The identity of *healer* and *teacher* is closely intertwined in the Karen village culture, and many of the new medics did not feel confident that their skills or experience merited this social distinction. Many of the younger medics (who lacked actual work experience and had only attended trainings) also had strong fears about security issues, such as encountering enemy soldiers while traveling between villages in jungle areas. Although this preoccupation may have been attributed to their lack of work experience as medics, the narratives of the more experienced medics justified the novices' unease; I will discuss security issues in much greater depth in the subsequent sections.

Professional challenges: lack of medical resources

The constant strain on resources²¹ for the medics and clinics was one of the intractable realities of providing health care in low-resource, war-afflicted areas of Karen state. Medicines ranged from oral nutritional supplements (vitamin K, vitamin A, zinc) to antibiotic prophylaxis/treatment of infectious agents (doxycycline for *P. falciparum* and *P. vivax* malaria, albendazole for lymphatic filariasis) to local and general anesthetics for trauma surgery (lidocaine, ketamine) and childhood immunizations (measles-mumps-rubella vaccines). Other medical supplies included rapid diagnostic test kits to detect malaria, insecticide-treated bed nets to prevent transmission of malaria and dengue, and lower-limb prosthetics for landmine victims.

Ten of the interviewed medics spoke of the difficulties of under-resourced clinics, which struggled to deal with high patient volume and a broad range of ailments. In many

¹⁹ From interview with 39 year-old, male BPHWT medic, July 2010.

²⁰ From interview with 20 year-old, female KDHW medic, January 2011.

²¹ *Resources* is a term applied broadly – it can refer to medicines used to treat patients; surgical instruments necessary for a variety of field operations; other consumable medical supplies such as gauze, cast plaster, and syringes; adequate rice or other food for the clinic staff, or the human resources required to staff a clinic or train the next generation of medics.

cases, medics felt frustration, stress, and anxiety when they deciphered a particular patients' diagnosis, but were powerless to treat the patient because of a lack of resources or medicines. Sometimes medics were able to manage a patient's injuries, but then struggled to triage and care for multiple casualties (due to landmine blasts, for instance). Clinics sometimes needed food and supplies delivered from over the Thai border or other areas in Karen state because they were unable to address both their patients' needs while supplying their workers:

It become trouble for me, sometimes we don't have enough medicine. [...] I think that [other healthworker teams] have the same experience like me, because they provide medicines for assistance, sometimes it enough, but sometimes not. [...] Sometimes I [get] depression or stress because we don't have enough worker, well, only less people there, and if for the serious case we have to wait there the whole night [...] it become trouble for us.²²

A dearth of medicines represented more than just an inability to properly treat patients. Some medics said that some patients placed great emphasis on the physical acquisition of pills themselves. Rather than accepting non-medical forms of treatment (change of diet, more sleep, less alcohol, etc), many patients sought the illusory comfort of “modern drugs” to act as quick relief for their ailments. For example, a medic mentioned how one of her patients exaggerated ailments and demanded pills from her. For the medics who understood the importance of simple, affordable, public health prevention, this was a source of frustration and led to feeling used by the people they sought to help. A few respondents suggested that this led to overly liberal medicine dispensing practices among some medics, leaving fewer resources for patients in actual need.

Professional challenges: transportation difficulties

The resource issues were further confounded by the difficulty of transportation between the few, isolated clinics and the most remote villages. In mountainous areas of jungle, winding dirt roads were inaccessible to motor vehicles, trails quickly disappeared under dense overgrowth, and low areas were especially prone to flooding during the rainy months. Due to these transportation barriers, medics struggled to deliver supplies or transport patients by foot to and from these remote villages; additionally, villagers were often unable to travel to nearby clinics to solicit care. Many medics expressed frustration at being unable to help villages even when resources were available. This had an especially marked effect on acute traumatic emergencies. One senior medic recounted directing a novice medic through a lower limb amputation for a landmine victim over the radio, because he was unable to cross a flooded river to do the operation himself:

In 2005... when one patient, he stepped on... a landmine went off. [This] landmine patient, when it happened, our medic report[ed] it to me. He cannot send to us, because on the road, [there were] a lot of opposition troops. So it is, we cannot go [to the patient], and they cannot send the patient [to us]. So, [the medic with the landmine patient asked,] 'how can, how can he do [an amputation]?' I explained, 'you can do, you should do – like

²² From interview with 39 year-old, male BPHWT medic, July 2010.

this' [*mimics performing surgery with hands*], like this step by step. I call him on the radio. He said to me he is not confident, he cannot, he was sorry, but he cannot do. I explain, 'you can do, you can do.'

I explain, you should [...] first give anesthesia, [and I explained] how to give it – they already know. And then, you should be, because the fragile situation, need to give amputation. And then too, like this, like this I [explained]. I talked him [through the entire surgical procedure over the radio]. And [...] later I met the patient. That patient was very well. That patient cured. Not die.²³

Professional challenges: personnel issues

While medics struggled to maintain the functioning of under-resourced and understaffed clinics, their efforts were hindered by the frequent turnover of their healthworkers. Over time, some experienced medics became dissatisfied with the difficult nature of their work (including the significant personal risk) and the lack of contact with their families for long stretches of time. Some medics related instances in which fellow medics left their jobs for better financial opportunities (such as returning to work on their farm, or setting up small businesses within their home villages). Others, having endured years of relentless stress, found it too difficult to function on a daily basis as a medic. In other cases, some medics left to become KNLA soldiers.

Many medics had family members residing in Thai refugee camps who applied and successfully resettled to "third countries" such as the United States, Norway, Australia, or the United Kingdom. One medic in charge of a clinic recounted his frustration with his diminishing staff:

Before, the [clinic I work in] had 31 staff. And we move another place. Some staff cannot live with me. Because some staff go to America and Norway and Australia, some people go to the villages.²⁴

For the medics in these situations, this became a critical dilemma – they were forced to choose between their families and their duties (sometimes obligations) with the KNU and the health organization they were employed by. Because well-educated individuals (who can provide useful skills and better adapt to a new language) with families were typically favored in the refugee and resettlement application process, brain drain became a significant problem for the professional and political leadership of the Karen resistance.

Nevertheless, loyalty to the KNU motivated many in its service to stay. In some instances, KDHW medics and other KNU workers continued their challenging duties even though it would have been easy to complete the process to join their resettled families in other countries.

²³ From interview with 30 year-old, male BPHWT medic, June 2010.

²⁴ From interview with 35 year-old, male BPHWT medic, July 2010.

Professional challenges: interactions with village communities and patients

From the interviews, two additional sub-categories of professional challenges emerged, dealing with medics' relations to the village communities they interacted with and the individual patients they treated.

It was difficult for medics to talk about their professional or personal futures without mention of the community. Being at the core of social interaction in Karen highland communities, the village community was a powerful driving force in the motivations, goals, and desires of the individual. Community support and moral reputation were commonly mentioned cultural factors that hold together the small and sometimes remote village settlements. The majority of medics (18/30 medics) said that helping their communities by successfully treating patients was their primary motivation for starting or continuing their work.

Medics interviewed for this study often spoke about their dependence on the geographically dispersed, yet often tightly interconnected, web of Karen villages for the physical necessities they needed to survive in the field. Medics depended on the hospitality of relative strangers for food and shelter as they traveled, often for days or weeks at a time, to transport patients to clinics, deliver medical supplies, or embark on medical missions in villages ravaged by Burmese troops. For many medics, the cooperation of other villagers was essential for their security, as villagers alerted them of advancing Burmese battalions to allow the medics time to escape the area undetected.

Because community and social reputation played such a pivotal role in positive social interaction and material support, the community could become a source of stress for medics. Sometimes, a medic's frustration was directly related to the patient-medic encounter. We already discussed the issue of patients and families blaming medics for poor patient outcomes, and the repercussions on medics' sense of self-worth. Medics also cited being frustrated when patients wouldn't seek care, forcing the medics to travel to them. Medics also complained of patients' non-compliance of treatment regimens, or of patients' refusal to heed their health advice.

A minority of medics felt reluctant to trust patients or villagers with their own personal or identifying information because they were afraid this information would be divulged to the Burmese patrols (cited by three medics, all from Merguy Tavoy district, suggesting that this issue may be particular to their region). The betrayal of information may have been involuntary, if the Burmese military coerced villagers to provide information on the medics' whereabouts. However, some medics reported the existence of SPDC informants within villages, or simply villagers with connections to the SPDC:

...I'm afraid of some of the villagers. Some of the villagers, they stand on the SPDC side, the Burmese side [...] – they are not to the KNU side. We worry that they will go and cause us something, and that the SPDC will come and attack [us]. Even the villagers also, we cannot trust them all.²⁵

For me, for-as-as I'm working on the inside [of IDP areas], [...] whenever I go to some of the places, I never give my detailed history to the villager. Even if they ask my name, I change my name, my [home village], my [home] township. I change all things. Only when I go [to work in and take responsibility for] that township, if it is my township, I

²⁵ Interview with 20 year-old female KDHW medic, January 2011.

may give my detailed history. That's why I'm not very afraid of those villages [and] village people [in my township]... if they're going to consult me to the SPDC or not.²⁶

These medics said that they generally felt safe when treating village patients. However, they also feared that a small minority of their patients could be conspiring against them. This, in turn, undermined their sense of trust for all of their patients. As a result, some medics used aliases or gave false personal details when providing care in villages outside of familiar territory.

The act of providing an alternate name or withholding personal information may seem like a trivial act, especially given that the medics' primary interaction with their patients was professional, not personal – and focused on providing medical services. However, given the community-based context of Karen society, the impairment of trust in the patient-medic relationship could have hindered medics' ability to receive essential support from the community.²⁷

2) *The personal lives of medics: challenges and difficulties*

I come and work here [as a medic], six years already, [...] but I got a chance to stay with my family only two times. The first time is only one hour, the second time, one day. [Even though] I see two times, I didn't have a chance to meet with all of my family members.²⁸

For many medics, one of their greatest challenges was the strain that their occupation placed on their family relationships. Although health organizations attempted to place medics in nearby or familiar areas, personnel constraints meant that the majority of medics had to work in villages far from their home communities, often requiring days or weeks to traverse by foot along treacherous jungle trails. In some cases, the families of medics lived in refugee camps in Thailand or had resettled to third countries. Some medics communicated with relatives using mobile (or satellite) phones every few months. However, the majority of medics could only contact their families by making the rare trip to their home community.

Personal challenges: working far from family for extended periods of time

A majority (24 of the 30 medics) said that they seldom saw their families for extended periods of time. An “extended period of time” ranged from once every three months to not having seen their family in over a decade – most respondents reported seeing their family for a few days, about once a year. Of these 24 medics, 22 respondents said that the separation from family was a significant source of *seik da'kya*, *seik hpizimu*, and/or *seik lo'shaa*; only two medics said that they were emotionally unaffected by the distance from their families. Two medics reported that they lived at home and worked in

²⁶ Interview with 22 year-old female KDHW medic, January 2011.

²⁷ This loss of trust might exemplify how the Burmese military can indirectly promote fear and distrust within the ethnic communities, which can dissolve the fragile social fabric of Karen society. Undercutting village society is part of the official *four cuts* strategy mentioned in the background section.

²⁸ Interview with 25 year-old male KDHW medic, January 2011.

their home communities; of these, one reported feeling happy working in his village, while the other feared that the proximity of his work and home environments endangered his family's safety.

The distance from their home communities and personal lives had profound effects on the lives of the medics. Many medics felt unable to provide or care for their families because of their physical distance from home – these responsibilities mostly concerned provision of food and financial stability. Even though medics were able to send money home to their families, they worried about their families' futures should they become disabled, die during service, or be captured by the Burmese military.

Personal challenges: fear for family's security and economic stability

Many medics feared that their work or affiliation with the KNU would put their family members' safety at risk, if Burmese soldiers discovered their relation. One medic expressed that the separation of family could lead to infidelity, or other actions considered destructive to either the medics' family unit or to other communities:

For some medics, [...] they have to live away from their family [though] they are marr[ied]... they have to [be] away from their family and [sometimes] they commit adultery... we saw this happen, sometimes it happens.²⁹

The low compensation for medics' work further frustrated insecurities about neglecting their role as the primary caretaker of the household. The typical field BPHWT medic working in Karen state was compensated 500 Thai baht per month (about \$16 USD), which many medics emphasized was not enough to support their families. They were also aware of the pay discrepancy between them and their colleagues who work in refugee camps or migrant clinics on the Thai side of the border:

... I ask [other medics if] they have problem[s] for the family [...] because not enough, no salary... And problem[s] for food... I get [for] one month [of work] – 500 baht. [That is the] normal salary. Every medic [gets] same to me... even senior medic, new medic, same... I don't know why. Some of my friends [who works in a Thai clinic for undocumented migrants], they [make] 3500 baht to 4000. I get only 500 baht, but I like my job...³⁰

The awareness of their low income compared to others was a source of frustration for some medics. A medics' income was often supplemented by their relatives' farm work or revenue from small village-based stores. Some medics said that the higher salary of running a small trade business in their home villages tempted them to leave their work.

Personal challenges: resettlement issues

A few medics with families in third countries harbored internal conflicts around the issue of resettlement. Some expressed a longing to join their families abroad, though they ultimately chose to stay because they believed strongly in their roles as medics.

²⁹ From interview with 36 year-old, female BPHWT medic, July 2010.

³⁰ Interview with 30 year-old, male BPHWT medic, July 2010.

Many said that their duty to the Karen communities came before their personal desires. Some of these medics said that their leaders were a source of inspiration to stay in their jobs, many of whom willingly chose to continue working with the KNU. Others said they did not want to resettle because of a strong attachment to the Karen state as their birthplace – using the term *Kawthoolei*, in reference to the Karen motherland.

3) *Security issues, conflict, and human rights violations*

This section discusses the major source of fear and *seik hpizimu* for every interviewed medic – security issues and threats of violence from the Burmese army. These difficulties and challenges arose from the limited ability to provide medical services near active fighting and direct acts of violence against medics, patients, and clinics. In addition, the constant danger of landmine injury was a prominent fear for many medics while traveling. Finally, early life traumas related to forced displacement or violence against family members by Burmese troops provided a backdrop for many medics' experiences with security issues and violence before even starting work as a medic.

Security issues: providing medical services near conflict

Although the majority of the medics interviewed for this study worked for civilian health organizations, it was inevitable that medics found themselves working in combat situations – whether in the frontlines addressing the war wounds of KNLA soldiers, or helping to treat civilian victims in the aftermath of a Burmese military attack on a village. All thirty medics expressed feelings of *seik hpizimu*, *seik lo'shaa*, fear, distress, or worry related to their concerns of security and violence as a result of Burmese acts of military aggression. The novice medics – who lacked significant field experience – said that being attacked by Burmese soldiers was their biggest concern. In fact, their concerns were justified, as most medics with as little as one or two years of experience recounted stories of being forced to flee by advancing Burmese troops, or being directly threatened with violence.

Community health organizations often dispatched medics to villages in close proximity to active fighting. One medic described when Burmese soldiers besieged their village and clinic with mortar fire for several days:

SPDC and DKBA came to attack [our] clinic [in our] area. And we were fighting, nearly seven days – seven days to twelve days. Every day. Because... before they attack, they use the launcher. They use mortar maybe two days, and [after] three days they come to fight. [After] they [captured] the clinic and battallion area, we leave [for] another place. Not so far. Maybe two days they [...] know we stay like that. They are shooting [mortars]... many, many times.³¹

The following story was one of several in which medics described fleeing from villages where they provided services. Many medics discussed the frustrations of being under attack and being forced to abandon the patients they were treating in the village:

³¹ From interview with 30 year-old, male BPHWT medic, July 2010.

The soldiers come and attack[ed] through the village, and then we had to flee after that time. We see our patient [...] we have to help him already, but in case we cannot help him and we have to lose them ... [although] we're willing to help him. Sometimes we feel very bad. And after, if we thought about this patient, then we cannot sleep. We have to realize – all things happen... and sometimes it makes us feel bad also.³²

Medics often spoke about a profound sense of powerlessness and futility in their struggle to keep villagers alive and healthy, especially in the face of Burmese troops' superior firepower.

When medics were dispatched to villages on the frontlines, KNLA scouts could still alert the medics of enemy troop movements, and villagers could provide food, shelter, and help disguise medics as regular villagers. However, medics felt particular fear, *seik hpizimu* and *seik lo'shaa* when having to traverse long distances between villages, in the vast expanse of dense jungle. In this instance, one or two KNLA soldiers accompanied the medics while they traversed particularly hazardous territory:

...To reach [a village], they would [have] to cross a Burma army [checkpoint]. Where they go, they have not enough security. [Sometimes,] they have Karen soldiers [accompanying them], but they are not enough. Sometimes they have to go just only them [on their own], and – sometimes the Burma Army follow[s] them...³³

Most of the time, medics traveled alone or in small groups of two or three medics without armed escorts.

Security issues: acts of violence against medics

A few medics shared instances when they were attacked by Burmese patrols. Since rivers were important routes for transportation and supplies in the jungle areas of Karen state, the Burmese made a concerted effort to control the major rivers. River crossings were crucial strategic checkpoints for the armies, and were often heavily guarded along the banks. One army medic recounted a story being attacked while crossing a heavily guarded river:

...When [the medics] crossed the river... they stand on the bamboo boat and they try to cross the river... and when they cross, the Burmese army shoot[s] at them –after that, [the medics] jump down into the river and try to swim to across the water, the river.

The KNLA soldier[s]... they come back [and] they try to help [the medics being attacked]. When the Burma Army shoot[s] them, the group [of KNLA soldiers] tried to defend. So they tried... [to] defend them for their security.³⁴

The fear of being attacked while traveling was a significant source of *seik hpizimu* and *seik lo'shaa* for most medics, who reported feeling unable to relax regardless of their location. Whether in villages, or traveling en route, they feel constantly in danger of being targeted by Burmese patrols. One medic described constantly searching for escape routes in the forest when stationed at a village, even in times of relative peace. Another

³² From interview with 25 year-old, male KDHW medic, January 2011.

³³ From interview with 27 year-old, female KDHW medic, January 2011.

³⁴ From interview with 21 year-old, female KNLA medic, January 2011.

medic was severely beaten by occupying Burmese soldiers in his village.

Security issues: limited ability to provide services due to risk

Medics often related incidences where they were unable to treat patients effectively due to the interruptions caused by security concerns. In some instances, Burmese troops occupied access routes and created barriers to transporting patients back to clinics or hospitals. This created dire consequences during acute care, as in the case of this patient who was forced to undergo a leg amputation in the jungle, en route to a Thai hospital:

In 2006, that's when [...] the SPDC had this march at that area. So we cannot send [the patient] to hospital. So we had to let him to stay there, and we have to cut his leg until he become well.³⁵

Medics transporting patients through jungle areas were particularly vulnerable to Burmese military patrols. One medic reported being ambushed by a group of Burmese soldiers, forcing him to hide with the patient and return fire:

Maybe 2003, one villager got a [land]mine injury. That time I will carries the people and that night, maybe [for] 12-14 minutes, SPDC and DKBA shoot [at] me. And that patient maybe we will go to like this [*motions lying down on the floor*]. SPDC, DKBA stay like this [*awaiting in ambush*]. We groups don't know about that. They [start to] shoot, my patient stays here, and I run away, maybe to another place. And cover, with another friend. The patient stays like that. And they are shoot me maybe 10 minutes, and we shoot... shoot [*makes cross fire motions*]. One of my friend got gunshot injury. [The patient] just stay lying down on the floor.³⁶

It should be noted that medics were sometimes – but not always – provided with rifles or small sidearms, but were ordered not to fire them unless attacked first and forced to defend themselves or their patients. The situation described above is clearly one in which the medic fought in self-defense.³⁷

Security issues: threat of landmine injury

Additionally, medics traveled long distances through potentially unfriendly terrain, where they were at risk of detonating landmines. Eight of the medics who had personal close calls with landmines – or had treated villagers or soldiers who had detonated landmines – expressed this deep-seated fear. In the words of one medic:

I remember maybe [January] of the 2010, one of my friends was hit by a land mine, and he was taken care of by his friend. The two are very close friends, and when the friend, the other one saw he was hit by a land mine, he feel like ... in the first time he had two

³⁵ From interview with 39 year-old, male BPHWT medic, July 2010.

³⁶ From interview with 30 year-old, male BPHWT medic, July 2010.

³⁷ Medics are allowed to carry small side-arms for self defense, while still being given non-combatant status and conferred the protections as outlined in the Geneva Conventions of 1949. A more complete discussion of international humanitarian law with regards to medic neutrality will be pursued in the *Discussion* section.

legs, and now he would only get one leg, and how he would be [able to] live in here, and how he would walk, and how he would be feel. So even he said something to him, but he feel unhappy for him.³⁸

Although none of the medics interviewed for this study had detonated a landmine while working, one medic reported an instance where a fellow traveling medic was injured after stepping on a landmine, and he had to carry him back several miles to be treated at the clinic:

In 1999, I went to the northern area for health program. And then I come back, on the road – and one of my friends, he stepped on landmine, and he... he get amputated. At the time, we have to [stop] for the patient, to control bleeding. That area [where we stopped] is very close [to an area with fighting between] the SPDC troop and KNLA troop. So we are very worried about [the bleeding]... so fast, that patient. And... later on I [carried him on my back for] three hours... I tear my *longyi* [sarong-like cloth] in order to pack[...] and compress[...] that injury. And we control the bleeding like this. But it is too much bleeding.

... We arrive to the clinic, and give blood transfusion... two bag[s] of blood. And we begin upper knee [amputation]... [laughs] I was very worry and I so afraid at that time. Because [...] I worry about the SPDC troops and KNLA troops fighting, this I'm worried about. Second one is, he is my friend – I worry about for their family, their home. I worry about this because he's working with me.³⁹

Security issues: acts of violence against patients and clinics

Providing healthcare in villages could put villagers at risk if medics were discovered while working; thus, they took extra precautions to ensure the safety of their patients. BPHWT medics typically camped in dense jungle areas, hidden near several villages; they hiked out to each village to provide services for a few days to a week at a time. Sometimes, medics worked with villages that were dangerously close to Burmese military encampments, perhaps only a few miles away. KDHW/KNLA medics rapidly deployed mobile clinics, which could be mobilized quickly if enemy troops approached. Nevertheless, mobile clinics were targeted by troops and were frequently destroyed or burned when discovered:

When [the medic] goes to the work field... sometimes the villagers, they make a place to see patients and... later on some of the soldiers, when they know [about the clinic], they would come and attack them, [so] that the villagers have to break down the buildings [of the mobile clinic].

And later on, [if] the soldier[s] know, they worry that they will come make the villagers hunted, they will hunt them... That's why they had to break down the building. Sometimes the villager has to hide [the medics] also.⁴⁰

³⁸ From interview with 33 year-old, male BPHWT medic, July 2010.

³⁹ From interview with 30 year-old, male BPHWT medic, June 2010.

⁴⁰ From interview with 20 year-old, female KDHW medic, January 2011.

One medic recounted his experience having to rebuild his clinic five times in less than a decade, after subsequent razings by military attacks:

... I will [be] building [a] new clinic, not finished yet. But they are come to attack my clinic area five times. Five clinics they are choose to burn. [...] Five... five times, I had to build the clinic, they will come to attack.⁴¹

The targeting of medics, clinics, and their patients constituted a violation of medical neutrality and international humanitarian law according to the Geneva Conventions of 1949. However, because clinic structures were often simple bamboo constructions that resembled village houses or rapidly deployed tents or tarps, their function as medical provisions perhaps were not always universally clear.⁴²

Medics often moved with forcibly displaced populations after villages had been destroyed or occupied by Burmese or DKBA forces:

I finish training and I will come to Mae Sot, I sleep one night. And next morning I will go to front. And I saw two patient got gunshot injury. And many, many, many. I told you. Especially, already one week: [there were] two to three times [that] fighting [broke out between] SPDC and DKBA and KNLA army in my area... yes. [In] 2002. Every, every. Many, many fighting. [...] That place cannot transport the patient because there is the SPDC and DKBA [soldiers]. Many, many people I will stay [with] in the deep, deepest place, [...] deep jungle.⁴³

Sometimes medics said they were forced into hiding along with the displaced populations after an attack; other times, they purposefully moved with displaced populations to provide care until they could seek more permanent refuge in safe village areas. Medics also provided sanctuary to displaced villagers in their clinics.

The constant fear of attack was likely the most palpable source of stress for the Karen medics. When their fears were actualized, the disturbing confrontations with military violence became serious traumatic events. However, an exploration of an individual's traumatic experiences must also take into account the existence of early-life/childhood traumas; it is these events that can determine how a person creates meaning systems to cope with or understand stressful experiences. The following section will describe the various traumatic experiences that medics have dealt with before beginning their careers as medics.

4) *Early life traumatic experiences*

During interviews, medics were asked to recall any traumatic childhood memories or experiences prior to starting work as a medic. These accounts largely focused around trauma related to forced displacement and trauma related to the violent abuse of relatives.

⁴¹ From interview with 35 year-old, male BPHWT medic, July 2010.

⁴² The implications of international humanitarian law of these attacks on medical structures and personnel will be explored in the *Discussion* section.

⁴³ From interview with 33 year-old, male BPHWT medic, June 2010.

Early life trauma: forced displacement

We had to be displaced since [we were] little kids... My village was burned, because of the fighting... Always on the run, always displaced, many place. Until now, I have no house. I have no home. We sleep, sleep in the jungle. No, no hut and no building – under the rain, big rain. No food, no rice, and very sick... And afraid. No security.

The thing that I cannot forgive is the Burma Army. I cannot forget the Burma Army. They did many things, many trouble for our people [*laughs*].⁴⁴

Ten of the interviewed medics recounted being forcibly displaced from their village at some point during their lives, though it is likely that many more of the respondents had similar experiences that were not revealed during the interviews. Most of these forced displacements occurred during 1997, when the SPDC (allied with the DKBA) made a concerted offensive against many KNU controlled areas, causing the forced migration of thousands of Karen civilians. These accounts were often coupled with horrific memories of violent executions and other atrocities committed against villagers when being forced from their homes. One medic recounted a traumatic experience in which Burmese troops deceived her village to emerge from hiding:

In 1997 and 1998, at that time, most of the Karen villagers had to flee. A lot of people had to flee. At that time, in [the] village that I stay[ed] in, the Burmese soldiers come and attack. We had to flee, and later on, we had to go and stay in [an]other village. We had a lack of food supply also. It's not enough – we have to flee. That's why we have the difficulty [to] live... to survive.

Later on the Burmese military come back to the [other] village [where we were hiding] and ask[ed] us, "Don't worry, come back to your village, and we won't hurt you. You can come back and stay in your village."

And that's when we decide[d] to go back to the village. At that time, some of the villagers, around three villagers... one of the [Burmese officers] said that they have relation, have relatives [in] the KNLA or something like that. He brings [one of them] to the field, and he asked that man to dig a hole, a hole, and he asked to stand beside a hole.

The Burmese soldier asked [the man] to dig a hole, and then he shoot with a gun, and that man fell down in the hole and died. At the time that they shoot that man, I [was hiding], when they go in to see the dead body, it was down already and fell down in the hole. And one of the men – he [saw] that incident and [they caught and] tortured him.⁴⁵

Surviving through forced displacement left an indelible mark on the memories of these men and women. One medic told the tragic story of how her mother and two sisters died from a respiratory infection while being forced to hide in the jungle:

...When I was small... maybe seven years, [my family] had to [flee our village when it was under attack]. [My sisters and I] are only child[ren], we cannot run together with the adult people, so my father had to carry us in his basket and then we had to flee into the forest.

⁴⁴ From interview with 27 year-old, male KDHW medic, January 2011.

⁴⁵ From interview with 24 year-old, female KDHW medic, January 2011.

We cannot live in the stable place, and sometime we don't have food to eat... So we have to go around that [jungle] area always [hiding] like this, and until my mother... my mother, because she had to move like this, she got the sneeze and no one checked... and there is no one to take care of her, so my mother died... and also my two little sisters are die.⁴⁶

Early life trauma: violence against family members

Many traumatic experiences revolved around experiencing (directly witnessing, or being told about) a family member being beaten or killed by Burmese soldiers. Seven of the interviewed medics recounted experiences from their childhood where they witnessed their relatives being beaten, tortured, or killed by Burmese soldiers:

When I was five years old, the Burma army came to my village and called the village leader.... and asked [each] family for one person [...] to stand in line in the village, and they beat them. My father, his name is Paul, [but there was another] KNLA [military] leader named Paul. So they misunderstood. They think that [my] father is that [KNLA] leader, that person. So they capture father and [they] arrest him [for] about three days, three nights, and beat him a lot. I remember this always...⁴⁷

When I was six years old, I can remember our family made a traditional ceremony in the house. And at the time, one of my uncles who lived there, he wanted to go to the farm. So, he talked to the Burmese soldiers, because they saw him in the village. So he talked to them, and he [asked] permission [from] them. And they allow him to go to a field. But when he came back, they arrested him, and they beat him, and they treated him very badly. They tortured him, and they broke his leg[s] – [both] legs – until he's dead.⁴⁸

For one medic, the soldiers horrifically tortured and raped his relatives in front of the rest of his family:

When I was a child, I had to move at that time, [from my] home. Also the soldier come and burn and even one of my uncle, the soldier killed. They treated [my uncle] very bad before they killed [him]. Before he died, they stabbed him with the knife [in front of] the whole family... even [his son] ... the soldier raped the daughter. And, amongst all the family, only one member is released after that. They kill all of that family members, only one can flee from that.

This old memory, [for] the rest of my life – the whole of my life – I cannot forget any more. These things... we try to release. We cannot forget, and then we shouldn't forget, also.⁴⁹

Another medic also recounted a story in which a close relative (his pregnant aunt) was publicly beaten in front of the village:

...When I [was] six years, [there were] children play[ing] in a big hole... and they [were] laughing. At the time the Burmese soldiers came into the village, and they saw [the children] laughing. [The soldiers] got angry about this, and they called the adult people

⁴⁶ From interview with 36 year-old, female BPHWT medic, July 2010.

⁴⁷ From interview with 20 year-old, female KNLA medic, January 2011.

⁴⁸ From interview with 36 year-old, male BPHWT medic, July 2010.

⁴⁹ From interview with 22 year-old, male KDHW medic, January 2011.

inside their homes and they saw my auntie. She [was] a pregnant woman. So they pull her out and they beat her. In the morning, [the baby] got abort[ed], and [the aunt] died.⁵⁰

Some medics may have carried the burden of horrific and graphic trauma involving family members for their entire lives; perhaps these image became a well of intense emotions of guilt, anger, revenge – and, eventually for some – a vehicle for empathy and compassion. Some managed to accept (or repress) the memories of their early childhood. For others, it manifested in the form of nightmares:

... When I was ten, my father [didn't want to] stay in his village [which was occupied by SPDC troops]... mostly he stayed in the forest. He slept in the forest mainly. At that time, the [SPDC] asked all the people who stayed in the forest to [...] go back to stay in the village... but my father stayed [in the forest]. Later on... the Burm[ese] soldiers come and arrest my father and ask him [if he owned a] gun. [Then, they] beat my father... My father did not have the gun, and later on, [the soldiers put] a knife to his back, to threaten [him].

When I was ten, it affected me very much [particularly when] I was growing up...
...I sometimes think about ... that one [soldier] who came and arrested and [beat] my father [...] they go and attack my father like that. and I felt very bad, and when I was grown up ... when I think of that [memory of my father being beaten], it makes me...
Feel bad. That's why I cannot think [of that memory] all the time...

It's passed a long time. I didn't think [about this memory] very much. But, sometimes [I have] nightmares... dreams like somebody would come and stab [me] with a knife or something like this. I wake up, and I thought that this is a dream, and then I didn't think of it too much any more. I have nightmares sometimes. I have palpitation ... I have heart palpitations, like I'm afraid, and... I [become] sweaty when I wake up.⁵¹

This medic was initially consumed with revenge against the soldier who beat his father. However, with age and maturity, he came to realize the futility of killing others and the value of life:

When I was ten years old, I wanted revenge. I wanted to kill [the soldier who beat my father]. But when I grow up, I become mature, and I know. I know the good things and the bad things and I can separate this. So I don't want to do; I don't want to harm anybody...

When we study for the health, it's to save someone's life... If someone comes and [punches] you or someone come and stab you ... to say, "How much of this pain you know yourself?" If we do to other people also, they will feel same thing or suffering. That's why I don't want to do it... How much is treasure of life? If we would kill someone, you don't have anything, you kill this one, you cannot get any advantage for it... This is meaningless [...] because you kill. This is meaningless.⁵²

Unsurprisingly, some medics expressed feelings of anger and revenge for the Burmese soldiers. Although most medics were motivated by a desire to help their communities or provide health to their villages, two medics admitted that revenge was part of their initial motivation to join the KNU or to enter training as a medic.

⁵⁰ From interview with 36 year-old, male BPHWT medic, July 2010.

⁵¹ From interview with 25 year-old, male KDHW medic, January 2011.

⁵² From interview with 25 year-old, male KDHW medic, January 2011.

Most medics said they were able to cope with their early traumatic experiences – bringing a sense of empathy and motivation to their patient interactions. However, these traumatic memories could be triggered when hearing the parallel life stories of their patients:

This kind of image, this kind of memory, it doesn't haunt us – but we cannot ever forget... Usually we're trying to delete this kind of memory, but we still remember sometimes, sometimes... We will remember sometimes when we see patients who got the gun injury or something like that, we may remember this kind of feeling... [Or] sometimes if an orphan told us about their family member [who has] an experience like this, and then we remember and we see this kind of images.⁵³

Many medics drew upon their personal experiences of displacement as a source of empathy for the patients that they treat in IDP areas:

Like uh when we go to [work] in the field, [we see] families and our people who escaped and are living, hiding in the hiding place. And when I saw them, I think always – I used to hide like this. I used to move like that.⁵⁴

There were many motivating factors for why these young men and women decided to serve as medics in such dangerous settings – but a large motivating factor seemed to be the personal connection to patients that medics felt when they traveled to the most war-affected villages:

... When I go to the IDP place, even some of the villagers, they are very poor, and they don't have the money to go and see the medics [at the clinics near their villages], because of their problems in life... Their life, they have to flee all the time from the SPDC and stay in the forest, as well... Sometimes when I see those [people] and I feel pity for them, and... I think it makes me, [it] impacts me, which is why I'm willing to work with them.⁵⁵

Compassion seemed to be a powerful motivating factor for these medics, who had often suffered similar tragedies as the patients they treat. The ability of medics to express their motivations may have contributed to their personal resilience against mental stressors. The next section will discuss some sources of support that these medics draw on to manage their work- and family-related challenges and mental stressors.

D. Support & management of stressors

Now that we have explored the sources of distress that may have been risk factors affecting medics' mental health, this section will discuss the protective factors that perhaps contributed to their mental resilience against stressors. These included the support of their peer groups in medic teams as well as individual coping strategies. Finally, I will discuss medics' goals and motivations pertaining to their personal and professional lives.

⁵³ From interview with 24 year-old, female KDHW medic, January 2011.

⁵⁴ From interview with 23 year-old, female KDHW medic, January 2011.

⁵⁵ From interview with 26 year-old, female KNLA medic, January 2011.

1) Peer-group interactions and support

Since most medics traveled and worked far from their families and communities for extended periods of time, the interactions that they developed within their peer groups became essential for building social cohesion. Except for occasional instances when traveling alone, most medics worked together in small teams of two or three when in IDP areas, up to a dozen healthworkers (including community health workers, village healthworkers, and medics) working in the relatively organized structure of the established clinics. In the interviews, medics were asked to characterize the quality of their relations with their fellow medics and leaders in their teams.

Some medics characterized a strong mentor-apprentice relationship between experienced and novice medics. Since most medics reported learning the bulk of their skills through actual field practice, a sense of peer camaraderie and dedicated mentorship became essential for the new generation's ability to acquire new skills:

[One time when I was a novice medic,] when I went to the field and I treat one patient, and we have two friends, my friend and I... When I'm with this patient, every time when he comes, he asks us to give an injection. And my friend wanted me to improve [my skills] and wanted me to do an injection, but this patient don't [want] me, only my friend [who is a more experienced medic].

One time when he comes, my friend pretends that she is asleep – because my friend wants to help me to improve my skills. So, she keeps quiet and pretends to sleep... and at that time, the patient allowed me to do [the injection]. If other people [were available], if he has other people, he will use the other one. Because no other people saw, he allowed me to do that.⁵⁶

And in the words of another medic:

When I see the serious patient, [that] we cannot treat [...] it's like, [...] my heart is tired. Like this. [...] I feel very bad at the time. I have to tell my other friends to come and help us. Like a senior medic, or the expert one. So when they came and they treat, they came. When I [see] them, I feel good. And [the bad feelings] disappear.⁵⁷

In teams with a strong basis for skills-related mentorship, medics reported that their experienced peers and group leaders were a source of encouragement through their professional development. These medics looked up to their leadership as role models:

For some people... for release of their [stressful] feeling, [...] they take example from their leaders, because their leaders have many experience, so they take the example from them. They have to work very hard and they [...] give support. [...] They also share and encourage us, in working together with us. And for some people, they talk in religious way... [that] our life is short... but in our short life we have to understand, to think in the religious way. For some people they said [that the dire situation of the Karen people] is

⁵⁶ From interview with 20 year-old, female KNLA medic, January 2011.

⁵⁷ From interview with 32 year-old, male KDHW medic, January 2011.

our current fortune, because it [has] happened since our forefathers, so it has come generation by generation... So we have to understand our fortune. So the people try to coping in many ways.⁵⁸

In some of these teams, medics described the emotional support that they received from their peers after experiencing difficult or potentially traumatic encounters during their work:

As we work together and our friends encourage us. And we also, we have help each other... and sometimes our leader encourage and explain about our work-future and our work. So I always get energy from them. And also when we hug each other – because we hug each other – it also makes me motivate.⁵⁹

Encourage each other. Sometimes we have to face problems like that and sometimes we have to face like this. Just encourage each other.⁶⁰

When conflicts emerged among the teams of medics, teams with increased communication were better able to resolve their issues:

Like sometimes when we work together, some of our coworkers, we misunderstanding each other and we are not unit[ed] and [not very] peaceful[...]. So that makes me lost my confidence... We try to deal with the conflict, and we try to tell each other to make up the misunderstanding... like I tell you, 'this is my misunderstanding. You shared with me and we shared each other'... and we tried to get [the misunderstanding] away. [...] It's not only me, like everyone, we try our best to communicate, to be good communicate and good relationship and understanding.⁶¹

In settings where medics were often isolated, traveling through treacherous areas, working with unfamiliar communities, with minimal security and sense of safety, the close social ties that they developed with their peers were crucial for their wellbeing and ability to cope with extreme stressors.

However, many medics also reported poor communication amongst their team members. Several respondents said that it would be best if medics shared their stresses with one another, but that this rarely happened:

For my opinion, I think it's better to share their stress to the other [medics]. If they are stressed like [...] this, the other people, some people can solve their problems. But, they are not sharing about their stress.⁶²

It was easier for most medics to talk about work-related difficulties, especially when regarding medic responsibilities that may affect the patient, community, or medic team. But these medics were more uncomfortable to address their personal feelings, emotions, and stressors:

⁵⁸ From interview with 36 year-old, female BPHWT medic, July 2010.

⁵⁹ From interview with 26 year-old, male KDHW medic, January 2011.

⁶⁰ From interview with 21 year-old, female KNLA medic, January 2011.

⁶¹ From interview with 26 year-old, male KDHW medic, January 2011.

⁶² From interview with 41 year-old, male BPHWT medic, July 2010.

Sometimes, maybe we share [among] us [if] we have a [difficult work] experience like this, but how we solve this problem, we don't share with each other... we don't know how to share this problem – the stress.⁶³

For some, the problem seemed to be internal – that the medics were simply not accustomed to communicating their emotions to others.

The reluctance of medics to reveal their personal difficulties seemed to be multifactorial, stemming from individual's discomfort with expressing their feelings, but also from external, social tendencies that discourage sharing emotions. Among the medics, there appeared to be an emphasis on not showing one's emotional weakness. Despite revealing stories of considerably stressful work-related or security-related encounters, some medics said that they did not feel the effects of *seik hpizimu*, *seik daan ya*, or *seik lo'shaa*. Many of these medics associated the emotions of stress and depression with personal weakness:

There is no way to get the stress. Because I see, I very... grateful to do my job. And there is nothing to make me weak.⁶⁴

And:

I see most people, most patients are strong. I mean, there's a few people [who] have depression. Most of the people who have stress is [...] when they're working [...] they got stress, and they are less strong. Sometimes I got depression, or stress, but I can try to relieve stress. So I can say there is no stress with me. And if I see someone has a stress, I try to [help] them to become strong.⁶⁵

For the medics who attempted to share their emotions with their peers, the responses were often unsympathetic.

... When I mention my stress, they not understand my stress. My friends, they cannot see when I told them about my stress. Like sometimes, I feel very confused in my mind, and I don't want to see [anybody]. When I see something, I become more complicated for me, and more confused for me... I don't want to think and what's happen with me, I don't know. I'm not understand myself. [...] When [...] I share with my friends, they not understand me, and they laugh.⁶⁶

Given that personal tragedies were so commonplace among the medics, it was unsurprising that strength in the face of hardship was such a crucial component for an individuals' sense of integrity and identity. Perhaps this was especially true for medics given the stoic KNU culture, rooted in military tradition, and the Karen culture at large, with the emphasis on community support in the face of dire circumstances.

⁶³ From interview with 29 year-old, male BPHWT medic, July 2010.

⁶⁴ From interview with 32 year-old, male BPHWT medic, July 2010.

⁶⁵ From interview with 32 year-old, male BPHWT medic, July 2010.

⁶⁶ From interview with 31 year-old, male BPHWT medic, July 2010.

2) *Forms of coping*

In the interviews, medics were encouraged to give examples of the strategies and activities they used to cope with their *seik hpizimu*, *seik daan ya*, *seik lo'shaa*, or *seik da'kya*. I categorized these coping methods as social forms (coping by engaging with others) and individual forms (coping by taking personal time).

Coping strategies: social engagement

Many medics acknowledged that sharing with others helped to alleviate their suffering. The primary network of support for the medics was their family and relatives, followed by their close friends. Medics also shared their thoughts, albeit less emotionally intimately, with respected members of the community (village leaders, teachers, pastors). As discussed above, some medics were able to share their challenges and difficulties with their medic peers or team leaders; these friends and mentors provided therapeutic advice and encouragement. Nevertheless, some medics said that they conversed, joked, or shared difficulties with others, but it was rare for people to talk outright about personal emotions and feelings. Group activities, such as playing sports (football, volleyball, and *trakraw*, a traditional Karen game), playing and listening to music, watching movies, and singing were common forms of socially-engaged coping.

Coping strategies: religion

The importance of the church for social cohesion cannot be overstated. Though not all Karen communities were Christian, individuals working for the KNU (as medics or otherwise) were more likely to be Skaw Karen-speaking, Baptist Christians (Gravers, 1996; Harriden, 2002; Rajah, 2002; South, 2007). For these communities, the church was closely intertwined with the social organization of the village. Village elders and senior KNU officials often played a dual role as the sermon leader at the local church. Many medics cited religious activities such as praying as a major source of stress relief and motivational support:

I always pray for God as a recreation – we pray, and we [enter] our problems and we [enter] our worries or suffering. Sometimes, we read [the] Bible, and sometimes we pray for God, and [this] can release our sufferings.⁶⁷

Medics also mentioned that attending Sunday religious services at church or school and singing bible songs with choir groups were important sources of stress-relief.

Coping strategies: personal time

Coping by taking personal, recreational time was also commonly referenced. Some medics found solace in meditation, deep breathing exercises, taking walks alone in the jungle, or simply being away from other villagers. Many would also partake in recreational activities such as fishing, hunting, and swimming. Some respondents would

⁶⁷ From interview with 26 year-old, female KNLA medic, January 2011.

find quiet places to reflect on how they could improve their jobs as medics, or by concentrating and reminding themselves to take care of their selves and their families.

Some medics coped with stress by improving their professional skills. Thus, some who felt insecure about their level of training or medical knowledge studied as a form of coping. Other medics said that being successful in their work was the most gratifying way to build confidence and relieve their self-doubts. For them, treating patients was the best way to cope with stress or depression:

I can release my stress for talking with the patients. So when I meet with the patient, I'm talking to them, and they respond to me. So we're talking to each other, and I become relaxed, and my depression disappeared, and the way I talk like this is that I talk to them. As you are a patient, you have to take medicine, take completely, and don't go back without permission from here. Because some patients, before they got the permission, they are out of the clinic, they go back to their home. So I'm talking with them, and they talk to each other... and some patient came and see us, and they share. They come in to take a complete medicine and to stay there and they say, "Oh, please help me." So it's a release to me.⁶⁸

Others would problem solve during work, either alone or with others, in order to understand the causes of their work-related stress.

Coping strategies: substance use

Some medics admitted to using alcohol or narcotic substances as a mechanism of coping. Moderate drinking was common among the men, who usually drank a home-brewed form of rice-liquor. Some medics said they used alcohol for social reasons. Others described how they used alcohol to cope with emotional stressors:

... in our group, some medics, they take some alcohol, but its not all the time, but sometimes... if they make some fellowship with their friend, sometimes maybe... But I don't heard who take all the times. And in their area they are not allowed to sell alcohol, and, and there is no shop.⁶⁹

When I was young, if I have a stress or something like that, I drink and when I go on a drunk, I sleep. Everything disappear.⁷⁰

One medic described how he coped with a violently traumatic experience by consuming alcohol:

[I remember] when the Burmese army came to the village, [the people] had to flee from their houses so their little children is left in their house... when the Burmese soldiers came they killed this baby and later they killed the parents, and [there was] only one children left in the house. Because their baby was left there, [a family] came back to take their baby – then [the SPDC soldiers] killed everyone at there [...] so when I think of this one it becomes trauma for me. I think this again, and again, and again and I [feel] very sad for them. I cannot... So to forget this one, I drank. [Many people handle stress differently,] but for me, if I feel like I can't stand on the situation, I have to drink. And

⁶⁸ From interview with 39 year-old, male BPHWT medic, July 2010.

⁶⁹ From interview with 36 year-old, female BPHWT medic, July 2010.

⁷⁰ From interview with 36 year-old, male BPHWT medic, July 2010.

after drink I came and sleep. So, for the other people I see... some people they got drunk, [and then] they call the other people to come together with them, and they share the things that they see.⁷¹

Occasionally, medics used sedative drugs such as benzodiazepines to quell anxiety. One medic spoke about his experimentation with diazepam as a novice medic to calm his nerves before fighting:

... Some people drink, some people not drink. [...] Yes, if we drink too much, I think have a problem. If a little bit, I think no problem. The break for the fighting. Before I have one experience, my captain [called out my name, and said], 'SPDC! come on. Wuaay!' I will afraid I am [caught off guard] that time – I cannot drink alcohol. I will drink my [water] with diazepam [...] I have in my bag. I will take out one half diazepam pill, I will drink. [...] No alcohol, only diazepam. I drink half diazepam and a few minutes, my heart have a normally. I don't afraid the SPDC. That is my experience. And that time I don't use, because I have [only] a little bit experience for the fighting.⁷²

Other drugs that respondents used include chlorpheniramine, propranolol, and morphine. The misuse and abuse of prescription drugs may be a difficult issue to manage, especially since medics and healthworkers carried these medicines for treatment purposes.

Coping strategies: inability to cope and suicide

Some respondents reported anecdotes of other medics who were unable to cope with their difficulties. One particular medic recounted how a medic in his team appeared happy, but presumably hid his psychological difficulties. Consumed by his depression, he committed suicide:

Even though [we] know each other very well, he never told [us] about his difficulties, and that he is always happier, a happy life, and always smiling. So he didn't say anything. So we don't know what the problem with him.⁷³

Although the interviews suggested that suicide events were not common among the medics, there may have been a higher incidence of suicide than believed. Since unexpected death was tragically common in these areas, it may be that suicides were confused for death from other causes. Furthermore, given the stigma of mental health issues, relatives or friends may have been less willing to report suicides among the village communities. These theories are speculative, and more information should be solicited about suicide among the medics in future studies.

⁷¹ From interview with 28 year-old, male BPHWT medic, July 2010.

⁷² From interview with 35 year-old, male BPHWT medic, July 2010.

⁷³ From interview with 33 year-old, male BPHWT medic, July 2010.

3) *Goals and motivations*

Medics interviewed for this study were prompted to talk about their personal goals, and the factors that motivated them to continue to work as a medic. They were encouraged to discuss both personal goals (including future plans involving family, community, or other personal ventures) in addition to professional goals (related to work-related ambitions). Motivations were explained as any activity, outcome, idea, event, or goal that functioned to encourage the respondent to continue their work as a medic, providing health services. As there was much overlap when discussing *goals* and *motivations*, these concepts will be discussed together.

Personal goals and motivations: altruism toward family and community

Overwhelmingly, medics reported feeling motivated by the altruistic nature of their jobs – working to help their communities. The idea of community seemed to vary depending on the respondent. To some, becoming a medic meant being able to help their families and home villages. To others, *community* referred to the Karen nation, and they felt dedicated to their duty of serving the poor and sick. Medics also used the words “helping the community,” when describing the gratification of successfully treating or facilitating the recovery of patients. Two medics said that a powerful motivator was “feeling needed” by their medic leaders and the village community members.

The few medics who were able to visit their families with relative frequency spoke of it as a major motivator to continue their work. The pride of their family members and village leaders had been a source of positive reinforcement and encouragement. Additionally, two medics who provided care to their home communities felt more emotionally invested in their work.

Professional goals and motivations: advancing skills and leadership

Many medics were able to identify realistic work-related goals that they were progressing towards. Most medics mentioned a desire to improve their medical skills and increase their experience. This, many opined, would be realized with more practice, diligence, training, and education. Some medics had a vested interest in attaining a leadership role within their organization. Their ideal jobs varied from being a teacher at medic trainings, coaching soldiers on first aid techniques, wanting to become missionaries, building a clinic, or becoming an administrator at the health organization headquarters. Some wanted to learn more about human rights and diplomacy, and to enter the realm of Karen political/military leadership. Other medics were unable to identify goals and motivations, or seemed confused by the concepts when the question was asked. They often cited that they had no goals, or did not think about their futures.

VI. Discussion

In summary of the study results, psychometric evaluations of 74 medics mental health revealed relatively low scores of non-specific anxiety and depression (mean 2.5 on GHQ-12 two-point scoring and 10.7 on GHQ-12 four-point scoring), and traumatic stress (mean 36.2 on PCL-C). This contrasted with the 30 interviewed medics' qualitative evidence of abundant sources of distress.

The discussion section will first explore the significance of the psychometric scores obtained in the quantitative study. Then I will frame the qualitative interview results in terms of their mental health implications as well as their contribution as evidence of international humanitarian law violations. Throughout the section, we will discuss the potential implications of the incongruous quantitative and qualitative findings.

This study provides the first evidence of the mental health impact of conflict for the medics in Karen state, eastern Burma. The psychometric screening instruments developed for this study are the first to be piloted in internally displaced areas in this region. This study also corroborates evidence of war-related trauma that has been documented extensively by human rights organizations.

A. The significance and utility of psychometric evaluations for the Karen medic population

The implications of both GHQ-12 and PCL-C survey instruments will be discussed in the following sections.

1) General Health Questionnaire (GHQ-12)

Given that the subjects' mean GHQ-12 score falls between 1.85 and 2.7 (using 0-12 scoring range), the work of Goldberg & colleagues suggests that a screening threshold cutoff of 3 or greater is recommended (Goldberg, Oldehinkel, & Ormel, 1998).⁷⁴ Their study also suggests several important recommendations to avoid the pitfalls of misinterpreting a sample population's mean GHQ score. For example, the severity of mental illness as assessed by a "gold standard" clinical interview (measuring number and severity of symptoms for a given psychiatric criteria) does not correlate with a higher mean threshold. However, the difference between the mean number of diagnosable disorders was significant between low threshold versus high threshold studies of the GHQ, with higher threshold populations tending towards greater co-morbidity of disorders. Finally, there appears to be a relationship between best threshold and the

⁷⁴ This means that a score of 3 or greater would be considered a positive screen, and a score of 2 or less would be a negative screen.

overall discriminatory ability of the GHQ - populations with higher thresholds having better discriminatory ability. Given a higher prevalence of mental illness in a given sample, the authors proposed that positive predictive value and specificity of a screening test would improve with a higher threshold, without sacrificing sensitivity.

In applying these conclusions to this study of the Karen medics, the individuals' scores should not be interpreted to determine severity of mental illness. As this is a relatively low threshold score, Goldberg & colleagues' study would suggest a lower population-wide co-morbidity of multiple illnesses and lower discriminatory ability of the GHQ as a screening test.

Nevertheless, the cut-off value should be approached cautiously given the small sample size of this study (sampling and other limitations will be discussed further below). The low mean GHQ-12 score in the context of the medics' abundant mental stressors may suggest that the psychometric instrument may not capture the manifestations of distress substantiated by the qualitative data. An alternate explanation is that, despite the medics' life stressors, they exhibited marked mental resilience that resulted in the low GHQ-12 scores. Resilience will be further discussed in the coming sections.

2) Posttraumatic Checklist – Civilian (PCL-C)

Although the PCL-C has been used in several settings to estimate population-wide PTSD prevalence from a given sample, it has been recognized that true population prevalence needs to be known before using it as an estimation tool (McDonald & Calhoun, 2010). Though the PCL's use as a stand-alone diagnostic checklist in clinical applications is discouraged, it has utility as a population-based screen for PTSD symptoms. However, unlike the GHQ, a best-threshold cutoff score cannot be estimated by taking the mean score of a sample population.

A review of the literature found validated threshold ranges for screening soldiers post-combat in primary care setting (Bliese, 2008), screening civilians in a primary care setting (Blanchard et al, 1996), and screening veterans in mental health care-seeking population (Weathers et al, 1993). If we applied these cut off scores to the sample population of this study, we would screen as shown in Table 7.

For the small, non-random sample presented in this study, the most conservative cutoff score of 50 provides an estimate that 9.5% of subjects self-reported symptoms of PTSD. Conversely, the most liberal cut-off of 32 suggests a PTSD prevalence of 66%.

Table 7: PCL-C positive screens of the 74 medics, based on previous studies' threshold scores

	Validated for:	Threshold score ⁷⁵	Medics above threshold [n=74]	% of total sampled medics [n=74]
Bliese, 2008	Military, post-combat in primary care setting	32	49	66%
Blanchard et al, 1996	Civilians, in primary care setting	44	12	16%
Weather et al, 1993	Veterans, care-seeking population	50	7	9.5%

⁷⁵ Bliese determined a threshold score range (30-34), so the midpoint of 32 was used for the calculation here.

It is critical to reiterate that whatever screening threshold is used for this population, the true population prevalence must be known in order to make conclusions on prevalence of PTSD as a diagnostic entity. The true prevalence of this particular population would be difficult to ascertain, as in any conflict or post-conflict situation.

However, my qualitative findings provide strong evidence for a high prevalence of lifetime traumatic experience among this study's sample population. Given that a third of interviewed medics reported a personal history of displacement and that all medics admitted to feeling heavily threatened by security issues, it is possible that PCL-C scale findings show a discrepancy with the interview data. One possibility is that the estimated prevalence of PTSD symptoms according to the PCL-C (9.5% with a 50-point threshold) underestimates the true prevalence amongst medics, suggesting that the scale as worded may not be relevant to medics' cultural understanding (or physical manifestations) of trauma. Alternatively, using a cutoff of 50 based on a veterans' population is far too conservative.

However, Bliese's study validated for post-combat veterans may give a more appropriate threshold for the medics, given the high-security combat environment in which many of them work. This would suggest a much higher prevalence of 66%, which may corroborate the abundant qualitative evidence of security-related stressors. Regardless, this dilemma illuminates the challenges with population-based scales and the limitations of interpreting mixed methods studies.

One interesting finding is the high correlative value between PCL-C scores and the 4-point GHQ-12 scores (range 0-36), as described in the quantitative analysis section (see *Results*, above). This may suggest that using the two scales as a combined assessment can aid evaluators when screening medics for mental illness, while using the mean two-point GHQ-12 score as a best threshold. The high correlation also suggests that using two different screening tools may offer a stronger indication of psychological distress – even if the distress may not meet criteria for a specific diagnostic entity. It is important to reiterate that psychological distress in this population might not manifest as diagnosable illness – but that does not lessen the impact of trauma.

B. The significance of qualitative findings

The qualitative evidence from the 30 interviewed medics suggests that professional, personal, and security-related stressors were a common occurrence for the population of Karen medics. The significant findings of these results will be presented here:

Local idioms of distress. Burmese and Karen idioms for anxiety, stress, depression, and mental trauma were shown to be culturally relevant and meaningful for the medics. While the idioms' cultural idiosyncrasies may not align perfectly with the Western notions of the English terms, the idioms nevertheless had utility in characterizing the effects of the many life stressors that existed for the medics.

Sources of distress. I categorized the medics' sources of distress in terms of professional, personal, and security-related difficulties. The most commonly cited professional difficulties related to insufficient skills and medical training. The most

common personal difficulty involved the inability to communicate with family members for long periods of time. Unanimously, all medics expressed fears related to security concerns and potential landmine injury, and many medics recounted experiences relating to direct threats of violence against themselves, their patients, and their clinics.

Support and management of stressors. Medics reported varying degrees of peer support among their medic teams. Medics described many forms of coping strategies, both social and individual in nature. Some medics expressed goals and motivations to learn new skills or aspire to leadership positions, suggesting that they had more positive outlooks on life and perhaps exhibited better mental health outcomes than their peers who could not identify personal goals or motivations.

These findings, coupled with relatively low GHQ-12 mean scores, may suggest that medics exhibited high mental resilience despite their various stressors. In the following section, I will explore this hypothesis given the literature on resilience in war, disaster, and other traumatic settings. From the previous results, I will show how several qualities evidenced by the medics' accounts suggest that the Karen medics exhibit positive mental resiliency.

1) Resilience

In studies of war trauma, natural and technological disasters, torture, the Holocaust, and duty-related trauma survivors, Wilson identified seven predictors of current well-being, positive mental health, and manifestations of resilience⁷⁶ in these populations (Wilson, 1995): (a) locus of control (i.e., a sense of efficacy and determination), (b) self-disclosure of the trauma experience to significant others, (c) a sense of group identity and sense of self as a positive survivor, (d) the perception of personal and social resources to aid in coping in the post-trauma recovery environment, (e) altruistic or prosocial behaviors, (f) the capacity to find meaning in the traumatic experience and life afterward, and (g) connection, bonding, and social interaction within a significant community of friends and fellow survivors.

Based upon these predictors, the qualitative component of this study provides evidence for several hypotheses for factors of resilience among the Karen medics:

- a) *Locus of control is inextricably tied to the medics' sense of self-efficacy, and therefore cognitive, motivational affective, and selection processes. Examples of positive cognitive processes include some medics' commitment to goals, including attaining leadership positions and improving skills and achieving personal development. Examples of positive motivational processes include the motivational processes associated with helping patients and community, feeling needed, and the support and encouragement provided by family, mentors, and*

⁷⁶ It must be stressed that there is no single model or 'type' of resilience. Bonanno suggests the existence of multiple and unexpected ways to be resilient, often achieved by means that are not fully adaptive under normal circumstances. Furthermore, little is known about the extent that loss and trauma reactions vary across cultures. Western, independence-oriented societies tend to focus more heavily than collectivist societies on the personal experience of trauma (Bonanno, 2005).

respected members of society. Examples of positive affective processes include the many coping mechanisms that medics described, spanning the spectrum of emotion-focused and problem-focused coping. Examples of positive selection processes include the ability for medics to recognize when they have power to change their situations/environments, and recognizing which coping strategies would be most effective for maintaining their mental health.

- b) *Self-disclosure of trauma relates to positive peer-group interactions.* As many medics are deprived of their core support network of family and home community, the sense of comfort and bonding they form with their medic peers is crucial to their mental resilience. The culture of each group of medics may be most supportive if it facilitates self-disclosure of traumatic events, feelings, and emotions. Given the evidence that the disclosure of personal feelings is not always supported amongst peer groups, positive-peer group interactions should be supported in future interventions.
- c) *Sense of group identity relates to positive peer-group interactions.* Sense of self as a positive survivor can be validated both by peer-group as well as from the village community interactions. Camaraderie as a medic, in addition to camaraderie as a Karen nationalist, gives rise to a mutual identity and kinship as survivors.
- d) *Perception of personal and social resources exists to some extent with peer-group support and mental health trainings, but could be expanded.* Although some support exists with mental health trainings for medics, these personal and social resources could be made more extensive; this is an objective that hopefully will be aided by the results and conclusions of this study.
- e) *Medics' altruistic or pro-social behaviors are exemplified by their motivation to help their patients and communities.* A major component to a medics' resilience might be the altruistic reward that they perceive from their work, despite the hardships and limitations intrinsic to their jobs.
- f) *The capacity to derive meaning from traumatic events is exemplified by some medics' ability to use their experience as a reservoir for empathy and compassion when treating patients in IDP areas who have suffered similar tragedies.* These medics have learned to accept their traumatic memories, have moved beyond feelings of anger and revenge, and instead have learned to use their experience for the benefit of their communities.
- g) *Connection, bonding, and social interaction with family is clearly absent for many medics, but present for others.* Since medics work in isolation or with small groups of peers, their inter-group interactions are essential to form close bonds, and thus foster resilience.

2) *Self-efficacy and cognitive appraisal*

The individual-focused model of self-efficacy in relation to coping and resilience (as described in the *Background* section) has its utility, but does not describe the social and community factors that underlie a person's mental wellbeing. For the medics and the

Karen community, community support and wellbeing – and thus *community-focused coping* – may be more relevant. As evidenced from the interviews, medics obviously exhibit little control over certain sources of stress in their environment (such as attacks by Burmese troops). For most of the sources of distress described above, the primary appraisal is obvious – a medic certainly has much to lose with family troubles, professional challenges, persecution, and threat of violence. While an individual could entertain choices to minimize loss or maximize benefit during traumatic situations (if their village was attacked forcing them to flee to the jungle, for instance), their individual ability to cope with the threat – whether emotion- or problem-focused – was far more limited (coping would likely be tied to providing for community or family members' emotional and physical needs). A medic could assess primary and secondary appraisal with reference to a patient, or perhaps an entire vulnerable IDP village population – as opposed to evaluating outcomes for their individual wellbeing alone. Put another way, the medics' loss of individual agency, freedom of action, and control over the environment may drastically shape individual coping strategies when confronted with perceived threats.

However, for the majority of everyday stressors and traumas (those over which the medics can exercise a degree of control), the concept of successful secondary appraisal may have relied upon a medic's perception of their self-efficacy. Thus, the medics' cognitive, motivational, affective, and selection processes may have all played a role in determining the effectiveness of their coping strategies, whether emotion-based or problem-focused, and their ability to have positive visions for their personal future. These benefits extended to the medics' social values, and allowed them a more positive ideation of the future of their communities' futures, and the value of their own service to the villages.

The evidence of peer-group support gives a contrasting and variable view of medics' peer interactions – some groups were clearly more supportive and accepting of discussing personal difficulties than others. Other groups emphasized that personal strength could rectify emotional weaknesses. These myriad responses revealed how peer group interactions could profoundly influence interpersonal coping mechanisms. The smaller and more isolated the group of medics, the more these relational dynamics mattered for the mental health of the individuals.

Throughout the interviews, I observed that medics that recalled positive experiences about their medic peer group tended to have stronger-developed personal goals and clearer motivations about continuing their work. Furthermore, their coping mechanisms – whether emotion-based or problem-focused – were more specific and better defined. This may indicate that a strong peer group was crucial for the development of self-efficacy and successful coping, and thus these individuals may have had better resilience to traumatic experiences.

3) *Violations of international humanitarian law*

Although this study primarily focuses on the mental health ramifications of the medics' traumatic experiences, it is important to note that the section on security-related sources

of distress provides evidence of the Burmese military's violations of international humanitarian law. Specifically, the acts of violence against medics, clinics, and patients during transport outlined in the *Results* section provide evidence of these abuses.

Since 1992, Myanmar has been one of the states party to the *Four Geneva Conventions of 1949*, a body of international humanitarian law primarily pertaining to international armed conflicts or occupations (rather than non-international civil conflicts, as is the case in Myanmar). Myanmar is not a signatory to the two Additional Protocols appended to the Geneva Conventions, which provide further guidelines specific to international and non-international civil conflicts. Despite not being a signatory to the Additional Protocols, Common Article 3 of the *Four Geneva Conventions* provides that "the wounded and sick shall be collected and cared for", even for "armed conflict not of an international character" occurring in the territory of a State signatory (International Committee of the Red Cross, 1949). Thus, this provision is widely regarded to confer implicit protection upon medical personnel, clinics, and their patients in civil conflict settings such as eastern Burma. Moreover, the ICRC regards it as a rule of customary international humanitarian law to respect and protect medical personnel exclusively assigned to medical duties, whether military or civilian, in all types of armed conflicts including non-international settings (Breitegger, 2011).

Unmistakably, the accounts of the interviewed medics paralleled existing evidence of egregious violations of human rights committed against the Karen people, as well as other minority groups in the ethnic states of Burma. The interview findings corroborated independent human rights advocacy reports that Burmese soldiers have burned clinics and have attacked non-combatant backpack medics (Karen Human Rights Group, 2004; Karen Human Rights Group, 2010).

C. Limitations of the study

Limitations of psychometric survey instruments. Survey instruments, although translated and back-translated, were not validated in reference to a “gold standard” (such as a psychiatric clinical interview) for this specific population of Karen medics. Furthermore, both the PCL and GHQ were designed to be effective in different cultural settings without adapting the questionnaire to the target population (as is the case with the Harvard Trauma Questionnaire, and others). Although many studies have shown the validity GHQ and PCL across multiple cultural settings, it would be valuable to adapt and validate a psychometric screening instrument to ensure optimal effectiveness of the survey within the Karen cultural context. Due to the discrepancy between qualitative evidence of traumatic events and the PCL estimate of PTSD symptoms, an adapted screening instrument must explore culturally relevant physical manifestations of trauma, and must use proper idioms of distress to describe trauma symptoms.

Limitations of sampling. Due to logistical restrictions, access to the population of Karen medics working in eastern Burma was quite limited. Using the medic trainings along the Thai-Burma border provided an easily accessible sample of the medic population, but this cannot substitute for a randomized sample. There are several biases that existed for the sample of medics in attendance at these trainings. For example, these medics may have had stronger motivations to learn more medic skills, or ambitions to become leaders within their organizations (this is especially true for the BPHWT senior medic trainings). There may be other reasons that these medics were chosen by their team leaders to travel far from their villages to attend these trainings. This potentially affected their perceptions of their own self-efficacy and that of their medic peers. Furthermore, interviewing/surveying medics in a training setting away from their community and work environments may have shaped their responses in contrast to how they would respond if interviewed inside Karen areas. Emotional distancing from their personal and work stressors may have occurred. Additionally, despite being interviewed in private settings, their location at the training site may have influenced them to give responses that more strongly parallel their organizations’ goals and intentions, rather than their personal opinions.

Limitations of interview methods and content. Inevitably, some of the medics’ interview responses must have been omitted/modified/biased due to the use of an English-Karen interpreter for most of the interviews. Ideally, the investigator in future studies should be fluent or competent in Karen language to minimize this limitation during interviews. Future studies should undertake a thorough exploration of cultural values, religion, traditional village models for understanding healthcare and medical practices, through the lenses of medical anthropology and sociology. Though idioms of distress were explored here, cultural significance and physical symptomatology could be explored in more depth.

VII. Conclusions & Recommendations

The results of this study have several implications for further research, policy choices, and targeted mental health interventions for this specific population of medics.

The psychometric survey results of 74 medics suggest a best GHQ-12 threshold cut-off of 3 or greater when screening medics for non-specific psychiatric disorders (when scored on a two point scale). The low mean score of 2.5 (SD 2.1) suggests a low population-prevalence of GHQ symptoms and weak discriminatory ability as a clinical screening tool. The PCL-C mean score of 36.2 (SD 9.7) on a scale of 17-85 also suggests a relatively low prevalence of trauma symptoms, although the question of the appropriate cutoff score gives a range of 9.5-66%. Using the PCL-C threshold value of 32 validated by Bliese for post-combat veterans, (which may be the population most similar to the medics) we would screen a PTSD prevalence of 66% in our sample. Although we cannot give a conclusive best threshold value for the PCL-C in this setting, the high correlation between PCL-C and GHQ-12 scores in this sample suggests that the PCL-C may be useful in supplementing GHQ-12 data for screening purposes. Though the user must not misconstrue the PCL-C as a tool for diagnosing clinical PTSD, the test can have value when used by a trained professional to evaluate the presence of traumatic symptoms for a given respondent. Together, these psychometric screening tools may be useful during medic trainings to identify individuals who might benefit from targeted mental health interventions – whether cognitive-based, behavior-based, individual- or group-focused.

The qualitative interviews revealed the myriad traumas, challenges, and difficulties that contributed to medics' stress, depression, and anxiety. Environmental obstacles such as transportation and security barriers exacerbated professional concerns of insufficient skills, materials, and personnel. Many medics struggled with the expectations of patients, their families, and communities as a whole – especially among the new and un-experienced medics. Furthermore, personal struggles emerged that related to the long-term separation from family and loved ones, many of whom lived in distant villages, refugee camps in Thailand, or abroad as resettled refugees. Medics' family relations were strained by their compromised ability to provide physical and economic support for their loved ones; conversely, medics lacked the social and emotional stability of their families when working in isolated, possibly dangerous settings. Finally, the threat to security from violent conflict and Burmese military brutality was perhaps the most insidious contributor to medics' distress. Medics recounted their experiences providing medical services in areas of active fighting, or having to traverse jungle areas while transporting patients, where they were exposed to landmine injuries or attacks from Burmese patrols. Stories of attacks against clinics and medics were commonplace. A third of the medics shared personal accounts of early-life trauma: usually, they had been forcibly displaced from their villages, or had witnessed brutal violence, murder, or rape committed against family members.

Despite these accounts of personal tragedy and professional challenges, many medics reported having strong goals and motivations to continue their work. Many felt supported by their peer groups and inspired by their leaders, both professionally and

emotionally, while other medics did not have such positive experiences within their peer groups. The medics reported that they coped with their stressors in a variety of self-fulfilling ways, even though there was evidence of alcohol and narcotics abuse, and reports of some medics who committed suicide.

The discussion of stressors, coping, goals, and motivation helps us to explain how resilience was built among the medics:

1. *Community and social factors played an intrinsic role in developing medic self-efficacy and promoting positive coping strategies –thus facilitating positive mental resilience.* The psychological models of self-efficacy and cognitive appraisal are useful theories when discussing the agency of the medics; however, these self-focused frameworks neglect the importance of community and social factors when making many types of decisions. In the protracted conflict setting of eastern Burma, there was an apparent need for the Karen to prioritize community wellbeing above the individual's. This idea became apparent in the language used when discussing mental health, trauma and goals – medics were apt to talk about their community's and family's injuries and future needs, foremost. In this sense, a mental health professional working with these medics must recognize the importance of community, while facilitating strong discussion about individual psychosocial and somatic needs.
2. *In lieu of strong family- and social support, medics' peer groups were essential sources of support when dealing with stressful encounters and professional challenges.* The family unit and extended home/village community was the center of support for many of the medics. When medics' work lives took them away from this support for extended periods, the medic team became their second family – especially when working in isolated, or high-security risk areas. This phenomenon may be akin to the importance of camaraderie amongst platoons of soldiers who depend on each other for sheer survival, as well as physical and emotional support. During mental health support trainings for healthworkers, emphasis should be placed on team-building exercises and communication strategies.
3. *Although the diagnostic criteria of posttraumatic stress disorder (“posttraumatic syndrome”) may be a helpful guide when screening medics with potential overwhelming life stressors and faulty coping mechanisms for the purposes of counseling, the narrowly diagnostic framework of PTSD must be approached cautiously in this setting.* Symptoms related to emotional numbing, avoidance, dissociation, hyper-vigilance, and certainly the existence and re-experiencing of past traumatic experiences are important factors to recognize, and the simple recognition of these psychiatric manifestations may serve a therapeutic role for the individual medic when discussed with peers, counselors, loved ones, or other social support. However, the classic Western-cultural notion of PTSD was typically observed around a traumatic occurrence and subsequent return to normalcy – such as a US soldier returning home to suburban, civilian life. The operant conditions at play – an unbearable traumatic experience associated with

an environment of danger and helplessness with a transition to a safe, familiar environment – were much more ambiguous for the medics living and working in conflict areas. Arguably, the diagnostic framework of PTSD may have more utility in refugee camp settings, where Karen refugees have escaped direct violence from the Burmese military, only to be confronted by a new set of challenges and loss of autonomy in the relative physical safety of the camps. Ostensibly, medics working in IDP areas were unable to return to an environment of safety, when even their home villages were at constant risk for attack, and their clinics served as a constant target by Burmese forces. Put simply, the results suggest that there was nothing “post-“ about many medics’ trauma.

4. *Medics who were able to use their personal memories of past traumas or displacement as a reservoir of empathy and compassion may have been better able to serve their populations.* Loss of security was an overarching theme for many Karen individuals living in displaced and/or active conflict areas. The interview data suggested that many medics drew from their personal stories to feel compassion for their patients, whether they chose to share their personal experiences or not. These interactions with patients facilitated the formation of a *survivor identity* over victimization, which may have been a factor in mental resilience for future traumatic events.

Recommendations for mental health interventions

In the past several years, KDHW has begun to implement mental health trainings for their mobile medics. The trainings, taking place once a year over 2-4 days for a cohort of trauma management program medics, serve to educate the medics on topics of mental health with an emphasis on coping mechanism formation. The objectives are to equip the medics with fundamental skills in managing the mental health of patients who have suffered acute traumatic injuries; furthermore the trainings aim to give the medics resources for their own self-care, and the ability to counsel their peers.

These trainings may benefit from the use of the translated PCL and GHQ instruments developed for this study. These instruments can be used as training tools for medics to aid in discussing depression, anxiety, and traumatic stress during group workshops. They can also be used for their intended purposes of screening medics for non-specific mental health disorders and symptoms of PTSD, given that training centers are often near refugee and migrant health clinics in Thailand with mental health counseling services. Finally, reproductions of these surveys can be used by the medics to aid in discussing mental health symptoms for their patients in the villages.

Exploring coping mechanisms is of utmost importance for the development of interventions that seek to improve the mental wellbeing of the medics. Many of these coping strategies – such as talking openly about emotions to friends, co-workers, and patients – should be encouraged within the medics’ teams, which are often the most crucial sources of social stimulation for these individuals. This is especially true for medics who work far from home communities or in the front lines, given that much of their time is spent together and in isolation of traditional sources of support, such as community and family networks. Also, personal forms of coping (meditation, deep

breathing) and physical forms (exercise, social recreational activities) can be shared with other healthworkers who may be unaware of such practices.

Other forms of coping, such as alcohol and substance use, should be approached more cautiously. Alcohol dependency/abuse can lead to serious harm inflicted on the self or to others. The use of narcotics such as benzodiazepines may be a difficult issue to manage, especially since medics and healthworkers carry these medicines to treat patients. These issues should be explored more in mental health training discussion groups.

Finally, some organizational changes may benefit the medics and improve worker-retention, such as increasing medic stipends or allowing more time between work excursions to visit family members. Ideally, the provision of more medical supplies, medicine, and other resources may solve some of the issues of resource-related challenges discussed above. Of course, many of these well-intentioned ideas may be entirely unrealistic in the face of the organizations' insufficient funds and resources.

Recommendations pertaining to violations of international humanitarian law

The qualitative data provides abundant evidence of violations of medical neutrality against Karen medics, their patients, and their clinics. Medic trainings present an opportunity for third-party human rights organizations to document violations of international humanitarian law. Such reports could be presented to the UN High Commission for Human Rights and may help to precipitate a Commission of Inquiry investigating alleged war crimes of the Burmese military. Given the current skepticism over the legitimacy of the new civilian government, the consistent monitoring of human rights violations via medic interviews may be one way to gauge Burmese military activity and adherence to laws of medical neutrality. These reports, if brought to light by international human rights bodies, could hold the Burmese military accountable for its violations and allow for increased diplomatic dialogue.

Final summary and future research

Future studies should focus on a wider population of medics and the validation of screening tools that are culturally adapted for their setting. Additionally, the analysis of the diagnostic utility of individual item scores on both the PCL-C and GHQ-12 may be a helpful part of a validation study of the instruments, as it may reveal potentially important theoretical or practical information (Blanchard et al., 1996; Bliese et al., 2008). As this is some of the first mental health research conducted amongst IDP populations in Burma, the study with the medics can be an inroad to a wider population-based study of anxiety, depression, and stress throughout Karen state. Further, cultural factors and interplay with religion should be explored in more depth.

The medics of Karen state, despite enormous challenges and stressors, have nonetheless shown marked resilience in the face of trauma. However, further support is needed to maintain the mental well-being of these medics. We must remember that they are the only source of health services for a large population of villagers who would not otherwise have care. From an organizational standpoint, increased awareness and attention to medics' mental health needs is critical to retain highly trained personnel and

can help prevent “brain drain” of talent as many medics choose to find other jobs, enter Thailand as refugees, or eventually resettle in other countries. As these medics form a crucial pillar of strength for the communities inside Karen state, their individual needs for physical and emotional support must not be abandoned.

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Appendix B: Interview Guide

1. *Introduce self and explain the purpose of the research project.*
2. *Informed consent procedures: Privacy statement and permission for interview.*
3. Personal demographic information
 - a. age:
 - b. married/single/family status:
 - c. area:
 - d. position as a medic (clinic in-charge? Regular healthworker? etc):
 - e. # years of experience as a medic:
 - f. Do you have experience treating physical traumatic injuries (landmines, gunshots, etc)?
 - g. How would you describe the level of conflict/security issues in your area?
 - h. Have you ever been a soldier or involved in combat?
4. What difficulties and challenges do you face in your life as a medic?
 - a. How does this affect your relationship with your family?
5. What are ways that medics cope with these challenges and difficulties?
 - a. Do medics talk to each other about their issues, work / personal related?
6. What do the following terms mean to you (use Burmese/Karen idioms)? Try to define or give an example.
 - a. Stress
 - b. Depression
 - c. Anxiety
 - d. Trauma
 - e. Mental Illness
7. What kinds of mental health issues do medics face?
 - a. Can you tell me stories or anecdotes of medics that you know who have suffered from these issues?
8. What is the most troubling, traumatic event that you have experienced during your life?
 - a. Before starting work as a medic?
 - b. After starting work as a medic?
 - c. PTSD symptom-related questions:
 - i. What are ways that you have suffered because of these traumatic events, or that you associate with these traumatic events?
 1. Physically?
 2. Mentally?
9. Questions about resilience.
 - a. What are the things in your life that keep you motivated?
 - b. What are things that make you happy? What are things that give your life meaning?
10. Can you tell me about your goals for the future?
 - a. What are your work-related aspirations?
 - b. What are your family-related aspirations?

What are your thoughts on starting a family (if haven't already)?