

Midwife Training in Tibetan Sichuan Lessons Learned from a Successful Program

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Abstract

An eight-week training program taught basic midwife and health care skills to 79 women in eight counties of Ganzi Tibetan Autonomous Prefecture, Sichuan. Later, after the women had been posted in rural Tibetan communities for 4-8 years, follow-up surveys were administered to find out how they fared. The training program is described in detail, including organization and leadership, the curriculum, partnerships formed with government agencies, and follow-up support. Based on the surveys, estimates are made of infant and maternal lives saved by the program. Factors contributing to retention of program graduates in the health care profession are described and analyzed as a guide for others offering similar training to identify ways to get maximum value for the training investment.

1. Background

1.1 Health Care in Ganzi Prefecture

Ganzi Tibetan Autonomous Prefecture is located in the west of Sichuan Province, in the southeast portion of the Tibetan plateau, with an area of 153,000 square kilometers, encompassing 2,458 administrative villages of 325 townships or towns in 18 counties.¹ The population of the prefecture is currently about 960,000 in total.

The sparseness of the population has retarded development of a health care system, especially in rural areas where access is the most difficult. In 1949 when the Chinese Communist Party secured what was then called Xikang Province, there were no health care facilities in all of Ganzi Prefecture; the only available care was provided by Buddhist monks practicing traditional herbal medicine and a few foreign missionaries who described conditions as abysmal.²

Through massive investment the Chinese government has established, as of 2003, 422 formal hospitals/clinics in the prefecture. This figure includes 38 hospitals, 320 town/township clinics, 19 epidemic-prevention stations, 19 maternity and children health

¹ In this region the administrative hierarchy, from largest to smallest, is as follows: prefecture (*zhou*), county (*xian*), town (*zhen*) or township (*xiang*), village (*cun*).

² Missionary Albert Shelton lived in Batang for nearly 20 years in the early 20th century and operated a small hospital there. His medical practice “related to wounds, opium, and various epidemic diseases such as cholera, dysentery, typhus, and typhoid, a result of Batang’s polluted water.” Douglas A Wissing, *Pioneer in Tibet: The Life and Perils of Dr. Albert Shelton*, Palgrave MacMillan, 2004.

care hospitals, 3 medical schools or training centers, and 23 other medical stations. They established 549 village aid stations staffed by 605 village health care workers.

A considerable effort has also been expended by the government in training health care providers (HCP). In 2009 alone in Ganzi Prefecture 463 fresh medical graduates from college and vocational school joined 325 town/township clinics, assuming their posts in August directly after graduation. Affordable government health insurance, which has been available under China's Rural Medical Insurance Project since 2006, has lowered but not eliminated economic obstacles to seeking care.

The government health care infrastructure is supplemented by grassroots efforts by community leaders to establish hospitals, clinics, and medical academies where monks and others are trained in traditional Tibetan medicine. In many of these facilities the rural poor may be treated at very low cost by traditional medical practitioners. Low cost care from doctors trained in Western medicine is also available at some charity clinics³, for example the hospital founded in Ganzi County by religious leader Shangen Rinpoche.

Despite these great advances, many serious public health challenges remain. The government does not publish health statistics, but Kham Aid Foundation staff⁴ have seen many treatable health conditions among rural Tibetans that have gone untreated, evidently because health care is inaccessible, of poor quality, and/or too expensive.⁵ The situation is most dire in counties where the population is predominantly composed of nomadic and semi-nomadic herdsmen [see box].

Government Health Care Infrastructure for Tibetan Herdsmen

Seda (Tib: Sertar) County is typical of regions predominantly inhabited by herders. It has a population of 36,999 according to the 2002 census, and occupies 9,339 square km. The county is served by 54 health care units including four county-level hospitals, four district central clinics, thirteen township clinics, and thirty village aid stations. The average service area for each township clinic in Seda is more than 550 square km. There were 101 ward beds in the whole county, about three per thousand residents. In 2002 the total professional medical staff in Seda County was 149, of whom less than 8.5% graduated from a medical college, the rest being minimally trained clinicians.

Compared to other developing countries, Ganzi Prefecture has an impressive number of

³ A 2004 Kham Aid Foundation survey of eight charity hospitals and clinics in northern Ganzi Prefecture found that many doctors at these facilities had weak credentials and/or were not licensed to practice medicine. (internal report).

⁴ Kham Aid Foundation has distributed more than 1,180 free wheelchairs to disabled people in Ganzi Prefecture since 2000, with program volunteers coming in direct contact with most recipients. In addition, staff come in frequent contact with ordinary rural Tibetans in the course of administering programs in education, cultural heritage preservation, and disaster relief.

⁵ For example, a young woman ill with lupus was incorrectly informed at her local county hospital and at the Deqen Prefecture Hospital in Yunnan that the disease is uncontrollable and would kill her within a few years. Neither had the laboratory facilities to determine the severity of her lupus; they diagnosed her from her medical history and by examining her skin. Later, as a student at Ganzi Medical College, even her professors could not figure out what was wrong with her or recommend treatment. Thanks to the kindness of a foreign donor and several volunteers, she was brought to Huaxi Hospital in Chengdu where she finally received the correct diagnosis and began a course of treatment that improved her condition sufficiently that she could resume her studies within a few weeks. (personal communication)

health care facilities and hospital beds per capita, yet these figures tell only half of the story. The other half is the long distance that patients must travel to reach health care facilities and the poor conditions at those facilities, which frequently do not have running water or reliable electricity. Poor diet, hygiene, and sanitation in Tibetan communities, due at least in part to the high elevation, short growing season, low level of education, and poverty, facilitate the spread of illness.

An additional important problem is that many Tibetans simply do not trust government doctors. Rural conditions are not attractive to well-qualified doctors, so those posted at remote clinics in Tibetan areas tend to have much less knowledge and experience than their counterparts in city hospitals. Distrust is further exacerbated by poor health knowledge among the populace⁶ and corruption in the health care system, whether real or perceived. The cost of care can be high due to the long distance that medical equipment and supplies must be transported⁷ and economic pressure on doctors that often leads them to push unnecessary products and services on their patients. For all of these reasons, Tibetans can be reluctant to seek medical care even when it is readily available.⁸ For serious illness, they will often bypass the township clinic in favor of a distant city hospital where the standard of care is believed to be better.

In sum, despite enormous advances since 1949, health care in Ganzi still needs a great deal more improvement if it is to match advances elsewhere in China, let alone the developed world.

1.2 Care for women during pregnancy, labor, and delivery

Statistics on infant and maternal mortality in China are not easy to find. The Tibet Poverty Alleviation Fund, quoting an unnamed source, puts the maternal mortality rate at 500 per 100,000 live births, compared to 50 per 100,000 live births for China as a whole. The US organization One HEART puts the rate of maternal mortality at 300 times that of developed countries, with postpartum hemorrhage the leading cause of death.

Traditional Tibetan childbirth

“While working at 15,000 feet in Medrogongar County, I was suddenly called to help a pregnant woman in a remote village. She had been in labor for four days. I found her alone in a cold, dark shed, while her family huddled around a warm fire in the kitchen. Four hours later, the exhausted woman delivered a healthy baby boy into my bare hands. In the same county, this scene is repeated daily. Tragically, just a few days earlier, another young mother bled to death during childbirth.” - Arlene M. Samen, Executive Director, One HEART.

⁶ For example, injectable antibiotics are widely requested by patients for treatment of viral disease such as colds and flu.

⁷ In 2004 a private clinic in Axu Township of Dege County was found charging patients 2 yuan for a dose of injectable penicillin, whereas the purchase price in Chengdu for the same dose was only 0.29 yuan. The same clinic was charging 20 yuan for 50 Amoxicillin tablets, but the purchase price in Chengdu for that amount was only 5.6 yuan. (Kham Aid Foundation internal report).

⁸ Harris, et al; “Challenges to maternal health care utilization among ethnic minority women in a resource-poor region of Sichuan Province, China” for a study of why rural minorities do not seek care even when it is relatively accessible. Oxford University Press, *Health Policy and Planning* 2010;1–8.

Statistics aside, Kham Aid's direct experience suggests that the health care system in Ganzi Prefecture serves expectant mothers little better than it serves people with other medical conditions. For a rural Tibetan family, a trip to the doctor is costly and may require hours or days of punishing travel, so many do not bother seeking care for an apparently normal pregnancy.⁹ Without routine examinations during pregnancy, problems are not detected until something goes badly wrong by which time it is too late to transport the woman to the hospital.

Tibet has no indigenous tradition of midwifery or indeed any assistance at all for women during labor and delivery (see box). Assistance for women in labor is impeded by the widely-held belief that blood and birth products are unclean. In many rural areas where the level of education is low, women are still expected to give birth outside of the home, out in the open or in a structure where animals are kept. Old ideas have such a strong hold that the term "new method" is still frequently used, even by educated Tibetans, to refer to delivery indoors on a bed. As might be expected among a conservative rural population there is a general reluctance to talk about sex and conditions of the reproductive organs. One survey put the rate of gynecological problems among Tibetan women in Shiqu (Tib: Sershul) county at 90%.¹⁰

Poor health in general and high infant mortality in particular have been identified as causal factors in the cycle of poverty that grips many rural areas of China. Researchers examining infant mortality rate and economic growth found that a reduction of 1% in the former was linked to a 0.9% increase in the latter.¹¹

2 Program Implementation

2.1 Program Outline

Kham Aid Foundation's midwife training program was initiated at the request of the Ganzi Prefecture Women's Federation, whose members are acutely aware of the dangers faced by Tibetan women during pregnancy, labor, and delivery. The Women's Federation became Kham Aid Foundation's key government partner for the program. (More information on government partners is in Section 2.3, Partners Role). Funding for the program was raised by Kham Aid and came from the R. Stanton Avery Foundation and its successor the Avery-Tsui Foundation, both of California.

The Women's Federation arranged for the training to be held at the Maternity and Child Health Care Hospital of Ganzi Prefecture. This is not normally a teaching hospital;

⁹ In 2007 a highly educated foreign resident of a town in Ganzi Prefecture, because of mistrust of local doctors, chose to deliver at home although she easily could have afforded hospital care. That delivery was smooth; however the woman's second pregnancy two years later ended in miscarriage at 25 weeks. (personal communication).

¹⁰ Shiqu County official, personal communication.

¹¹ Liu Yuanli, "Linking Health and Economic Development in China", World Health Organization and Harvard School of Public Health, 2006.
<http://www.wpro.who.int/NR/rdonlyres/A234F506-406D-4FED-A466-7070422DEA72/0/CHN2006HealthandEconomicDev.pdf>

nevertheless it was felt that because births take place there every day, it would be an excellent environment in which the trainees would be able to gain both theoretical knowledge and practical experience. Doctors at that facility were hired as instructors.

The first training class was held in October 2001 for ten women from Yajiang County. In subsequent years trainings were held for women of seven other counties: Baiyu, Litang, Xinlong, Seda, Shiqu, Jiulong, and Daocheng for a total of eight counties out of the 18 in Ganzi Prefecture.¹² Counties were chosen based on the prevalence of poverty which is closely tied to health care access.

From 2001 to 2005 we trained a total of 79 women -- ten women from each of the eight counties except for Daocheng which had nine.¹³ Initially the classes were limited to ten students each; later in an effort to achieve greater economies of scale we doubled it. In all there were four classes of 10 students each, one class of 19 and one of twenty.

2.2 Other Programs

Apart from medical facilities provided by the government and a handful of charity hospitals and clinics, some other organizations have launched programs to improve pregnancy outcomes in Tibetan areas of China. These are briefly summarized below.

Safe Motherhood. The fifth Millennium Development Goal advanced at the Millennium Summit of 2000 was to reduce maternal mortality in developing countries by 75% from 1990 to 2015. China invested 200 million yuan¹⁴ in a Chinese national program known as the National Project of Reducing and Elimination (PRE), similar to Safe Motherhood programs launched in other countries. PRE uses two main approaches: first, supplying direct subsidies to expectant mothers to cover the cost of hospital birth; and second, increasing training for rural doctors to build local capacity and make hospital birth more attractive to pregnant women.¹⁵

Litang Rural Health Care Training Program. This course, which is funded by the Taiwan Tibetan Friends Foundation (Tanwan Zang You Hui) and has been operating since 1998, provides very basic training in obstetrics as part of a 10-month general medical training program. It is offered in the Litang County town each year to about 30 students, both male and female. The students come from rural villages where there is no government clinic, chosen from the southern counties of Ganzi Prefecture. The general program includes eight months of classroom training and two months of internship during which the students rotate through several medical facilities in Litang and take part in

¹² Place names are given in their Chinese pinyin versions. Tibetan equivalents are Kandze or Garze (Ganzi), Nyachuka (Yajiang), Pelyul (Baiyu), Litang (Litang), Nyarong (Xinlong), Serthar (Seda), Sersschul (Shiqu), Gyezil (Jiulong), and Dabpa (Daocheng).

¹³ Due to a family emergency she dropped out after the training had started and it was too late to seek a replacement.

¹⁴ Currently, one Chinese yuan is worth about US\$0.15.

¹⁵ GDN Working Paper Series An Impact Evaluation of the Safe Motherhood Program in China, Yan Guo, Xinglin Feng, Guang Shi, Yan Wang, Ling Xu, Hao Luo, Juan Shen and Hui Yin, Working Paper No. 7 September 2009.

providing health care to patients under the supervision of experienced physicians. The curriculum includes a unit on obstetrics and one rotation is at the Litang Maternity and Child Health Center.

Tibet Poverty Alleviation Fund (TPAF) and Circle of Health International (COHI). Working in Tibet Autonomous Region, the program initially involved the training of 21 township doctors and 72 village midwives in villages and townships of Lhoka and Nakchu Prefectures in basic health care including obstetric services. In mid 2005, they launched a project intended to provide about 16,750 villagers in 45 villages of Lhoka and Nakchu Prefectures with a broad range of information in such areas as improved maternal and child health practices, the dangers of smoking, protection from HIV/AIDS, diet, and hygiene. They recruited local artists to develop printed materials that could be understood by Nakchu's largely illiterate nomadic population. In 2006 this program was expanded with additional funding to include an additional 4,500 families from 21 villages in Samye Township of Tranang County, Lhoka Prefecture.

One HEART. This US-based charity founded by certified midwife Arlene Samen has worked extensively on maternity and childbirth issues in Tibet Autonomous Region. In 2004 they developed a program called Pregnancy and Village Outreach in Tibet (PAVOT) which uses the Women's Federation network to impart health information to pregnant women and their families. One HEART also trains local physicians in emergency obstetric care and newborn resuscitation. They work in four Lhasa-area hospitals, providing training to resident doctors.

Tibetan Healing Fund. This organization is engaged in improving health care and basic education for rural Tibetan women and children. According to their website, they published textbooks for health professionals and students in pediatric, gynecologic and obstetric care and created Tibetan-language public health education and training materials for rural women. They trained midwives in Trika (Ch: Gui'de) and Rebkong (Ch: Tongren) counties of Qinghai Province in 2002 and 2004 respectively. Their midwife program included 15 days of classroom instruction and 30 days shadowing doctors conducting pre-natal check-ups, supervising births and performing follow-up care. In 2009 the organization opened a birth center in Rebkong.

2.3 Partners' roles in Kham Aid's midwife training program

Active cooperation by local partners was essential to successful implementation of Kham Aid Foundation's midwife training project. In addition to our main partner the Women's Federation of Ganzi Prefecture (WFGP), the program also depended crucially on the Maternity and Children Health Hospital of Ganzi Prefecture (MCHH), the Ganzi Prefecture Foreign Affairs Office, and county organizations including local women's federations offices and county health bureaus. Their areas of responsibility are outlined below.

The Foreign Affairs Office worked with Kham Aid Foundation and WFGP to ensure appropriate government permissions for the project. WFGP and Kham Aid collaborated

to establish the project plan and timetable, set the class size and criteria for trainee selection, and adjust the program as feedback was received. The WFGP saw to overall program coordination, they liaised with other partners, made arrangements for trainee travel and accommodation, checked the progress of the trainees, helped with the purchase of medical supplies that were distributed to the trainees after training completion, and assisted with follow-up surveys and assessments.

The Health Bureau came to play a critical role as the program evolved, but during the selection and training of the first three classes, we did not consult closely with them because we expected our trained midwives to operate as freestanding healthcare providers far from existing clinics. Beginning with the fourth class, we began cooperating closely with county Health Bureaus, which created paid jobs specifically for our midwives within the government health care system. (This change caused a significant improvement in the program's effectiveness as will be discussed in Section 3.4, Factors for Success).

At the county level, Women's Federation offices and Health Bureau jointly took responsibility for the trainee selection and their work assignments after training. They organized continuing education for the trained women after they had begun their job assignments, and provided feedback for program improvement.

The MCHH was in charge of providing instructors, making curriculum, arrangement for training classes, locating the hospitals for internship, instructing internship, testing the progress and results of trainees on theoretical knowledge and practical skills, providing suggestions for the improvement of the trainees selection according to the problems they encountered while conducting the training course.

2.4 Training Site

Kangding, the capital of Ganzi Prefecture, was chosen as the training site because both the Prefecture Women's Federation and Kham Aid Foundation staff are located in that town and could easily make arrangements for the program, monitor the training while it was under way, and assist the trainees with any issues they might have. In addition, it offered access to better instructors and facilities compared to those available at the county seats. Because Kangding is a large population center, births are frequent – usually at least one per day – offering greater opportunity for practical experience. Further, bringing the trainees out of their home areas allowed them to better focus on the training and avoid distractions.

Disadvantages of holding the training in Kangding compared to the county towns included the higher wages demanded by the instructors, higher cost of room and board for the trainees, and higher internship fees charged by the hospital. Most of the trainees had to travel at least one full day to reach Kangding from their homes, and some had to travel as much as three days, making it prohibitively costly to bring them back for assessments or additional training. Another possible drawback of our choice of training site was that the trainees did not learn their skills in the environment where they would

ultimately practice them. Furthermore, because the Maternity and Childcare Health Hospital is not normally a teaching hospital, it lacked teaching equipment such as models of the female reproductive organs to enhance the training.

2.5 Curriculum: Classroom Component

From the outset the course organizers realized that the midwives trained through this program working in communities with poor access to doctors would be asked to treat medical problems unrelated to pregnancy, especially among children. For this reason, the curriculum for the program included not only pregnancy, labor, delivery, and women's reproductive health but also basic health care and principles of first aid that are applicable to children and, to a lesser degree, the general population.

The curriculum varied somewhat from year to year, but the following topics were common to all courses:

- Basic introduction to maternity and childbirth
- Maternity and childbirth under rural conditions
- Basics of hygiene
- Care of pregnant women
- How to identify dangerous conditions during pregnancy and delivery
- Care before and after parturition
- Family planning
- How to breast-feed¹⁶
- How to care for a newborn
- How to care for older babies
- Practical treatment and family nursing for acute respiratory tract infection in children
- Practical treatment and family nursing for children's diarrhea
- Inoculations
- How to diagnose and treat common children's illnesses such as high fever, convulsions, and poisoning.

Additional topics included treatment of reproductive organ infections and venereal diseases, the use of oxytocin, techniques for injections and infusions, and the use of autoclaves and other simple medical equipment.

The textbooks used were

- Volumes 8, 10, and 11 of *Strengthening Maternity and Child Hygiene Care and Family Planning, Basic Unit*
- *Comprehensive Maternity and Child Hygiene: A Handbook of Health and Hygiene Education in Rural Areas*
- *Pediatrics Training Textbook*

Based upon the course curriculum and instructors' experience, after the first four courses

¹⁶ According to various informants including our midwife trainees, many herder women breastfeed for only a month or two before switching to yak milk as a primary source of food for their infants.

we organized the instructors to compile a special training manual for subsequent classes to systemize the training.

Class was held for two four-hour sessions each day; in addition, the women were expected to study after hours. Considering the rural background of the trainees, the instructing doctors endeavored to make the course simple, lively and active by including demonstrations, group discussions and performances, and active participation by the trainees, who were encouraged to ask questions.

Exams were administered at the end of the program to test students' knowledge.¹⁷ Exam scores were generally high, with no one flunking. A sample exam is provided in Appendix A. According to the Women's Federation's report for the 2003 training class, students scored an average of 90.15 on basic knowledge and 95.8 on practical skill.

2.6 Curriculum: Internship Component

All 79 trainees took internships at the Ganzi Prefecture Maternity and Children Healthcare Center in Kangding. Following feedback from the 2004 Assessment (see section 3.1), subsequent trainees – 39 of them or nearly half the total -- were provided with an additional half-month internship at each student's own county hospitals.

While at their Kangding internships the trainees were supervised by the same instructors who taught them in the classroom. The trainees' main duty was to provide nursing care to mothers and babies, both in-patients and out-patients. They were not permitted to perform actual deliveries but they assisted the doctors during and after deliveries, including deliveries performed by Caesarian Section. After each delivery the instructors conducted discussions with the trainees to analyze the case just concluded and provide feedback on student performance.

2.7 Support for program graduates after training

Job assignment and working conditions

Women from our first three classes of midwives were sent back to their own villages to work where they served populations of 100-500 people each, with little or no support from health care providers elsewhere. In this way they resembled China's "barefoot doctors"¹⁸ except that their training emphasized obstetrics and newborn care at the expense of other aspects of medicine.

It was expected that these midwives would get their main livelihoods from agriculture or herding and therefore would not need payment for their health care services although they might receive some small compensation in cash or kind. Although some of the

¹⁷ Because the program did not bestow any recognized diploma or certification, the exams were largely a pro forma exercise, although they did exert some pressure on the trainees to study and learn.

¹⁸ Peasants who received elementary medical training and who were dispatched in large numbers by the Chinese government in the 1960s to fill the immense health care vacuum in rural areas.

women were able to get along in the way we envisioned, many could not, for reasons that will be described in Section 3.4, Factors for success.

Starting in 2003 we formed a cooperative agreement with the county Health Bureau so that program graduates would be assigned to rural clinics where they would be supported by doctors. As government health care workers they then received modest government salaries of 300-500 yuan/month. The amount is small but it made a big difference to the midwives as will be discussed in Section 3.4.

Those midwives with less education were sent by the Health Bureau to villages where they ran aid stations that were satellites of larger clinics elsewhere. The midwives with more education (senior middle school, or grade 12), if they passed the doctor-recruitment exams organized by the government, became full-time clinic staff and had the opportunity to serve populations of 2000-3000, which meant that they quickly acquired a lot of experience. Typically, rural doctors in China stay in their facilities and wait for patients to come to them. Instead, our midwives were charged with traveling from their bases to visit pregnant women – women who otherwise would not seek prenatal care. This allowed them to provide prenatal education to pregnant women and identify problem pregnancies that otherwise would have gone undetected.

Supplemental training

Since our midwives returned to their home counties, many of those who did not leave the health care profession have been able to take additional training to broaden their knowledge and skills. Such training has been organized by various local government agencies, mainly the county Health Bureaus and county branches of the Women's Federation.

Equipment and supplies

All the midwives trained in our program were provided with a “kit” of equipment purchased by the program. The equipment included sphygmomanometers, stethoscopes, autoclaves, balances, delivery bags, tweezers, scissors, needles, doctor's equipment cases and lab coats.

We also purchased consumable items, mainly medicines, amounting to 2000-3000 yuan per trainee, to be replenished using a circulating fund kept by the local Women's Federation. We hoped that the midwives would be able to collect some money from their patients for the consumables so that there would be a cash flow to replace the things as they were used up; however this expectation turned out to be unrealistic. Very few patients were able to pay anything for the treatment they received, and the circulating fund was quickly depleted. As a result, the last 39 trainees received less consumable items with program monies, amounting to 1000 yuan; after these items were used up they relied on the Health Bureau for support.

3 Program Follow-up

3.1 2004 Assessment

In the summer of 2004, Kham Aid staff visited all four counties where former trainees had been posted to interview the midwives and obtain feedback on the program. Unfortunately, visiting midwives proved to be difficult. In a large number of cases, the roads were impassible or the places too remote and the cost of travel to reach them exorbitant. Even when the assessment team managed to reach the woman's home or clinic, too often the woman was elsewhere seeing patients or traveling on other business. Although some midwives were found and interviewed personally, none had patients visiting at that time and so the assessment team was unable to observe any midwives at work.

As a result of these difficulties, the assessment results were based principally on information self-reported by the midwives in response to a list of standard questions prepared by Kham Aid Foundation and the Women's Federation. (See Appendix B).

It should be noted that government officials, usually representatives of the County Women's Federation and County Health Bureau, were present during most of the interviews and assisted with data collection from those women who could not be interviewed in person. Their presence may have influenced the results.

The assessment showed that the midwives were generally satisfied with the content of the classroom component of the program, but they felt that the internship portion was too short. The visits also revealed that some of the women had been poorly chosen because their personalities simply weren't suited to health care work. One of the women admitted that, during one delivery, she was paralyzed by fear and uncertainty and did not dare to even touch the patient. The results of this assessment led to significant changes in the program as is described in Section 2.3, Partners' Roles and encouraged the trainees to attend other healthcare trainings provided by the local county government agencies.

3.2 2009 Assessment

Kham Aid Foundation and the Women's Federation of Ganzi Prefecture together conducted a second assessment in the summer of 2009, four years after the last group of women had completed training. This was a true post-program assessment and a relatively strong basis on which to judge the program's outcomes.

The 2009 assessment used a questionnaire similar but not identical to that used in 2004. No women were interviewed in person but thanks to improved telecommunications infrastructure, over a period of weeks it was possible to collect information about virtually all of the program graduates. Some graduates completed the questionnaires themselves; others were interviewed by Women's Federation staff over the telephone. Some women could not be reached; for these women we relied on other members of the community to tell us if they were still practicing as health care providers or had left the profession for a different job.

As in the 2004 assessment, Women’s Federation staff played a strong role in data gathering in 2009. It cannot be known whether their participation may have biased the results.

3.3 Survey Analysis and Overall Project Outcomes

Retention of program graduates in the health care profession

The survey showed that in the summer of 2009, 4-8 years after training, out of the total 79 trained women, 45 were still working in health care in clinics and hospitals of counties, townships, or villages, including 23 working full-time and 22 part-time. Four more were attending medical college, bringing the number of trainees still pursuing healthcare-related occupations to 62% of the total trained.

Thirty women or 38% of the total had left the health care profession, including 7 working as government officials and 23 working as herders and farmers, doing itinerant labor, or conducting business. See Table 1 for details:

Table 1. 2009 Survey Results: trainee occupations 4-8 years after training.

County	Training Dates	Number of graduates	Health care providers	Enrolled in Medical College	Government jobs	Odd jobs, herding, farming
Yajiang	Oct 8 - Nov 20, 2001	10	7			3
Litang	Sep 1 – Oct 15, 2002	10	1	2		7
Baiyu	Jul 15 – Aug 29, 2002	10	0		5	5
Seda	Aug 15 – Sep 27, 2003	10	7			3
Daocheng	Sep 15 – Nov 14, 2004	9	5		2	2
Shiqu	Sep 15 – Nov 14, 2004	10	7			3
Jiulong	Sep 15 – Nov 14, 2005	10	8	2		
Xinlong	Sep 15 – Nov 14, 2005	10	10			
TOTALS		79	45	4	7	23

Of the 49 women who were not in college and were practicing health care providers, some held paid jobs at government clinics and others had received assistance from one quarter or another to set up their own clinics. Several trained women were found to be offering health care and medical services to their communities without compensation, despite economic obstacles and lack of outside support.

We did find that many women who stopped health care work still made use of skills and

knowledge learned in the program by being a source of health and hygiene information to their families, friends, and neighbors.

Retention will be analyzed in detail in Section 3.4.

Patient Health Outcomes

The numbers of patients seen, babies delivered, mothers referred to hospital, and so forth were self-reported by the trainees and were not verified. Some women had been trained as much as eight years earlier and simply could not recall precisely all of the patients they had seen, nor did they keep written records of the cases they had handled. Considering that the women from Jiulong and Xinlong counties were trained last and therefore had briefer periods of service and more exact recollections, in some cases we used their data to refine information received from midwives trained in earlier classes who were serving in comparable conditions.

Our surveys showed that the 45 women trained by our program who were still providing health care services in 2009 had seen approximately 8,000 patients for ailments such as headache, fever, cough, and diarrhea, especially in children and women. Our surveys show that they delivered approximately 2,800 babies and sent nearly 500 women to hospital for treatment of complications that otherwise might have resulted in mortality if the women had attempted delivery at home. We estimate based on the surveys that our trainees saved the lives of 412 newborns who might have died without a trained birth attendant present. The details are presented in Table 2.

Table 2. Medical outcomes of training program

County	Number employed in health care	Babies delivered	Infant deaths prevented by midwife action at delivery	Cases referred to hospital	Other medical services provided	Remarks
Jiulong	8/10	186	23	50	1000	Two work in township clinics, so the number of ordinary patients is high
Xinlong	10/10	320	40	86	850	One works in a township clinic
Shiqu	7/10	101	13	27	500	One works in a township clinic
Daocheng	5/9	1875	300	250	3000	Three work in township clinics, one in county hospital and one in county maternity and children healthcare hospital, so the number of deliveries is high.
Seda	7/10	74	12	25	2000	One works in a township clinic
Baiyu	0/10	0	0	0	0	All stopped
Litang	1/10	30	2	10	40	This one works in the county hospital
Yajiang	7/10	179	22	48	1000	All are in village clinics
TOTALS	45	2765	412	496	8390	

In addition to directly serving patients, the assessment team learned that many graduates of our program are educating their communities about health. They are advising pregnant women on diet, hygiene, and the importance of periodic medical examinations. They promote breast-feeding and advise mothers on the prevention and treatment of commonplace pediatric illnesses. They promote vaccination and in some cases

physically assisted during vaccination campaigns. They are also educating rural women on the dangers of unattended childbirth.

3.4 Factors for Success in Retention of Trainees as Health Care Providers

Comparing the retention rates for trainees trained in different years and coming from different counties where they experienced varying local conditions allows analysis of retention factors. Table 3 is a matrix showing the factors considered in this analysis.

Table 3. Training factors, retention, and trainees' perception of program success

County	Yajiang	Litang	Baiyu	Seda	Daocheng	Shiqu	Xinlong	Jiulong
Median age of trainees at time of training	27.5 This group included one mature woman who was already known in her village as a healer.	24.5	24	22.5	25	21	22	22 This group had the largest age spread: from 15 to 29.
Trainee education level (6 th grade, 9 th grade, 12 th grade or vocational school, college)	Low. (2,8,0,0) This group had the least education of all the group and this affected their confidence as HCP and led some to stop providing care.	Mixed. (2,5,3,0) The less-educated women stopped working as HCP; the better educated ones are attending college or won civil service jobs	Mixed. (2,3,5,0) All the better educated trainees passed exams for civil service jobs and left the health care profession. The less educated trainees also stopped working as HCP.	Mixed. (3,5,2,0) These women were assigned jobs in township or village clinics according to their education level.	High. (0,2,7,0) The seven women who completed grade 12 did so at a vocational nursing program.	Mixed. (0,4,6,0) These women were assigned jobs in township or village clinics according to their education level. Some of the less-educated ones stopped working as HCP.	High. (1,2,5,2) These women were assigned jobs in township or village clinics according to their education level.	Mixed. (0,5,5,0) These women were assigned jobs in township or village clinics according to their education level.
Class size	10	10	10	10	19	19	20	20
Health Bureau job assignment and general support.	Strong. The health bureau provided active encouragement, arranged for some to work in clinics, and provided some financial support.	Weak. The government selected the best one to work in county hospital but gave no support to the others.	Weak. The government didn't provide any medical job assignment or other support.	Strong. The government assigned the trainees to health care jobs and provided support to retain them.	Strong. Four graduates passed exams and were given jobs in township or county hospitals; one runs a clinic on her own. The others stopped though they had village clinic assignments	Strong. The health bureau provided job assignments and successfully retained most graduates in the health care profession.	Strong. The government assigned their work postings according to their grades.	Strong. The health bureau assigned jobs to all of the trainees.

Length of training.	6 weeks.	6 weeks.	6 weeks.	6 weeks.	8 weeks.	8 weeks.	8 weeks.	8 weeks.
Additional training	Good. The government arranged some to get additional training so that they can continue doing healthcare work; some received retraining through Litang Rural Healthcare Training Program in 2002 and 2004	Poor. Only three one got re-trained.	Poor. Nine graduates had no additional training. One graduate successfully completed a ten-month rural medicine program.	Good. The government arranged for those who were assigned jobs in clinics to receive additional training, including a course in Maternity and Child Healthcare arranged by the county health bureau in July, 2006	Good. They completed additional training in Kangding Medical School in Nov, 2006, and in Litang on rural medicine in 2007.	Good. Most of them attended some trainings offered by government departments such as healthcare training organized by County Women's Federation in April, 2005	Good. They attended the healthcare training in the county seat organized by the health bureau in 2006	Good. The government arranged for them to attend training for rural healthcare in the county seat in October 2007, and training in prevention of verminosis parasites in 2008.
Competition from other jobs	Low. Little competition due to the trainees' lower education levels.	Medium. Some chose to attend college to improve their job prospects, which led them to stop being HCP.	High. The better-educated of these women left the health care profession to take civil service jobs. The rest stopped being HCP to be farmers and herders	Medium. One woman stopped being a HCP to run a shop.	Low. Because they are firmly entrenched as government health care workers, there is little motive to leave the health care profession. They might seek advancement to a job not involving direct patient care.	Low. Few other job opportunities exist, so being a HCP is relatively attractive.	Low. Few other job opportunities exist, so being a HCP is relatively attractive.	Low. Because of the support of the government and the remoteness of the villages, the job as a village doctors is a good choice
Retention in the health care profession	70%	10%	0	70%	56%	70%	100%	80%
Trainees' opinion of the training outcome	Successful.	Unsuccessful.	Unsuccessful.	Successful.	Successful.	Successful.	Successful.	Successful.

From the information in the table it is apparent that key factors for retention were:

- *Health Bureau cooperation.* Strong support from the county health bureau is a good predictor of trainee retention in the health care profession, even when the trainees are challenged by lack of education and short training time. It also ensures that the midwife will have good access to patients.
- *Competition from other jobs.* Lack of economic opportunity persuaded many trainees to stay in the health care profession even though their jobs were low-paid.
- *Length of training and opportunity for additional training.* Obviously, six weeks of training is not as good as eight, but even with eight weeks, without supplementary training provided by the government or other entities, graduates of our program had a harder time winning trust and confidence from their communities.

Factors that played a lesser role were:

- *Education.* Our experience shows that education is a double-edged sword: on the one hand, well educated women were better able to understand the material, but on the other they left the health care profession more often to take other jobs. We lost many graduates of senior middle school (12th grade) to civil service jobs, regarded as highly desirable. However, those who completed a vocational medical program, equivalent to a 12th grade education but specialized in the area of medicine, did not leave the profession nearly so often.

Factors that did not seem to matter were:

- *Age.* There was one notable instance of a mature Yajiang woman who was already known in her village as a healer and her training outcome was outstanding; however in general age did not seem to be either an advantage or a handicap. Some of the youngest trainees had good training outcomes, and passed the exams to work for county or town clinics. .
- *Class size.* While the value of a high teacher-student ratio can hardly be discounted, it appears that class size was not as important as other retention factors.

One additional factor identified in our surveys is worthy of mention:

- *Language of instruction.* Our post-training surveys showed that most trainees were able to handle Chinese language material without a problem. Only two trainees surveyed said they wished the material had been in Tibetan or would have liked to have a Tibetan-Chinese interpreter.

4 Expenditure and Service Analysis

For the 79 trainees, the training cost a total of US\$96,638 which is an average of US\$1,223 each for the 79 trainees including those who left the profession and US\$2,148 each for the 45 who were still HCP in 2009.

Through the summer of 2009 each US\$1,000 delivered 28.6 babies including 4.3 who would have been stillborn and referred to 5.1 women to the hospital where they and their babies stood a better chance of surviving. Also, each US\$1000 of training provided help for 86.8 incidents of people suffering from headache, fever, coughing, diarrhea, and other minor illnesses.

4.1 Cost per life-year saved

Cost per life-year saved is a number used in public health studies to compare the cost-effectiveness of different interventions in health and safety. Studies have found, for example, that in the U.S. a colonoscopy every ten years costs \$10,983 per year of life saved by early detection and treatment of colorectal cancer¹⁹. In contrast, HIV tests for sex workers have been found to cost \$3.35 for every life-year saved²⁰. By comparing these two figures it can be seen that HIV tests for sex workers are much more cost effective than colonoscopies in saving people's lives.

The cost per life year saved by our midwife training program may be calculated as follows.

First, assume the rate at which trainees leave the health care profession is governed by an exponential decay, which is to say that most who drop out will do so in the first year or two, and then the rate at which they leave the profession slows. Considering that in 2009 our group of 79 trainees was an average of six years into their careers, and at that time 49 were still working as HCP, allows calculation of the exponential rate of decay, giving the formula:

$$\text{Number still working as HCP} = 79 \times e^{-.08t}$$

Where t is the time since training and is given in years. Integrating this equation over time one finds that the total collective service life for all 79 trainees is expected to be about 992 years.

From Table 2, there have been 412 infant deaths prevented by our 79 midwives through 2009 at which time they had logged a total of $6 \times 45 = 270$ service years, from which the rate of infant deaths prevented per service year can be computed as 1.53. This means

¹⁹ Sonnenberg, Delcò, and Inadomi, "Cost-Effectiveness of Colonoscopy in Screening for Colorectal Cancer," *Annals of Internal Medicine*, October 17, 2000, vol. 133 no. 8 573-584.

²⁰ Masaki, Green, Greig, Walsh, and Potts, *Cost-Effectiveness of HIV Interventions for Resource Scarce Countries: Setting Priorities for HIV/AIDS*, Bay Area International Group, University of California, Berkeley, 2003. <http://escholarship.org/uc/item/3ds6q6cc>.

that our 79 trainees over the course of their expected 992 years of service will prevent approximately 1514 infant deaths.

Preventing the death of a newborn infant yields a large number of life-years saved because newborns have their entire lives ahead of them. The average life expectancy at birth of Tibetans is somewhat uncertain due to the political sensitivity of health statistics for Tibetans but it is probably no greater than 65 and could be much lower if Tibetans' high rate of infant and child mortality is fully accounted for. Assuming conservatively that the life expectancy at birth is 50 years for both sexes, this yields a cost per life-year saved of US\$1.28.

This calculation does not account for mothers' lives saved because it is harder to know if a woman with a troubled pregnancy would have survived childbirth if the midwife had not intervened. The cost per life year saved also does not include the cost of supplementary training the midwives received from other sources – and this was certainly a significant contributing factor to some of the women's effectiveness. Nevertheless, by most any measure, the calculation indicates that our program is an excellent value in saving lives.

5 Summary of Key Lessons Learned

Through operational experience acquired while running the midwife training program and analysis of post-program surveys performed 4-8 years after training, we have learned the following:

- Long-term support of training program graduates is necessary to maximize the value of the training. Trainees left on their own without such support are much more likely to stop being health care providers.
- Cooperation with the Health Bureau provides sustainable support for program graduates including daily oversight and mentoring by doctors, opportunities for further training, a modest but meaningful stipend, and greater trust and status in the community.
- Consideration must be given to economic factors that influence a trainee in choosing whether to stay in the health care profession after training or to leave it for another job. Paying a salary to trained midwives provides a disincentive to leave the health care profession, especially in areas where jobs are scarce.
- In less densely populated communities, pre-natal checkups and community outreach formed a large part of midwife services provided. Because of the distance to far-flung villages and encampments, midwives are rarely summoned to attend deliveries because it is impossible to get there in time.
- Among rural Tibetan communities in western Sichuan, medical knowledge is generally very poor. Public education in hygiene, nutrition, the importance of prenatal checkups, breast-feeding, and care of common childhood illnesses is a significant contribution made by midwives trained through our program.
- The language of instruction (Chinese vs. Tibetan) did not seem to matter to most of the trainees. A few in grasslands areas preferred Tibetan; students from Jiulong

County preferred Chinese.

- Doubling the class size from 10 to 20 did not seem to hurt the effectiveness of the training.
- The eight-week curriculum composed of half classroom and half hospital internship at the training site, followed by a two-week internship at the county hospital was largely successful, although women who will serve in remote areas with little chance to interact with doctors could benefit from a longer internship period.
- Conducting the training at the Maternity and Child Health Center in Kangding, with doctors there employed as instructors, appeared to be effective.
- Patients in poor rural communities are rarely able to pay anything to midwives for their services. Without a regular stipend from the government or some other source, midwives cannot generally earn a reasonable living from the services they provide and are much more likely to quit.
- In selecting trainees, consideration must be given to the possibility that, after training, a trainee will relocate to a different community where her services are not needed. Women who are already married are less likely to move.
- In terms of cost per trainee or per life-year saved, this training program provided an excellent value.

Appendix A Sample exam

美国援助康巴基金会妇幼卫生人员培训班
理论综合测试题

姓名:

分数: 99

一、问答题: (每题5分)

1、教育的概念是:

答:灌输健康知识就叫做健康教育。

2、教育的目标人群是哪些?

答:妇女儿童,工人农民青年,职员,患者及家属,老年人。

3、孕产期保健的目的、意义:

答:预防减少,甚至消除高危因素,降低孕产妇,胎儿,新生儿死亡。

4、怎样计算预产期, 如一孕妇末次月经为2001年10月27日, 她的预产期是什么时间?

答:她的预产期是:8月4日。

5、发现孕期高危因素怎么办?

答:立即转到县级医院。

6、什么叫新法接生?

答:新法接生就是四消毒: ①产包消毒, ②产妇外阴消毒, ③接生者手消毒, ④新生儿断脐消毒。

7、什么是“四步”触诊?

答:就是摸清胎位。

5 8、胎盘剥离征象是什么？

答：①宫体变硬，子宫底升高达脐上，②用钩在产妇耻骨联合上轻钩阴道口外露脐带部分自行下降延长，宫下段外露脐带不回缩，③阴道有少量流血。

5 9、临产的征象是什么？

答：是规律宫缩（持续30秒以上，间歇5-6分钟）且伴有进行性宫颈消失，宫口扩张胎先露下降。

10、新生儿的访视内容包括：

答：①一看：新生儿一般情况，皮肤颜色，呼吸节律快慢。

二问：胎次产次，出生时体重，身长，有无产伤或窒息。

三检查：测量体重及系统的体格检查。

四宣传：正确护理科学育儿知识，正确母乳喂养。

五处理：当发现疾病，预约儿童保健门诊，以便进行系统管理。

11、初步复苏的处理：

答：①保温 ②刺激

③擦干

④体位

⑤吸引

12、人工呼吸的指征：

答：有自主呼吸，但心率小于100次/分或无自主呼吸。

13、母乳喂养好处多，请写出4-5条对母亲和婴儿的好处：

答：①加强婴儿抗病能力。

②促进孩子智力发育。

③推迟月经来潮，避孕。

④方便、经济、无菌、温度适宜。

14、婴儿期保健应从哪些方面抓？

答：①合理营养
②预防

15、三大营养是哪三大？

答：糖、脂肪、蛋白质。

16、患儿18天，女，呼吸增快，严重胸凹陷。

诊断：重度肺炎

请写出处理原则：

答：①给首剂抗生素
②立即转到县级医院。
③新生儿保暖
④继续喂养

二、填空题：(每空0.5分)

- 1、孕产期是指从怀孕开始到产后的42天。
- 2、孕期保健分早孕期、中孕期、晚孕期。
每期是从怀孕到3个月；4个月到7个月；
8个月到10个月。
- 3、妊高征的三大症状高血压，水肿，蛋白尿。
- 4、产程分为三期，第一产程，从规律宫缩到宫口开全。初产妇约需12-16小时，经产妇需6-8小时。
第二产程从宫口开全到胎儿娩出，初产妇约需1-2小时，经产妇在1小时内。第三产程从胎儿

娩出到 胎盘 娩出，约需 5-15 分钟，不超过 30 分钟。

5、婴儿从 4-6 个月开始添加辅食，6 个月必须添加辅食。

三、名词解释：(每题1分)

1、足月产：是指孕期满37周至孕期满42周之间分娩者。
 $\geq 37 \leq 42W$

2、早产：是指孕期满28周至孕期满37周分娩者。
 $\geq 28W < 37W$

3、过期产：是指孕期满42周以上分娩者。
 $> 42W$

4、难产：是指产力、产道、胎儿在有一个或一个以上发生异常使分娩受到阻碍就叫做难产。

5、早期产后出血
是指胎儿娩后24小时以内出血就叫做早期产后出血。

6、分娩：妊娠28周以后，胎儿及其附属物由母体娩出的过程称。

7、胎盘滞留：胎儿娩出30分钟胎盘尚未娩出称胎盘滞留。

Appendix B Sample Survey questionnaire (2009)

甘孜州妇女联合会
康巴援助基金会
“农牧区妇幼保健培训”项目评估问卷

开展此次评估活动的目的在于了解由“康巴援助基金会”与“甘孜州妇联”在 2001 年至 2006 年期间，合作开展的“农牧区妇幼保健培训”的项目成果，我们将对问卷进行认真整理、分析，总结出项目实施的成功经验以及存在的问题，为今后我们或有关组织实施类似项目提供参考，请各位曾经参加过我们培训班的学员如实填写，你们的支持将对我们今后的工作成效的提高有着极其重要的作用。感谢你的支持！

1. 姓名: [redacted]
2. 年龄: [redacted]
3. 家庭: [redacted]
4. 文化程度 (参加培训时): 中专 (现在): 中专
5. 婚姻状况: 已婚
6. 你是那一年参加我们举办的妇幼保健培训班:
2001, 2002, 2003, 2004, 2005, 2006
7. 培训了多长时间:
理论学习: 8 周
实习: 4 周
8. 除了参加过我们举办的培训班外,你是否还参加过其他相关的培训班,如果参加过,请填写问题 9
参加过 没有
9. 如果参加过,请具体说明 (包括时间、地点、主办方、培训内容等):
2005年9月参加了由康巴援助基金会举办的由荷兰援助基金会组织援助的培训,培训内容为妇幼保健知识的普及培训。
10. 现在你是否还继续在从事妇幼保健或医疗卫生工作,如果不是,可以跳过问题 11-33
是 不是
11. 是全职还是兼职作妇幼保健或医疗卫生工作?
兼职 全职
12. 你现在所在医疗机构
乡卫生院 村卫生室 自己开办的诊所 没有固定场所 私立卫生院
13. 你主要向那些病人提供服务
本村村民 本村及附近村子村民 本乡村民
14. 你主要为村民提供那些方面的医疗服务 (可同时选择几项)
孕产妇保健 小儿普通病 接生 村民普通感冒 咨询 培训
15. 你认为你们村的孕妇的在那些方面需要注意,以确保孕妇及胎儿安全 (可同时选几项)
不注意卫生 不按时作定期检查 不注重休息 不注意饮食
16. 你认为你所在村的产妇主要问题是什么
不去医院分娩 分娩时得不到基本的护理
分娩后得不到必要的照顾和休息 其他 (请说明: 思想观念陈旧)
17. 如果你所在村子及周边村子的产妇出现死亡病例,主要原因是:

- 产后出血
18. 如果你所在村子及周边村子的新生儿出现死亡病例的主要问题是：
 新生儿窒息
19. 是什么原因使你能够这么多年坚持不懈的从事这项工作
 自己非常喜欢 家人要求 村民的需要 政府的安排 其他 (请说明: _____)
20. 你认为当时我们的培训对你的作用有多大? 现在你在工作中所使用的知识和技能主要是在我们的培训班中学到的, 还是其他途径学到的?
新办培训班时的帮助很大, 让我深刻的意识到了村民知识的需求, 并保存知识也进行了学习的, 在日后实践中也得到了证实。
21. 在参加了我们的培训后, 当地政府部门是否为你安排了相应的工作?
 安排在乡卫生院 安排在村卫生室 帮助建立自己的诊所 没有安排
22. 为村民提供医疗服务, 每月收入多少?
 300元以下 300-500元 500-1000元 1000元以上 免费服务, 只收取药费
23. 现在你所在村子及附近是否有其他由政府或其他机构建立的卫生室? 是否有其他乡村医疗卫生人员? 有多少? 技术怎样?
有
24. 如果村里的孕产妇或新生儿有什么小病, 他们是愿意到乡卫生院、县医院, 还是找你进行诊治?
 县医院 乡卫生院 村卫生室 找你诊疗 其他 (请说明: _____)
26. 在你们村村民如果愿意找你看病, 原因是 (可同时选几个):
 他们相信你的医术 方便 便宜 其他 (请说明: _____)
27. 如果不愿意找你看病, 原因是:
 他们不相信你的技术 附近有更加方便、便宜的诊所 附近有更好的医生
28. 现在村民对孕产妇的医疗保健工作是否还受到传统风俗的影响, 是否还让产妇在牲口棚里生产? 比例有多少?
① 没有这个风俗影响。 ② 有一些 ③ 比例大约为 70% 左右。
29. 你工作的几年来, 在本村及附近的村庄是否有产妇因未得到合理的救治而致死? 是否有新生儿因未得到合理的救治而致死的? 有多少? 具体是什么原因?
有
30. 在这几年的工作中, 你为多少产妇接生? 挽救了多少产妇的生命? 挽救了多少新生儿生命?
接生 35 人, 挽救产妇 6 人, 新生儿 16 人
31. 在过去的几年里, 经过你诊断, 确诊了多少高危孕产妇, 并及时送他们到上级医院就诊, 使她们得到及时救治, 从而保证了母婴平安
 没有 10 个以内 10 个以上
32. 在你开展这项工作以来, 你大概为多少村民提供了就诊服务 (妇幼保健、接生除外)? 主要在哪些方面?
约 100 人次 妇科、感冒、腹痛
33. 你现在开展工作的过程中, 所面临的最大的问题是什么?
医疗知识、设备、急救药品, 办行证件。
34. 如果你现在没有继续从事该项工作, 是哪一年停止的? 并请填写以下问题所有问题 (还在从事该工作的人员, 请跳过 34-37)
 2002 年 2003 年 2004 年 2005 年 2006 年 2007 年 2008 年 2009 年

35. 什么原因使你未能继续开展该项工作
自己不喜欢 收入太低, 家人不愿意 担心技术不好, 不自信 村民不愿找你看病
因没有资格证, 政府不允许 其他 (具体说明: _____)
36. 你现在从事什么工作?

37. 如果有机会你还会再从事妇幼保健或医疗卫生工作吗?
是 不是
38. 你在哪些方面运用了你在培训班所学到的知识和技能, 是否向你的家人、亲戚、朋友提供有关保健方面的常识或建议? 他们接受你的建议吗?
 经常对村里的妇女们宣讲妇幼保健知识, 她们都很喜欢。

39. 请就我们的培训班设置的课程内容、实用性、难易程度方面谈谈你的看法, 并提出意见。
 我认为培训班是更好的体现它的实用性, 但不要自由形式太过, 应该和他人有所区别, 从而更好的服务群众。

40. 你认为每个班安排多少个学员最合适?
10个以下 10个 15个 20个 20个以上
41. 你希望培训班用藏语还是汉语授课较好?
藏语 汉语 藏汉双语
42. 你认为参培人员应该具有怎样的文化程度较合适?
小学 初中 高中或中专 大专
43. 你认为培训时间最好安排多长时间最好? 理论学习多长时间? 实习多长时间?
 每月半村 理论课4天 实习2个月

44. 你认为我们的培训班是成功还是失败? 原因何在? 如果今后再开展这样的项目, 希望能够在哪些方面进行改进, 比如老师的选择、参培人员的选择、培训内容、时间的安排等方面
 我认为培训班很成功, 因为是为农村妇女做的健康宣传的。
 希望可以有更多这样的培训, 也希望政府有奖励。
