

The MOM Project:

**Delivering maternal health interventions
among internally displaced communities in
eastern Burma**

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Outline of Presentation

- **What is the MOM Project?**
- **Eastern Burma and reproductive health needs**
- **Development and design of the MOM Project with local partners**
- **Monitoring and Evaluation**
- **Challenges and Future Plans**



The MOM Project

- **M.O.M. – Mobile Obstetric Maternal Health Workers**
 - Multi-ethnic collaborative effort to improve access to essential maternal health interventions among vulnerable communities in eastern Burma
 - Recognizing the rights of communities to information, education, health care
 - Capacity building / empowerment



Conflict in Eastern Burma

- History of oppression by military junta in Rangoon
- HRVs and active conflict
 - Refugee flows to Thailand
 - Huge numbers of IDPs
 - Minimal humanitarian aid inside
- Since 2005, substantial escalation in conflict





General Health Indicators

	Eastern IDP	Burma	Thailand
Infant Mortality Rate (deaths / 1000 live births)	91	76	18
Child Mortality Rate (deaths / 1000 live births)	221	104	21

- **Child and infant mortality rates vastly higher than national indicators**



Human Rights Violations

- **Rights violations are common**
- **Prevalence at population level has been estimated**
 - Forced labor
 - 33% of households
 - Forced movement / relocation
 - 9% of households
 - Destruction / theft of crops and/or livestock
 - 25% of households
- **Associated with increased mortality and morbidity**



Public Health Response

- **Community-based organizations have led efforts**
- **Focus has been on basic needs**
- **Pregnancy-related health issues and broader reproductive health (i.e. family planning) receive less emphasis**
 - MMR: ~700-1200 / 100,000 live births
 - Leading causes: PPH and septic abortions



Maternal/reproductive health on the border

- **Mae Tao Clinic - Dr. Cynthia Maung**
- **Maternal and reproductive health recognized**
 - Development of obstetric department
 - CBOs working inside include TBA training programs
- **Limited or no systematic delivery of:**
 - Evidence-based antenatal care interventions
 - Components of emergency obstetric care



MOM Project Considerations

- **Adapt minimal set of interventions for IDP settings**
- **Service delivery strategies must fit the setting**
 - No permanent structures/facilities, lack of security/infrastructure, and long transit times
 - Bring services to community members
 - Community-level providers with variable skills sets





MOM Project Goals

- **Long-term goal:**
 - reduce maternal and neonatal morbidity and mortality among the target communities
- **Short-term goals:**
 - Establish a multi-tiered, flexible, and mobile network of providers
 - Increase access to essential maternal health interventions including BEOC, focused ANC, and family planning



Aim 1: Capacity Building

- **Health workers**
 - Mobile Obstetric Maternal Health (MHW) Workers, Health workers (HW), and TBAs
- **Monitoring and evaluation**
 - Design of instruments, data collection, management, and analysis
- **Administration**
 - Financial and program management, communication, training skills



Aim 2: Delivery of evidence-based interventions (maternal)

- **Antenatal Care**
 - Deworming, ITN, Malaria Screening, Fe/Folic Acid supplement
- **Labor and Delivery Care**
 - Elements of BEOC
 - Clean and hygienic delivery
- **Postnatal care**
 - Birth spacing supplies / education, Vitamin A supplement



Aim 2: Delivery of evidence-based interventions (neonatal)

- **Clean and hygienic delivery**
- **Essential newborn care (skin-to-skin contact / thermal care)**
- **Early and exclusive breastfeeding**



Aim 3: Informing future efforts

- **CPHHR provided oversight for monitoring of this health services project**
- **Produce new understanding regarding delivery of essential maternal health care in unstable settings**
- **Requires effective monitoring and evaluation plan, quality control, documentation**

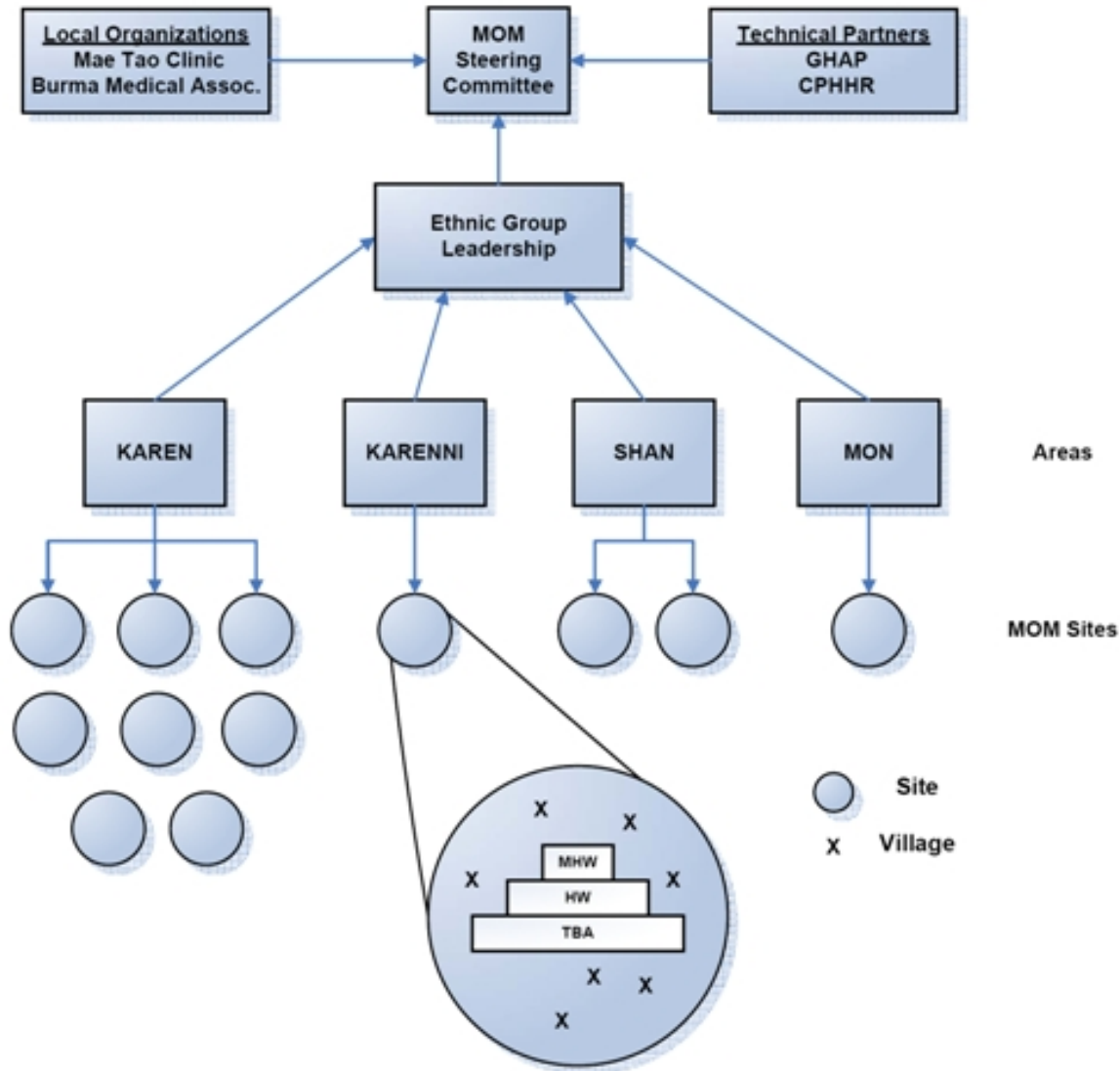


MOM Project Launch

- **August 2005**
- **Key stakeholders/partners meeting**
- **Selection of sites**
 - For pilot project, need some degree of stability
- **Defining workers/roles**
- **Establishing timelines, etc**
- **Creation of steering committee**



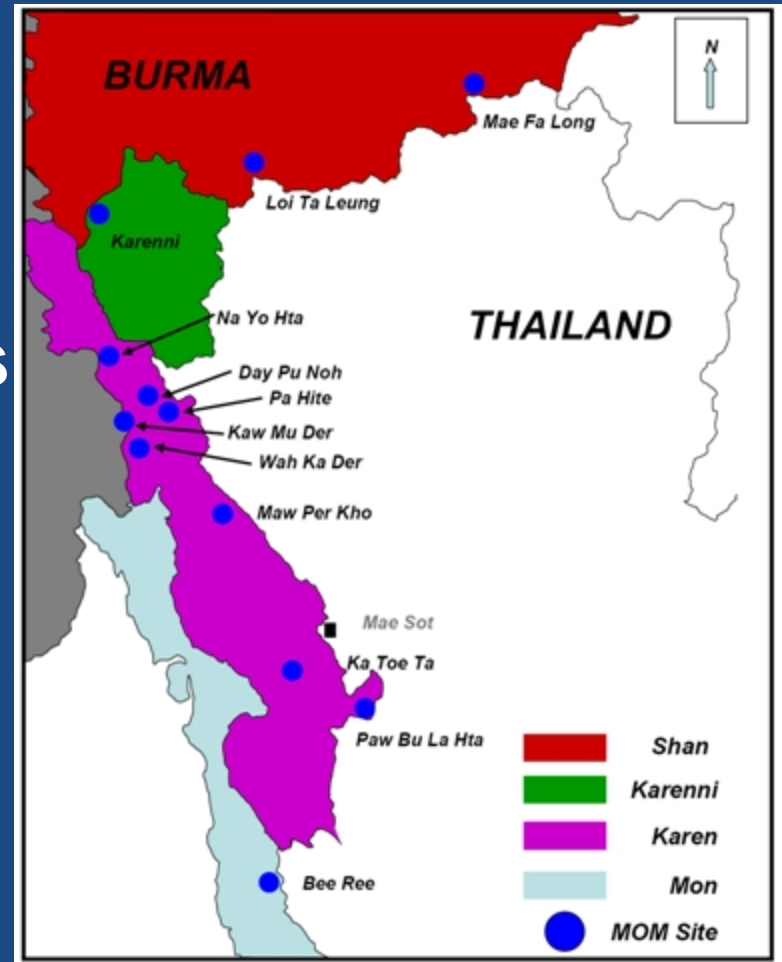
MOM Project Structure





MOM Project Sites

- Generally, little access to the border
- Shan and Mon have more access to facilities
- Shan are basically IDP camps
- Karen are in unstable settings
- Karenni site is in cease fire region





Sites, population, workers

Table 1. Project area, number of sites, population size and number of MOM health workers (2006-2008)

Area	Sites (n=12)	Population	Maternal health workers (n=33) ^a	Health workers (n=131)	TBAs (n=288)
Karen	8	41,559	22	93	219
Karenni	1	8,045	5	16	35
Shan	2	4,970	3	14	22
Mon	1	4,468	3	8	12



Maternal Health Workers

- **Identified/selected by ethnic health departments**
 - From community: Burmese plus local language
 - 30 female, 3 male
 - At least 4 months basic health training
 - A team leader chosen from each site
 - Education: 6th standard or higher



Phase 1 - Training

- **August 2005 – July 2006**
- **Trained cadre of 33 workers in Mae Sot, Thailand**
- **Adapted international curriculum**
- **Classroom and practical training in RH/OB department**
- **Focus was on ANC interventions and BEOC**



Phase 1 - Training

- **Training of trainers workshops**
- **Community mobilization and counseling training**
- **Monitoring and evaluation training**
- **Pre/post content evaluation**
- **Direct observation by senior RH medics in MTC**



Phase 2 - Implementation

- **August 2006 – September 2008**
- **Return to field / supply movement**
- **Community-mobilization meetings**
- **Training of health workers and TBAs**
- **Delivery of services**
- **Follow-up trainings / site visits**



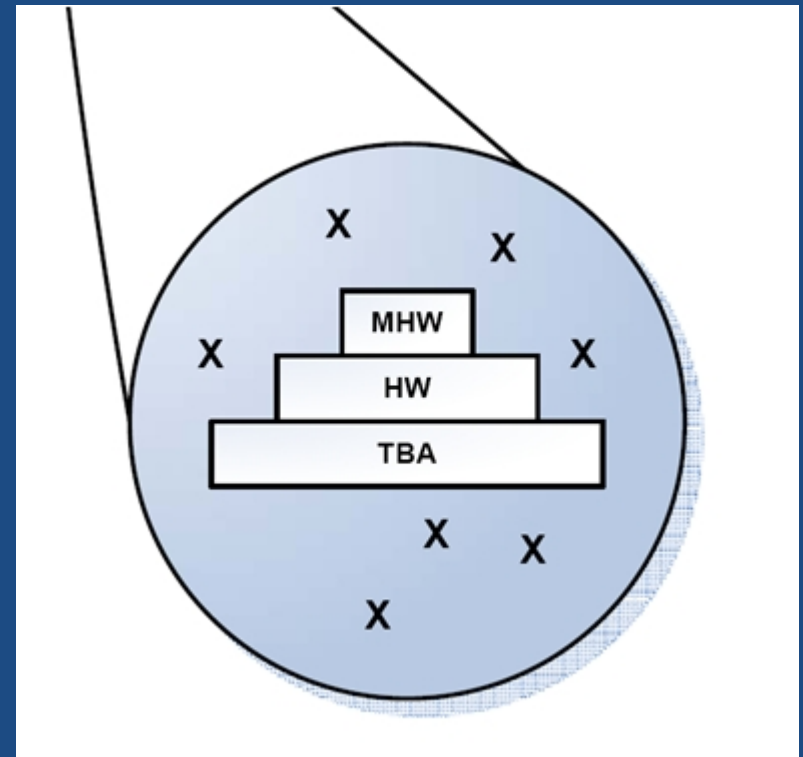
Service delivery





3-tiered provider network

- **Traditional Birth Attendants**
 - Links between the community and the higher level workers
- **Health workers**
 - Manage TBAs, deliver ANC/PNC, and minimal BEOC
- **Maternal health workers:**
 - Overall management delivery of higher-level services





Services: Who and What?

Intervention	Maternal health workers	Health workers	TBAs
General antenatal			
Iron/folate	X	X	✓
De-worming	X	X	✓
Paracheck® rapid diagnostic test	X	✓	
Insecticide Treated Net	X	✓	
Counselling (nutrition, newborn care, breastfeeding)	X	X	✓
Rapid, heat-stable test for syphilis	X	✓	
Haemoglobin	X	✓	
Urine test	X	✓	

- ✓ primarily responsible for intervention
- X intervention normally provided by a lesser-trained worker



Services: Who and What?

Intervention	Maternal health workers	Health workers	TBAs
Labour and delivery			
Clean delivery (hand-washing, clean surface, etc)	X	X	✓
Cord cutting with clean blade	X	X	✓
Cord antiseptis	X	X	✓
Neonatal resuscitation (suction ball)	X	X	✓

- ✓ primarily responsible for intervention
- X intervention normally provided by a lesser-trained worker





Services: Who and What?

Intervention	Maternal health workers	Health workers	TBAs
Basic emergency obstetric care			
Misoprostol	✓	✓	
Vacuum extraction			
Manual vacuum aspiration	✓		
Intramuscular/intravenous magnesium sulphate	✓		
Manual removal placenta	✓		
Blood donor screening and Transfusion	✓		
Antibiotics	✓	✓	

- ✓ primarily responsible for intervention
- X intervention normally provided by a lesser-trained worker



Services: Who and What?

Intervention	Maternal health workers	Health workers	TBAs
Post-partum and other interventions			
Counselling (breastfeeding, skin-to-skin contact, cord care)	X	X	✓
Post-partum vitamin A for mother	X	X	✓
Post-partum home visits	X	X	✓
Family planning counselling	✓		
Provision of family planning supplies	✓		
Blood screening	✓	✓	
Blood transfusion	✓		
Post-abortion counselling	✓	✓	

✓ primarily responsible for intervention

X intervention normally provided by a lesser-trained worker



Transfusion Needs High

- Trauma: landmine-specific mortality rate = 1/1000 persons/yr
- Falciparum malaria prevalence >10%
- Malaria cause of death >40%
- Maternal anemia >60% (Hgb<11)
- PPH leading cause of maternal death

Transfusion-Key Components

- **Rapid diagnostic tests for low resource settings**
 - Heat stable, only capillary blood needed
- **Community Education**
 - Program acceptance, Donor Recruitment
- **“Walking Blood Bank” concept**
 - No refrigeration/storage of blood
 - Blood taken from donors at time of need

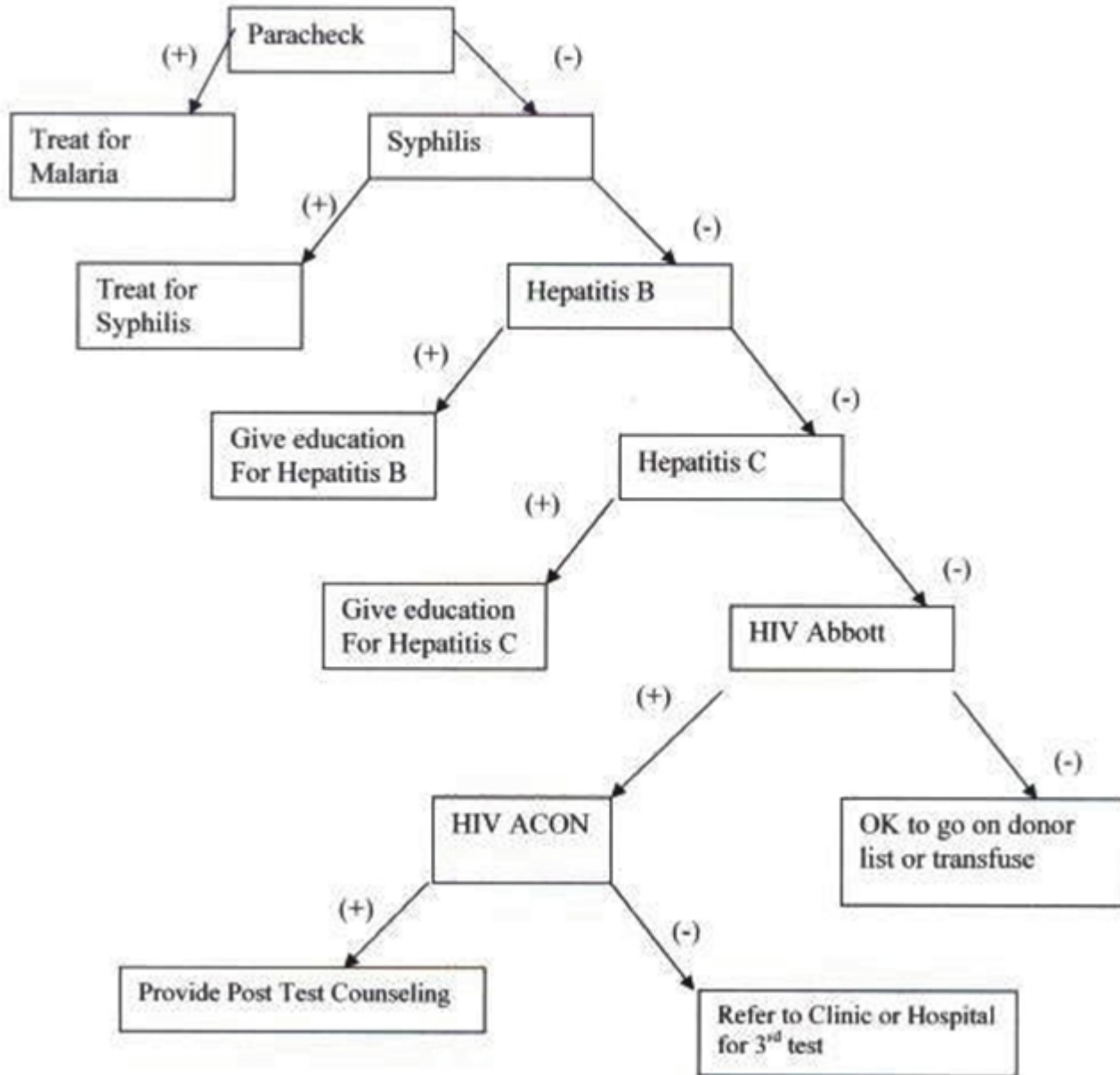


“Walking Blood Bank”

- Donor list and map with blood types
- Pregnant woman also typed during ANC or at labor
- If needed, matching donors are consulted/requested
- Sequential testing for “safer” transfusion
- Direct person-to-person transfusion



Blood Screening Protocol





Donor screening

- **Sequential testing**
 - avoid testing for less treatable or more stigmatizing diseases
 - resource conservation
- **Simultaneous testing for emergencies**
- **Goal of screening is blood safety, not necessarily diagnosis**



Monitoring / Evaluation

Quantitative

- Annual, population-based cluster surveys
- Review of pregnancy record forms
- Pictorial vital event data from TBAs



Monitoring / Evaluation

Quantitative

- **Annual, population-based cluster surveys**
 - Baseline (Aug 2006 – Jan 2007, N=2,914)
 - Interim (Aug 2007 – Jan 2008, N=2,749)
 - Endline (Sept 2008 – Dec 2008, N=2,484)
- **Combined methods (two-stage cluster sampling, systematic interval sampling)**



Baseline: Access to Maternal Health

Service Provided	Overall (n=2,252)	Karen (1,378)
≥4 ANC visits	16.7%	7.3%
Urine tested	15.7%	7.5%
Blood tested	18.7%	9.4%
Screened for Malaria	21.9%	15.4%
Tetanus Toxoid ≥ 2 doses	14.3%	3.7%
90 days Fe/Folic Acid	11.8%	6.1%
Deworming treatment	4.1%	1.1%
Used insecticide treated net	21.6%	16.6%
“Skilled Provider*” at last pregnancy	5.1%	1.9%

*Can provide components of BEOC



Baseline Survey Results

- **Unmet need is high; substantial potential for family planning impact**
 - 25% do something to delay pregnancy
 - Overall 61% with unmet need for limiting/spacing
- **Neonatal, infant, child mortality rates moderately high**
 - Lower than more unstable direct conflict areas
 - Higher than Burma national estimates



Human Rights Violations

- Karen areas:

Human Rights Violation	% of HH exposed
Forced labor	1.5%
Soldier Violence / Landmines	0.1%
Forced Displacement	10.5%
Food looted / destroyed	4.1%

- Karenni: 33% of households report forced labor
- Shan IDP camps: 25% forced labor, food security concerns



Rights Violations and Access

- **Decreased access for those experiencing human rights violations**
- **Forced relocation:**

	Odds Ratio
– anemia:	1.51 (0.95, 2.40)
– unmet need:	1.68 (1.15, 2.46)
– No ANC visits:	3.34 (0.98, 11.50)
– No core interv.	5.94 (2.23, 15.80)
- **Food Security:**

	Odds Ratio
– anemia:	7.47 (2.21, 25.30)



Monitoring / Evaluation

Qualitative

- **Interviews, focus-group discussions with MHWs**
 - Barriers to provision of care
 - Challenges in implementation
 - Highlight situations/difficult cases
- **Site visits**
 - Local steering committee members travel inside when possible to visit sites



Quotes from MOM areas

On MHW ability to handle complications from abortion and impact on community members:

- **“One woman had an abortion at 4 months and the bleeding did not stop. The MHW gave 600mg then 400 mg and then methergine – the bleeding stopped and then she did MVA. This woman didn’t know about the MHW and their skills so didn’t come early. Now the people know about their skills and women come to them early and ask many questions.**
- **“A 38 year old woman was 3 month pregnant and had septic abortion. The TBA discovered this woman and ran to get MHW. MHW ran hemoglobin scale and woman was level 6. She gave IV antibiotics and performed MVA. The woman survived”**



Quotes from MOM areas

Describing how an MHW handled a complicated case and impact on the community

- “[There was a case of] postpartum hemorrhage and transfusion. The woman was 23 years old, presented with a ‘stroke’, hemoglobin of 3, high blood pressure, fits and seizures, coma. The MHW gave intra-muscular magnesium and 3 bags of blood (sister, uncle, HW). The TBA was at the delivery and at the time of emergency convinced the family to take the woman to the MHW. MHW had talked with the family before but they don’t believe in their ability.

At the time of the emergency they brought the woman and were very shy and asked for help. Now the family knows about the MHW work. The woman and baby are alive now, however, the woman is still paralyzed on one side”



Quotes from MOM areas

On family planning supplies

- “MHW give condoms directly to men and many men come to them secretly for condoms”
- “Village leaders say that contraception kills children! But after we explained and offered more information, the village leader tried a condom! Liked it! [Now] we give counseling to all women during post natal care Many woman agree to try... some have run out of supplies!”
- “The men are shy to come to us for methods, as well as women, so we decided to place condoms in a box in the [mobile] clinic where anyone can take”



Quotes from MOM areas

An MHW was asked about possibility of expanding family planning to include emergency contraception

- **“Right now ... they don’t think they need it. Most women keep a pregnancy if they get pregnant. The only people who rape women in their area are SPDC and if they rape a woman they [SPDC] kill her after. In 2006 a woman in their village was raped and killed”**



Quotes from MOM areas

On security

‘[MHWs and HWs] could not go to [village] for 3 months because SPDC came there. TBAs were in [that] village. If the SPDC heard that an MHW or HW went to [the village], the SPDC would come very quickly to that area because they know the health workers work with [Karen National Union]. If they went and the SPDC came, the SPDC would arrest, beat or kill the health workers. They might also burn the village. If they saw the medicine or the instruments, the SPDC would take it or destroy it. TBAs stay there a long time so there is no problem. The TBAs wrote on the [monitoring and evaluation] form very secretly and hid it.’



Endline MOM Results

Service Provided	Baseline (n=2,252)	Endline (n=1,531)	PRR (95% CI)
<i>Antenatal Visit Coverage</i>			
≥1 ANC visits	39.3%	71.8%	1.83 (1.64 – 2.04)
≥4 ANC visits	16.7%	34.4%	2.06 (1.72 – 2.47)



Endline MOM Results

Service Provided	Baseline (n=2,252)	Endline (n=1,531)	PRR (95% CI)
<i>Antenatal Interventions</i>			
Blood pressure measured	43.1%	72.9%	1.69 (1.51 – 1.89)
Urine tested	15.7%	42.4%	2.69 (2.05 – 3.54)
Malaria test done	21.9%	55.5%	2.53 (2.01 – 3.18)
- positive rate	36.7%	11.8%	0.32 (0.24 – 0.43)
Tetanus Toxoid			
- ≥ 1 dose	22.4%	15.6%	0.69 (0.47 – 1.03)
- ≥ 2 doses	14.3%	6.5%	0.46 (0.20 – 1.03)
90 days Fe/Folic Acid	11.8%	41.3%	3.49 (2.80 – 4.35)
Deworming treatment	4.1%	58.2%	14.18 (10.76 – 18.71)
Presumptive antimalarial provided	9.8%	12.5%	1.27 (0.93 – 1.75)
Used insecticide treated net	21.6%	59.3%	2.75 (2.19 – 3.45)



Endline MOM Results

Service Provided	Baseline (n=2,252)	Endline (n=1,531)	PRR (95% CI)
<i>Postnatal interventions</i>			
PNC visit within 7 days	33.7%	69.8%	2.07 (1.81 – 2.37)
Skin-to-skin care given	10.1%	27.2%	2.70 (1.93 – 3.78)
Maternal post-partum Vitamin A	12.3%	63.4%	5.17 (4.17 – 6.43)
Breastfeeding initiated within 24 h	93.7%	95.8%	1.02 (0.99 – 1.05)



Endline MOM Results

Table 4. Impact of program on family planning use and unmet need.

Indicator/Method	Baseline		Endline		PRR (95% CI) ^c
	<i>n</i>	Percent	<i>n</i>	Percent	
Do not want more children ^a	1,136	42.0	950	41.6	0.99 (0.91–1.07)
Doing anything to delay pregnancy ^b	725	25.3	1,110	46.7	1.84 (1.61–2.12)
Using a modern method ^b	685	23.9	1,070	45.0	1.88 (1.63–2.17)
Oral contraceptives	149	5.2	388	16.3	3.13 (2.51–3.92)
Depo-provera	531	18.6	682	28.7	1.54 (1.34–1.78)
Intra-uterine device	6	0.2	30	1.3	6.01 (2.31–15.7)
Norplant	4	0.1	1	0.0	0.30 (0.31–2.90)
Condoms	40	1.4	150	6.3	4.51 (2.59–7.87)
Sterilization	25	0.9	17	0.7	0.82 (0.42–1.59)
Unmet Need for Contraception ²	1,764	61.7	963	40.5	0.65 (0.60–0.72)



Endline MOM Results

- **84% increase in use of modern contraceptive methods; unmet need reduced by 35%**
- **Proportion of women delivering in presence of “skilled” worker increased to 47%**
- **Human rights violations still associated with coverage**
- **“Exposed” and “non-exposed” had similar relative improvements**



Delivery of elements of EOC

- **Misoprostol coverage**
 - Prevention – n=2,062 (77%)
 - Treatment – n=104
- **IM Antibiotics: n=109**
- **Kiwi: n=12**
- **MVA: n=50**
- **MgSO₄: n=15**
- **Transfusions: n=20-25**
- **Manual removal of placenta: n=49**



Challenges

- **Security**
 - Na Yo Hta burned to the ground at project start
 - Entire village fled to an adjacent “safe” area in the jungle
 - Sporadic fighting in other areas temporarily stopped services
 - SPDC/factional “takeover” of clinic areas
 - Outbreak of fighting in PBLT in Nov/Dec 2008
- **Movement of workers back to Mae Sot for training**



Challenges

- **Quality control**
 - Services and data collection
- **Continuous monitoring of competency**
- **Thorough understanding of coverage is difficult**
 - Accounting for population movement
 - Day-to-day security constraints/fluctuations in some areas
- **Logistics**



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



Future Plans

- **Broaden the use of and worker level that can deliver prophylactic misoprostol**
- **Extend family planning beyond married reproductive age women**
- **Broaden the types of interventions that can be delivered by the skilled workers**
- **Include more comprehensive RH approach to meet IAWG standards**



Conclusions

- **Example of setting where unbundling of services from facilities is absolutely essential**
- **Emphasizes mobility of service provision to the population rather than centralized services accessed by the population**
- **Elements of basic emergency obstetric care CAN be delivered at community-level**
- **Flexibility in provider “toolkit” allow progress**
- **Rethink “basic” vs. “comprehensive” dichotomy?**



Further Reading

www.jhsph.edu/humanrights

<http://magazine.jhsph.edu/2008/fall/>

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Thank-you

Partners

- Burma Medical Association
- Karen Department of Health and Welfare
- Shan Health Committee
- Karenni National Health Organization
- Mon Health Department
- Mae Tao Clinic
- Global Health Access Program

Colleagues

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