Arriving at Surmang in Yushu Prefecture, Qinghai Province, China, one cannot help but be in awe of the towering mountain peaks, flowing rivers and the true sense of isolation. Small villages line the road to Surmang, grazing yak dot the mountainsides and motorcycles blare Tibetan music as they breeze by. Because it’s so remote, this place is unique; it’s a land where traditional cultures thrive and natural beauty overwhelms the senses. But being remote is also what makes this place so dangerous for child-bearing women.

Abstract: Surmang Foundation’s Clinic is located in Qinghai Province, Yushu Prefecture, Xiao Surmang Township, China. It is a remote, 97 percent ethnic Tibetan, mountainous region with little access to organized health care services. Surmang Foundation, a US 501(c)3 charity, has organized a cadre of local women to provide community-based care and education to women, resulting in a notable reduction in maternal mortality based on the report of community members. A festival organized to celebrate the accomplishments of the community health workers provided an opportunity for the women to demonstrate how their roles benefit themselves and their community. Both health care services and support for community empowerment are provided through the community health worker model.

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In an emergency, the nearest hospital is 3 to 10 hours away, depending on the season, road conditions and the reliability of the vehicle. During winter and rainy seasons, transport is impossible, and few people have access to the money or vehicle needed to make any kind of evacuation feasible.

Background

The local population in this Tibetan region of China is mainly agricultural, comprising traditional nomadic yak herders and farmers. They’re considered among China’s ultrapoor; in 2008, the per capita net income was estimated at $350 USD per year (UNICEF, 2010). During the summer months they live in encampments near the top of the mountains, and as the weather cools they relocate closer to more easily accessible roads and less forbidding conditions to graze their yaks.

This population is a prime target of the Millennium Development Goals (MDGs) created by the United Nations and other international partners in 2000 to provide guidance for governments, nongovernmental organizations (NGOs) and other entities interested in international development efforts to respond to the needs of underserved populations globally (UNDP, 2012). The MDGs continue to provide benchmarks for economic development around the world and underscore many of the activities focused on improving conditions to alleviate poverty worldwide. MDGs 3, 4 and 5 were particularly important as they focus on gender equality and empowerment of women, reduction of child mortality and improvement of maternal health (UNDP, 2012).

In 1987, Lee Weingrad, an American, was the first foreigner to ever visit Surmang region. In 1988, Mr. Weingrad’s dedication to the region and its inhabitants led to the creation of the Surmang Foundation, a U.S. nonprofit organization. (Lee Weingrad, personal communication, September 15, 2011). Starting in 1992, clinics were held in the summer by foreign health care providers. This was the only time when the area was accessible by vehicle. Doctors and nurses provided basic free medical care from improvised clinics in yak tents to nomadic peoples who were living in areas that were difficult to reach at other times of the year. This is how the authors were introduced to the region and to the project to reduce maternal morbidity and mortality.

A freestanding clinic facility was completed in 1996 and in 2000 and Surmang Foundation hired and provided formal training for two local physicians to provide year-round free primary care services. This area had traditionally been served by village doctors, who were untrained individuals (usually men) who used traditional and herbal methods for diagnosis and treatment. There had previously been no formally educated health professionals to provide care in these remote areas (Wellhoner et al., 2011). The Surmang clinic has since become the primary health care services facility in the area, treating nearly 50 patients daily with ailments ranging from broken bones and recessed teeth, as well as providing prenatal checkups.

In 2004, the Surmang Foundation commissioned a public health survey of the entire Qinghai Province (Wellhoner et al., 2011). The survey, which studied more than 400 nomadic women, revealed a gap in care for women and children in that women were generally giving birth at home, without skilled attendants. The traditional childbearing practice is to give birth on a bed of yak dung, using unclean instruments to cut the umbilical cord. No emergency transport or services were available. Not surprisingly, many women and infants did not survive childbirth. During the survey period, three maternal deaths were recorded among 103 live births; these are estimates based on first-person interviews. All of the respondents were able to identify a woman they knew who had died. There was no system of organized birth and death registration in place at the time of the survey, and estimates of neonatal and maternal mortality are difficult to calculate based on the small number of cases, the lack of written records and the inability to validate the case reports (Wellhoner et al.).

As a result of this gap in maternal health services, the focus of the clinic expanded from primary care to maternal and child health services and preventive care. The foundation designed and implemented a community health worker (CHW) program. This program now has 39 women from 10 villages who have been trained as birth attendants and health educators. They refer patients to the clinic or local hospital when appropriate and over the past 5 years, anecdotal evidence shows a marked improvement in outcomes.

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CHW Program

The CHW program is based on models in Nepal and India (Shetty, 2011) and trains women in the community to perform safe antenatal care and attendance at birth. A comparable program has also produced positive outcomes in a similar area of the Tibet Autonomous Region (Dickerson et al., 2010). The training of CHWs in Surmang was expressly designed to provide basic instruction on hygiene concepts and emergency measures that would provide a framework for future training.

“The overall goal of the project is to improve knowledge, attitudes and practices on the household level. By training community health workers to conduct prenatal visits, identify danger signs, attend births and visit newborns, we hope to reduce deaths preventable by simple interventions and timely referral for complications.”

—Saad El-Dien, Program Manager, CHW Project, 2006

The CHW program represented a shift in focus for the Surmang Foundation from an ambulatory clinic operation largely serving male patients to a community-based care model supporting and recognizing the maternal and child health care needs of area women. A group of 33 women—10 in the catchment of Surmang and 23 in Rongdou and Mendo, two villages roughly 50 kilometers west of Surmang—were identified by village leaders and trained by visiting foreign health care providers in basic antenatal care and attendance at birth. These 33 women received training in 2007 and 2009, and in 2010, a group of six women from the nearby community of Zatch were added to the roster of CHWs. All 39 women received training in 2010 and 2011, with roughly 75 percent of births attended by trained CHWs in 2011 (see Table 1). The primary goal for the CHW program since its inception in 2006 has been to reduce both maternal and infant mortality rates in the Surmang Township catchment area of Qinghai Province, China.

Program Management and Evaluation, 2007 to 2011

In 2007, the CHW training program set forth to evaluate the successes and opportunities of the CHW program to date, and continue basic training to all previously trained CHWs (CHW Report, 2009). Each of the CHWs in Surmang and Rongdou/Mendo were interviewed to determine both specific demographics and lessons learned from the original training. Basic birth statistics were obtained and follow-up intensive trainings were provided. These trainings served to evaluate knowledge gaps and further reinforce appropriate and safe birthing practices. Highlights of the 2007 program included the following:
(1) Intensive trainings at Surmang clinic and Rongdou/Mendo for all CHWs.

(2) Initiation of a system of documentation of prenatal, birth and postnatal visits for CHWs.

(3) Distribution of clean birth kits, which contain basic supplies for birth, such as umbilical ties, a single razor, gauze for cord care, towels and an infant hat. The women adopted these kits as the basic tools for their roles.

(4) Provision of a wooden ink stamp, or chop, for each CHW to document her work for reimbursement.

(5) Payment to CHWs for attendance at birth and antenatal care.

In 2008, the program was suspended because of the unavailability of visas for foreign trainers. It was reinstated in 2009 and has since continued uninterrupted to the time of this writing. For the purpose of gathering statistics, the CHWs are interviewed each summer to determine the number of antenatal visits, numbers and nature of births attended, referrals to clinic for pre/postnatal care, referrals to hospital for childbirth, complications, rescues and morbidity/mortality of women and children. The CHWs are paid each summer according to the number of births attended, antenatal care, referrals to the clinic for ultrasound and well-baby checks.

Measures of Success

Statistics are collected each year and births are calculated from CHW interviews. The success of the CHW program has been measured by the following:

(1) Continued participation in the program. Attrition is minimal; two women dropped out of the training in 2008/2009. Both moved away to areas outside of the training communities.

(2) Hundred percent participation in intensive trainings; women give up their daily duties for 1 to 5 days to join the training each year. In Rongdou/Mendo, the women adapt their schedules to participate with less than 24-hour notice.

(3) Stories and self-report of enthusiastic participation in birth, antenatal teaching and clinic referral.

(4) No maternal mortality reported in attended births.

(5) Verbalized enthusiasm and support for the program by the CHWs.

Tables 1 and 2 illustrate the continued challenges and successes with rural births. The number of attended births has risen slightly each year as more villagers are aware of the training program and CHW skill in childbirth. One CHW reported that she was known as “good luck” in her village for her recognized skill set and support during childbirth.

Table 2 represents a more in-depth view of statistics during 2011. Since 2009, the timely hospital referral for complicated and high-risk pregnancy has risen as more CHWs are recognizing warning signs. Table 2 demonstrates that hospital births are more common but not without the risk of neonatal mortality.

Voices of the CHWs

The idea of a festival to celebrate the achievement of the CHWs and to reaffirm their cultural values provided an impetus for the Surmang Community Health Festival, which was held for 5 days in September 2011. The concept of a festival as a community-based event was modeled on one that brought together a group of Indonesian weavers to celebrate their achievements and promote their wares in 2005. The Indonesian Weavers’ Festival (Threads of Life Foundation) was an opportunity to reaffirm their cultural heritage at a time when many of their traditional materials were more difficult to procure and their
products were being bypassed in the market for mass-produced items made with cheaper, manufactured materials. This kind of cultural displacement is similar to that of the Tibetan yak herders. In addition to being an opportunity for the weavers to socialize and strategize for their continued success, it became an opportunity to celebrate their cultural heritage through music, singing and dancing (Yayasan Pecinta Budaya Bebali, n.d.), activities that reinforced their traditional ways of life in a changing world.

The Surmang Rural Health Festival became an opportunity to bring the CHWs together to share their experiences providing care to the women of their villages. They also discussed ways in which they would like to improve village life and continue to support the well-being of their families and neighbors, even as the world around them was changing. The CHW project founders, directors, Surmang clinic staff and invited public health professionals were involved in the design of the questions and topics addressed, and experienced translators guided the discussions of the CHWs. The authors were present at the festival, gathering data and supporting the Tibetan facilitators in their efforts to engage the participants in the group activities. During the 5 days of the festival, women met and discussed the challenges and joys of their work as CHWs and as members of their villages. The final day was used as a refresher training session on the management of the third stage of labor.

Tibetans who were also able to translate the women’s responses into English facilitated daily group sessions focused on village life, the work of CHWs and visionary planning for the future. During the first and second days, the CHWs were divided into four groups based on colored squares on their name tags. This allowed CHWs from different villages to share their experiences as health educators and traditional birth attendants. At the end of these first 2 days, the CHWs translated their discussions into role plays that depicted the joys and challenges of their work. Not surprisingly, each group chose a reenactment of a birth scene to demonstrate the pleasures of attending women during childbirth, accurately portraying the important elements they had learned from their training.

### Table 2

<table>
<thead>
<tr>
<th>Delivery Statistics</th>
<th>Rongdou/Mendo</th>
<th>Zatch</th>
<th>Surmang</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of women visited by CHW</td>
<td>90</td>
<td>33</td>
<td>68</td>
<td>191</td>
</tr>
<tr>
<td>Number of women still pregnant at interview</td>
<td>6</td>
<td>0</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>Number of deliveries</td>
<td>84</td>
<td>33</td>
<td>55</td>
<td>172</td>
</tr>
<tr>
<td>CHW attended deliveries</td>
<td>81% (68)</td>
<td>70% (23)</td>
<td>64% (35)</td>
<td>73% (126)</td>
</tr>
<tr>
<td>Hospital deliveries</td>
<td>18% (15)</td>
<td>15% (5)</td>
<td>9% (5)</td>
<td>15% (25)</td>
</tr>
<tr>
<td>CHW referred woman to ultrasound (calculated per village)</td>
<td>17% (15)</td>
<td>58% (19)</td>
<td>59% (40)</td>
<td>39% (74)</td>
</tr>
<tr>
<td>Infant mortality at 30 days*</td>
<td>6% (5)</td>
<td>3% (1)</td>
<td>9% (5)</td>
<td>6.3% (11)</td>
</tr>
<tr>
<td>Infant mortality at 6 months**</td>
<td>12% (8)</td>
<td>6% (2)</td>
<td>13% (7)</td>
<td>9.8% (17)</td>
</tr>
<tr>
<td>Infant mortality for hospital deliveries</td>
<td>13% (2)</td>
<td>20% (1)</td>
<td>40% (2)</td>
<td>16% (4)</td>
</tr>
</tbody>
</table>

§ Calculated Q4 2010–Q3 2011.
* Includes hospital mortality. ** Includes 30-day mortality.
### THE OPPORTUNITY FOR CHWS TO SHARE THEIR EXPERIENCES AND THEN TO USE THEIR CAMARADERIE AND SHARING TO INCREASE THEIR SENSE OF MASTERY OVER THEIR ENVIRONMENTS REPRESENTS ANOTHER KIND OF EMPOWERMENT THAT HAS THE POTENTIAL TO IMPACT THEIR COMMUNITIES

The portrayal of challenges was a more unsettling one for the Western visitors to witness, as the CHWs all chose to demonstrate the difficulties of dealing with abusive partners who chose drinking and gambling over family activities, including looking after their children. Clearly, the subject of interpersonal violence did not represent a shameful taboo for these women; although unwelcome and undesirable, this type of behavior was a common enough experience representing a reality that the CHWs identified as counterproductive to their everyday life.

On the third and fourth days of the festival, the participants returned to join the CHWs from their own villages to envision a future for their communities and to talk about how they would like to realize their visions. Their desires reflected the need to improve the infrastructure of their towns—they wanted upgraded roads, bridges to allow them to travel to different villages easily, reliable solar power to provide continuous electricity and easily obtainable water. All of the CHWs wanted to see primary schools built in their towns so that children could easily attend school without needing to leave town. The CHWs also identified a desire for more easily accessible health care in their own villages so they wouldn’t have to travel far to access care and so that they could obtain immunizations for their children. For their own use, the CHWs wanted blood pressure cuffs and health information materials that would expand their skill set beyond maternal child health care.

### Empowering Women

The concept of empowerment for women has become widely supported in global health to engage women in poverty reduction, nutritional improvement and domestic violence reduction (Tiwari et al., 2005). The approaches for empowering vary from microlending schemes to vocational training activities (Kim et al., 2009). The opportunity for CHWs to share their experiences and then to use their camaraderie and sharing to...
increase their sense of mastery over their environments represents another kind of empowerment that has the potential to impact their communities. Laverack and Wallerstein (2001) assert that the organization of individuals within a community creates an opportunity to “…achieve the social and political changes necessary to redress their powerlessness” (p. 180).

During their time together at the festival, the CHWs identified several themes that affected their personal well-being and their ability to provide appropriate care to their communities, including a lack of reliable and accessible transportation, roads that would wash out and were difficult to navigate, lack of easily accessible schools for their children and a dearth of native Tibetan trainers. Identifying these issues represents the beginning of a process of community empowerment for the CHWs that will continue in their own communities.

The opportunity to expand the CHW model as it is currently working at the Surmang clinic will be enhanced by the incorporation of the experiences of the current CHWs. As well, their ability to use their knowledge and abilities will make an impact on the well-being of their communities beyond the care of childbearing women.

Lessons Learned
Our involvement with the Surmang Foundation spans many years, and includes time participating in the needs assessment process, training the CHWs and providing guidance for future directions of the maternal health projects. During this time, there have been many changes in the region as the result of natural disasters and political shifts (Yongmeng, 2011). Program sustainability can be a challenge for NGOs when they enter into community partnerships without adequate strategic planning and local support. The involvement of the clinic doctors and village CHWs in the development of the health care system in Surmang provides a platform for continued sustainability because of a sense of shared ownership between the Surmang Foundation and the community.

More and more, nurses in the United States are participating in global health activities, whether through educational institutions, missionary work or volunteer experiences (Apollo, Bond, Gray, & Lail-Davis, 2012). These experiences are being widely used to support a greater understanding of the immigrant experience in the United States, as well as to provide nurses with an opportunity to share their expertise to improve the health of populations worldwide. Surmang Foundation’s project demonstrates the importance of community involvement in program design and execution, as well as the potential for empowerment that can occur when community members are drawn into improving health outcomes. This import was not lost on the government, whose representatives lent their imprimatur to the project through their attendance at the Festival, and demonstrated desire to export Surmang’s model to a sustainable public health prototype.

Conclusion
The balance of knowledge, skills and abilities of each CHW, reinforced by the synergy of collective, cooperative work at the Surmang Rural Health Festival, has started a group of 39 women on a slow and complicated journey. Although our involvement as trainers, evaluators and project managers has contributed to the development of the CHW project, it’s time for the CHWs and their communities to continue what has been started. The path is formidable and steep, not unlike the road to Surmang, but the CHWs have the traditions of their communities to accompany them on the journey.

References


