

Against the Odds: Helping Mothers and Babies Survive in Eastern Burma

The Mobile Obstetric Maternal Health Workers (MOM) Project



(photo: KDHW)

A report by the Burma Medical Association and the Mae Tao Clinic

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Purpose of Report

In 2005, four ethnic health organizations in eastern Burma launched the Mobile Obstetric Maternal Health Workers (MOM) Project to address high maternal mortality and morbidity. “Against the Odds” highlights the MOM Project’s unique approach and peer-reviewed impact providing reproductive health services for communities in eastern Burma that have long been without. This report also underscores the continuing need for community-based health programs that offer all of Burma’s conflict-affected populations an effective way to access essential reproductive health services, as well as the MOM Project’s potential as a model for conflict-affected communities around the globe.

Authors’ note on maternal health and current events in Burma

Burma’s November 7, 2010 elections brought a civilian government to power formed by the current military government’s acting and retired generals, and spurred increased instability and violence in the border regions. While the long-term impact of the elections remains unclear, the urgent reproductive health issues addressed in this report remain at a critical juncture, with women in Burma — particularly in the rural border regions — continuing to be greatly underserved.

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Contents

| | |
|----|---|
| 4 | Foreword by Dr. Cynthia Maung |
| 5 | Executive Summary |
| 8 | Health Care in Burma and Eastern Burma |
| 9 | The Reproductive Health Crisis in Eastern Burma |
| 10 | The MOM Project |
| 14 | Collaborative Network Approach |
| 15 | The TBA Component |
| 15 | Service Provision |
| 17 | Blood Transfusion Field Innovation |
| 18 | Health Information |
| 19 | Monitoring and Evaluation |
| 19 | Follow-up Trainings |
| 20 | The MOM Project Impact |
| 20 | Antenatal Care |
| 21 | Labor and Delivery and Postnatal Care |
| 21 | Family Planning |
| 22 | The Connection Between Health and Human Rights |
| 23 | Taking the MOM Project to Scale |
| 25 | Security and Access Challenges |
| 25 | Conclusion |
| 26 | Calls to Action |
| 29 | Glossary of Terms |
| 30 | References |

Forward by Dr. Cynthia Maung, Founder, Mae Tao Clinic, Mae Sot Thailand

The Right to Reproductive Health

Over the last decade, militarization and the destruction of community infrastructure have escalated in eastern Burma. The government does not provide health care for the displaced population, which is targeted for abuse, with food and health facilities, documents and supplies destroyed.

We have a high prevalence of malaria in eastern Burma, which causes low birth weight, and sometimes miscarriage. If not properly cared for, pregnant women suffer high maternal, and high neo-natal death. There is high mortality in children under age five. And there is a lack of family planning services.

Before the Mobile Obstetric Maternal Health Workers (MOM) Project, our community-based organizations utilized every opportunity to improve access to maternal and child health care and education for these vulnerable displaced populations. There were many successes, but it was far from enough. We needed to increase health worker capacity, improve access and the referral system, and most of all, to address the shortage in life-saving emergency care.

What the MOM Project brought was a focus on mobile health care, a way to address obstetric emergencies and training of local health workers, even in displaced populations. Through the MOM Project, we helped empower individuals and the community.

The MOM Project could not get rid of maternal, or neonatal and infant death. But by equipping people and communities with knowledge and skills, it has saved countless lives. Significantly, the MOM Project played a role in fulfilling the basic right to reproductive health and building a human rights-based approach to health in eastern Burma.

Health and human rights cannot be separated. People have the right to access health information and essential health services. Families have the right to stay together and organize as a community. A rights-based approach encourages looking at the bigger picture, at integrating health into the broader system of civil society. This is the critical issue — strengthening our civic foundation to save the lives of mothers and children, and build healthy families and communities.

Dr. Cynthia Maung

Executive Summary

More than 20 years ago, United Nations, the World Health Organization and the World Bank launched the Safe Motherhood Initiative to reduce maternal and newborn mortality and morbidity worldwide. While there have been improvements in the intervening decades, safe motherhood is far from universal, and addressing maternal safety continues to be a global priority, particularly for the most vulnerable.

The Safe Motherhood Initiative called for “skilled assistance during childbirth” — a certified nurse midwife or equivalent — and emergency obstetric care at the health center level. However, political and logistical constraints can sometimes make a health-center-focused approach impractical. In eastern Burma, for example, half a million internally displaced persons (IDPs) live in the crossfire of the world’s longest ongoing civil conflict, and women face grave risks giving birth. Access to a trained midwife, let alone a health center with emergency obstetric care is rare: Surveys conducted in 2002 and 2006 documented that the vast majority of women in the region delivered at home, and fewer than 5 percent had access to emergency obstetric care.^{1,2} The region’s mortality and health status is on par with some of the worst countries in sub-Saharan Africa,³ with pregnancy-related mortality rates for women among the highest in the world.^{1,4}

Living in a conflict-affected region is one barrier to maternal safety; Burma’s government is another as the military regime and its allies actively restrict the delivery of health services to civilians. In addition, the regime severely curtails the ability of international non-governmental organizations to provide humanitarian assistance, particularly in conflict-affected border areas of Burma.^{5,6} The withdrawal of the Global Fund to Fight AIDS, Tuberculosis, and Malaria from Burma in 2005 highlighted the need for alternative strategies to reach IDPs in the border regions.^{7,8,9}

The solution to providing these populations with high-quality maternal health care lies in mobility — bringing the services to mothers, families, and communities rather than requiring people to travel to clinics or service-providers.

In 2004, leaders of Community-Based Organizations (CBOs) along the Thailand-Burma border proposed to pilot the Mobile Obstetric Maternal Health workers (MOM) Project, with funding from the Bill and Melinda Gates Institute for Population and Reproductive Health, and technical support from Johns Hopkins University Center for Public Health and Human Rights, and the Global Health Access Program (GHAP). The aim of the three-year project — safe births and improved maternal health — was not unusual. What made the project unique was its reliance on local health workers to provide life-saving obstetric care — including elements of basic emergency obstetric care and transfusion — outside of a clinic setting.

While TBAs have been the sole source of prenatal care and birth education to most women in labor in eastern Burma, there were many who did not believe that TBAs — themselves IDPs, some of them illiterate — could be adequately trained to play an important role in the community acceptance, facilitation, and coordination of care by trained health workers. Others questioned the feasibility of sustaining quality service delivery in an area of continuing civil conflict.

The MOM Project has shown that, with modest resources and proper training, health workers, in collaboration with TBAs, can significantly increase delivery of services that save mothers' lives — and provide continuity of care even in the event of attack or displacement.

At the start of the pilot program, 60 percent of women giving birth had no attendant at all, and only five percent had a skilled attendant comparable to a MOM-trained health worker at the time of delivery. In comparison, nearly half the women in the MOM pilot areas gave birth with help from a midlevel or senior health worker capable of providing elements of basic emergency obstetric care, such as treating post-partum hemorrhage and bacterial infection.

The MOM project also decreased unmet need for family planning by 35 percent and achieved dramatic improvements in coverage of additional WHO-standard interventions shown to reduce death and morbidity:

| MOM Project Intervention | Percent of Women Receiving Service | Increase in Access |
|-------------------------------|------------------------------------|--------------------|
| Skilled attendant at delivery | 48.7% | 10x |
| Antenatal care (≥4 visits) | 34.4% | 2x |
| Iron supplements (90 days) | 41.3% | 4x |
| Deworming | 58.2% | 14x |
| Post-natal visit w/in 7 days | 69.8% | 2x |
| Post-partum Vitamin A | 63.4% | 5x |

The MOM Project also trained CBOs to develop detailed, locally tailored surveys and information systems for measuring and understanding reproductive health status, the needs of pregnant women, and the effectiveness of MOM project services. Establishing this evidence base highlighted the critical and life-saving role that health workers and TBAs play in improving reproductive health in Burma.

Even amidst ongoing security and logistical challenges, the MOM Project's innovative, mobile, community-based approach to reproductive health has expanded to reach more displaced communities in eastern Burma, and has been replicated in other conflict-affected areas in Burma — providing a groundbreaking model that could be adapted to similarly affected communities around the world.

Because of the MOM Project, hundreds of women and men have received indispensable maternal health skills training, and thousands of women in Burma have received essential reproductive health services for the first time. However, there are tens of thousands more who remain without care, because of a critical lack of resources and access in the conflict-affected border regions. It remains crucial to support programs like the MOM Project that work through CBOs providing health care in the face of continuing human rights abuses from the Burmese military and its allies, and in the absence of government aid and support from Rangoon-based U.N. and INGO agencies.

Given the unstable and unpredictable political situation in Burma, these CBOS — many of which are forced to organize their efforts from across Burma's borders — are currently the most

effective, and often the only, way to access conflict-affected people in Burma. The interventions of these CBOs can mean the difference between life and death. In the absence of peace, support for these programs and for an end to human rights abuses, will establish safer motherhood and a vital foundation for family and community health in Burma.

I. Health Care in Burma and Eastern Burma

Burma, according to the World Health Organization, has one of the world's poorest-functioning health systems (rated 190 out of 191 countries),¹⁰ and one of the lowest government annual expenditures on health care worldwide (U.S. \$1.00 per person);¹¹ in addition, national health indicators, such as under-five mortality rate, are among the worst in Southeast Asia.¹²

Burma's military government, the State Peace and Development Council (SPDC), claims that it is providing comprehensive health services through its national health infrastructure with the aim of reaching its "Health for All" goals. To demonstrate progress, the government cites increases in the number of health facilities constructed or upgraded, and increasing numbers of health personnel trained under military rule.¹³

Although health facilities can be seen in most towns and cities in Burma, there is little to no health infrastructure in the rural areas and border regions. In addition, even in more developed areas, chronic under-budgeting has rendered state structures mostly empty shells. There is an acute shortage of medicine, medical facilities and supplies, and very few trained health staff or sometimes none at all, as few are able to survive on a state salary alone.¹⁴

Today, deaths from infectious diseases, malnutrition, and maternal causes continue to prematurely claim the lives of many Burmese — deaths that are largely preventable. The problem is more acute in rural and border areas of the country, where investment in social services is far less, poverty more pronounced, and rampant human rights abuses preclude many individuals from accessing healthcare services.

Decades of misrule and conflict between the military government and ethnic minority groups in eastern Burma have forcibly displaced hundreds of thousands of people from their homes to live as internally displaced persons (IDPs) in Shan, Karenni, Karen, and Mon States. As of 2010, there were an estimated 470,000 IDPs in the rural areas alone, and likely well over half a million overall in eastern Burma.¹⁵ More than 3,600 villages and hiding sites in eastern Burma have been destroyed or forcibly relocated since 1996, including 113 communities in 2010, with at least 73,000 people forced to leave their homes between August 2009 and July 2010.

In these conflict-affected regions, population-based household surveys indicate that the risk of infant and child mortality is substantially higher than in the general population:^{1,3, 16} Ten percent of newborns will not survive their first year of life and 20% will die before the age of 5 years. In addition, women in this area have a 1 in 12 lifetime risk of death related to pregnancy.^{1,4}

High rates of maternal and child morbidity and mortality in eastern Burma are due in part to widespread exposure to systematic human rights violations.¹⁶ In the conflict areas known as "black zones," the SPDC and its allies have engaged in forced labor and destruction of food supplies, in addition to pervasive forced displacement — abuses associated with increased rates of anemia, malnutrition, and malaria, and significantly decreased access to life-saving interventions.² The International Labor Organization has called the situation "a contemporary form of slavery"¹⁷ and both Amnesty International and the Harvard International Human Rights Clinic have declared the more than 60 years of widespread, systematic attacks on civilians as crimes against humanity.^{18, 19}

Because there are no government health clinics in most of the IDP areas, and international relief efforts have been limited and subject to severe restriction from the military junta,^{7,8,9} community-based organizations (CBOs) have continued to be the only agencies to implement a range of effective public health programs and collect vital population-based health information in most of eastern Burma.

II. The Reproductive Health Crisis in Eastern Burma

In eastern Burma, as in many conflict settings, women are disproportionately affected: globally women and children under the age of 18 make up approximately 70-80% of internally displaced persons.²⁰ In conflict settings, women often have poorer pregnancy outcomes than during times of stability.²¹ Stress and conflict can take a particular toll on pregnant women, causing high rates of anemia and malnutrition that can lead to poor pregnancy and birth outcomes.²² Only recently has the international community begun to recognize the impact that conflict has on women's reproductive health outcomes and the need for specific interventions to address these vulnerabilities.

While some improvements in this area have been made with regard to refugees, much less progress has been made for internally displaced persons (IDPs).²³ In the immediate aftermath of conflict or displacement, considerable attention is paid to basic needs such as water and sanitation, shelter, nutrition, and prevention and control of infectious diseases. Provision of these essential services has rarely been concurrently supplemented with reproductive health services for IDPs and conflict-affected populations, such as trained personnel to respond to emergencies during pregnancy and delivery.²⁴

Reproductive health surveys conducted in 2002 in eastern Burma demonstrated a startling lack of services for women particularly when compared to neighboring Thailand: The vast majority of deliveries occurred at home, and IDP women had low levels of knowledge of the dangers of pregnancy; overall, only 4% of IDP women had access to emergency obstetric care.¹ In a follow-up survey conducted at the start of the MOM Project in 2006, the situation had not improved: Only 35% of women had more than one antenatal care visit, 5% delivered with skilled attendance, and 22% used modern contraceptive methods.² Furthermore, a survey conducted in 2008 showed high maternal mortality rates in eastern Burma, in comparison with Burma nationally, and neighboring Thailand (Table 1).

Table 1: Comparison of Health status, Internally Displaced Population, eastern Burma

| Health Status Indicator | Eastern Burma | Burma | Thailand | MDG Target for Burma for 2015 |
|---------------------------------|------------------|------------------|-----------------|-------------------------------|
| Maternal mortality ratio (MMR)* | 721 ^a | 240 ^c | 48 ^c | 50 |
| Under-5 mortality rate (U5MR)** | 138 ^a | 71 ^b | 14 ^b | 39 |
| Infant mortality rate (IMR)** | 73 ^a | 54 ^b | 12 ^b | 28 |

* per 100,000 live births ** per 1,000 live births

a) Diagnosis Critical: Health and Human Rights in Eastern Burma⁴; b) Levels & Trends in Child Mortality. UNICEF 2010 (2009 rates); c) Trends in Maternal Mortality: 1990 to 2008. WHO 2010 (2008 ratio).



Antenatal care field visit

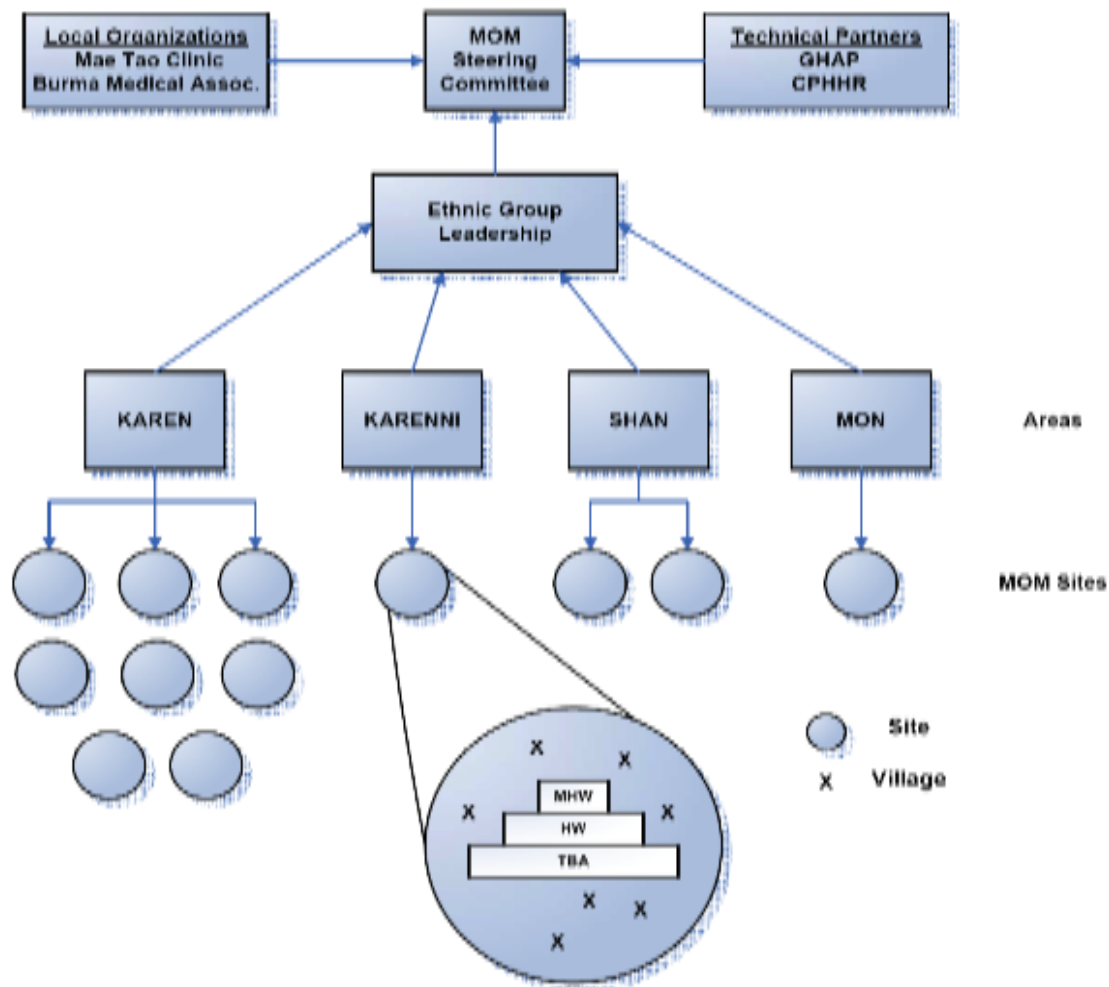
III. The MOM Project

For IDP and conflict-affected populations in eastern Burma, accessing emergency — or even basic — reproductive health services is daunting. Health and social services are markedly scarcer in rural and ethnic minority areas of Burma,²⁵ and travel can be extremely difficult. In addition to the possibility of encountering armed conflict, hostile soldiers or landmines, the geography can be challenging: village communities are often isolated in rugged, mountainous terrain, with impassable rivers, footpaths and roads during the wet season. Even if a pregnant woman could make the journey to a health center, she may find a dearth of services: Government hospitals in Burma are perennially understaffed, and the country as a whole lacks skilled medical professionals.⁶

In a region like eastern Burma, where conflict and displacement are commonplace, the key to maternal safety is mobility — bringing high quality services to the people, rather than the people to the services. The Mobile Obstetric Maternal Health Workers (MOM) Project was designed, implemented and brought to scale with the overriding objective of providing critically-needed services to women at the village level, either in rudimentary clinics or, more often, at home. This emphasis allows the services to rely less on facilities and to move with villagers during times of displacement.

The three-year MOM Project pilot was launched in August 2005 by the Karen, Karenni, Mon and Shan health departments under the direction of Burma Medical Association, with training support from the Mae Tao Clinic, and with technical advising and training support from the Johns Hopkins University Center for Public Health and Human Rights and the Global Health Access Program (GHAP) (Figure 1).

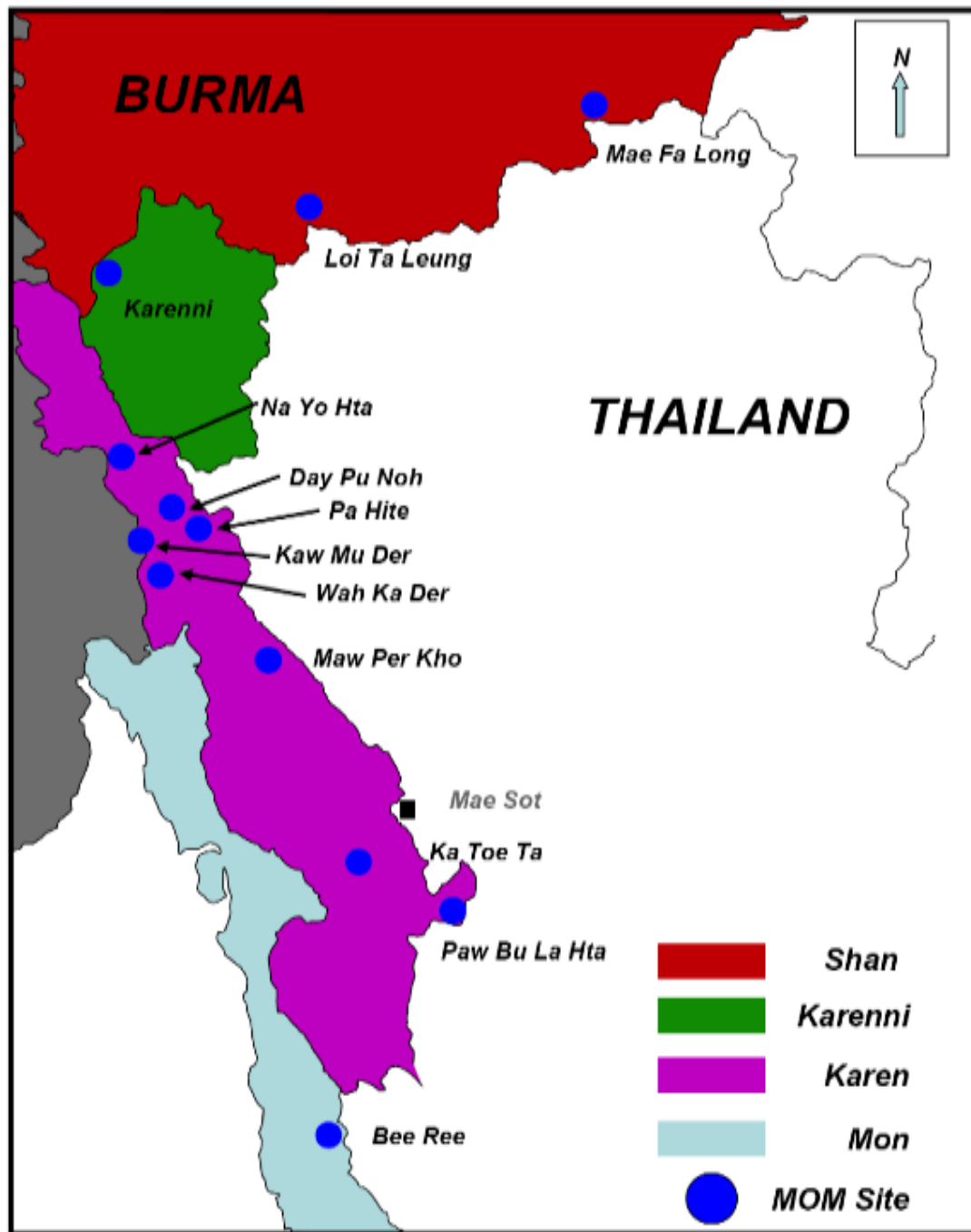
Figure 1: MOM Project organizational chart



Each of the ethnic health departments — forced to organize their efforts from across the border in Thailand because of political instability and security concerns — operate basic health clinics throughout their respective states in eastern Burma that provide primary health and prevention services, and maintain a consistent medicine supply and access to the populations they support, even during times of displacement.

The MOM Project started in 12 communities of internally displaced persons in eastern Burma (Figure 2), serving a population of 60,000. All of the MOM sites are located in areas affected by ongoing conflict and abuse, of varying intensity. Significantly, one Shan area, where mothers at risk can be referred to a Thai hospital, is the only MOM pilot site that has feasible referral options beyond their target area to a regional facility or to hospitals in neighboring Thailand. No other MOM areas can reliably refer cases to a higher-level facility, particularly for caesarean section.

Figure 2: Map of eastern Burma with approximate location of the MOM Project pilot sites



While referred to as clinics, the MOM site structures are only semi-permanent and usually constructed of bamboo. Traditionally, one would expect to find various departments separated within a clinic building; however, the MOM structures are typically open-air and with limited, if any, defined separation between sections. Due to security reasons, clinics in these IDP areas

must keep a low profile and avoid standing out in the community because this could draw direct attacks from the Burmese army, as has happened in recent years.



Construction of a MOM Project Clinic



Interior of a MOM Clinic

A Village Burned: Maternal Health Services on the Run

“When we arrived back from our training in Thailand, we found the villagers in the jungle. The whole village had been burned and destroyed. For three months we moved around in the jungle based on news about SPDC activities. During those three months we provided antenatal care, counseling, and delivered babies. If there was a pregnancy or delivery, we would travel to that woman. TBAs would usually call on us to come for delivery, but also villagers came for us. After three months it was decided that we would move to a new location across the river and rebuild the village. At that time, [MOM project] supplies started to come. Because of security, only about one to three bags could be brought up per week.”

— *Karen Maternal Health Worker* (MOM focus group report, Mae Sot, Thailand, 2006)



Villagers support the MOM Project by assisting with the transport of supplies from central distribution locations to sites in the field

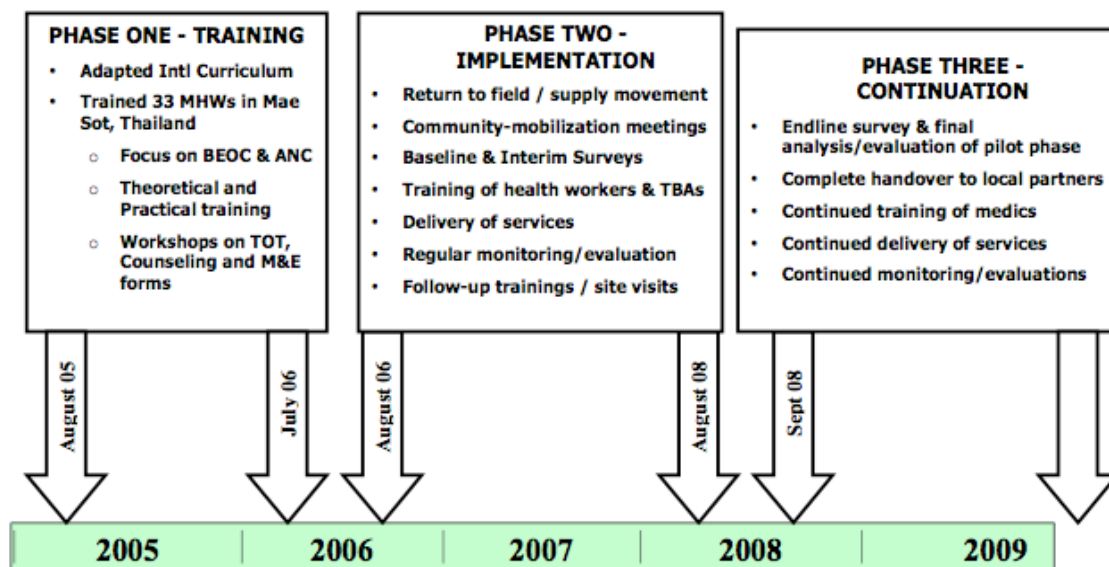
Collaborative Network Approach

The MOM project established a unique three-tiered network of community-based maternal health workers (Figure 3). In Phase One, health workers from local organizations received six months of practical training in basic emergency obstetric care (BEOC), evidence-based antenatal care, and family planning at a central facility in Thailand. These Maternal Health Workers (MHWs) returned to their communities in Phase Two, to train a second tier of local health workers (HWs), and a third tier of traditional birth attendants (TBAs).

The goal of this collaborative approach was to increase both the overall coverage of pregnancies attended, and the level of services. This is achieved by implementing task sharing that allows for

basic interventions to be provided by less-trained providers, and more complex interventions through the higher-trained providers. For each site, providers were selected to achieve one MHW per 2,000 persons, one HW per 500 and one TBA per 200. In total, 33 MHWs, 131 HWs, and 288 TBAs were trained to conduct the MOM Project.

Figure 3: Timeline of MOM Project training and implementation



The TBA Component

As in many low resource settings around the world, the communities of eastern Burma have developed an informal network of TBAs who provide care to women during pregnancy, at the time of labor and delivery, and during the immediate postnatal period. As an integral part of the community, they have the greatest opportunity for direct and early contact with pregnant women.

Following recommendations from the United Nations Population Fund (UNFPA), the World Health Organization and others, TBAs are a key part of the MOM Project and play a crucial role in strengthening the link between pregnant women and the more technically trained MOM health workers. Recognizing the complex political and logistical constraints of the setting in eastern Burma, and that none of the MOM project areas can depend solely on facility-based care, TBAs in the MOM project received seven days of training in the provision of some basic interventions, placing greater focus on the facilitation of evidence-based components of antenatal, delivery, and postnatal care by more intensively trained health workers.

Service Provision

Once the maternal health workers completed the initial training of health workers and TBAs, they focused on delivery of services to the target population. Pregnant women are most commonly identified first by TBAs, who inform them about the MOM project and the additional services available through maternal health workers and health workers. These services can be broadly grouped into antenatal, labor and delivery (including BEOC), and post-natal care and

family planning. Primary responsibility for delivering these interventions is distributed throughout the three-tiered network (Table 2).

MOM Project MHWs rely on HWs to assist in achieving the goal of having an attendant at every birth that can provide BEOC while assisting the TBAs. MHWs maintain regular contact with HWs with regard to expected delivery dates, often keeping a record on a board at the clinic. This helps to increase the likelihood of an MHW in attendance at the time of delivery. In the event, however, that an MHW cannot be in attendance, the second priority is the HW, who can provide increased coverage with a more limited set of BEOC components.

Table 2: Summary of selected interventions provided by the MOM Project network

| Intervention | MHW | HW | TBA |
|---|-----|----|-----|
| <u>General Antenatal</u> | | | |
| Ferrous Sulfate/Folic Acid | ✓ | ✓ | ✓ |
| Deworming | ✓ | ✓ | ✓ |
| Malaria test | ✓ | ✓ | |
| Insecticide treated net delivery | ✓ | ✓ | |
| Counseling (nutrition, newborn care, breastfeeding) | ✓ | ✓ | ✓ |
| Syphilis test | ✓ | ✓ | |
| Hemoglobin test | ✓ | ✓ | |
| Urine test | ✓ | ✓ | |
| <u>Labor and Delivery</u> | | | |
| Clean delivery (hand-washing, clean surface, etc) | ✓ | ✓ | ✓ |
| Cord cutting with clean blade | ✓ | ✓ | ✓ |
| Cord antisepsis | ✓ | ✓ | ✓ |
| Neonatal resuscitation | ✓ | ✓ | ✓ |
| Suction Ball | ✓ | ✓ | ✓ |
| <u>Basic Emergency Obstetric Care</u> | | | |
| Misoprostol | ✓ | ✓ | ✓* |
| Vacuum Extraction | | | |
| Manual vacuum aspiration | ✓ | | |
| IM/IV Magnesium | ✓ | | |
| Manual removal placenta | ✓ | | |
| Blood donor screening and Transfusion | ✓ | | |
| Antibiotics | ✓ | ✓ | |
| <u>Post-partum and other intervention</u> | | | |
| Counseling (breastfeeding, skin to skin contact, cord care) | ✓ | ✓ | ✓ |
| Post-partum vitamin A for mother | ✓ | ✓ | ✓ |
| Post-partum home visits | ✓ | ✓ | ✓ |
| Family planning counseling | ✓ | ✓ | ✓ |
| Provision of Emergency Contraception Pills | ✓ | | |
| Provision of Depo injection and Family Planning Pills | ✓ | ✓ | |
| Provision of condoms | ✓ | ✓ | ✓ |
| Post-abortion counseling/care | ✓ | ✓ | |

* Select TBAs are permitted to administer misoprostol for prevention/treatment of PPH

Attendance by an MHW or HW at every delivery to provide prevention and treatment doses of misoprostol remains an essential goal, as the majority of postpartum hemorrhage cases occur in women with no previous risk factors. Globally, 60.6% of maternal deaths occur during the immediate postpartum period, and postpartum hemorrhage is the leading cause of maternal death in developing countries.^{22,26} The simple intervention of administering misoprostol at the time of delivery has been shown to be safe and effective.^{27, 28}

A Tiny Life-Saving Pill

“A patient, nine-months pregnant, age 45, had had ten children. We worried about atonic uterus with so many babies. The morning of the delivery, we gave misoprostol as prevention, but she still bled afterwards — nearly 1000cc’s. We gave her more misoprostol as treatment and the bleeding stopped in 30 to 40 minutes. Before misoprostol, we would massage the uterus, have the woman breastfeed. Misoprostol is better. We will be able to save more women.”

—Karen Maternal Health Worker (MOM focus group report, 2006)

Blood Transfusion Field Innovation

Blood transfusion is normally considered a component of comprehensive emergency obstetric care only performed at facilities capable of caesarean section.²⁹ However, in this population, high rates of anemia and especially malaria increase the likelihood of severe morbidity and mortality from post-partum hemorrhage.³⁰ The transfusion component of the MOM Project was adapted from an existing protocol developed to care for patients at Karen Department of Health and Welfare (KDHW) clinics with severe blood loss from trauma or with anemia.

Transfusions Save Mother and Baby

“A 28-year old woman, seven months pregnant was visiting her mother-in-law’s village in our area. She did not feel well, and went to the clinic near the village. She had not been seen for antenatal care because she was living outside our target region. She had fever and malaria. The health worker checked her hemoglobin: 4. The next morning, the hemoglobin was at 3. She would die without a transfusion. We did blood screening in the village, then gave her one unit. We checked again: hemoglobin at 4. We gave another unit of blood, still at 4. Another unit, it was at 5, and another unit, at 6. It was a big worry, a very serious patient. After four days, her hemoglobin was at 9. She stayed with us for two months. The patient’s family saw that without treatment she would have died. They feel lucky that the clinic is close, that there was treatment and medicine. Two weeks after leaving the clinic, she had a healthy baby assisted by a maternal health worker.”

—Karen Maternal Health Worker and MOM project team leader (focus group report, 2006)



Maternal health workers learn how to document blood screening and transfusion

The blood transfusion protocol takes advantage of recent progress made in the development of heat-stable rapid diagnostic tests to screen blood for malaria, syphilis, hepatitis B and C, and HIV. Because of the inability to store blood in the field, maternal health workers conduct community education about the need for blood transfusions in advance, and recruit prospective donors from community volunteers, thus maintaining a “walking blood bank.” When needed, they can request donors with matching blood type, conduct confidential screening, and give appropriate counseling and treatment as needed.

Case Study: Field Transfusion

In a remote area of Karen state, a 28-year-old woman started bleeding vaginally as she neared her due date. After three days of bleeding, a relative walked three hours to seek help from the local MHW. The MHW, along with a HW and TBA, returned to the woman’s house and found her in a dangerous state — bleeding heavily, extremely pale, with a high pulse. The MHW immediately started intravenous fluid, mobilized relatives, and did rapid screening tests to find a suitable blood donor. Contractions started and the placenta expelled from the woman’s vagina. A few minutes later, a stillborn fetus was delivered. The MHW gave the woman two units of blood and sat with the relatives as the woman stabilized. Later, she counseled the woman and her family on family planning and health education. The family was grateful — although the baby died, they believed the mother was likely saved by the quick action and resourcefulness of the MHW.

—Karen Maternal Health Worker (MOM focus group report, 2006)

Health Information

Accurate data on the health status of a population is essential for creating effective programs. However, there exists both a dearth of high-quality data and a wide variation in estimates of

health indicators in Burma, in part because of a lack of access to the restricted border regions. The government does no data collection of its own in these regions, and censorship of information is rife, as are restrictions on independent collection of health-related data.³¹ The MOM Project afforded a critical and rare opportunity for CBOs to not only provide services, but also to quantify the health status in eastern Burma, which would otherwise go undocumented.

Monitoring and Evaluation

In addition to population-wide surveys, each pregnancy attended by an MHW and/or HW in the program areas had a standardized record form generated for tracking the progress of women through pregnancy, and to provide guidelines for delivery of antenatal care (ANC), management of the labor/delivery, and tracking of postpartum care. These standardized forms also facilitated estimation of the proportion of total deliveries attended by MOM workers, and the proportion of births requiring each BEOC intervention to allow comparison of health outcomes between areas and over time.

Basic forms were also used by TBAs to collect information on pregnancies, live births, and deaths during the first month of life. These simple, picture-based forms have been developed and implemented in a range of Thai-Burma border TBA programs.³² This third source of information on vital events provides yet another point for triangulation of data.



TBAs learn to use pictorial data collection form (photo: MOM Project)

In the case where both MHW/HW and TBA provided services to a woman, these health care providers would meet to discuss the patient, and the MHW or HW was responsible to copy the information from the TBA record form to their own record form and cross out the line on the TBA form, thus preventing double counting of women and services provided.

Follow up trainings

Bi-annual follow-up workshops allowed for review of clinical work and data collection in the field, supplemented with practical training and supervision in the reproductive health department at the Mae Tao Clinic. In-depth individual interviews, focus group discussions and

detailed case report forms to document stories from the field provided additional contextual information about the program to supplement the quantitative information collected through surveys and patient record forms.³³

Follow-up training enhanced collaboration between tiers, and enabled expansion of roles in some communities. For example, while TBAs initially were not charged with providing misoprostol, during focus group discussions in February 2007, MHWs suggested that the responsibility to administer prophylactic misoprostol be extended to TBAs in some communities. After further discussions among program leaders, an appropriate TBA-specific training module was developed, and misoprostol was distributed to a select number of TBAs.

Regular training and capacity-building workshops, and practical experience, lead to increased confidence on the part of health workers, and increased ownership of the project. MHWs generally identified the delivery of maternal health interventions as their most important service, but also took pride in their role as educators, leaders, and confidants/supporters of women in their communities. In eastern Burma, where many face consistent violence and forced relocation, MHWs have a unique opportunity to provide a vital “pragmatic solidarity”³⁴ within their communities. Their ability to act as a constant amidst the upheaval, offering support and impartial care, was voiced by many MHWs as one of the most important successes of the MOM project. As one MHW stated, her role had “transformed her into someone who ‘brings together families and communities.’”³³

IV. The MOM Project Impact³⁵

Women in the MOM Project sites saw significant increases in access to key interventions in antenatal, labor and delivery, and postnatal care, as well as family planning services.

Antenatal Care

The proportion of women receiving malaria testing and using an insecticide treated net during the program period were both significantly higher after 18 months of the project, and overall coverage of ANC visits doubled. In addition, deworming, as recommended by the WHO, and only rarely provided before the start of the MOM project, increased more than 14-fold.

Table 3: Changes in coverage of antenatal interventions*

| Service Provided | Baseline (n=2,252) | Endline (n=1,531) |
|--|-----------------------|----------------------|
| <i>Antenatal Visit Coverage</i> | | |
| ≥1 ANC visits | 39.3% | 71.8% |
| ≥4 ANC visits | 16.7% | 34.4% |
| <i>Antenatal Interventions</i> | | |
| Blood pressure measured | 43.1% | 72.9% |
| Urine tested | 15.7% | 42.4% |
| Malaria test done | 21.9% | 55.5% |
| Percent tested positive for Pf | 36.7% | 11.8% |

| | | |
|------------------------------|-------|-------|
| 90 days Fe/Folic Acid | 11.8% | 41.3% |
| Deworming treatment | 4.1% | 58.2% |
| Used insecticide treated net | 21.6% | 59.3% |

* For corresponding confidence intervals, see References: 35

Labor and Delivery and Postnatal Care

The MOM Project changed the way in which deliveries are attended in the IDP areas. At the start of the MOM Project, 60% of women were delivering without any attendant and only 5% had a skilled attendant present. Eighteen months after the start of the MOM Project, nearly half (48.7%) of the women surveyed had delivered with help from a mid- or senior-level health worker trained to deliver elements of emergency obstetric care.

Postnatal care interventions also increased coverage during the MOM Project (Table 4): Visits to the new mother and baby within seven days of delivery increased, as did skin-to-skin contact, provision of postpartum vitamin A, and breastfeeding beginning within 24 hours of birth.

Table 4: Changes in coverage of postnatal interventions*

| Service Provided | Baseline (n=2,252) | Endline (n=1,531) |
|-------------------------------------|-----------------------|----------------------|
| <i>Postnatal interventions</i> | | |
| PNC visit within 7 days | 33.7% | 69.8% |
| Skin-to-skin care given | 10.1% | 27.2% |
| Maternal post-partum Vitamin A | 12.3% | 63.4% |
| Breastfeeding initiated within 24 h | 93.7% | 95.8% |

* For corresponding confidence intervals, see References: 35

Case Study: Continuum of Care

A 23-year-old woman went into labor with a TBA present. The MOM health worker had spoken with this family before, and they had been shy about asking for help from anyone but the TBA. It was quickly clear that the delivery was an emergency situation, at which point the TBA convinced the family to take the woman to the MHW. The woman presented with a stroke, hemoglobin level of 3, high blood pressure, fits and seizures, and a coma, so the MHW gave her intra-muscular magnesium and three bags of blood. While the stroke resulted in partial paralysis for the mother, both she and her baby survived and remain in their village community.

—Karen Maternal Health Worker (MOM focus group report, 2006)

Family Planning

The MOM Project also achieved the goal of creating increased availability of free modern methods of contraception, and this led to higher use, with the proportion of women reporting doing anything to delay pregnancy 84% higher, and a 35% decrease in unmet need.

Prior to the MOM project, open promotion of family planning was taboo in some MOM Project areas, partly for religious or cultural reasons, but also because of a widespread fear among ethnic leaders of “ethnic cleansing” related to the long conflict with Burma’s military regime. Although restricted to counseling during antenatal, postnatal, and post-abortion care visits, MHWs were able to make substantial inroads into increasing the access to and use of family planning (male/female condoms, oral contraceptive pills, depot medroxyprogesterone acetate (Depo-Provera), and emergency contraception).

Community Acceptance

“Village leaders said that contraception kills children. But after I explained and offered more information, the village leader tried a condom [and] liked it!”

—Maternal Health Worker (MOM field report, 2006)

V. The Connection Between Health and Human Rights

With evidence linking human rights violations to poor health in eastern Burma’s IDP populations,^{3,16} one of the MOM Project goals was to establish a quantitative estimate of exposure to human rights violations and its impact on access to maternal health services. As part of the MOM Project population surveys, trained survey workers asked 2,917 ever-married women of reproductive age in selected communities in the Shan, Mon, Karen, and Karenni regions of eastern Burma about exposure to household-level human rights violations within the MOM Project target area within the prior 12 months. Human rights violations are common and not sporadic occurrences in eastern Burma. Responses regarding household experience are shown below (Table 5).²

Table 5: Number and prevalence of human rights violations*

| Category | Violation | Karen | Karenni | Shan | Mon |
|----------------------------------|--|------------------------------|----------------|------------------|----------|
| | | number reported (percentage) | | | |
| Food Security | Field destroyed, burned, or mined | 28 (1.5) | 5 (1.3) | 61 (18.) | 0 |
| | Livestock stolen or destroyed | 53 (3.1) | 4 (1.0) | 85 (25.4) | 0 |
| | Food stores stolen or destroyed | 39 (2.3) | 4 (1.0) | 87 (26) | 0 |
| | Food taxation or theft by soldiers | 32 (1.9) | 5 (1.3) | 87 (26) | 0 |
| | <i>Any of the above violations</i> | <i>70 (4.1)</i> | <i>8 (2.0)</i> | <i>89 (26.6)</i> | <i>0</i> |
| Forced Labor | Individuals forced to work** | 26 (1.5) | 128 (32.1) | 79 (23.8) | 1 (0.3) |
| Forced Relocation | Household forced to move | 180 (10.5) | 3 (0.8) | 87 (26.1) | 0 |
| Direct physical attacks** | Individual(s) shot, beaten, stabbed | 0 | 2 (0.5) | 75 (22.6) | 0 |
| Landmines | Ever landmine death/injury in household | 7 (0.4) | 1 (0.3) | 29 (8.7) | 0 |
| | Injury/death occurred in previous 12 mo. | 1 (0.1) | 1 (0.3) | 15 (4.5) | 0 |

*Violations reported refer to the 12 months prior to the survey, except for cumulative (lifetime) prevalence of landmine injury. **By soldier or authority.

While there was considerable variation between MOM program areas, human rights violations stemming from conflict and displacement were widely reported, and were directly associated

with adverse health outcomes, including higher rates of anemia, malnutrition and malaria, and significantly decreased access to life-saving interventions.² For example, among women in Karen state who delivered a baby within the 12 months prior to the survey, those whose households reported experiencing forced relocation in that time period had statistically significantly higher odds of the following health indicators and access to antenatal services, compared to households not forced to relocate:

- Anemia (2.90 higher odds)
- Unmet need for family planning (1.68 higher odds)
- Receiving no antenatal care (5.94 higher odds)

Households reporting forced relocation were statistically significantly less likely to receive the following:

- Treated bednet (0.07 lower odds)
- Blood test (0.11 lower odds)
- Malaria screening (0.20 lower odds)
- Urine test (0.12 lower odds)

In addition, respondents also had 10.03 higher odds of anemia in households where food security was reported to have been lost in the 12 months prior to the survey, compared to those households with relatively stable access to food.

The survey results demonstrate the need to consider human rights violations when evaluating programs designed to improve maternal health in Burma and in other places where there is ongoing conflict.

VI. Taking the MOM Project to Scale

Success in MOM Project implementation in eastern Burma led to adaptation of this model for other conflict-affected and IDP areas in Burma. Starting in late 2007, technical advisers for the MOM Project began working with the Kachin Health Department and Health Unlimited on the China-Burma border. In total, 51 rural health centers covering a total population of 89,500 (including approximately 21,000 women of reproductive age) in this region now have more than 60 midwives and nearly 200 TBAs trained to provide essential components of antenatal care, postnatal care, safe delivery, and additional components such as treatment of sexually transmitted infections, essential neonatal care and resuscitation, misoprostol, deworming, antibiotics, and malaria testing. The expanded program follows the same iterative process for training, and an adapted tier-level approach, which includes midwives and TBAs.

In early 2008, a similar adaptation process took place on the India-Burma border, with MOM Project technical advisers working with multiple community-based organizations to develop a suitable reproductive health project for the region. To date, nine community-based organizations have recruited and trained 15 health workers and nearly 100 TBAs who provide services to a population of nearly 24,000. Interventions are more basic than the MOM Project, but include family planning, essential neonatal care, misoprostol, malaria testing, deworming, antibiotics, and clean and safe delivery.



Women queued for maternal health services, western border region (photo: Dang Ngo)

Additionally, in early 2007, the Karen Department of Health and Welfare adapted the MOM Project model to further develop reproductive health services in 13 sites in eastern Burma. While attacks on KDHW clinics by the military regime forced the suspension of work in two sites in 2007, such assaults don't always preclude continuation of services — TBAs and health workers displaced with the villagers have in many cases continued to provide care. Currently, KDHW provides key services such as family planning, essential neonatal care, misoprostol, malaria testing, deworming, antibiotics, magnesium, treatment for sexually transmitted infections, and clean and safe delivery to a population of nearly 30,000, in addition to the original MOM Project target population of 60,000. KDHW also conducts population-based surveys in program areas, similar to that of the MOM Project, to continue to document health status and the effects of human rights violations on health outcomes.

Given the substantial burden of mortality and morbidity facing women in Burma, the MOM Project's flexible, tiered approach to providing systematic services has significant public health potential, despite the limitations and even without comprehensive care (such as caesarean section).

The MOM Project demonstrated that community-based efforts are an effective — and often the only feasible — means by which reproductive health and other medical services can be provided to people in conflict-affected IDP areas. Health workers in these regions, and other service providers such as traditional birth attendants, know the geography, the culture, the political realities, and are trusted members of the community who can continue to provide services during times of crisis and displacement. In addition, these community-based health initiatives now have a proven track record for collecting high quality data critical for assessing public health needs and impact in inaccessible settings.

VII. Security and Access Challenges

Despite the success of the MOM Project, a large proportion of the estimated one million IDPs in Burma's conflict-affected border regions remain without essential reproductive health services.³⁶

In addition to the dearth of resources needed to access and serve this vulnerable population, there are serious transportation and communication challenges, as well as security issues that impact service provision in communities located in areas of active conflict. Some villages within the MOM areas, for example, were periodically completely cut off from the higher-level service provider network by military activity. In addition, the SPDC and its allies have harassed health workers, and confiscated supplies and medicines.

The constraints inherent in providing health services in conflict settings were apparent during the devastating 2006-2007 escalation of the conflict in northeastern Burma. The military junta forced the already displaced population of one of the MOM Project sites (Na Yo Hta) to scatter once more into the surrounding jungle, and burned the central site being used by maternal health workers for coordination of activities, supplies and training. It is notable that MOM project workers moved with the population and provided services during four months of displacement due to active fighting.

Security remains a constant challenge for patients, health workers and communities in Burma's border regions, yet even in areas of active conflict, the MOM Project's multi-tiered provider network was able to overcome constraints and maintain coverage of many basic and essential maternal health services. The MOM Project demonstrated that with adequate support and resources, continuity of care and delivery of services under extremely difficult conditions can be achieved within a structure that emphasizes mobility of service provision to the population, rather than centralized services that must be accessed by the population.

VIII. Conclusion

*"At midnight in the rugged jungle of eastern Burma, a village headman's young daughter was in labor, lying on a mat in the small hut she shared with her husband. She was petite and anemic from malnutrition and a history of malaria. A traditional birth attendant, an older woman relying on experience and local remedies, was by her side. The baby finally emerged, a healthy squalling boy. But the situation quickly turned dire as the new mother began to bleed heavily. The attendant used longyis — long pieces of fabric typically worn as a skirt — to staunch the flow of blood, and perhaps she massaged the uterus from the outside. There was little else she could do — there was no doctor, no government sponsored medical care in the region. . . . An hour before sunrise, the young mother died."*³⁷

Tragedies like this — and the grave risks that all women in eastern Burma face in giving birth — spurred four ethnic health organizations to launch the MOM Project in 2005, establishing a unique network of more than 750 local health workers and traditional birth attendants trained

to provide basic and emergency obstetric care for conflict-affected populations, outside of a clinic setting.

By the end of the three-year pilot program, the MOM Project demonstrated a ten-fold increase access to maternal health services, as well as continuity of care even in communities facing conflict or displacement. With adequate resources and proper training, health workers, in collaboration with traditional birth attendants, dramatically increased antenatal and postnatal interventions, including iron and vitamin A supplements, family planning services, basic emergency care, and skilled attendance at delivery — including the kind of emergency procedures that almost certainly would have saved the village headman’s daughter.

CBOs in eastern Burma demonstrated that the women’s health crisis is not intractable, and have made remarkable strides addressing reproductive health needs, despite continuing political, logistical, humanitarian and resource challenges.

The MOM Project’s innovative, mobile, community-based approach has expanded since the end of the pilot, and now reaches more than 90,000 people in eastern Burma. In addition, the approach has been replicated by CBOs in other conflict-affected areas in Burma, providing, in many cases, the only maternal, reproductive and neonatal healthcare to otherwise unreachable populations. The MOM Project’s focus on task-shifting, capacity building and empowerment at the community level could serve as a model approach for delivering needed maternal health care in severely constrained and conflict-affected areas around the world.

Because of the MOM Project, thousands of women in Burma have received key reproductive health services for the first time. However, there are tens of thousands more who remain without care because of a critical lack of resources and access. It remains essential to advocate for political change in Burma and increased international support to develop the capacity of community-based organizations working to establish safe motherhood in Burma.

IX. Calls to Action

G8 Governments:

- Call for the UN to investigate crimes against humanity since the Burmese government must be held accountable for their actions.
- Increase support to community-based organizations, particularly cross-border groups in conflict areas that have access to populations who otherwise cannot access services, as an investment in the civic health system of Burma.

Neighbor States, ASEAN Members, and Regional Governments:

- Compel the Burmese regime to allow CBOs, NGOs and INGOs to freely access all areas within Burma to provide free, high-quality antenatal and postnatal services to all women, and ensure access to these services by women in rural areas.
- Permit cross-border work and expand such initiatives in order to uphold International Responsibility to Protect principles, and provide assistance to the most vulnerable populations.

- Hold the Burmese government accountable for violations of human rights, which drive and exacerbate poor health status, particularly in the border regions and rural areas.
- Support, and where relevant and appropriate, fund national and regional health initiatives to improve services for women in Burma's border areas.

Burmese Government:

- Invest national resources in the development of a health infrastructure in which care is distributed effectively, equitably and transparently, with adequately equipped public health services and facilities, particularly in rural areas. Meet or exceed the World Health Organization's minimum of spending \$60 U.S. equivalent per person per year on health to offer effective basic healthcare.
- Develop, fund, and expand reproductive health education and access to free contraceptives to women, men and adolescents throughout the country.
- Prioritize health so that at least 15% of the national budget can be spent on health, meeting the Millennium Development Goals set out by the United Nations; make budget figures publicly available.
- Rescind all guidelines restricting organizations from assisting needy populations, particularly in the provision of health care.
- Allow community-based organizations and religious groups to work freely to deliver health initiatives with no restrictions or harassment.
- Release all political prisoners, including those aid workers being held due to providing humanitarian services to their communities.

Donors:

- Recognize that many effective, high-quality local organizations are forced to administrate from across Burma's borders, and lift any remaining restrictions on supporting cross-border initiatives. These organizations are often the only entities able to access and provide services to large populations still without the most basic and essential reproductive health service, and these regions are often not reachable from Rangoon or Naypyidaw.
- Recognize that sustained capacity building of independent organizations, often without the approval of Burma's Ministry of Health, is often the only way to deliver vital health services. Support those organizations, even if they are not "legal entities" in the eyes of the government as they have a vital role in the future health system of a peaceful Burma.

Service Providers/Technical Advisors:

- Develop simplified training curricula focusing on key, high-impact interventions with particular attention to appropriate educational materials for health workers and traditional birth attendants, who play an integral role in reproductive health services delivery in rural communities, and allow for all-important task shifting for greater coverage of services.
- Empower and advocate at the community level, a key element in health promotion.
- Develop appropriate mechanisms for delivery of family planning services with particular consideration for the traditions of communities in rural areas and physical barriers to access to services.

- Examine current programmatic efforts for barriers to access, such as a focus only on facilities-based solutions or restrictions on cross-border support.

Community Stakeholders/Advocates:

- Raise awareness of and advocate against continuing conflict and human right violations that are impacting the health and wellbeing of the vast majority of Burma's people.
- Encourage the free flow of information, including publication of studies, and unhindered opportunities for those working on women's health issues to meet and communicate.

Glossary of Terms

| | |
|-------------|--|
| ANC | Antenatal Care |
| BemOC | Basic Emergency Obstetric Care |
| Black Zones | Areas designated by the Burmese military as free fire zones, where active conflict and Burmese counter-insurgency policy often force people into becoming IDPs |
| BMA | Burma Medical Association |
| BPHWT | Back Pack Health Worker Team |
| COC | Combined Oral Contraceptive |
| EmOC | Emergency Obstetric Care |
| GHAP | Global Health Access Program |
| HW | Health Worker |
| IDP | Internally Displaced Person |
| KDHW | Karen Department of Health and Welfare |
| KMC | Kangaroo Mother Care |
| MHW | Maternal Health Worker |
| MMR | Maternal Mortality Ratio: ratio of deaths among women after 28 weeks gestation and before 6 weeks postpartum to 100,000 live births |
| MOM | Mobile Obstetric Medic Project |
| MTC | Mae Tao Clinic |
| MVA | Manual Vacuum Aspiration |
| PAC | Post Abortion Care |
| PNC | Postnatal Care |
| SPDC | State Peace and Development Council |
| STI | Sexually Transmitted Infection |
| TBA | Traditional Birth Attendant |
| U5MR | Under-five mortality rate: ratio of deaths in children aged less than five years to 1,000 live births. Also called Child Mortality Rate. |
| VE | Vacuum Extraction |

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