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DISCUSSION PAPERS

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Elina Hemminki and the CHIMACA study group

Implementation of interventions in the CHIMACA project

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Summary

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Background In China, there is significant disparity in maternal health between urban and rural areas. “Structural Hinders to and Promoters of Good Maternal Care in Rural China” (CHIMACA) is an international Co-operation project under the 6th European Union Research and Development Framework Programme (http://groups.stakes.fi/THP/FI/hankkeet/kaychimaca.htm). This research project included searching and testing of appropriate interventions to alleviate financial access to and quality of maternal care in the specific context of rural China. This report describes the designs of community-based interventions in the study sites and evaluates the process of implementing the interventions using qualitative data.

Study areas and method One province in central (Anhui) and two in western China (Chongqing and Shaanxi) were selected, representing relatively less developed areas of China. The interventions were implemented in two counties in Anhui and Shaanxi and one county in Chongqing between 2007 and 2008. The qualitative study was conducted in 2009 in each county to evaluate the implementation of the interventions. The methods included key informant interviews with local policy makers, in depth interviews and focus group discussions with township health managers, New Co-operative Medical System (NCMS) managers, healthcare providers and women who used maternal health services.

Design of interventions The design of interventions varied in each province. In general, townships of the selected counties were allocated into one of the 4 intervention or control groups: a financial intervention in antenatal and postnatal care (only in Anhui and Shaanxi); training of healthcare providers on health education at township or village levels; training of healthcare providers on clinical skills at township level; and control group (current practice). Townships were paired by certain criteria and these pairs were randomly allocated to the groups.

Findings The qualitative study showed that some local policy makers, health managers and healthcare providers thought that the financial intervention had somewhat improved the use of maternal health care and the quality of care, especially antenatal care. Some thought that the intervention had no effect due to the small amount of the subsidy and short intervention period, and contributed only little to the financial protection of women. Women did not fully understand the financial intervention for antenatal and postnatal care (content of care covered by the subsidy and the amount and procedure of reimbursement). All interviewed women said that the financial intervention did not influence their decisions about use of maternal healthcare.

Most local policy makers and health managers as well as some Maternal and Child Health (MCH) workers, village doctors and family planning workers thought that the health education training was useful. The training improved the participants´ knowledge of maternal health care and communication skills and strengthened their sense of responsibility in service provision. Hence, healthcare providers´ attitudes, content and quality of care was improved. However, in Chongqing some village doctors did not want to provide health education because they did not receive any financial compensation for conducting this activity. Generally, women were satisfied with the services and information received from doctors. In Shaanxi, some women were more likely to receive maternal health care information from doctors (township or county doctors) rather than village doctors, and thought that village doctors had little knowledge about maternal health care.

Many doctors indicated that their knowledge of antenatal, delivery and postnatal care was refreshed and their capacity to manage complications was improved by clinical skill training. Some managers also felt that after training doctors were more enthusiastic in providing maternal healthcare. However, it was

difficult to get women's views due to limited sample size of women who had received care from the trained staff.

Conclusion Although there were mixed views about the impact of the financial intervention on maternal health care utilisation, it was generally perceived to have only little contribution due to the small amount of the subsidy. Most respondents perceived that knowledge, skills and work attitudes were improved by health education and clinical skills training, but the intervention effects varied by province.

Content

List of abbreviations

AMU = Anhui Medical University
CDs = compact disc
CHIMACA = Structural hinders to and promoters of good maternal care in rural China
CMS= Co-operative Medical System
CQMU = Chongqing Medical University
DVDs = digital video discs
EU = European Union
FGDs = focus group discussions
FP = family planning
HE = health education
CS = Caesarean section
ICRH = International Centre for Reproductive Health
IDI = in depth interviews
INCO = international co-operation
LSTM = Liverpool School of Tropical Medicine
MCH = Maternal and Child Health
MoH = Ministry of Health
NCMS = New Co-operative Medical System
RHD = reimbursement of hospital delivery
RMB = Ren Min Bi
TORCH = **T**oxoplasma gondii; **O**ther viruses (HIV, measles, and more); **R**ubella (German measles); **C**ytomegalovirus; and **H**erpes simplex
UK = United Kingdom
XJTU = Xi'an Jiao Tong University
XMU = Xi'an Medical University

Introduction

China has experienced a wide range of social and economic reforms during the last 20 years. One of the unintended consequences of the reforms is the disparity in maternal health between urban and rural areas. Chinese authorities have developed alternative health policies to address this issue and guarantee access to Maternal and Child Health (MCH) in rural areas. In the central and western parts of China, a rural health insurance was re-established, called New Co-operative Medical System (NCMS). The NCMS includes some maternal care in the benefit package and this enhances the effectiveness of maternity services. However, not all maternal care is adequately financed by the new policies and service provision is still achieved through applying user fees. Payment for maternal healthcare services is an important financial burden for poor households. The dependency on user fees has also caused a wide variety in quality of care at township hospital and village clinic level.

In rural China, the health care system is characterized by three levels: county, township and village levels. Village level clinics are usually perceived to be the providers of the lowest standard of care at the lowest price, with providers having lower qualification. The county hospitals are perceived to be the provider of the highest standard of care at the highest price. Township health centres, at the secondary level, have full-time doctors providing primary health care.

Township health provider: qualified healthcare providers are responsible for the delivery of all maternal care included in the comprehensive package as recommended by the Ministry of Health (MoH) of China. *Village workers*: selected village workers are entitled to perform postnatal visit only.

CHIMACA aims to strengthen and improve the performance of the health care system in the rural areas of China. Interventions to alleviate financial access and improve quality of maternal care were designed and tested in three Chinese provinces in central and western China. The study design was initially defined in the CHIMACA proposal, modified during the running of the project and adaptations approved in the annual partner meetings. Although the interventions vary across the provinces, all interventions allow for the assessment of the relative importance of financial barriers and improvements in quality of care through in-services training.

In each area, interventions were introduced by the provincial research teams in collaboration with the local governments in 2007 and 2008. Pre-and post intervention data were collated and analyzed. Both qualitative and quantitative research methods were carried out to evaluate these interventions. Data from the qualitative research study is included in this report. The quantitative research assessing the impact of the intervention is presented in a separate report.

This report aims to describe the interventions in each province and evaluate the process of implementing the interventions using the qualitative data.

This paper is organized as follows: in the first section, we introduce the study design for all three provinces, followed by a description of the implementation of interventions in each province; the second section provides the objectives, methods and the findings from the qualitative study.

Description of the intervention

Trial protocol

This study is a community based controlled trial that was carried out in three Chinese provinces. In each province, counties were selected according to the selection criteria. Hospitals at township level as the unit of randomization were re-grouped using primary and secondary criteria and were randomly allocated into one arm of the following groups (Figure 1).

1. Financial intervention by increasing financial coverage of MCH care.
2. Training on clinical skills to all doctors and MCH workers at township level.
3. Training on health education to all doctors and MCH workers at the township level.
4. Training on health education to all doctors and MCH workers at the village level.
5. Current practice (as control site).

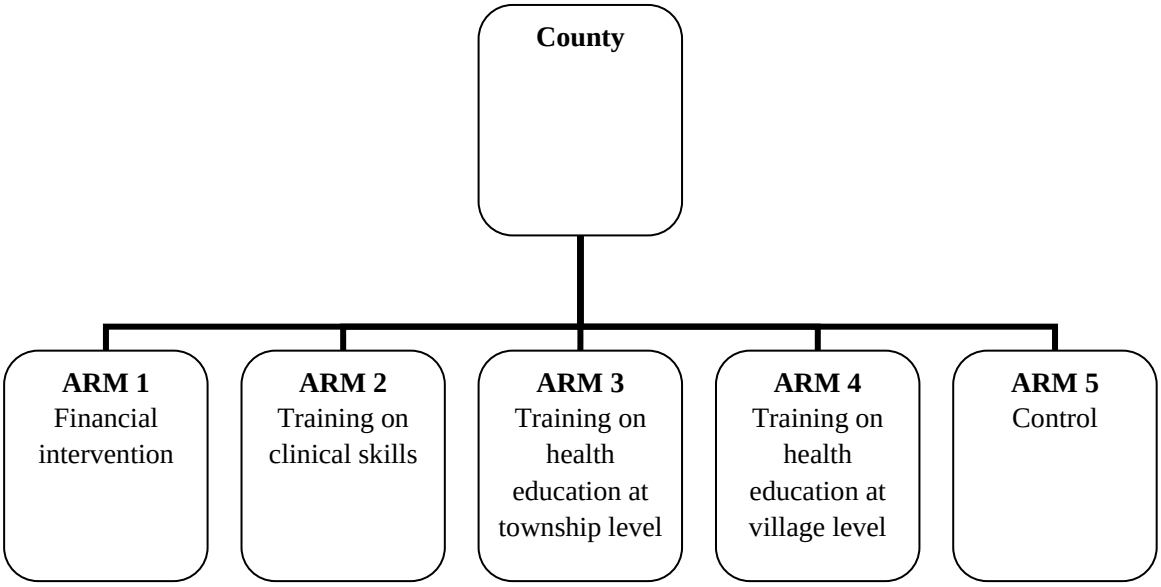

Figure 1. Trial design.

Selection criteria for county

The selection criteria for the study county were: 1) the local government is interested in the project and willing to collaborate; 2) the county has the NCMS or will reinstate the NCMS; 3) no other maternal health care improvement programs in the county; 4) township health facilities are adequate for delivering maternal health care services and health care workers have adequate knowledge and skills to offer maternal care; 5) suitable number of population and townships in one or two counties (minimum sample size of 1600 women is needed for each cluster); 6) the general maternal care offered in the county is acceptable (the proportion of hospital delivery, antenatal care and postnatal care is over 50% and can potentially improve after the intervention).

Matching and randomization

The matching criteria for randomization of township included: 1) distance from township hospital to county referral centre; 2) average income level; 3) population size; 4) number of villages under township hospital responsibility; 5) MCH care (coverage of hospital delivery, antenatal consultation, postnatal visits).

Matching and randomization strategies differ among provinces. Data and justification of used methodology is presented in the individual sections.

Participants

All women who used the maternal health care and who become pregnant were eligible to enter the study during a designated period of time.

Financial intervention

Financial coverage of MCH services intervention consisted of a combination of different payment arrangements and varied between the provinces. Antenatal care, hospital delivery and inpatient care are partially covered by the NCMS.

Training intervention

Curricula and teaching material for the training were identical for the three provinces and covered the clinical skills training and health education training.

The trainings were provided free of charge to country and township hospital staff as well as village workers. The Department of Maternal and Child Health care in Anhui Medical University, Xi'an Jiaotong University School of Medicine and the Department of Maternal and Child Health care in Chongqing Medical University were in charge of the training in their respective provinces. Teaching strategies and the content of training vary slightly across provinces. The details are described in the each province section

Implementation

Province of Anhui

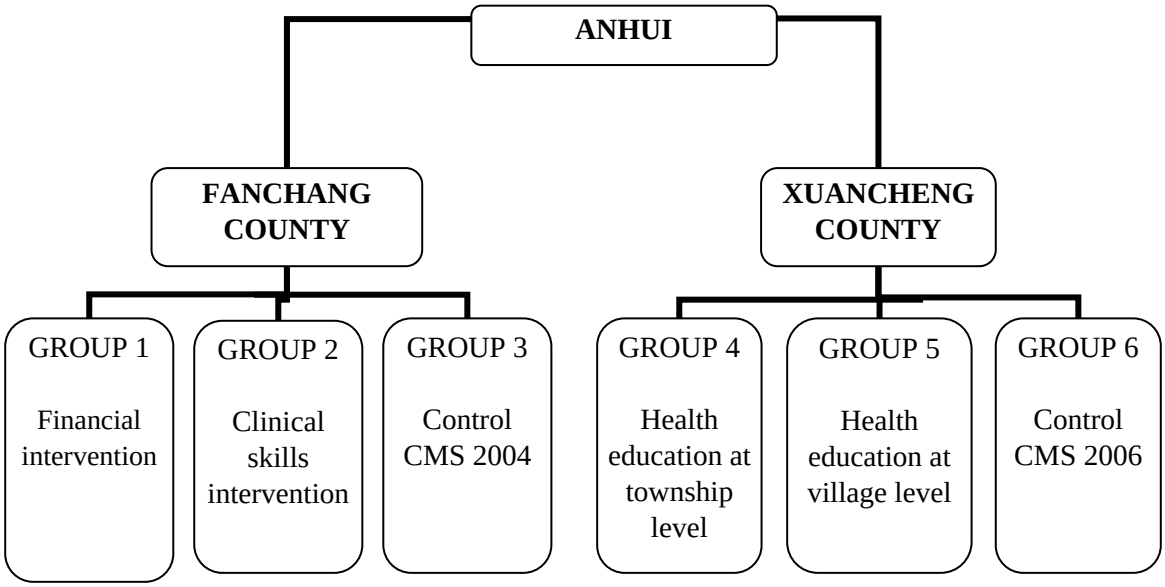

Figure 2. Trial design in Anhui.

Study sites and units

Anhui province is located in central eastern China across the basins of the Yangtze River and the Huaihe River. The seventeen prefecture-level divisions are subdivided into 105 county-level divisions. Two counties, Fangchang and Xuancheng fulfilled all selection criteria and were selected for the study. Figure 2 gives the structure of intervention design for the two counties.

In Fanchang, a total of 18 townships were selected and allocated to 3 groups (Group 1, 2 and 3), with 6 townships in each group. Grouping was based on the following factors: numbers of villages, population, income and terrain. Group 1 was the financial intervention group, with reimbursement for antenatal checkups and postnatal visits. Group 2 was training group, providing in-service training to obstetricians and MCH workers in township hospitals. Group 3 was the control group without any intervention.

In Xuancheng, 12 townships were allocated to 3 groups (Group 4, 5 and 6) with 4 townships in each group. Grouping was based on the same criteria used in Fanchang county. Group 4 was the health education training intervention group where training was given to township MCH doctors. In Group 5 health education training was given to village family planning (FP) workers. Group 6 was the control group without any intervention.

Financial intervention

The financial intervention was carried out in group 1 in Fanchang county.

Participants

Participants were women from the 6 selected townships who were pregnant from April 1st, 2007 to December 31st, 2008.

Content of intervention

Women should receive 5 antenatal checkups and 3 postnatal visits, with a total of 8 visits. The reimbursement from the project was allocated in the following way: RMB 5 for women with 1-3 checkups and visits; RMB 10 for women within 4-5 checkups and visits; RMB 15 for women with 6-7 checkups and visits and RMB 20 for women with 8 checkups and visits.

Process of the funds flow from CHIMACA

Reimbursement funds were allocated to the county health bureau, who then gave the funds to each township hospitals. Women claimed for reimbursement after they completed the postnatal service (within 6 months after delivery). A designated person in each township hospital checked the maternity cards and gave women a certificate with the number of visits they received. With this certificate, women then received the money from the hospital accountants.

This was a separate process to the NCMS reimbursement process. Hospital delivery and in patient care reimbursement was not modified during the intervention. The maximum reimbursement amount was RMB 20. The remaining costs for antenatal and postnatal care were paid by women out of pocket. Reimbursement did not vary with the level of facility. Antenatal checkups provided at county and township levels were eligible for reimbursement; postnatal visit at any level (county, township or village) was reimbursed.

Information dissemination about the CHIMACA financial intervention

Leaflets about the new reimbursement information were made. Village FP workers visited women's home to give these leaflets. Township MCH workers helped to hand out leaflets when women came for checkups.

Application of CHIMACA financial intervention

Money for reimbursement came from the CHIMACA budget. The funds first went to the designated person in the county health bureau, and then allocated to designated persons in the 6 township hospitals. After receiving the money, women were given a receipt as evidence of reimbursement. The health bureau checked the accounts every three months. Finally, the team from the Department of MCH in Anhui Medical University checked the accounts at the county health bureau.

By October 2008 105 women received reimbursement. By the end of the project, 392 women received reimbursement.

Training of clinical skills and health education

The training interventions were carried out between September 2007 and June 2008. Table 1 shows a summary of the training.

In total, three sessions of training were conducted in each county. The aim was to improve the knowledge and practical skills in maternal health care of county and township MCH workers and village family planning workers. Trainers were gynecological, obstetric and health education professionals from Anhui Medical University, the first affiliated hospital of Anhui Medical University, and Xuancheng MCH station.

A total of 186 obstetricians from selected township hospitals and county MCH station participated in the training.

Table1. Timing, content, duration and information about the trainers and trainees in Anhui.

Session	Date	Content	Place	Duration (days)	No. of trainers	No. of trainees
1st	24–27/09/07	Clinical Skills	Fanchang	4	5 (AMU), 1(MCH)	21
	28–30/09/07	Health education	Xuancheng	3	4 (AMU), 1 (MCH)	49
2nd	21–23/12/07	Clinical Skills	Fanchang	3	3 (AMU)	9
	24–25/12/07	Health education	Xuancheng	2	4 (AMU), 1 (MCH)	39
3rd	27–28/06/08	Clinical Skills	Fanchang	2	6 (AMU)	19
	29–30/06/08	Health education	Xuancheng	2	5 (AMU)	49

AMU: Anhui Medical University. MCH: Maternal and Child Health office from Local County

Content of in-service training in the first session

The topics of clinical skills included: the laws and regulations on MCH in China; key points of first prenatal check-up; key points of prenatal re-examinations; nutrition and drug use in pregnancy; management of high-risk pregnancy; diagnosis and treatment of pregnancy related illness and symptoms during pregnancy; routine procedures during delivery and monitoring of the labor phases; management of complicated deliveries; diagnosis and treatment of postpartum hemorrhage; postpartum physiological characteristics; key points of postpartum health care including physical examinations, preventing infection, breastfeeding guidance, immunization for newborn, promotion of health education and mental health; newborn resuscitation; and recognition and management of common illness after delivery.

The topics of **health education** included: laws and regulations on MCH in China; significance and key points of prenatal care; importance and key points of delivery and postnatal care; theories of health education: basic communication skills; self-care during pregnancy; use of health education skills; and self-recognition of high risk pregnancy.

Content of in-service training in the second session

The topics of **clinical skills** included: safety of mother and infants and evidence-based intervention during delivery; key points of prenatal check-ups; nutrition and drugs use in pregnancy; routine procedures during delivery and monitoring of the labour phases; management of complicated delivery; diagnosis and treatment of pregnancy related illness and symptoms during pregnancy; postpartum physiological characteristics; key points of postpartum health care including physical examinations, preventing infection, breastfeeding guidance, immunization for newborn, promotion of health education and mental health; high-risk pregnancy management; and recognition and management of common illness after delivery.

The topics of **health education** included: safe motherhood and evidence-based intervention during delivery; significance and key points of prenatal care; importance and key points of delivery and postnatal care; theories of health education skills and use in antenatal health care service; use of health education skills in postnatal health care service; self-recognition of high risk pregnancy.

Content of in-service training in the third session

The topics of **clinical skills** included: new evidence of maternal and child health; newborn health care; companion during labour; recognition and management of complications; referral of high-risk pregnancies; recognition of pregnancy common symptom; diagnosis and treatment of high-risk pregnancy; self-development improvement; and newborn resuscitation and practice.

The topics of **health education** included: new evidence of maternal and child health; child health care; care of the future mother; identification and treatment of high-risk infants; and self-development improvement

Evaluation of in-service training

Pre and post knowledge tests were conducted in the first and third sessions of clinical training. Feedback was received after all three training sessions.

Province of Chongqing

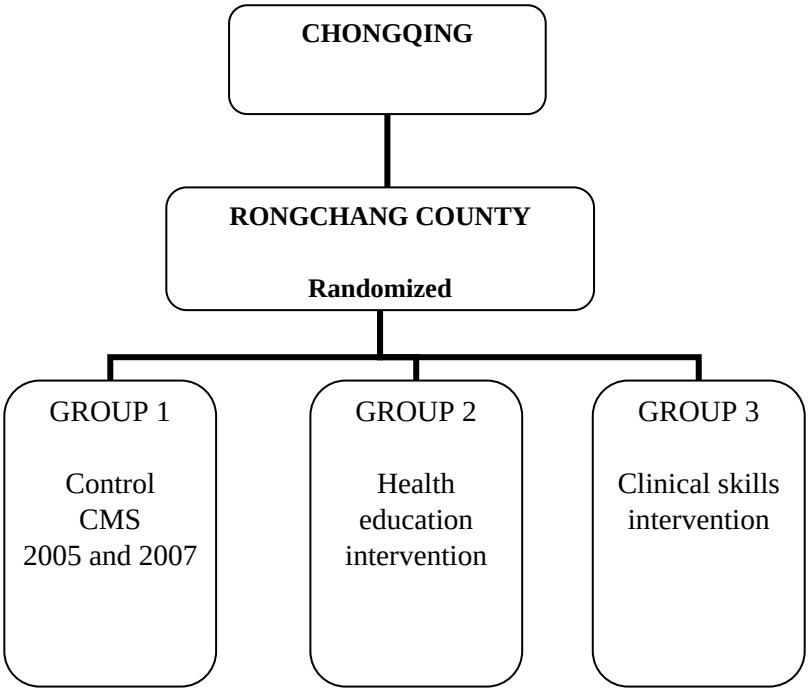

Figure 3. Trial design in Chongqing.

Study sites and units

Chongqing lies in the southwest of China and has 40 districts which are mainly mountainous. One county, Rongchang was included in this study. This county lies in the west of Chongqing and has 20 subsidiary townships. According to Rongchang Statistics in 2008, Rongchang has a population of 655,600 and 64% are rural residents. Newborn population was 9994 in 2008.

The 20 townships in Rongchang County were randomly divided into three groups according to population size. Figure 3 gives the structure of intervention design. The first group included 7 townships implementing the NCMS as introduced by government in 2005 and 2007, which is defined as the control group. The second group included 7 townships. Besides the implementation of the NCMS, health education training was given to township maternal health workers and village doctors. The third group included 6 townships. The intervention strategy was the implementation of the NCMS and clinical skills training to obstetric doctors in township hospitals and village doctors.

Training of clinical skills and health education

Training was conducted in 2 sessions between October 2007 and January 2008. Table 2 shows the summary. The training was provided by gynecology, obstetrics and health education professionals from Chongqing Medical University, the first affiliated hospital of Chongqing Medical University, Rongchang maternal and child care service centre and the People's Hospital of Rongchang. Lectures were given at the

county maternal and child health hospital, and some clinical practices were organized in township hospitals.

Table 2. Timing, content, duration, information about the trainers and trainees in Chongqing

Session	Date	Content	Place	Duration (days)	No. of trainers	No. of trainees
1st	20–23/10/07	Clinical Skills	Rongchang	3	3 (CQMU) 1(MCH)	79
	24-25/10/07	Health education	Rongchang	2	2(CQMU), 1(MCH)	73
2nd	15/01/08	Clinical Skills	Rongchang	1	2 (CQMU) 1(MCH)	65
	16/01/08	Health education	Rongchang	1	2(CQMU), 1(MCH)	66

CQMU: Chongqing Medical University. MCH: Maternal and Child Health office from Local County

Content of in-service training in the first and second session

In the first training session, the contents of clinical skill training included: the laws and regulations on MCH in China; contents of maternal health care in different periods including prenatal, intra-partum and postnatal care; health information dissemination skills; and quality of register data.

Contents of health education training included: the laws and regulations on MCH in China; knowledge and skills of health education on maternal health care; routine data collection.

In the second training session, the contents on maternal care provision which were given in the first session were repeated. The common problems and difficulties during the practice were summarized and discussed with trainers to find the solution and improve the performance.

Evaluation of in-service training

Pre and post knowledge tests were conducted in the first and second sessions. In-depth interviews with 4 participants were made in each session to understand their perceptions on the training.

Province of Shaanxi

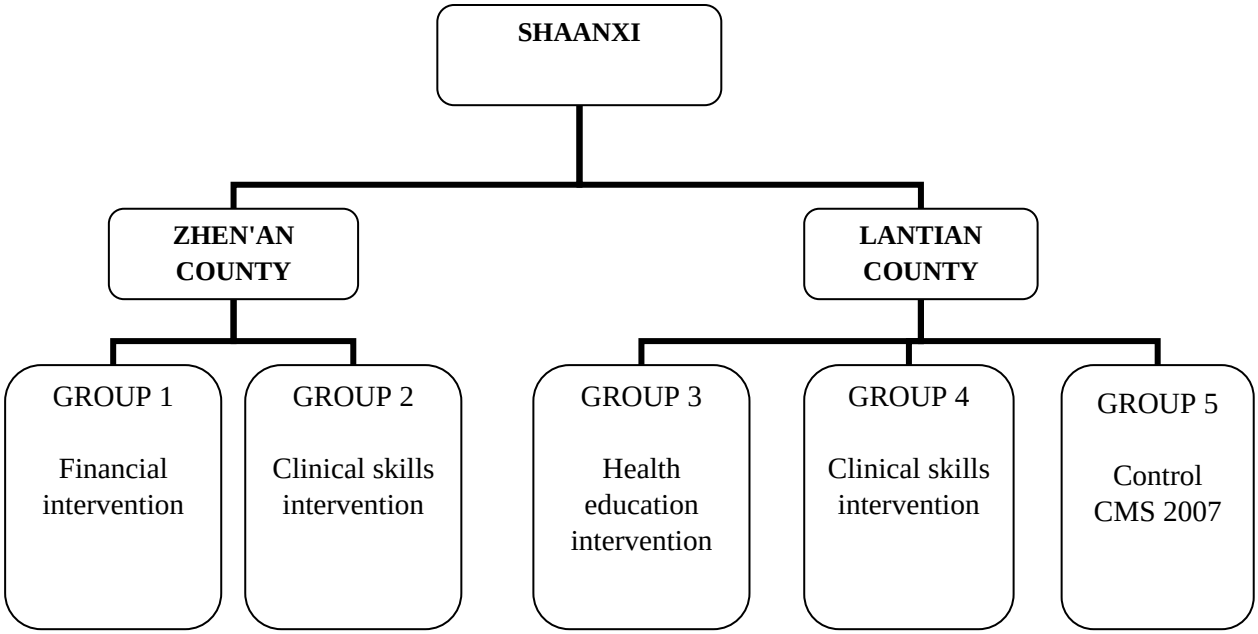

Figure 4. Trial design in Shaanxi.

Study sites and units

Shaanxi province is located in the eastern part of northwest China and in the middle reaches of the Yellow River. Two counties, Zhen'an and Lantian were included in the study (Figure 4).

Zhen'an County is located in the southeast of Shaanxi Province, 98 kilometres away from Xi'an City. It is located in the hinterland of Qinling Mountains, which belongs to Shangluo City. The county covers 25 townships and 205 villages. Its population is about 283,000. The per capita income was RMB 1580.

Zhen'an County is poor. There are three hospitals at county level—county hospital, county MCH hospital and traditional medicine hospital. Among them, the county MCH hospital is responsible for most MCH services. Every township has their own hospital and each village has a clinic. Most MCH services (antenatal care and hospital delivery) are given at the hospitals at county and township level by doctors. Postnatal care is mostly given by the village doctors. In 2006, there were 76 obstetricians and 27 MCH staff in the county. There were no midwives. The CMS was introduced in Zhen'an in 2003 and stated to operate at the beginning of 2004 and in 2008 the re was about 100%.

Lantian County is located in the southeast of Shaanxi Province, 35 kilometres away from Xi'an City. It is a mountainous area. There are 29 townships and 519 villages in the county. The per capita income was RMB 3640. The health facilities are similar to Zhen'an county. There are also three county hospitals in the county--county hospital, county MCH hospital and traditional medicine hospital. Among the 29 township hospitals, there are 8 central hospitals. In Lantian county, there were 25 obstetricians in county level hospitals and 74 obstetricians in township level hospitals, 11 midwives in county level hospitals and 30 midwives in township level hospitals, and 9 MCH staff in county level hospitals and 28 MCH staff in township level hospitals. NCMS was introduced at the beginning of 2007; coverage was 80% in 2008. The NCMS covered hospital delivery in both counties. The amount of reimbursement changed with the level of the hospital and the type of delivery.

In Zhen'an County, a total of 25 townships were randomly allocated into two intervention groups (12 in group 1 and 13 in group 2). Grouping was based on population size and distance to the county centre.

Group 1 was the financial intervention group, with reimbursement for antenatal checkups. Group 2 was the training group, providing clinical skills training.

In Lantian, a total of 29 townships were randomly allocated into two intervention groups and one control group using the same criteria as in Zhen'an. Group 3 including 10 townships was the training group, providing health education training. Group 4 including 9 townships was the training group, providing clinical skills training and group 5 including 10 townships was the control group without any intervention.

Financial intervention

The financial intervention was carried out in group 1 in Zhen'an county.

Participants

Participants were women from 12 selected townships who were pregnant during study period and had a gestation age of less than 20 weeks.

Content of intervention

The reimbursement fee (RMB 50) for antenatal care was offered by the project according to the actual services received by women: RMB 20 for 5 antenatal care visits; RMB 5 for 1 blood test; RMB 5 for 1 urine routine inspection RMB 20 for 1 ultrasound scan.

Process of the funds flow from CHIMACA financial intervention

The money for reimbursing the costs was sent to MCH county hospital. Funds were then allocated to township hospitals in the selected 12 township hospitals. The maximum amount of reimbursement for antenatal care was RMB 50; the amount of reimbursement depended on the actual services provided to women. Reimbursement was not differentiated according to the level of care. Antenatal care provided both at county and townships levels were eligible for reimbursement.

The costs were directly reduced when pregnant women took antenatal care in hospitals. The pregnant women signed the financial subsidy form to get the reimbursement. It was a separate process to the CMS reimbursement. At the end of every month, the research team checked the health care manuals and the subsidy forms in the hospitals.

Information dissemination about CHIMACA financial intervention

Health care providers (township obstetrician and MCH workers, village doctors) were informed about the financial intervention on antenatal care by the county health bureau. Health care providers delivered the information about the reimbursement to pregnant women when they visited hospitals for antenatal care. Village doctors visited the newly married couples to disseminate this information.

By the end of the project, a total of 400 women benefited from the reimbursement.

Training of clinical skills and health education

Training was conductted totally in 3 sessions between October 2007 and September 2008 in groups 2, 3 and 4. Table 3 shows the summary.

Table 3. Timing, content, duration, information about the trainers and trainees in Shaanxi.

Session	Date	Content	Place	Duration (days)	No. of trainers	No. of trainees
1st	12–15/10/07	Clinical Skills	Zhen'an	3	3 (XMU)	11
1st	26–29/10/07	Clinical Skills	Lantian	4	3 (XMU)	10
1st	24–25/10/07	Health education	Lantian	2	2 (XMU)	10

2nd	21–22/06/08	Clinical Skills	Zhen'an	2	1(XMU)	23
2nd	21–23/05/08	Clinical Skills	Lantian	3	1(XMU)	11
2nd	24–25/05/08	Health education	Lantian	2	1(XMU)	9
3rd	11–12/09/08	Clinical Skills	Zhen'an	2	1(XMU)	11
3rd	19–20/09/08	Clinical Skills	Lantian	2	1(XMU)	9
3rd	22–23/09/08	Health education	Lantian	2	1(XMU)	10

XMU: Xi'an Medical University

Content of in-service training in the first, second and third sessions

The training was based on two Chinese documents: "Routine prenatal, delivery and postpartum care for women, Shaanxi province, China" and "Routine prenatal, delivery and postpartum care for health provider, Shaanxi province, China".

The aim of the training of **clinical skill** was to improve the clinical operating skills of the obstetric doctors in township hospitals. The training focused on clinical skills, record keeping and treatment of pregnant women for county and townships doctors. Teachers and doctors from Xi'an Jiaotong University and the Second Affiliated Hospital were the trainers. Obstetricians and MCH workers from the selected townships and county participated in the training.

The aim of the training of **health education** was to improve the health education skills of the MCH workers in township hospitals and village clinics. The training focused on health promotion and communication skills. Teachers and doctors from Xi'an Jiaotong University and the first affiliated hospital were the trainers. MCH workers from township and village levels participated in the training.

Evaluation of in-service training

Pre and post knowledge tests were conducted in the first and third sessions. Feedback was received after all three training sessions.

Ethical consideration

Ethical approval for the community trial was obtained from the International Centre for Reproductive Health, ICHR, Ghent University, Belgium on 26th March 2008 (B67020083886). Local approvals were obtained from Anhui Medical University, Chongqing Medical University and Xi'an Jiatong University in Shaanxi.

Evaluation of the process of implementation of the interventions using the qualitative study

The evaluation was made by a qualitative study. Its objectives were:

1. To identify the changes in the financing of maternal health care services during the intervention period.
2. To explore policy makers and managers' perceptions of proposed changes to financing maternal health (including the reasons for these), facilitators and barriers to making changes in practice.
3. To explore stakeholders'* perceptions of the changes in the NCMS coverage of maternal health care services, and the impact of these changes on provision, utilisation, quality and costs and their suggestions for future changes.
4. To explore stakeholders'* perceptions of the CHIMACA financing of antenatal and postnatal care and the impact of these interventions on provision, utilisation, quality and costs.
5. To explore stakeholders'* perceptions of training and its effects on utilisation, provision and quality of maternal health care.

*Stakeholders include women using maternal health services during intervention period (NCMS members and non- members of NCMS, pregnant women or women who delivered during intervention period but did not use services), policy makers, health service managers and health service providers.

Methods

Data was collected using the following methods: key informant interviews, in depth interviews (IDI) and focus group discussions (FGDs). The interviews or FGDs in the control groups were only conducted in Chongqing, but not in other two provinces. Respondents by province are given in Annex1.

Research teams

In Anhui, one teacher and three master students from Anhui Medical University were appointed as the interviewers. All had received qualitative training and two members had much experience in focus group discussions (FGDs) and in-depth interviews (IDIs). Some master students were selected as note-makers and observers, who had participated in previous qualitative research into quality of care.

In Chongqing the research team consisted of one associate professor, one lecturer and four master students. Most of them had attended some training workshops about qualitative methods. Some investigators had taken participated in other qualitative studies. Research experiences were shared and discussed among the team members.

In Shaanxi, the research team included teachers, PhD students and post-graduate students in XJTU. One member responsible for the interviews in Zhen'an county, had much experience of conducting qualitative research. The team member responsible for the interviews in Lantian county had conducted other qualitative research studies.

Training on qualitative research data collection and analysis was held in November 2008 and February 2009 in Beijing by Joanna Raven from LSTM, Prof. Zhang and Dr. Xie Zheng from Peking University for all research teams. Further training on data analysis was held in Helsinki in May 2009. Training was also conducted in the three study areas prior to data collection.

Analysis process

In the three study areas, all interviews and FGDs were recorded with the permission of the participants. They were then transcribed. The data was analysed using the "framework approach". A framework was developed using the topic guides, notes and themes emerging from reading the transcripts. The transcripts were then coded according to this framework, and charts were developed for each theme. Charting of each key theme enabled the identification of common and divergent perceptions and associations, and the development of explanations. Triangulation of participants and researchers enabled crosschecking of the data and brought out different points of view. Maxqda software package was used to manage the data. Analysis was carried out in Chinese and a report of the study was translated into English.

Quality assurance

In Anhui, a pilot study was conducted in Xuancheng on March 25th. One IDI with a woman and one IDI with a village FP worker were completed. These interviews were transcribed and reviewed by Anhui team. After reviewing, some questions were further improved and probed. The quality assurance mechanisms which used in Anhui included also: a) Group discussions were simulated in the department to allow the research team to practice this method; b) Daily meetings of the research team after the data collection. Whole summarization was done for this day. Experiences of each interviewee were exchanged, questions they encountered were discussed during interviews, including how to relax the participants, how to make interviewees understand questions easily, how to probe questions, how to better organize interviews and reduce disturbances during interviews. The next days' interviews were allocated and each interviewer was asked to be re-familiar with the topic guides in the evening. Consent sheets, topic guides, tape recorders, presents were prepared for the next day; c) Notes were kept to record any decisions made and perceptions of the fieldwork; d) All interviews and discussions were transcribed within 1 week after tape recorded; e) Supervision was provided by Peking and LSTM. During data collection, timely communication with Peking and LSTM was done by phone or E-mail. Much advice on organization and skills of interviewing was provided by them.

In Chongqing, a pilot study was conducted which included a FGD with women and two interviews with doctors. The key members practiced interview skills. The questions occurring in the interviews and the solutions were discussed among the team members. During the study period, team members had a daily meeting to summarize lessons and experiences. For the data analysis, double coding and charting were used in a small number of interviews and themes in order to ensure consistent understanding among the team members.

In Shaanxi, a pilot study was conducted in Zhen'an County. Two FGDs were carried out with women and village doctors. After the pilot study the team held a meeting to discuss how the interview went, the information obtained and if any questions need to be modified or added. In the evening of each data collection day, the research team discussed problems about the interviews and started to transcribe the data. If the transcription could not be finished that day, it was finished on return to the university. The transcriptions were done by the recorders or the interviewers. As there were many local words, two researchers listened to each recording independently to ensure an accurate transcription of the data. All transcriptions were named and labelled in the same way. In each county double coding was carried out for two transcripts to ensure that the research team understood the codes and were consistent with their coding.

Ethical considerations

Ethical approval

Ethical approvals were obtained from: the Research Ethics Committee at the Liverpool School of Tropical Medicine in UK (Approval No. 06:42); Chongqing Medical University; Biomedicine Ethical Committee in Anhui Medical University (Approval No. 2007002); and Xi'an Jiaotong University.

Informed consent

An informed consent sheet was read out to each participant. This included the nature and content of the study, the estimated length of the interview or FGD, topics covered, and potential risks and benefits to the participants. Participation was voluntary and so participants could refuse to answer any questions or withdraw from the study at any time with no negative consequences. Consent was obtained before tape recording the interviews or FGDs. It was explained that the recordings were only used for transcription and they would be destroyed once the data was transcribed.

Confidentiality

Information was kept private and was only used by the research team. Names were not used. A label was given to each focus group discussion and interview and each participant to ensure confidentiality. All digital recordings were kept securely and were deleted after completing transcription and data-checking.

Results

Chongqing: Rongchang

Broad policy and project context and its impact on local maternal health

In 2004, a pre-paid scheme was introduced with a total of RMB 183 being charged for each user. The benefit package covered six antenatal visits, four postnatal visits and physical examination for children under three years old.

In 2005, maternal health care was included in the NCMS benefit package. The NCMS provided a fixed amount of reimbursement for normal vaginal delivery: RMB 100 at a township hospital and RMB 200 at a county hospital. Reimbursement for caesarean delivery was given as a proportion of the total expenditure. This proportion varied for the different level hospitals. Antenatal care was not included in the NCMS in 2005. In the period up to 2007, the NCMS benefit package for maternal health care changed: reimbursement of RMB 100 for antenatal care covering some nationally recommended laboratory tests; and reimbursement of RMB 400 for any type of delivery. Only women who had a pregnancy approved by the family planning authority were able to benefit from the NCMS maternal healthcare benefit package.

In 2007, a county level maternal health project was carried out. In this project, all pregnant women, whether approved by the family planning authority or not, could have free 7 antenatal visits, 3 postnatal visits and physical examinations for children under seven. It was noted that during antenatal visits, physical check was free, but other laboratory test such as routine blood tests or urine tests were not included. The family planning authority also gave women with an approved pregnancy / birth, an additional RMB 500 after they received family planning methods. This project provided additional financial benefit to the beneficiaries of the NCMS.

In 2009, a nation wide maternal health project "Reducing maternal mortality and eliminating neonatal tetanus" (Jiang Xiao Project) was carried out in the county. In addition to the NCMS reimbursement and the county project subsidy described above, it provided RMB 300 for facility-based delivery to all women. Almost all key informants said that since 2005, local government gave more attention to maternal health care. Women, and in particular women with approved pregnancies and members of the NCMS could benefit both from the NCMS and local projects with normal deliveries at township hospitals incurring little out of pocket expense.

The major contribution for this change was from the NCMS implementation. The NCMS may have improved hospital delivery. Hospital revenue, especially in the hospitals at county level, had increased. Doctors' skill had improved. Most women expressed satisfaction increased with antenatal and delivery care. The NCMS can encourage women to use prenatal care if the policy is widely distributed. The leader of the county health bureau and director of the NCMS office indicated that the fixed amount of reimbursement for normal delivery and CS may be effective in controlling the Caesarean section delivery rate.

Interviews with key informants indicated that impact of the RMB 100 for antenatal care was to encourage women to have more antenatal visits, although it did not cover all the expenses of antenatal care. Antenatal visit expenditure ranged from RMB 200 to RMB 400, and most women thought it was affordable for them. The NCMS scheme also encouraged hospital use, especially amongst poor women. However, its impact on financial protection was limited because of the relatively low level of reimbursement.

There were several other issues which remained un-resolved. Women with pregnancies / births not approved by the family planning authority were largely excluded from many benefits. The NCMS had no impact on health care provider behaviour or service provision. Through the current NCMS scheme, township hospitals were less able to generate revenue. Township hospital manager said that "Although there is a fixed reimbursement for deliveries, it does not benefit township hospitals a lot. Most women chose to deliver in county hospitals because township hospitals lack equipment." The NCMS scheme did

not have any impact on women's choice of level of hospital for delivery, because the amount of reimbursement was the same for delivery in county or township hospital.

Intervention: Health education training

The majority of the hospital directors said the training is helpful to the doctor-patient communication. One director explained that: "I find that the patients have improved their health care knowledge and awareness compared with before. They can speak of some technical terms. It's our achievement. They know what vaccine can prevent what kind disease".

Most MCH staff expressed that the training consolidated their health knowledge and felt that they will work more effectively. One said: "As our society values us, we should try to do better. We educate our pregnant women positively and the percentage of women giving birth in hospitals is increased. So the income of our hospitals is increasing too." Some of them said that the training was not useful as there were only lectures with no practical application.

Most village doctors said they had acquired new knowledge from the training, and enjoyed passing this health knowledge to pregnant women. The minority of village doctors thought it is difficult to carry out health education in the villages. Many rural people are illiterate, and so education has little effect. One said "We tell them what they should look for in the postnatal period". A few thought the training did not help in their work. As a result of no economic compensation mechanism, they did not want to do health education activities. One said: "We village hospitals do not have medical insurance like other larger ones. We just have a few patients, how can we publicize the knowledge?"

Most women were satisfied with the health education. Women reported that they were told the advantages and disadvantages of normal delivery and Caesarean section. One woman mentioned: "My doctor is kind, and suggests eating more vegetables and vitamins." Many women still did not think that postnatal care was important.

Intervention: Clinical training

The head of the Health bureau thought that the training played a positive role. Health care providers were more aware about the importance of antenatal and postnatal visits. The majority of township hospital directors believed that the training had an impact on the behaviour of doctors. For example, the doctors took more time in giving information to pregnant women. Their attitude was better. They were more enthusiastic in communicating with women, and spent more time answering their questions, and had a positive attitude towards doing post-natal visits, and visit more remote homes to do postnatal visits.

The majority of township doctors and village doctors believed that the content of antenatal care, the correctness of technical operations during birth, the content and quality of post-natal visits had improved after training. Most doctors thought that communication with pregnant women was better; they were more willing to give them the knowledge about pregnancy, and take more time to answer questions. The majority of doctors believed that there was some improvement in antenatal care and post-natal visits, such as careful examination, neonatal care, communication with women, and also in the treatment of postpartum haemorrhage and high-risk screening and referral. Most township hospital and village doctors said that after the training they take more time to explain about pregnancy. Most doctors felt that following this training, they formed a more positive attitude towards promoting breastfeeding, hospital delivery rate, clean delivery and newborn vaccination. They take more initiative to listen and explain patiently. Township doctors said that the number of post-natal visits was greater following the training. Doctors are more likely to visit women in more remote villages.

However, women said that doctors were too busy to spend time with them in the antenatal visit: the examination was too short and there was not time to explain anything. They wanted more time to discuss their health and they wanted leaflets.

Anhui: Fanchang and Xuancheng

Broad policy and project context and its impact on local maternal health

In Fanchang county, the NCMS was introduced and the government at all levels allocated funds for maternal health care since 2004. The cost of delivery in hospital was reimbursed a fixed amount: RMB 150 was reimbursed for normal deliveries, while RMB 600 can be reimbursed for Caesarean sections. Since 2009, the reimbursement for normal deliveries increased to RMB 300 and that for Caesarean section did not change.

The interviewees agreed that, according to national regulation, maternal and child health and preventive health care should belong to the field of public health, so the government should provide full funding. The funding for the infrastructure and capacity building (training) had increased every year in order to improve the service skills.

The majority of policy makers and health managers reflected that in recent years with the policies and projects being carried out, maternal and child health care work had developed, especially in township hospitals. The majority of health providers said that the environment and equipment of hospitals had improved, such as constructing new buildings, single delivery rooms with air conditioning and televisions and special rooms for mothers and infants.

Doctors can attend advanced studies to improve skills such as screening high risk women and operating in a more standard way. Health managers said that doctors' attitudes had improved not only to increase patients' satisfaction but also decrease medical dispute. The quality of care had improved. A few health providers thought that the policies and projects had no impact on the enthusiasm and attitude of doctors, and they thought the attitude was already good enough. Others considered that the policies and projects had no influence on the environment, equipment, doctor's skills and service quality. One manager thought that because funding of maternal and child health care was not enough, township hospitals would make money to survive and develop such as carrying out more Caesarean sections.

Most managers and health care providers thought that with the improvement of women's health care consciousness, the rate of antenatal examination and postpartum visit increased gradually. Pregnant women actively sought antenatal care, which helps to diagnose and treat pregnancy-related diseases and complications, identify fetal abnormalitiesin order to decrease pregnancy complications and the maternal and neonatal mortality. However, generally there were more Caesarean sections than normal deliveries.
Some issues remain un-resolved. Human, material and financial resources were lacking and this makes it difficult to provide services of reasonable quantity and quality. NCMS regulation on reimbursement should be tailored to different counties rather than a universal regulation for the whole province. Health care awareness among rural women was behind awareness of urban dwelling women.

In Xuancheng county, all policy makers thought that since the introduction of the NCMS in 2007, funds for the whole health system including the funds into maternal health care had increased. The benefit package of NCMS is RMB 200 for normal delivery and CS, and the reimbursement later increased to RMB 300.

In 2009, another national maternal health project called "Reducing maternal mortality and eliminating neonatal tetanus" (Jiang Xiao Project) was carried out in the county. Every rural woman of childbearing age who delivered in hospital could be given a subsidy of RMB 300, whether she has a normal delivery or Caesarean section. Normal delivery in township hospitals was free of charge if the NCMS subsidy is included. Poor women can have an additional reimbursement from the Department of Civil Affairs.

Since these policies and projects were conducted, most family planning workers thought the quality of maternal health care in the township hospitals improved, including the environment, equipment, cleanliness of hospitals, and doctors' skills and attitude. A few family planning workers thought the quality showed slight improvement but very different to the quality of care in higher level hospitals. Very few family planning workers thought the reason for improvement of the quality in the township hospitals was the ability to carry out Caesarean sections. Some health care providers thought that the doctors' attitude, skills and service quality were the same as before. Women's health consciousness was strengthened and the number of antenatal examination was incerased. Through antenatal examinations, abnormalities can be

identified and pregnancy-related diseases and complications are fewer and the maternal and neonatal mortality rate of decreased. The numbers of birth defects reduced and women's confidence in health care had improved. Very few people thought there was no influence on women's health.

Some issues remain un-resolved. The skills and attitudes of the doctors in most township hospitals needs to improve and government funds need to increase. Medical resources were distributed unequally with most going to higher level hospitals. More attention and more guidance needs to be given to the township hospitals. FP workers suggest further strengthening of health promotion to women.

In the two counties, NCMS has little impact on the quality of services although it has improved the service sand capacity of the providers to some extent. NCMS does not have impact on either antenatal or postnatal care, because these were not included in the benefit package. NCMS increased hospital delivery in Xuancheng but not in Fanchang. With regard to the financial protection, the benefit mostly helps wextremely poor women.

Intervention: Subsidy for antenatal and postnatal care

Township hospital managers and doctors attended training about the financial intervention. Family planning workers received information from the township hospitals and the MCH station. Findings suggest that there were problems in disseminating information about the project to women and families. The managers broadly understood the intervention but did not know the amount and way of reimbursement. The township doctors were able to describe the intervention in detail. They told women about the intervention during the antenatal checkups. However, some doctors thought that the procedure for reimbursement was too complicated. The family planning workers said that they organised meetings with women, went to their homes and gave them leaflets to inform them of the intervention. However, most women who were interviewed said that they did not know about the financial intervention, including the amounts of reimbursement and how to get the reimbursements.

The majority of policy makers and health managers responded that as a whole, the financial intervention had some positive effects. It stimulated the development of maternity and child healthcare and especially promotes standardised maternal healthcare.

Impact on antenatal care services

There were mixed views on how the intervention affected use of antenatal care. The NCMS manager thought that although the reimbursement amount was small, it could help women with the transportation costs. The leader of health bureau, some doctors and village family planning workers thought that the intervention encouraged women to use antenatal care services. However, others felt that it would not have any effect on antenatal care coverage. They thought that use of antenatal care was more associated with women's understanding of the importance of this care. Most women reported that the financial intervention did not influence their use of antenatal care. They thought it was more important to follow doctors' advice and complete all the antenatal visits.

Impact on delivery care

Policy makers, managers, doctors and women reported that the financial intervention did not have any effect on the place of delivery or mode of delivery. However, some family planning workers thought the financial intervention encouraged women to have more antenatal care and so women trusted the doctors and chose to deliver in their hospitals.

Impact on postnatal care

The NCMS manager, MCH director in the health bureau and some FP workers thought that financial intervention increased the rate of postnatal care to some extent. Through doctors' communication with women during the antenatal visits, women were more willing to accept postnatal visits and healthcare. Some health managers saw no effect on postnatal care by this intervention. Women thought the project would not affect postnatal care at all. A few health providers thought the contents of postnatal care

increased. Health providers and FP workers reflected that in general, few women went to hospital within 28 days after delivery and would go there only for newborn immunization and health examination between 30 to 42 days after childbirth.

Impact on quality of care

Some family planning workers thought that the quality of care and doctors' attitude improved, which brought more trust from women. More income was generated from the increased number of deliveries. Women also felt doctor's attitude was better. Some health providers said their work was more detailed and the quality of care improved. However, the MCH director in the health bureau thought it had little effect on the quality of care.

Financial protection for women

The majority of the respondents thought that the intervention did not provide any financial protection to women. The reimbursement amounts were too low. Family planning workers said that some women were too busy to attend the hospital for the reimbursement or thought that the amount was too low to warrant a trip to the hospital. Hospital managers thought that the low reimbursement amount was one reason, but the key issue was that there were not enough human and material resources to accomplish this task.

Suggestions

There were several suggestions to improve the intervention: increase the amount of reimbursement so that it would cover investigations and transportation fees and provide some subsidy for the health workers to compensate for their time spent on the project; focus on antenatal care and in particular the investigations such as blood tests and ultrasound scans for poor families; telephone numbers of women should be included so that hospital staff can call women to check if they have received the reimbursement; information about the intervention should be better disseminated to family planning workers and women. Some suggested that antenatal and postnatal care should be included in the NCMS rather than separate projects. However, many thought that there are other important issues, rather than costs of services, which are affecting the use of maternal health care services: women's and families' awareness to use services, quality of care being provided in the health facilities and lack of staff. These should be addressed through training of health care providers, buying equipment, recruiting more staff, developing policies, and providing health education for women and families.

Intervention: Health education training

Organization

The leaders of government paid much attention to the training, and put it in the annual government working report.

Content

The policy-makers and hospital manager thought the content included antenatal, delivery and postnatal care, preventive health care knowledge and knowledge of healthy lifestyle.

The township hospital doctors thought the content was rich, new, and covered many topics. They were impressed with the training on maternal health care during the second and third trimester of pregnancy, neonatal resuscitation and breastfeeding.

Family planning workers thought that the content included laws and regulations related to MCH, fetal growth and development process, relationships between parents and children, risk assessment, skills of communication with maternal women. Most reflected that the content was rich, and could relate to practice.

Methods of training

Policy-makers thought the methods were very good and the interaction and informal discussion were good for trainers and trainees to study from each other. According to feedback from many doctors, it was suggested that training could be conducted in medical institutions, with both theory and practice training. More interactive methods should be used, such as discussion of cases and solving problems. The materials for the trainees should be short and clear.

Township doctors thought it was good to study together. Some doctors said that the sessions were too fast and difficult to follow. Medical terms were also difficult to understand. Some doctors did not want to be taught with family planning workers.

Effect of training

Knowledge acquisition

Most MCH staff reported that training helped them acquire much new knowledge: content of antenatal examinations, TORCH (**T**oxoplasma gondii; **O**ther viruses (HIV, measles, and more); **R**ubella (German measles); **C**ytomegalovirus; and **H**erpes simplex) screening, and how to deal with emergencies such as postpartum haemorrhage, and neonatal resuscitation. FP workers thought they acquired much useful new knowledge, and it made their care more skilled and people-oriented.

Changes in the content of health education

The doctors acquired more knowledge about antenatal, delivery and postnatal care. They use this knowledge in their routine work. Most doctors thought their knowledge was comprehensive and adequate for rural areas.

Antenatal care

Almost all women had received health education during antenatal examinations. The majority of women reported that the doctor advised them on the choice of delivery type, explaining the benefits of natural delivery, such as quicker postnatal recovery, stronger immunity of the baby, and recommended natural delivery. In addition to this knowledge some women would buy books or seek the relevant information online.

Delivery care

Policy makers said that through training, MCH workers are aware more of the importance of maternal care. It improves their ability to conduct delivery and manage complications.

Postpartum care

Policy makers said that after training, doctors start to realize the importance of postpartum visits. Doctors communicate with women more frequently. All women accepted the postpartum care health education which had rich content, including breastfeeding, nutrition, exercises, newborn care guidance, and hygiene.

Changes in health education skills

The hospital managers thought that the doctors' communication skills for antenatal health education were improved. Doctors brought women together once a week to give health education, or provided information during the antenatal examination. They showed DVDs and gave leaflets and posters. FP workers thought the training improved their clinical and communication skills. They made visits to women's homes to talk to them about care during pregnancy and they gave DVDs and leaflets. However a few family planning workers said that the way they gave health education had not changed. The majority of women reported that they obtained health education from doctors and some received CDs and handbooks.

Changes in attitude

Managers thought the training greatly improved the attitude of doctors. They were more people orientated and were able to relieve anxieties and stresses of women. Most doctors said that following the training, they gave information to women more readily. They talked with women about caring for themselves, and did not wait for women to ask questions.

Feedback from women

Women thought the health education was good, easy to accept and they would try to follow what doctors and family planning workers said. They were very willing to communicate with family planning workers.

Intervention: Clinical skill training

Organization

Policy makers, health providers and health managers thought that the clinical skill training developed was generally welcomed. It was necessary for county obstetric doctors to have the training, because there were few opportunities for them to participate in other training. Most health managers considered that this clinical training was well organised and conducted. The majority of health providers thought that the training venue was good and the distance was not far. Most people thought that the length of training was satisfactory and the length could be extended if the content increased.

Content

Most health providers and managers thought that the training was rich in content, which was basic and practical and full of new concepts and new developments. The content was easy to understand and integrated theory with practice. It was not boring. Some people believed that the training content was complete and was associated with actual clinical work, especially the use of partograph, management of complications in delivery and newborn resuscitation.

Methods of training

Most people said that there were various methods of training: written materials, multimedia, theory integrated with practice, lessons combined with clinical cases, and group discussions. These discussions made the trainees more relaxed and it was easier for them to accept the knowledge. Some people said that the speed of showing slides was too fast. The majority had participated in pre and post training tests. They thought it was easier to do the test after the training.

Effect of training

Knowledge acquisition

Health care providers said that their knowledge was updated following the training, including antenatal care, delivery care and postnatal health care.

The managers felt that doctors' views about maternal health care were broadened after the training. Doctors thought that the training contributed greatly to maternal health education and it offered more professional and comprehensive theories, which gave them more confidence in communicating with women.

The majority of women reflected that they were given health education by doctors during pregnancy, such as paying attention to nutrition. Most women reflected that doctors recommended natural childbirth, but some of them selected caesarean birth finally because of fear of pain. For the postnatal health care, doctors informed them about postpartum sexual activities, newborn feeding and nursing, newborn bathing, postnatal diet and health guidance. Most women thought that health education was rich in content, easy to accept and generally followed the doctor's advice. Some women believed that health education alone was not enough, so they read related books to supplement knowledge.

Antenatal care and its changes

Most health providers thought that compared with before training, the skills of antenatal examination had improved and the use of the pregnogram was more standard. Women said that they took the antenatal examinations seriously.

Delivery care and changes

The majority of doctors reflected that they had mastered more knowledge about delivery care and were clearer about how to manage complications. All women received intravenous fluids and antibiotics. Women with normal delivery all received the encouragement from obstetricians, some of them used oxytocin and a few had episiotomy.

Postnatal health care and changes

Doctors thought that the conception and operation of postnatal health care became more standard after training. Women reflected that the services were more comprehensive during hospitalization, such as blood pressure measurements and blood tests after delivery. Postpartum haemorrhage was treated actively. Health providers said postnatal visits were done by local township hospitals. County hospitals did not carry out postnatal visits. Some providers thought that the postnatal visits carried out by township hospitals were very few.

Changes in attitude

Some doctors and managers reflected that doctor's enthusiasm, initiative and attitude had improved. Most women reflected that the attitude of doctors was very good and were satisfied. Some who had a second birth thought that the attitude was better than that it used to be.

Shaanxi: Zhen'an and Lantian

Broad policy and project context and impacts on local maternal health

Zhen'an county

Many projects were introduced in Zhen'an County since 2003. It brought benefit to the MCH service in local area. Directors of township hospitals said with the project and policy, most of the women went to hospitals for delivery. The proportion of hospital delivery increased from 80% in 2003 to nearly 100% in 2008.

Two projects had great influence in Zhen'an County. One was "Reimbursement of hospital delivery" (RHD) in Shaanxi Province. Women with authorised pregnancies and births could receive reimbursement of RMB 850 at county hospital and RMB 550 at township hospital. Recently it had increased to RMB 900 and RMB 600.

Another project was "Reducing maternal mortality rate and eliminating neonatal tetanus" project (Jiang Xiao Project). This project was introduced in June 2003. At the beginning of the project, it was aimed at poor women and covered 25 townships of the province. The reimbursement was RMB 100 for poor women who delivered in hospitals. After 2008, all counties were covered by the project. The county government increased the ceiling from RMB 100 and RMB 50 at county and township level to RMB 350 and RMB 600 respectively, and allocated RMB 5 to village doctors for each postnatal visit conducted. At the same time, the project improved obstetric equipment. Because of problems with funding, the project decreased its financial support in 2008.

The most important issue remaining un-resolved in the local area was the capacity of the staff. Most township hospital managers realized that lack of medical university graduates was a "bottle-neck". Some hospitals had no obstetrician. Another issue was that women with unauthorised deliveries were excluded from many benefits. Although it was free to deliver both in county and township hospitals, the fee of

transport and living costs were a burden to poor women. If the township hospital could not offer normal delivery, poor women should delivery at county level.

The NCMS was introduced in Zhen'an County in 2003. The local people whose living certificate ("HUKOU") is rural and located in the county qualify for NCMS enrolment.

The benefit package, reimbursement and ceilings changed slightly every year and the table 4 below shows these changes.

Table 4. Reimbursement of NCMS in Zhen'an county in 2009

		Normal delivery			C-section		
		Ceiling	NCMS	RHD	Ceiling	NCMS	RHD
from 2003 to Nov 5, 2008	County level	600	300	-	1800	800	-
	Township level	350	300	-	1600	800	-
from Nov 5, 2008	County level	850	400	450	2500	1200	1300
	Township level	550	400	150	-	-	-

Due to NCMS introduction, hospital delivery increased rapidly and the quality of service improved. Caesarean section was not permitted in township hospitals. Women with complications are transferred to higher level hospitals. The utilization of antenatal care and hospital delivery had greatly increased, but use of postnatal care was less affected. Most people thought that NCMS had little effect on financial protection as NCMS uses the same regulations for rich and poor women. The regulations on reimbursement for normal delivery or Caesarean sections, in addition to higher ceiling for Caesarean sections, encouraged more Caesarean sections in the county level hospitals.

Lantian county

The NCMS started in 2007 in Lantian County. The NCMS benefit package changed every year but it covered only a part of the costs of delivery in hospital whether it was a normal delivery or Caesarean section.

NCMS reimbursement for hospital delivery in Lantian (RMB)

Period	Unit	Normal delivery		C-section	
		the ceiling of the price	NCMS reimbursement	the ceiling of the price	NCMS reimbursement
Jan.2007–Aug.2007	Hospital of township and county level	-	80	-	In proportion
Aug.2007–Jan.2008	Hospital of township and county level	-	200	-	In proportion
Jan.2008–Jul.2008	Hospital of county level	590	300	2200	1150
	Hospital of township level	400	300	1800	1150
After Jul.2008	Hospital of county level	590	350	2200	1150
	Hospital of township level	400	350	1800	1150

In addition to NCMS, some township hospitals reduced the fees for very poor women. These reductions were mainly in the surgery or delivery fees, and not in the fees for drugs or materials. Shaanxi province started the "Reimbursement of hospital delivery" project in May 2009. Fees for hospital delivery, antenatal care, postnatal care and neonate care are involved in the project. Funds come from the central and provincial governments. The grant for each pregnant woman was RMB 800. The source of funds was provincial, municipal and county governments.

The NCMS director said that the NCMS centre improved their supervision of the authorized hospitals and abolished some unreasonable charges in the local hospitals. Thus the price of medical treatment was maintained at a stable level.

It was generally recognized by obstetricians in county and township hospitals that more women came to their hospital for delivery and their workload was overloaded. However, their income increased only slightly, and in some hospitals, their income did not increase. The NCMS had increased people's access to health services.

Intervention: Subsidy for antenatal care

Content

In the county of Zhen'an, half of the townships were given the financial intervention. This covered antenatal care only to the value of RMB 50. This included five antenatal inspections, one routine blood examination, one routine urine examination and one ultrasound scan. Women received this care free of charge. They did not pay for the services, and money was paid directly to the hospitals at all levels. The hospitals submitted a list of women who used antenatal services. This list was checked and then the money was transferred to the hospital.

The CHIMACA project also provided an allowance to MCH workers and village doctors. For each CHIMACA maternity management manual completed, they were given RMB 20. Policy makers thought that this encouraged staff to promote antenatal care.

Women did not clearly understand the financial intervention: they knew that they could be given RMB 50, but did not know what care they could receive. Township hospital managers did not understand the intervention and how the subsidy should be given. Village doctors who are responsible for explaining the intervention to the women, were able to describe the intervention in detail.

Township hospital managers were unhappy with the intervention as they did not receive the money for the subsidies from the CHIMACA project. They therefore had to use their hospital budget to provide the antenatal care

Impact on antenatal care services

Most policy makers thought that the intervention would increase women's utilisation of antenatal care. However, the subsidy was not enough to increase the numbers and types of tests that women should have such as liver function tests, blood clotting tests. Most township hospital managers thought that the financial intervention would have a very limited effect on utilisation of antenatal care services. They thought that the subsidy amount was too small and that the intervention period was too short. Most village doctors thought that although the amount of subsidy was small compared to the total costs of antenatal care, it would still encourage women to have antenatal care. Most women thought that the financial intervention did not influence their use of antenatal care services. They used services because of their own physical and emotional needs and advice of their doctors.

Impact on delivery and postnatal care

The majority of respondents though that the intervention had no impact on place and type of delivery and postnatal care.

Impact on quality of care

The leader of the county Health bureau said the financial intervention stimulated township hospitals to increase the quantity and quality of antenatal services. Before the project, most women went for their first antenatal examination in the third trimester. Now they go earlier. The project also provided incentives to MCH workers and village doctors to encourage them to urge women to attend the hospital for examination. The project gave RMB 20 to the health acre workers when a CHIMACA Maternity Management Form was completed. The MCH workers and village doctors mainly did this work, and when they filled in the

CHIMACA Maternity Management Form, they reminded women to have antenatal care. Other projects also gave allowances to MCH workers and village doctors.

The director of the county NCMS office also thought that the financial intervention had an impact on the quality of service. As pregnant women received reimbursement for prenatal care, it could make her more aware about antenatal care, can facilitate the establishment of pregnancy files in medical organizations, and can improve the proportion of hospital deliveries to some extent. At the same time, the number of postnatal visits had increased. As there was no intervention on delivery, there was no direct impact on the proportions of Caesarean section and normal delivery.

Impact on financial protection

Policy makers, township hospital managers and village doctors thought that the intervention provided limited financial protection to women. The total cost for antenatal care was estimated as RMB 300, and this only covered the basic services. Some policy makers and village doctors thought that the amount of subsidy was too low. They felt that ultrasound scan, fetal heart monitoring and other investigations are expensive and this subsidy would only cover a part of the costs. More money was needed for other investigations. However, some thought that for the very poor families, this contribution was helpful. Women, who were happy to receive the subsidy, said that larger subsidies would be better.

Suggestions

There were several suggestions to improve the intervention. The amount of subsidy should be increased to cover all antenatal care costs, including screening for genetic diseases and colour ultrasound. More funding should be provided to the hospitals and village doctors to implement the project. This would encourage the staff to carry out the project well. It would also help to compensate for the time spent on the project instead of their routine work which generated their income. Postnatal care should be included in the package. During the late stage of the implementation of the project, the leaders of the county MCH hospital began to consider how to continue the intervention after the end of the project.

Intervention: Health education training

Impact on antenatal care

After the training, the village doctors thought they had more knowledge about maternal health care and accepted that maternal health care is one of their duties. They encouraged women to have antenatal examinations and give birth in hospital. They advised women to have a normal delivery.

Impact on delivery

Depending on the antenatal examinations, the obstetrician usually encouraged women to choose natural labour. If there were indications for Caesarean section, the doctor explained the advantages and disadvantages of Caesarean section and asked for women’s views. In the process of childbirth, obstetrician taught the women how to alleviate the pain and shorten the birth process. Sometimes the doctors asked the women if they want to use analgesia. Some women reflected that the doctor's attitude was good, and they regularly visited women.

Impact on postnatal visit

The training also played a role in promoting the development of post-natal care. Women who live near the township hospitals said that the township doctor visited them at home during the postnatal period. Village doctors said that they visited some women at home and did some examinations of the mother and baby. However, some women reflected that they did not receive any visits from doctors and did not go to the hospital for the 6 week examination.

Perceptions of policy makers and managers

Policy makers and managers thought that the training was necessary, as many village doctors had little knowledge of maternal and child health care. They thought that the village doctors were pleased that the training was free and this made it very effective. However, they did not explain in what ways the training had improved the care that the village doctors provided. They recommended that township hospital doctors should be trained in health education and they could then train the village doctors. The participants thought that the lessons were lively and easy to understand.

Perceptions by users of health education

Township hospital doctors often gave health education to women when they came for antenatal examinations. Depending on the results of antenatal examinations, the obstetrician encouraged women to choose natural labour. After women went home, village doctors visited women and babies to do examinations and support feeding the babies. Most township doctors give their telephone number to women and asked them to call if there were any problems.

Women reported that they received some information about nutrition during pregnancy and avoiding alcohol, pesticides and other harmful substances. Some women received postnatal examinations from village doctors, but only temperature and pulse was taken. The majority of women interviewed felt that their knowledge of maternal health was not enough. They wanted more information on antenatal and postnatal care, how to prevent birth defects, newborn care and common childhood illnesses. The majority of women wanted doctors to talk to them about these topics, give lectures to groups of women as well as provide DVDs. Some women were happy to receive information from village doctors. However, other women thought that village doctors knew little about maternal health care, and in particular male village doctors, and this information should be given by obstetricians as they trusted their knowledge.

Intervention: Clinical training

Most respondents thought the training was very good. They gained and their ideas and practices had greatly improved after training. They thought this had an impact on maternal health.

Most township hospital managers said that after the training antenatal care is more standardized. In the first visit, the doctor explains the risks during pregnancy and advice women on what care and services to receive. Women were more likely to follow the advice of the doctors. Communication between doctors and women was improved. The maternity health care card was completed.

The obstetricians thought that the training refreshed their knowledge and provided new information. Most thought that their skills to manage complications such as hypertension and postpartum haemorrhage had improved.

Most respondents thought that the effect of training on postnatal visits was not obvious. However MCH workers and township obstetricians thought that following the training their knowledge of postnatal care was improved.

General perceptions of participants on the training in the three provinces

Intervention: Health education training

In three provinces, health managers used different criteria for selecting staff for the training courses: staffs were involved in CHIMACA project; they were obstetricians or MCH workers; they were dedicated and worked hard. Some doctors and family planning workers were able to attend all the training sessions (two or three). However others were able to attend once or twice.

Content of training

We found that some managers, doctors, MCH workers and family planning workers were not clear about the purpose and content of the training. Most participants were satisfied with the content of the training as it

contained new information and covered many topics which were relevant and useful. However, some wanted more knowledge about gynaecological diseases and postnatal care and how to read investigation results. Others thought that the training contained too many topics, and it was difficult to carry out some of the recommendations, such as reducing the Caesarean section rate. Doctors also thought that the content was not relevant for village health workers as it was too complex. Some family planning workers found it difficult to understand the clinical areas of the training.

Length of training

There were a range of views on the length of training. Some village doctors thought the training was too long and they were therefore unable to work to generate income. Other village and township health care workers were satisfied with the length, whereas others thought the training should be longer so that the topics could be coved in more depth.

Intervention: Clinical training

There were mixed perceptions of the purpose of training: reducing maternal and neonatal mortality; improving skills of staff; improving knowledge of staff; identifying high risk women; increasing antenatal care rates; collecting data for CHIMACA; and some did not know the purpose.

Content of training

There were mixed views. Some said it was adequate; others said it was not related to the actual situation in the township hospitals e.g. lack of equipment for resuscitation of the baby, staffing issues, and funding for postnatal visits. They had suggestions for training: more on antenatal care, resuscitation, complications – some of which should have been covered in the CHIMACA training.

Length of training

Some thought this was acceptable. However others thought that the training was too fast and that they were not able to follow all the lectures and write notes.

Suggestions

Trainers should be experienced clinicians as well as university staff, policy makers. To have more impact village doctors need to be included; MCH workers and doctors should be trained separately; managers should be trained so that services can be provided successfully; FP workers should be included in training as they have direct contact with women and can influence their health seeking and care behaviour. Paediatricians should be included in training. In addition, county staff can be trained first, and then they can train lower levels.

For the methods of training, many participates wanted sessions that were more interactive where they were able to discuss experiences and cases; many wanted more opportunities to practice skills and use models for training; more integration of theory with practice and use medical records.

Conclusions

New Co-operative Medical System and maternal health care in the study sites

- The funding to maternal health care increased during the study periods. The increased funding came from different sources, including the New Co-operative Medical System (NCMS) pooling funds (central and local government and individual contributions), national maternal projects, and local government inputs.
- Interviewed local policy makers and health managers thought that the increased inputs had improved the use of prenatal and delivery care, due to improved hospital environment and doctor's skills, but there was less impact on postnatal care use.
- Generally, the NCMS was perceived by local policy makers, health managers and healthcare providers to have little effect on sharing financial risk in maternity care due to relatively low level of reimbursement. In Anhui, it was thought to benefit very poor women.

CHIMACA Intervention: Financial intervention in antenatal and postnatal care

- The financial intervention (subsidized care content and the amount and procedure of reimbursement) was not well understood by the women.
- There were mixed views about the impact of the financial intervention on the use of antenatal, delivery and postnatal care. Most of local policy makers, health managers and healthcare providers thought that the financial intervention had somewhat improved the use of maternal health care and quality of care, especially antenatal care. Some thought that the intervention had no effect due to small amount of the subsidy and short intervention period. All interviewed women said that the financial intervention did not influence their decisions of maternal health care use.
- The small amount of subsidy for antenatal and postnatal care was considered by majority of local policy makers, health managers and healthcare providers to have contributed only little to the financial protection of women.
- The suggestions to improve intervention included increasing the amount of the subsidy to women, providing subsidy to health care providers as well as covering more antenatal tests. In Anhui, some suggested including antenatal and postnatal care into the NCMS.

CHIMACA Intervention: Health education training

There were a range of views on the effect of health education training.

- Most of local policy makers and health managers as well as some MCH workers, village doctors and family planning workers thought that the training was useful. The training improved the participants´ knowledge of maternal health care and communication skills and strengthened their sense of responsibility in services provisions. Hence, healthcare providers´ attitudes, content and quality of care had been improved.
- In Chongqing, few village doctors thought that it was difficult to make health education effectively, because most rural women had low education. Some of village doctors did not want to give health education due to lack of financial compensation.
- Generally, women were satisfied with services and information received from doctors. In Shaanxi, some women were more likely to receive maternal health care information from doctors (township or county doctors) rather than village doctors. Women thought that village doctors had little knowledge about maternal health care.

CHIMACA Intervention: Clinical training

- Many doctors indicated that their knowledge of antenatal, delivery and postnatal care was refreshed and the capacity to manage complications was improved.
- Some managers felt that after training doctors were more enthusiastic in providing maternity care.
- It was difficult to get women's views as sample did not include many women who had received care from the trained staff.

Acknowledgments

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Annex 1. Respondents in the qualitative evaluation study, by province

Chongqing

Group	Type of participant	Interviewees	Method	Number
County level	Policy makers	Director of MCH in county health bureau	Key informant interviews	3
		Director of county MCH hospital		
		Director of county NCMS office		
CMS	Health managers	Township hospital managers	IDI	3
		Township CMS managers	IDI	3
	Health care providers	Township obstetric doctors and MCH workers	IDI	6
		Village doctors	IDI	5
	Women	NCMS member & Receive reimbursement from CMS office	FGD	2
		NCMS & did not receive reimbursement, e.g. migrant, illegal birth	IDI	3
		Non NCMS member	IDI	1
		High expenditure members	IDI	3
Health Education training	Health managers	Township hospital managers	IDI	3
	Health care providers	MCH workers	IDI	2
		Village doctors	IDI	5
	Women	Received care in selected township hospitals	FGD	2
Clinical skill training	Health managers	Township hospital managers	IDI	3
	Health care providers	Township obstetric doctors	IDI	5
	Women	Received care in selected township hospitals	FGD	2

IDI = in depth interviews; FGD = focus group discussion

Anhui

County	Group	Type of respondents	Number and selection criteria	Method	No	Total No
Fanchang (Apr.8th to Apr. 11th)	County level	Policy makers	Director of MCH in county health bureau	Key informant interviews	4	12 FGDs and 11 IDIs
			Director of county MCH station			
			Leader of county health bureau			
			Director of county NCMS office			
	1	Township hospital managers and NCMS managers	5 working in 5 selected townships 5 in charge of NCMS at 5 selected townships	FGD	1	
		Township obstetric doctors	5 working in 5 selected townships	FGD	1	
		Village family planning workers (from different villages and townships)	10 working in different townships and different villages, disseminating information about CHIMACA financial intervention	FGD (5 in each group)	2	
		Women	4 in NCMS & received CHIMACA reimbursement (from each township)	FGD	1	
			12 in NCMS & did not receive CHIMACA reimbursement (from each township)	FGD (6 in each group)	2	
			4 not in NCMS & received CHIMACA reimbursement (from different townships)	FGD	1	
			Not in NCMS & did not receive CHIMACA reimbursement (from different townships)	IDI	1	

				High expenditure / referral to higher level hospital e.g. city. Member or non-members of NCMS (from different townships)	IDI	2	
		2	Township hospital managers	6 working in 6 selected townships	FGD	1	
			Township obstetric doctors and MCH workers	7 working in 5 selected townships and received training: some attended 1 workshop; some attended more than 1 workshop	FGD	1	
			County obstetric doctors and midwives	Received training: some attended 1 workshop; some attended more than 1 workshop	IDI	4	
			Women	10 received care in selected township hospitals. Included some women who had 2 or more deliveries-one before intervention and one after intervention	FGD (5 in each group)	2	
Xuancheng (Mar. 30th to Apr. 1st)	County level		Policy makers	Director of MCH in county health bureau Director of county MCH station Leader of county health bureau Director of county family planning commission	Key informant interviews	4	9 FGDs and 4 IDIs
		4	Township hospital managers	4 working in 4 selected townships	FGD	1	
			Township obstetric doctors and MCH workers	4 working in 4 selected townships; Received training: some attended 1 workshop; some attended more than 1 workshop	FGD	1	
			Women	10 received care in selected township hospitals; Women with normal delivery and caesarean sections; Include some women who have had 2 or more deliveries – one before intervention and one after intervention	FGD (5 in each group)	2	
		5	Family planning managers	4 working in 4 selected townships	FGD	1	
			Family planning workers (from different villages and different townships)	10 working in 4 selected townships; Received training: some attended 1 workshop; some attended more than 1 workshop	FGD (5 in each group)	2	
			Women (from each township)	9 received care in selected township hospitals; Women with normal delivery and caesarean sections; Include some women who have had 2 or more deliveries – one before intervention and one after intervention	FGD (5 in one group and 4 in the other group)	2	

IDI = in depth interviews; FGD = focus group discussion

Shaanxi

County	Group	Type of participant	Selection criteria	Ways to identify participants	Method	Location of interview / FGD	No.
Zhen'an County	County level	Policy makers	Director of MCH in county health bureau Director of county MCH hospital Director of county NCMS office	Local CHIMACA coordinator and research team	Key informant interviews	The leaders office and meeting room of MCH hospital at county level(only the health bureau leader)	3
	1.Financial intervention	Township hospital managers	Work in 12 selected townships	Local CHIMACA coordinator	FGD (6 managers)	Meeting room of MCH hospital at county level	1
		Township MCH workers (from each township)	Work in 12 selected townships	Local CHIMACA coordinator and hospital managers	FGD (6 MCH)	Meeting room of MCH hospital at county level	1
		Village doctors	Disseminated information about CHIMACA financial intervention	Local CHIMACA coordinator and township MCH doctors	FGD (village doctors)	Meeting room of township hospital	2
		Women	In NCMS & received CHIMACA reimbursement	NCMS office and CHIMACA intervention records, village doctors	FGD (4 /6women)	Village clinics	2
			In NCMS & did not receive CHIMACA reimbursement	NCMS office and CHIMACA intervention records, village doctors	FGD (4 /5women)	Village clinics/meeting room of township hospital	2
			Not in NCMS & received CHIMACA reimbursement (from different townships)	NCMS office and CHIMACA intervention records, village doctors	IDI	Village clinics/meeting room of township hospital	2
			Not in NCMS & did not receive CHIMACA reimbursement	NCMS office and CHIMACA intervention records, village doctors	IDI	Village clinics/meeting room of township hospital	3
			High expenditure / referral to higher level hospital e.g. city. Member or non-members of NCMS	Township doctors, village doctors, NCMS office	IDI	Woman's home	1
	2.In-service training of Clinical skills	Township hospital managers	Work in 13 selected townships	Local CHIMACA coordinator	FGD (6 managers)	Meeting room of MCH hospital at county level	1
		Township obstetric doctors and MCH staff(from each township)	Work in 13selected townships Received training: some attended 1 workshop; some attended more than 1 workshop	Local CHIMACA coordinator, hospital managers, training reports	FGD/IDI	Meeting room of MCH hospital at county level/Hotel	1/2
		County obstetric doctors	Received training: some attended 1 workshop; some attended more than 1 workshop	Local CHIMACA coordinator, hospital manager, training reports	IDI	Meeting room of MCH hospital at county level/the interviewers' offices	4
		Women	Received care in selected township hospitals Include some women who have had 2 or more deliveries /	County MCH records, Local CHIMACA coordinator, village doctors	FGD (at least 5)	Meeting room of township hospitals	2

			pregnancies – one before intervention and one after intervention			
Lantian County	County level	Policy makers	leader of county Director of MCH in county health bureau Director of county MCH hospital Director of county NCMS office	Local CHIMACA coordinator and research team	Key informant interviews	4
	3.In-service training of Health education	Township hospital managers	Work in 10 selected townships	Local CHIMACA coordinator	FGD (5 managers)	1
		Township MCH workers (from each township)	Work in 10 selected townships Received training: some attended 1 workshop; some attended more than 1 workshop	Local CHIMACA coordinator, hospital managers, training reports	FGD (5 MCH workers)	1
		Village doctors	Work in 10 selected townships	Local CHIMACA coordinator and township MCH doctors	FGD (5/6 village doctors)	2
		Women	Pregnancy after project start in 10 selected township Include some women who have had 2 or more deliveries / pregnancies – one before intervention and one after intervention	County MCH records, Local CHIMACA coordinator, village doctors,	FGD(6/5) IDI	2 2
	4.In-service training of Clinical skills	Township hospital managers	Work in 9 selected townships	Local CHIMACA coordinator	FGD (5 managers)	1
		County obstetric doctors	Work in 9 selected townships Received training: some attended 1 workshop; some attended more than 1 workshop	Local CHIMACA coordinator, hospital managers, training reports	IDI	2
		Township obstetric doctors	Received training: some attended 1 workshop; some attended more than 1 workshop	Local CHIMACA coordinator, hospital manager, training reports	FGD(5 doctors)	1
		Women	Received care in selected township hospitals Include some women who have had 2 or more deliveries / pregnancies – one before intervention and one after intervention	County MCH records, Local CHIMACA coordinator, village doctors	FGD(7/5)	2
	5. Control Group	None				

IDI = in depth interviews; FGD = focus group discussion

Annex 2. Report of the first training session from Anhui

Report compiled by: Tao Fangbiao, Huang Kun
Date of report: Nov. 13th, 2007

1. In-service training in Fanchang

Information of the training session

Type (HE/CS)	In-service training
Date	Sep. 24th – Sep. 27th, 2007
Duration	4 days
Aim	To improve theoretic knowledge and prctical skills in maternl care of township MCH workers

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health, Anhui Medical University	Laws and regulations on MCH in China
2	Jiang Xiaomin	Graduate student, resident physician	School of Public Health, Anhui Medical University	Key points of first prenatal check-up; Key points of prenatal re-examinations; Pregnant nutrition and drugs use; Management of high-risk pregnancy Diagnosis and treatment of pregnancy related illness and symptoms during pregnancy;
3	Xu xiaofeng	Associate chief physician	The 1st affiliated hospital of Anhui Medical University	Routine procedures during delivery and monitoring of the labor phases; Disposal of abnormal delivery; Diagnosis and treatment of postpartum hemorrhage
4	Long Xiang	Graduate student, attending physician	School of Public Health, Anhui Medical University	Postpartum physiological characteristics; Key points of postpartum health care; physical examinations, preventing infection, breastfeeding guidance, immunization for newborn, promotion of health education and mental health, et al
5	Zhang Anhui	Graduate student	School of Public Health, Anhui Medical University	Title of the lecture
6	Chen Suping	Associate chief physician	MCH station of Xuancheng County	Laws and regulations on MCH in China

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
2	Fanchang	Fanchang County	MCH station of Fanchang County	Technical secondary school	3.5	27/30	29/30		
3	Fanchang	Fanchang County	MCH station of Fanchang County	Junior college	7	27/30	30/30		
4	Fanchang	Di Gang	Di Gang township hospital	College	5	24/30	28/30		
5	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	3.5	20/30	28/30		
6	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	3	18/30	29/30		
7	Fanchang	Di Gang	Di Gang township hospital	College	3.5	17/30	19/30		
8	Fanchang	Di Gang	Di Gang township hospital	College	5	25/30	28/30		
9	Fanchang	Chi Sha	Chi Sha township hospital	Technical secondary school	3.5	28/30	29/30		
10	Fanchang	Chi Sha	Chi Sha township hospital	Junior college	7	29/30	30/30		
11	Fanchang	Chi Sha	Chi Sha township hospital	Junior college	3	29/30	30/30		
12	Fanchang	Heng Shan	Heng Shan township hospital	Technical secondary school	3	25/30	28/30		
13	Fanchang	Heng Shan	Heng Shan township hospital	Junior college	3	23/30	27/30		
14	Fanchang	Ma Ba	Ma Ba township hospital	Technical secondary school	4.25	28/30	-		
15	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	3.5	19/30	-		
16	Fanchang	E Shan	E Shan township hospital	Junior college	7	26/30	-		
17	Fanchang	Lu Nan	Lu Nan township hospital	Technical secondary school	4	29/30	-		
18	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	3.5	25/30	-		
19	Fanchang	Heng Shan	Heng Shan township hospital	Technical secondary school	3.5	20/30	-		
20	Fanchang	Fanchang County	MCH station of Fanchang County	Junior college	3	-	27/30		
21	Fanchang	Ma Ba	Ma Ba township hospital	Technical secondary school	3	-	29/30		
	Fanchang	Fanchang County	MCH station of Fanchang County	Technical secondary school	5				

(Note: number in pre-test and post-test means correct numbers / total numbers)

2. Health education in Xuancheng

Information of the training session

Type (HE/CS)	Health education
Date	Sep. 28th – Sep. 30th, 2007
Duration	3 days
Aim	To improve develop theoretic knowledge and prctical skills in maternl care of township MCH workers

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health, Anhui Medical University	Laws and regulations on MCH in China
2	Jiang Xiaomin	Graduate student, resident physician	School of Public Health, Anhui Medical University	Significance and key points of prenatal care; Importance and key points of delivery and postnatal care
3	Xu Shaojun	Lecturer	School of Public Health, Anhui Medical University	Theories of health education: basic skills and advising skills; Pregnant self-care and relative skills of health education
4	Long Xiang	Graduate student, attending phisician	School of Public Health, Anhui Medical University	Actual use of health education skills
5	Chen Suping	Associate chief physician	MCH station of Xuancheng County	Self-recognition of high risk pregnancy and relative skills of health education

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	12/21	17/21		
2	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	14/21	19/21		
3	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	14/21	19/21		
4	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	16/21	20/21		
5	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	15/21	19/21		
6	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	13/21	18/21		
7	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	14/21	19/21		
8	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	16/21	19/21		
9	Xuancheng	Zhou Wang	Village FP workers	Technical secondary school	-	12/21	15/21		
10	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	12/21	15/21		
11	Xuancheng	Zhou Wang	Village FP workers	High school	-	15/21	18/21		
12	Xuancheng	Zhou Wang	Village FP workers	Technical secondary school	-	14/21	17/21		

13	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	12/21	16/21
14	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	10/21	15/21
15	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	14/21	18/21
16	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	13/21	19/21
17	Xuancheng	Yang Xian	Village FP workers	Technical secondary school	4	13/21	17/21
18	Xuancheng	Shui Dong	Village FP workers	High school	-	14/21	17/21
19	Xuancheng	Shui Dong	Village FP workers	Technical secondary school	-	15/21	18/21
20	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	14/21	18/21
21	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	13/21	17/21
22	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	14/21	18/21
23	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	18/21	19/21
24	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	8/21	13/21
25	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	11/21	15/21
26	Xuancheng	Shui Dong	Village FP workers	Junior college	3	20/21	21/21
27	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	15/21	20/21
28	Xuancheng	Shui Dong	Village FP workers	High school	-	18/21	21/21
29	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	18/21	21/21
30	Xuancheng	Shui Dong	Village FP workers	High school	-	19/21	21/21
31	Xuancheng	Shui Dong	Village FP workers	High school	-	15/21	18/21
32	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	16/21	19/21
33	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	10/21	16/21
34	Xuancheng	Huang Du	Huang Du township hospital	Technical secondary school	4.5	15/21	19/21
35	Xuancheng	Han Ting	Han Ting township hospital	High school	0.75	12/21	17/21
36	Xuancheng	Shen Cun	Shen Cun township hospital	Junior high school	4	19/21	21/21
37	Xuancheng	Xi Kou	Xi Kou township hospital	Junior high school	3	19/21	20/21
38	Xuancheng	Xi Kou	Xi Kou township hospital	Technical secondary school	3	20/21	21/21
39	Xuancheng	Huang Du	Huang Du township hospital	Technical secondary school	3.8	17/21	21/21
40	Xuancheng	Shen Cun	Shen Cun township hospital	Technical secondary school	3.5	18/21	21/21
41	Xuancheng	Huang Du	Huang Du township hospital	Junior college	3.8	20/21	-
42	Xuancheng	Shen Cun	Shen Cun township hospital	Technical secondary school	3.5	19/21	-
43	Xuancheng	Han Ting	Han Ting township hospital	Junior college	3.25	16/21	-

44	Xuancheng	Xi Kou	Xi Kou township hospital	Technical secondary school	4	-	20/21
45	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	-	15/21
46	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	-	16/21
47	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	-	19/21
48	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	-	14/21
49	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	-	18/21

(Note: number in pre-test and post-test means correct numbers / total numbers)

Annex 3. Report of the second training session from Anhui

Report compiled by: Tao Fangbiao, Huang Kun
Date of report: Jan. 24th, 2008

1. In-service training in Fanchang

Information of the training session

Type (HE/CS)	In-service training
Date	Dec.21st to 23rd, 2007
Duration	3 days
Aim	To improve theoretic knowledge and practical skills in maternl care of township MCH workers, questions and answers of 1st session of training and practical work

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health, Anhui Medical University	Safety of mother and infants and evidence-based intervention during delivery Key points of prenatal check-ups; Pregnant nutrition and drugs use; Routine procedures during delivery and monitoring of the labor phases; Disposal of abnormal delivery Diagnosis and treatment of pregnancy related illness and symptoms during pregnancy Postpartum physiological characteristics; Key points of postpartum health care; physical examinations, preventing infection, breastfeeding guidance, immunization for newborn, promotion of health education and mental health, et al; High-risk pregnancy management, recognition and management of common illness after delivery
2	Jiang Xiaomin	Graduate student, resident physician	School of Public Health, Anhui Medical University	
3	Long Xiang	Graduate student, attending physician	School of Public Health, Anhui Medical University	

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Fanchang	Fanchang County	MCH station of Fanchang County	Junior college	7			Y	Y
2	Fanchang	Di Gang	Di Gang township hospital	College	5			Y	Y
3	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	3			Y	Y
4	Fanchang	Chi Sha	Chi Sha township hospital	Technical secondary school	3.5			Y	Y
5	Fanchang	Chi Sha	Chi Sha township hospital	Junior college	3			Y	Y

6	Fanchang	Heng Shan	Heng Shan township hospital	Junior college	3	Y	Y
7	Fanchang	E Shan	E Shan township hospital	Junior college	7	Y	Y
8	Fanchang	Lu Nan	Lu Nan township hospital	Technical secondary school	4	Y	Y
9	Fanchang	Ma Ba	Ma Ba township hospital	Technical secondary school	3	Y	Y

2. Health education in Xuancheng

Information of the training session

Type (HE/CS)	Health education
Date	Dec.24th to 25th, 2007
Duration	2 days
Aim	To improve develop theoretic knowledge and practical skills in maternl care of township MCH workers and village FP workers, questions and answers of 1st session of training and of practical work

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health Anhui Medical University	Safe motherhood and evidence-based intervention during delivery
2	Jiang Xiaomin	Graduate student, resident physician	School of Public Health Anhui Medical University	Significance and key points of prenatal care; Importance and key points of delivery and postnatal care
3	Xu Shaojun	Lecturer	School of Public Health Anhui Medical University	Theories of health education skills and use in practical antenatal health care service
4	Long Xiang	Graduate student, attending phisician	School of Public Health Anhui Medical University	Actual use of health education skills in postnatal health care service
5	Chen Suping	Associate chief physician	MCH station of Xuancheng County	Self-recognition of high risk pregnancy and relative skills of health education in delivery health care service

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Xuancheng	Yang Xian	Village FP workers	Junior high school	-			Y	Y
2	Xuancheng	Yang Xian	Village FP workers	Junior high school	-			Y	Y
3	Xuancheng	Yang Xian	Village FP workers	Junior high school	-			Y	Y
4	Xuancheng	Yang Xian	Village FP workers	Junior high school	-			Y	Y
5	Xuancheng	Shui Dong	Village FP workers	Junior high school	-			Y	Y
6	Xuancheng	Shui Dong	Village FP workers	Junior high school	-			Y	Y
7	Xuancheng	Shui Dong	Village FP workers	Junior high school	-			Y	Y
8	Xuancheng	Shui Dong	Village FP workers	Junior high school	-			Y	Y
9	Xuancheng	Zhou Wang	Village FP workers	Technical secondary school	-			Y	Y
10	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-			Y	Y
11	Xuancheng	Zhou Wang	Village FP workers	High school	-			Y	Y

12	Xuancheng	Zhou Wang	Village FP workers	Technical secondary school	-	Y	Y
13	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	Y	Y
14	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	Y	Y
15	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	Y	Y
16	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	Y	Y
17	Xuancheng	Yang Xian	Village FP workers	Technical secondary school	4	Y	Y
18	Xuancheng	Shui Dong	Village FP workers	High school	-	Y	Y
19	Xuancheng	Shui Dong	Village FP workers	Technical secondary school	-	Y	Y
20	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	Y	Y
21	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	Y	Y
22	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	Y	Y
23	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	Y	Y
24	Xuancheng	Shui Dong	Village FP workers	Junior college	3	Y	Y
25	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	Y	Y
26	Xuancheng	Shui Dong	Village FP workers	High school	-	Y	Y
27	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	Y	Y
28	Xuancheng	Shui Dong	Village FP workers	High school	-	Y	Y
29	Xuancheng	Shui Dong	Village FP workers	High school	-	Y	Y
30	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	Y	Y
31	Xuancheng	Huang Du	Huang Du township hospital	Technical secondary school	3.8	Y	Y
32	Xuancheng	Shen Cun	Shen Cun township hospital	Technical secondary school	3.5	Y	Y
33	Xuancheng	Han Ting	Han Ting township hospital	Junior college	3.25	Y	Y
34	Xuancheng	Xi Kou	Xi Kou township hospital	Technical secondary school	4	Y	Y
35	Xuancheng	Yang Xian	Village FP workers	Junior high school	-	Y	Y
36	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	Y	Y
37	Xuancheng	Gu Quan	Village FP workers	Junior high school	-	Y	Y
38	Xuancheng	Shui Dong	Village FP workers	Junior high school	-	Y	Y
39	Xuancheng	Zhou Wang	Village FP workers	Junior high school	-	N	Y

Note: there is no pre-post tests this time

Annex 4. Report of the third training session from Anhui

Report compiled by: Tao Fangbiao, Huang Kun, Xiao Yanan
Date of report: Aug. 10th, 2008

1. In-service training in Fanchang

Information of the training session

Type (HE/CS)	In-service training
Date	Jun.27th to 28th, 2008
Duration	2 days
Aim	To strengthen training effect on maternal health care to township MCH workers, add some interesting contents according to trainees' feedback, questions and answers of 1st session of training and practical work

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health, Anhui Medical University	New evidence of maternal and child health
2	Sun Ying	Lecturer	School of Public Health, Anhui Medical University	Newborn health care
3	Sun Meiguo	Lecturer	Dept. of gynaecology and obstetrics, 1st affiliated Hospital of AMU	Companion during labor; Observation and disposal of abnormal occurrence; Referral of high-risk pregnancies
4	Jiang Xiaomin	Graduate student, resident physician	School of Public Health, Anhui Medical University	Recognition of pregnancy common symptom; Diagnosis and treatment of high-risk pregnancy
5	Long Xiang	Graduate student, attending physician	School of Public Health, Anhui Medical University	Self-development improvement
6	Zhang Anhui	Graduate student	School of Public Health, Anhui Medical University	Newborn resuscitation and practice

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Fanchang	Chi Sha	Chisha township hospital	Junior college	10	79	82	Y	N
2	Fanchang	Fan Yang	Fan Yang township hospital	College	3	86	93	N	N
3	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	2	75	89	N	N
4	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	7	75	93	N	N
5	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	9	71	93	N	N

6	Fanchang	Fan Yang	Fan Yang township hospital	Technical secondary school	3	79	93	N	Y
7	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	3	57	82	N	N
8	Fanchang	Lu Nan	Lu Nan township hospital	Technical secondary school	4	86	93	Y	Y
9	Fanchang	Ma Ba	Ma Ba township hospital	Technical secondary school	20	71	86	N	N
10	Fanchang	Ma Ba	Ma Ba township hospital	Technical secondary school	3	75	86	Y	Y
11	Fanchang	Di Gang	Di Gang township hospital	College	1	68	86	Y	Y
12	Fanchang	Di Gang	Di Gang township hospital	Junior college	8	82	93	N	N
13	Fanchang	Di Gang	Di Gang township hospital	Technical secondary school	9	47	79	Y	Y
14	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	26	68	86	N	N
15	Fanchang	Heng Shan	Heng Shan township hospital	Junior college	3	75	86	Y	N
16	Fanchang	Heng Shan	Heng Shan township hospital	Technical secondary school	17	82	82	Y	Y
17	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	1	40	86	N	N
18	Fanchang	Fan Yang	Fan Yang township hospital	Junior college	3	68	82	N	N
19	Fanchang	E Shan	E Shan township hospital	Junior college	7	68	82	Y	Y

2. Health education in Xuancheng

Information of the training session

Type (HE/CS)	Health education
Date	Jun.29th to 30th, 2008
Duration	2 days
Aim	To strengthen training effect on health education to township MCH workers and village FP workers, add some interesting contents according to trainees' feedback, questions and answers encountered during actual work

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tao Fangbiao	Professor	School of Public Health Anhui Medical University	New evidence of maternal and child health
2	Sun Ying	Lecturer	School of Public Health Anhui Medical University	Child health care
3	Jiang Xiaomin	Graduate student, resident physician	School of Public Health Anhui Medical University	Care about the future mother
4	Zhang Anhui	Graduate student	School of Public Health Anhui Medical University	Identification and treatment of high-risk infants
5	Long Xiang	Graduate student, attending phisician	School of Public Health Anhui Medical University	Self-development improvement

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Xuancheng	Shui Dong	Village FP workers	High school	18	86	93	N	N
2	Xuancheng	Shui Dong	Village FP workers	Junior high school	17	71	86	N	N
3	Xuancheng	Yang Xian	Village FP workers	Junior high school	13	36	68	Y	Y
4	Xuancheng	Yang Xian	Village FP workers	Junior high school	10	57	86	Y	Y
5	Xuancheng	Zhou Wang	Village FP workers	High school	20	54	68	Y	Y
6	Xuancheng	Yang Xian	Village FP workers	Junior high school	25	36	54	Y	Y
7	Xuancheng	Yang Xian	Village FP workers	Technical secondary school	4	68	93	Y	Y
8	Xuancheng	Yang Xian	Village FP workers	Junior high school	14	61	86	Y	Y
9	Xuancheng	Shui Dong	Village FP workers	Junior high school	6	64	86	N	N
10	Xuancheng	Shui Dong	Village FP workers	High school	24	75	93	N	N
11	Xuancheng	Yang Xian	Village FP workers	Junior high school	18	36	68	Y	Y
12	Xuancheng	Yang Xian	Village FP workers	Junior high school	20	50	86	Y	Y
13	Xuancheng	Shui Dong	Village FP workers	High school	21	61	86	Y	Y
14	Xuancheng	Huang Du	Huang Du township hospital	High school	23	75	93	Y	Y
15	Xuancheng	Shen Cun	Village FP workers	Technical secondary school	10	86	93	Y	Y
16	Xuancheng	Xi Kou	Village FP workers	Technical secondary school	8	86	93	Y	Y
17	Xuancheng	Huang Du	Huang Du township hospital	Technical secondary school	14	68	86	Y	Y
18	Xuancheng	Yang Xian	Village FP workers	Junior high school	4	39	75	Y	Y
19	Xuancheng	Shui Dong	Village FP workers	Technical secondary	20	75	93	Y	Y

				school					
20	Xuancheng	Shui Dong	Village FP workers	High school	26	36	75	Y	Y
21	Xuancheng	Yang Xian	Village FP workers	Junior high school	24	64	75	Y	Y
22	Xuancheng	Yang Xian	Village FP workers	High school	22	50	75	Y	Y
23	Xuancheng	Yang Xian	Village FP workers	Junior high school	1	50	86	Y	Y
24	Xuancheng	Yang Xian	Village FP workers	High school	13	71	86	Y	Y
25	Xuancheng	Xi Kou	Xikou township hospital	Technical secondary school	16	57	75	Y	Y
26	Xuancheng	Yang Xian	Village FP workers	Junior high school	16	32	68	Y	Y
27	Xuancheng	Yang Xian	Village FP workers	High school	13	46	86	Y	Y
28	Xuancheng	Gu Quan	Village FP workers	Junior high school	4	57	75	Y	Y
29	Xuancheng	Zhou Wang	Village FP workers	Junior high school	22	54	75	Y	Y
30	Xuancheng	Zhou Wang	Village FP workers	High school	18	61	86	Y	Y
31	Xuancheng	Zhou Wang	Village FP workers	High school	15	71	86	Y	Y
32	Xuancheng	Shen Cun	Shen Cun township hospital	High school	21	86	93	Y	Y
33	Xuancheng	Zhou Wang	Village FP workers	Junior high school	11	71	86	Y	Y
34	Xuancheng	Gu Quan	Village FP workers	Junior high school	18	75	93	Y	Y
35	Xuancheng	Gu Quan	Village FP workers	Junior high school	9	71	93	Y	Y
36	Xuancheng	Gu Quan	Village FP workers	Junior high school	8	75	86	Y	Y
37	Xuancheng	Zhou Wang	Village FP workers	Junior high school	18	57	68	Y	Y
38	Xuancheng	Gu Quan	Village FP workers	Junior college	9	64	86	Y	Y
39	Xuancheng	Gu Quan	Village FP workers	High school	13	46	75	N	Y
40	Xuancheng	Yang Xian	Village FP workers	Junior high school	22	36	75	Y	Y
41	Xuancheng	Yang Xian	Village FP workers	Junior high school	24	57	75	Y	Y
42	Xuancheng	Han Ting	Hanting township hospital	High school	29	50	75	Y	Y
43	Xuancheng	Shui Dong	Village FP workers	Junior high school	22	82	86	Y	Y
44	Xuancheng	Shui Dong	Village FP workers	Junior high school	8	86	93	Y	Y
45	Xuancheng	Shui Dong	Village FP workers	High school	8	89	93	Y	Y
46	Xuancheng	Shui Dong	Village FP workers	High school	10	75	93	N	N
47	Xuancheng	Zhou Wang	Village FP workers	Junior high school	13	32	75	Y	Y
48	Xuancheng	Shui Dong	Village FP workers	Junior high school	12	57	75	Y	Y
49	Xuancheng	Shui Dong	Village FP workers	Junior high school	7	43	68	Y	Y

Annex 5. Report of the first training session from Chongqing

Report compiled by: Chen Qing
Date of report: Nov. 22, 2007

Information of the training session

Type (HE/CS)	CS
Date	Oct. 20, 2007-Oct. 23, 2007
Duration	Three days
Aim	To improve the carrier skills of village doctors

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Xu Xiaoyang	Associate Professor / Postgraduate	School of Public Health, Chongqing Medical University (CQMU)	Antenatal health care and postnatal health care
2	Dong Xiaojing	Associate Professor / Doctor	2nd Affiliated Hospital of CQMU	Midwifery
3	Wang Hong	Associate Professor	School of Public Health, CQMU	MCH related laws, rules and regulations; The duty of each level; Communication skill.
4	Long Min	Director	Rongchang MCH centre	Registered data

Information of the trainees

	Name	County	Township	Workplace (village)	Degree	Years of medical education	Pre-test	Post-test	Participationof the first training session	Participationof the second training session
1	Cheng Guangrong	Rongchang	Renyi	Yongling	other	1	3	16	(will need in	(will need in
2	Gu Qinghua	Rongchang	Renyi	Xindian	other	3	9	25	the second	the third
3	Guo Ruhua	Rongchang	Renyi	Yaoshan	other	3	12	22	and third	session)
4	Liu Fenglian	Rongchang	Renyi	Luogu	primary	3	9	25	session)	
5	Li Zhangkui	Rongchang	Renyi	Luzi	primary	3	12	22		
6	Li Gongying	Rongchang	Renyi	/	other	2	21	25		
7	Li Chengyou	Rongchang	Renyi	Xinbao	other	0.6	10	24		
8	Liao Yuanbing	Rongchang	Renyi	Guangji	secondary	2	10	24		
9	Luo Fuju	Rongchang	Renyi	Zhenghua	primary	1	10	19		
10	Luo Hua	Rongchang	Renyi	Wuli	other	3	11	22		
11	Liu Yiju	Rongchang	Renyi	Shanqi	other	3	16	24		
12	Tang Jianzhe	Rongchang	Renyi	Jinzu	other	0.5	6	21		
13	Wang Xingqin	Rongchang	Renyi	Shuikou	other	3	10	13		
14	Xu Zhili	Rongchang	Renyi	/	primary	3	21	26		
15	Yang Zhonghui	Rongchang	Renyi	Heping	primary	3	7	24		
16	Zhou Mengying	Rongchang	Renyi	/	primary	3	21	27		
17	Zhang Wenfu	Rongchang	Renyi	Dubo	other	3	11	19		
18	Zhong	Rongchang	Renyi	Yaoshi	primary	3	9	22		

	Guohua							
19	Zhang Anzhong	Rongchang	Renyi	Shitizi	other	0	10	24
20	Zeng Weiquan	Rongchang	Renyi	Shanxing	primary	3	7	19
21	Tang Liangjin	Rongchang	Renyi	Tiandeng	other	3	7	19
22	Li Mengqun	Rongchang	Guangshun	Dachong	primary	3	22	25
23	Huang Yan	Rongchang	Guangshun	/	primary	3	21	26
24	Huang Changmei	Rongchang	Guangshun	/	other	5	22	25
25	Lei Ling	Rongchang	Guangshun	Lijiaping	other	3	14	26
26	Zhou Xingrong	Rongchang	Guangshun	Yanhe	primary	3	14	26
27	Jiang Kaiming	Rongchang	Guangshun	Gongnong	primary	3	5	18
28	Zhang Xiancai	Rongchang	Guangshun	Tianchang	primary	3	6	22
29	Li Yumei	Rongchang	Guangshun	Liuba	primary	3	18	25
30	Liu Xuoquan	Rongchang	Guangshun	Longxing	primary	3	2	22
31	Xie Dezhi	Rongchang	Guangshun	Gaojia		3	.	22
32	Li Xiangzhi	Rongchang	Panlong	Banhe	primary	2	4	17
33	Wen Qingrong	Rongchang	Panlong	Guihua	primary	3	10	24
34	Cai Changqun	Rongchang	Panlong	Longxing	primary	3	4	23
35	Liu Yousu	Rongchang	Panlong	Hexin	primary	3	11	24
36	Li Xiaoju	Rongchang	Panlong	Hejing	primary	0	17	21
37	Yin Changwen	Rongchang	Panlong	Guqiang	other	0	2	22
38	Zheng Ruokun	Rongchang	Panlong	Shitian	primary	2	14	20
39	Wang Chaowen	Rongchang	Panlong	Longwang	other	0	4	15
40	Zhou Lunxian	Rongchang	Panlong	Shanhe	other	3	15	25
41	Zhang Derong	Rongchang	Panlong	Hemiao	primary	0	3	13
42	Yang Wanping	Rongchang	Panlong	Lianhua	primary	0	10	24
43	Huang Zuju	Rongchang	Panlong	Dajian	primary	2	17	27
44	Li Kaili	Rongchang	Panlong	/	primary	3	18	24
45	Duan Pingchao	Rongchang	Panlong	Yuntai	primary	0	9	20
46	Zhang Changsheng	Rongchang	Panlong	Qilong	primary	0	9	15
47	Zhang Yu	Rongchang	Panlong	Gongqiao	primary	2	14	24
48	Peng Fayan	Rongchang	Panlong	/		3	.	25
49	Li Xue wen	Rongchang	Panlong	Jiangjing		0	.	18
50	Li Qihua	Rongchang	Panlong	Jiangjing		0	.	14
51	Li Jingzhi	Rongchang	Panlong	Yongling		2	.	19
52	Shi Hui	Rongchang	Panlong	/		3	.	28
53	Zhu Liangquan	Rongchang	Panlong	Dacheng		2	.	14
54	He Jundian	Rongchang	Qingsheng	Manxiaoqiao	secondary	2	15	25

55	Luo Daorong	Rongchang	Qingsheng	Shanjiaoshi	other	2	9	26
56	Chen Zhuming	Rongchang	Qingsheng	/	secondary	2	16	22
57	Peng Jiubo	Rongchang	Qingsheng	Nanmu	other	0	13	20
58	Luo Bing	Rongchang	Qingsheng	Shanchengyan	other	2	14	25
59	Xia Xiaoyan	Rongchang	Qingsheng	Huoshaoyan	secondary	2	17	23
60	Zhang Xiuqin	Rongchang	Qingsheng	Luohanshi		2	.	22
61	Wang Xiaoyan	Rongchang	Guansheng	/	other	5	17	23
62	Luo Guiqin	Rongchang	Guansheng	Qiaoting	other	3	14	24
63	Deng Shenfu	Rongchang	Guansheng	Yinhe	other	7	18	22
64	Tang Qilin	Rongchang	Guansheng	Qutang	other	4	15	21
65	Yu Jun	Rongchang	Guansheng	Xuyou	other	3	13	23
66	Lei Hongjun	Rongchang	Guansheng	Shanfeng		3	.	19
67	Li Chengjun	Rongchang	Guansheng	Baita		3	.	21
68	Zhang Debing	Rongchang	Guansheng	Liangping		3	.	21
69	Dai Xu	Rongchang	Guchang	Hefeng	primary	3	7	20
70	Xia Xiuqiang	Rongchang	Guchang	Yudai	primary	3	15	23
71	Yang Xiaohu	Rongchang	Guchang	Chongfeng	primary	3	9	21
72	Guo Xiheng	Rongchang	Guchang	Jingyu	primary	3	15	25
73	He Wei	Rongchang	Guchang	Xinmin	other	3	15	23
74	Liu Min	Rongchang	Guchang	/	primary	3	25	28
75	Leng Feng	Rongchang	Guchang	Shengjiagou	primary	3	14	25
76	Sheng Yougang	Rongchang	Guchang	Shengjiagou	primary	3	16	20
77	Zhou Bangjin	Rongchang	Guchang	Baihetang	secondary	3	12	24
78	He Renjie	Rongchang	Guchang	/		3	4	6
79	Shu Jiaqiong	Rongchang	Guchang	/		3	.	24

Report compiled by: Chen Qing
Date of report: Nov. 22, 2007

Information of the training session

Type (HE/CS)	HE
Date	Oct. 24, 2007-Oct. 25, 2007
Duration	Two days
Aim	To improve the health education skills of village doctors

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tang Xiaojun	Associate Professor/Master	School of Public Health, CQMU	Health education of pregnent health care
2	Wang Hong	Associate Professor / Master	School of Public Health, CQMU	MCH related laws, rules and regulations; The duty of each level.
3	Long Min	Director	Rongchang MCH centre	Registered data

Information of the trainees

	Name	County	Township	Workplace (village)	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Luo Daoqiong	Rongchang	Hebao		4	17	25	(will need in	(will need in
2	Li Yuantao	Rongchang	Hebao		3	19	25	the second	the third
3	Liu Wenrong	Rongchang	Hebao		3	22	24	and third	session)
4	Tang Min	Rongchang	Hebao	Daxing	3	16	25	session)	
5	Guo Yongli	Rongchang	Hebao	Xiaotao	3	.	22		
6	Wang Liangjun	Rongchang	Hebao	Jingtang	3	.	24		
7	Chen Jiugao	Rongchang	Hebao	Qinghua	3	.	24		
8	Mali	Rongchang	Qingliu			13	25		
9	Deng Yinhai	Rongchang	Qingliu	Jishi		.	27		
10	Xia Chuan	Rongchang	Qingliu	Longjingmiao	3	.	26		
11	Ao Gang	Rongchang	Qingliu	Macao	3	.	26		
12	Lin Famao	Rongchang	Qingliu		3	.	26		
13	Guo Ruyu	Rongchang	Shuanghe			21	25		
14	Tang Zhuyong	Rongchang	Shuanghe	Laojunmiao	3	19	27		
15	Tan Xiaoqing	Rongchang	Shuanghe	Shandoushu	3	15	23		
16	Jiang Xiangying	Rongchang	Shuanghe	Wangjiaba	3	16	26		
17	Yi Youjun	Rongchang	Shuanghe	Shanbukan	3	17	23		
18	Duan Taojun	Rongchang	Shuanghe	Paishanao	3	18	26		
19	DengYuanju	Rongchang	Shuanghe	Xujiagou	3	15	23		
20	Jiangjun	Rongchang	Shuanghe	Tuli	3	19	26		
21	Xie Defu	Rongchang	Shuanghe	Xianghsui	3	20	25		
22	Lan Shiyu	Rongchang	Shuanghe		3	24	26		
23	Yang Duoxiu	Rongchang	Shuanghe	Meishiba	3	20	24		
24	Ren Yongbiao	Rongchang	Shuanghe	Tielu	3	22	27		
25	Lin Fugui	Rongchang	Shuanghe	Lanfeng	3	17	22		
26	Cheng Luohai	Rongchang	Shuanghe	Qianfo	3	20	26		
27	Huang Qijian	Rongchang	Shuanghe	Dashibao	3	23	26		
28	Tang Qixiang	Rongchang	Shuanghe		3	16	.		
29	Sheng Xingbing	Rongchang	Shuanghe	Luanbao	3	17	.		
30	Mao Xiaobo	Rongchang	Shuanghe		3	.	25		

31	Zhao Lijing	Rongchang	Lukong			20	23
32	Li Zhaomin	Rongchang	Lukong	Wanling	3	15	23
33	Zhou Lanling	Rongchang	Lukong	Yuding	1	18	22
34	Zhang Shenwen	Rongchang	Lukong	Erlang	3	21	25
35	Cheng Yanfei	Rongchang	Lukong	Shangshu	3	14	22
36	Tang Yuanjian	Rongchang	Lukong	Shabao	3	.	25
37	Xie Rongzhong	Rongchang	Tonggu	Longjiachong		21	25
38	Duan Zuokui	Rongchang	Tonggu	Fushan	3	18	26
39	Tang Jun	Rongchang	Tonggu	Gonghe	3	14	22
40	Wang Huabing	Rongchang	Tonggu	Wanfuqiao	3	13	19
41	Yang Zhuanqiong	Rongchang	Tonggu	Liuji	3	15	15
42	Zhu Yuankui	Rongchang	Tonggu		3	19	25
43	Yang Xiuhai	Rongchang	Tonggu	Fuqiao	0	.	18
44	Huang Jifeng	Rongchang	Anfu			22	26
45	Long Zhangying	Rongchang	Anfu	Dayuan	3	19	26
46	Lin Judong	Rongchang	Anfu	Shahe	3	19	26
47	Luo Shimin	Rongchang	Anfu	Shiyan	3	17	24
48	Zhou Banglian	Rongchang	Anfu	Putuo	6	18	28
49	Xian Daoqin	Rongchang	Anfu		4	24	26
50	Zheng Guojun	Rongchang	Anfu	Guqiao	3	20	28
51	Luo Hongmei	Rongchang	Anfu	Yakou	3	19	25
52	Zhou Xianlong	Rongchang	Anfu	Liwan	3	23	21
53	Luo Fufang	Rongchang	Anfu	Tongan	6	18	27
54	Wang Yan	Rongchang	Anfu	Banzu	3	10	23
55	Chen Hong	Rongchang	Anfu	Hongmiao	3	20	26
56	Xu Wanfang	Rongchang	Anfu	Xibutan	3	14	24
57	Ye Zhaozheng	Rongchang	Anfu	Dayuan	3	.	27
58	Li Guiju	Rongchang	Ronglong	Huapu		15	22
59	Liao Neng	Rongchang	Ronglong	Folingshi	3	17	22
60	He Tao	Rongchang	Ronglong	Kaiyuan	3	16	23
61	Zeng Chaoyon	Rongchang	Ronglong	Kaiyuan	3	20	26

	g						
62	Xia Fangdong	Rongchang	Ronglong	Xianfeng	3	12	19
63	Yang Jiahua	Rongchang	Ronglong	Shabazi	3	11	21
64	Zheng Kaiqiong	Rongchang	Ronglong	Yanshan	3	13	23
65	Duan Jinping	Rongchang	Ronglong		3	21	26
66	Feng Guangcheng	Rongchang	Ronglong	Boxiang	3	12	22
67	Li Huaquan	Rongchang	Ronglong	Folingshi	3	18	23
68	Yang Jialun	Rongchang	Ronglong	Huangping	3	16	26
69	Yang Li	Rongchang	Ronglong		3	22	27
70	Tang Kaihua	Rongchang	Ronglong	Gaotian	3	13	21
71	Guo Rudong	Rongchang	Ronglong	Geqiao	3	22	.
72	He Xianjun	Rongchang	Ronglong	Guoyuan	3	15	.
73	Li Shengxian	Rongchang	Ronglong	Taiping	3	.	27

Annex 6. Report of the second training session from Chongqing

Report compiled by: Zhang Zhuan, Chongqing Medical University
Date of report: March 5, 2008

Information of the training session

Type (HE/CS)	HE
Date	Jan 16, 2008
Duration	One day
Aim	Review and improve the knowledge and skill for health education of health workers who accepted training in the first training session Discuss the problems discovered during the field visit and put forward strategies and suggestions to improving the performance

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Tang Xiaojun	Associate professor	School of Public Health, CQMU	1. Rule and law related maternal health care 2. Pregnant and circumnatal period health care
2	Long Qian	Teaching assistant	School of Public Health, CQMU	Intervention and Supervision
3	Long Min	Physician	Rongchang maternal and children hospital , Chongqing	Data collection

Information of the trainees

	Name	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Chen Hong	Rongchang	Anfu	Village clinic	Junior	Missing	21	23	Y	
2	Huang Jifeng	Rongchang	Anfu	Township hospital	Junior	Missing	24	28	Y	Y
3	Lin Judong	Rongchang	Anfu	Village clinic	Junior	3	22	28	Y	Y
4	Luo Fufang	Rongchang	Anfu	Village clinic	Junior	Missing	24	26	Y	Y
5	Luo Hongmei	Rongchang	Anfu	Village clinic	Junior	3	23	28	Y	Y
6	Luo Shimin	Rongchang	Anfu	Village clinic	Median	3	24	27	Y	Y
7	Wang Yan	Rongchang	Anfu	Village clinic	Median	3	22	27	Y	Y
8	Xu Wanfang	Rongchang	Anfu	Village clinic	Junior	3	20	22	Y	Y
9	Ye Zhaozheng	Rongchang	Anfu	Village clinic	missing	missing		24	Y	Y
10	Zheng Guojun	Rongchang	Anfu	Village clinic	Junior	0	25	24	Y	Y
11	Zhou Banglian	Rongchang	Anfu	Village clinic	Junior	3	25	28	Y	Y
12	Zhou Xianfeng	Rongchang	Anfu	Village clinic	Junior	Missing	20	22	N	Y
13	Chen Jiugao	Rongchang	Hebao	Village clinic	Median	4	25	20	Y	Y
14	Li Yuntao	Rongchang	Hebao	Township hospital	Junior	3	22	26	Y	Y
15	Liu Wenchun	Rongchang	Hebao	Township hospital	Junior	3	21	20	Y	Y
16	Luo Daoqiong	Rongchang	Hebao	Township hospital	Junior	4	21	26	Y	Y
17	Tang Min	Rongchang	Hebao	Village clinic	Other	3	20	22	Y	Y
18	Wang Liangjun	Rongchang	Hebao	Village clinic	Senior	3	23	25	Y	Y
19	Yang Hu	Rongchang	Hebao	Village clinic	Junior	3	25	22	N	Y
20	Chen Yanfei	Rongchang	Lukong	Village clinic	Junior	2	24	27	Y	Y

21	Li Zhaomin	Rongchang	Lukong	Village clinic	Junior	2	23	24	Y	Y
22	Tang Yuanjian	Rongchang	Lukong	Village clinic	missing	missing		27	Y	Y
23	Zhang Shenwen	Rongchang	Lukong	Village clinic	Junior	3	23	24	Y	Y
24	Zhao Lijing	Rongchang	Lukong	Township hospital	Junior	Missing	27	28	Y	Y
25	Zhou Shizhu	Rongchang	Lukong	Village clinic	Junior	2	25	21	N	Y
26	Zhang Changqun	Rongchang	Qingliu	Township hospital	Junior	3	21	24	N	Y
27	Duan Jinping	Rongchang	Ronglong	Village clinic	Junior	Missing	23	25	Y	Y
28	Guo Rudong	Rongchang	Ronglong	Village clinic	Junior	Missing	22	25	Y	Y
29	He Tao	Rongchang	Ronglong	Village clinic	Junior	2	18	22	Y	Y
30	He Chunjun	Rongchang	Ronglong	Village clinic	Junior	3	13	24	Y	Y
31	Li Guiju	Rongchang	Ronglong	Village clinic	Junior	missing	18	24	Y	Y
32	Liao Neng	Rongchang	Ronglong	Village clinic	Junior	3	19	26	Y	Y
33	Lv Fenggang	Rongchang	Ronglong	Village clinic	Junior	3	20	24	N	Y
34	Pan Sijun	Rongchang	Ronglong	Village clinic	Junior	missing	20	24	N	Y
35	Tang Kaihua	Rongchang	Ronglong	Village clinic	Junior	3	17	26	Y	Y
36	Xia Wendong	Rongchang	Ronglong	Village clinic	Junior	3	18	17	Y	Y
37	Yang Jiahua	Rongchang	Ronglong	Village clinic	Junior	4	16	20	Y	Y
38	Yang Jialun	Rongchang	Ronglong	Village clinic	missing	missing		25	Y	Y
39	Yang Li	Rongchang	Ronglong	Township hospital	Junior	4	23	25	Y	Y
40	Yang Zonglun	Rongchang	Ronglong	Village clinic	Junior	4	21		Y	Y
41	Zheng Kaiqiong	Rongchang	Ronglong	Village clinic	Junior	3	19	24	Y	Y
42	Cheng Luomei	Rongchang	Shuanghe	Village clinic	Median	Missing	19	23	Y	Y
43	Deng Yuanju	Rongchang	Shuanghe	Village clinic	Median		20	23	Y	Y
44	Duan Taodan	Rongchang	Shuanghe	Village clinic	Junior	Missing	20	26	Y	Y
45	Guo Xiaoming	Rongchang	Shuanghe	Township hospital	Junior	Missing	17	25	N	Y
46	Huang Qijian	Rongchang	Shuanghe	Village clinic	Median	Missing	21	23	Y	Y
47	Jiang Jun	Rongchang	Shuanghe	Township hospital	Junior	3	21	27	Y	Y
48	Jiang Xiangying	Rongchang	Shuanghe	Village clinic	Junior	3	23	25	Y	Y
49	Lan Shiyu	Rongchang	Shuanghe	Township hospital	Junior	3	25	27	Y	Y
50	Lin Fugui	Rongchang	Shuanghe	Village clinic	Median	Missing	21	23	Y	Y
51	Sheng Xingbin	Rongchang	Shuanghe	Village clinic	Median	2	20	21	Y	Y
52	Tan Xiaoqing	Rongchang	Shuanghe	Village clinic	Junior	Missing	22		Y	Y
53	Tang Bo	Rongchang	Shuanghe	Village clinic	missing	missing		24	N	Y
54	Tang Qixiang	Rongchang	Shuanghe	Village clinic	Median	missing	21	24	Y	Y
55	Tang Yuanjian	Rongchang	Shuanghe	Village clinic	Junior	Missing	26		N	Y
56	Tang Zuyong	Rongchang	Shuanghe	Village clinic	Junior	missing	21	25	Y	Y
57	Wu Shuibiao	Rongchang	Shuanghe	Village clinic	Junior	3	22	28	N	Y
58	Yang Duoxiu	Rongchang	Shuanghe	Village clinic	Median	missing	22	25	Y	Y
59	Yi Youjun	Rongchang	Shuanghe	Village clinic	Junior	3	22	25	Y	Y
60	Duan Zuokui	Rongchang	Tonggu	Village clinic	Junior	3	23	23	Y	Y
61	Tang Jun	Rongchang	Tonggu	Village clinic	Other	3	17	23	Y	Y
62	Wang Huabin	Rongchang	Tonggu	Village clinic	Junior	3	23		Y	Y
63	Xie	Rongchang	Tonggu	Village clinic	Junior	Missing	18	26	Y	Y

64	Rongzhong Yang Xiuhai	Rongchang	Tonggu	Village clinic	Junior	0	23	23	Y	Y
65	Yang	Rongchang	Tonggu	Village clinic	Junior	3	18	21	Y	Y
66	Zhuanqiong Zhu Yuanzhong	Rongchang	Tonggu	Township hospital	Junior	Missing	21	23	N	Y

Annex 7. Report of the first training session from Shaanxi

Report compiled by: Shengbin Xiao
Date of report: November 11th, 2007

Information of the training session

Type (HE/CS)	In-service training in Zhen' an county
Date	From October 12th to 15th, 2007
Duration	4 days
Aim	To improve the clinic operating skills of the obstetrical doctors in township hospitals

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Qun Qu	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care and during delivery care
2	Xinwen Zhang	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Postpartum care
3	Ying Yu	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Postpartum care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Zhen'an	Yongle	obstetrics	technical secondary school	2			Y	
2	Zhen'an	Zhangjia	Obstetrics	junior college	6			Y	
3	Zhen'an	Yunzhen	Obstetrics	junior college	6			Y	
4	Zhen'an	Huangjiawang	Obstetrics	junior college	5			Y	
5	Zhen'an county	Miaogou	Obstetrics	junior college	6			Y	
6	Zhen'an	Caiping	Obstetrics	junior college	6			Y	
7	Zhen'an	Yushi	Obstetrics	junior college	5			Y	
8	Zhen'an	Qingtong	Obstetrics	junior college	6			Y	
9	Zhen'an	Xikou	Obstetrics	junior college	6			Y	
10	Zhen'an	Xigou	Obstetrics	technical secondary school	3			Y	
11	Zhen'an	Maoping	Obstetrics	technical secondary school	3			Y	

Information of the training session

Type (HE/CS)	In-service training in Lantian county
Date	From October 26th to 29th, 2007
Duration	4 days
Aim	To improve the clinic operating skills of the obstetrical doctors in townships hospital

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Qun Qu	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care and during delivery care
2	Xinwen Zhang	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	postpartum care
3	Ying Yu	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	postpartum care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Tangyu	obstetrics	technical secondary school	3			Y	
2	Lantian	Wangchuan	Obstetrics	junior college	3			Y	
3	Lantian	Fengjia	Obstetrics	technical secondary school	3			Y	
4	Lantian	Gongcun	Obstetrics	junior college	3			Y	
5	Lantian	Xiaozhai	Obstetrics	technical secondary school	3			Y	
6	Lantian	Jinshan	Obstetrics	technical secondary school	3			Y	
7	Lantian	Malou	Obstetrics	technical secondary school	3			Y	
8	Lantian	Dazhai	Obstetrics	junior college	3			Y	
9	Lantian	Yushan	Obstetrics	junior college	3			Y	
10	Lantian	Yushan	Obstetrics	technical secondary school	3			Y	

Information of the training session

Type (HE/CS)	Health education training in Lantian county
Date	From October 24th to 25th , 2007
Duration	2 days
Aim	To improve the health education skills of the MCH workers in township hospitals and village clinics

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Ying Yu	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal , during delivery and postpartum care
2	Jing Xu	Instructor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Skills of health education

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Bayuan	obstetrics	technical secondary school	3			Y	
2	Lantian	Lihou	Obstetrics	junior college	3			Y	
3	Lantian	Languan	Obstetrics	junior college	3			Y	
4	Lantian	Jiaodai	Obstetrics	technical secondary school	3			Y	
5	Lantian	Sanlizhen	Obstetrics	junior college	3			Y	
6	Lantian	Yehu	Obstetrics	junior college	3			Y	
7	Lantian	Lanqiao	Obstetrics	technical secondary school	3			Y	
8	Lantian	Puhua	Obstetrics	technical secondary school	3			Y	
9	Lantian	Gepa	Obstetrics	technical secondary school	3			Y	
10	Lantian	Hongxing	Obstetrics	junior college	3			Y	

Note: The trainees also include 148 MCH workers in village clinics in the above 10 townships.

Annex 8. Report of the second training session from Shaanxi

Report compiled by: Shen Yuan, Shengbin Xiao
Date of report: July 8th, 2008

Information of the training session

Type (HE/CS)	In-service training in Zhen' an county
Date	From June 21th to 22th , 2008
Duration	2 days
Aim	To improve the clinic operating skills of the obstetrical doctors in township hospitals

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Qun Qu	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care and during delivery care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Zhen'an	Yongle	MCH staff						
2	Zhen'an	Yongle	obstetrics	technical secondary school	2	N	N	Y	
3	Zhen'an	Zhangjia	Obstetrics	junior college	6	N	N	Y	
4	Zhen'an	Yunzhen	Obstetrics	junior college	6	N	N	Y	
5	Zhen'an	Huangjiawang	Obstetrics	junior college	5	N	N	Y	
6	Zhen'an	Miaogou	Obstetrics	junior college	6	N	N	Y	
7	Zhen'an	Miaogou	MCH staff						
8	Zhen'an	Caiping	Obstetrics	junior college	6	N	N	Y	
9	Zhen'an	Caiping	MCH staff						
10	Zhen'an	Yushi	Obstetrics	junior college	5	N	N	Y	
11	Zhen'an	Qingtong	Obstetrics	junior college	6	N	N	Y	
12	Zhen'an	Qingtong	MCH staff						
13	Zhen'an	Xikou	Obstetrics	junior college	6	N	N	Y	
14	Zhen'an	Xikou	MCH staff						
15	Zhen'an	Xigou	Obstetrics	technical secondary school	3	N	N	Y	
16	Zhen'an	Xigou	MCH staff						
17	Zhen'an	Longsheng	MCH staff						
18	Zhen'an	Longsheng	Obstetrics						
19	Zhen'an	Yuehe	MCH staff						
20	Zhen'an	Maoping	MCH staff						
21	Zhen'an	Maoping	Obstetrics	technical secondary school	3	N	N	Y	
22	Zhen'an	County hospital	Obstetrics						
23	Zhen'an	County MCH Hospital	Obstetrics						

Information of the training session

Type (HE/CS)	In-service training in Lantian county
Date	From May 21th to 23th, 2008
Duration	2 days
Aim	To improve the clinic operating skills of the obstetrical doctors in townships hospital

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Qun Qu	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care during delivery care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Tangyu	Obstetrics	technical secondary school	3	N	N	Y	(will need in the third session)
2	Lantian	Wangchuan	Obstetrics	junior college	3	N	N	Y	
3	Lantian	Fengjia	Obstetrics	technical secondary school	3	N	N	Y	
4	Lantian	Gongcun	Obstetrics	junior college	3	N	N	Y	
5	Lantian	Xiaozhai	Obstetrics	technical secondary school	3	N	N	Y	
6	Lantian	Jinshan	Obstetrics	technical secondary school	3	N	N	N	
7	Lantian	Malou	Obstetrics	technical secondary school	3	N	N	Y	
8	Lantian	Dazhai	Obstetrics	junior college	3	N	N	Y	
9	Lantian	Dazhai	Obstetrics	junior college	3	N	N	N	
10	Lantian	Yushan	Obstetrics	junior college	3	N	N	Y	
11	Lantian	Yushan	Obstetrics	technical secondary school	3	N	N	Y	

Information of the training session

Type (HE/CS)	Health education training in Lantian county
Date	From May 24th to 25th, 2008
Duration	1 days
Aim	To improve the health education skills of the MCH workers in township hospitals and village clinics

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Xinwen Zhang	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal , during delivery and postpartum care Skills of health education

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Bayuan	obstetrics	technical secondary school	3	N	N	Y	(will need in the third session)
2	Lantian	Lihou	Obstetrics	junior college	3	N	N	Y	
3	Lantian	Languan	Obstetrics	junior college	3	N	N	Y	
4	Lantian	Jiaodai	Obstetrics	technical secondary school	3	N	N	Y	
5	Lantian	Sanlizhen	Obstetrics	junior college	3	N	N	Y	
6	Lantian	Yehu	Obstetrics	junior college	3	N	N	Y	
7	Lantian	Lanqiao	Obstetrics	technical secondary school	3	N	N	Y	
8	Lantian	Puhua	Obstetrics	technical secondary school	3	N	N	Y	
9	Lantian	Gepai	Obstetrics	technical secondary school	3	N	N	Y	

Note: The trainees also include 120 MCH workers in village clinics in the above 9 townships.

Annex 9. Report of the third training session from Shaanxi

Report compiled by: Shen Yuan, Shengbin Xiao
Date of report: Feb 6th , 2009

Information of the training session

Type (HE/CS)	In-service training in Zhen'an county
Date	From October 11th to 12th, 2008
Duration	2 days
Aim	To improve the clinic operating skills of the obstetrical doctors in townships hospital

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Gao Yan'e	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care during delivery care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Zhen'an	Caiping	MCH staff					N	Y
2	Zhen'an	County	Obstetrics	junior college	3	Y	N	Y	Y
3	Zhen'an	County	Obstetrics	junior college	3	Y	N	N	N
4	Zhen'an	County	Obstetrics	junior college	3	N	Y	Y	Y
5	Zhen'an	Huangjiawan	Obstetrics	junior college	5			Y	Y
6	Zhen'an	Huangjiawan	MCH	technical secondary school	3	Y	Y	Y	N
7		Longsheng	MCH			Y	Y	N	Y
8	Zhen'an	Maoping	MCH		3	Y	N	N	N
9	Zhen'an	Maoping	Obstetrics	junior college	3	N	Y	Y	Y
10	Zhen'an	Miaogou	Obstetrics	junior college	6	Y	Y	Y	N
11	Zhen'an	Miaogou	MCH	technical secondary school	3	Y	Y	Y	N
12	Zhen'an	Qingtong	MCH staff	junior college	3	Y	Y	N	Y
13	Zhen'an	Qingtong	Obstetrics	technical secondary school	3	Y	N	Y	Y
14	Zhen'an	Xigou	MCH staff			Y	Y	N	N
15	Zhen'an	Xigou	Obstetrics	technical secondary school	3	Y	Y	Y	Y
16	Zhen'an	Xikou	MCH	technical secondary school	3			N	Y
17	Zhen'an	Xikou	Obstetrics	technical secondary school	3	Y	Y	Y	Y
18	Zhen'an	Yongle	Obstetrics	junior college	3	Y	Y	Y	Y
19	Zhen'an	Yongle	MCH	technical secondary school	2	Y	N	N	Y
20	Zhen'an	Yongle	MCH	junior college	3	Y	Y	Y	Y
21	Zhen'an	Yuehe	MCH staff					N	Y
22	Zhen'an	Yunzhen	MCH staff	junior college				N	Y
23	Zhen'an	Yushi	Obstetrics	junior college	5			Y	Y

24	Zhen'an	Yushi	MCH	technical secondary school	3	Y	Y	N	N
25	Zhen'an	Zhangjia	MCH staff	junior college		N	N	N	N

Information of the training session

Type (HE/CS)	In-service training in Lantian county
Date	From September 18th to 20th, 2008
Duration	2 days
Aim	To improve the clinic operating skills of the obstetrical doctors in townships hospital

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Qun Qu	Professor	The second affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal care during delivery care

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Tangyu	obstetrics	technical secondary school	3	Y	Y	Y	Y
2	Lantian	Wangchuan	Obstetrics	junior college	3	Y	Y	Y	Y
3	Lantian	Fengjia	Obstetrics	technical secondary school	3	Y	Y	Y	N
4	Lantian	Gongcun	Obstetrics	junior college	3	Y	Y	Y	Y
5	Lantian	Xiaozhai	Obstetrics	technical secondary school	3	Y	Y	Y	Y
6	Lantian	Jinshan	Obstetrics	technical secondary school	3	Y	Y	N	Y
7	Lantian	Malou	Obstetrics	technical secondary school	3	Y	Y	Y	Y
8	Lantian	Dazhai	Obstetrics	junior college	3	N	N	N	N
9	Lantian	Dazhai	Obstetrics	junior college	3	Y	Y	Y	Y
10	Lantian	Yushan	Obstetrics	junior college	3	Y	N	N	N

Information of the training session

Type (HE/CS)	Health education training in Lantian county
Date	From September22th to 24th, 2008
Duration	2 days
Aim	To improve the health education skills of the MCH workers in township hospitals and village clinics

Information of the trainers

	Name	Title / Degree	Institute	Title of the lecture
1	Xinwen Zhang	Associate professor	The first affiliated hospital of Medical School, Xi'an Jiao tong University	Prenatal , during delivery and postpartum care Skills of health education

Information of the trainees

	County	Township	Workplace	Degree	Years of medical education	Pre-test	Post-test	Participation of the first training session	Participation of the second training session
1	Lantian	Bayuan	Obstetrics	technical secondary school	3	N	N	Y	Y
2	Lantian	Lihou	Obstetrics	junior college	3	N	N	Y	Y
3	Lantian	Languan	Obstetrics	junior college	3	N	N	Y	Y
4	Lantian	Jiaodai	Obstetrics	technical secondary school	3	N	N	Y	Y
5	Lantian	Sanlizhen	Obstetrics	junior college	3	N	N	Y	Y
6	Lantian	Yehu	Obstetrics	junior college	3	N	N	Y	Y
7	Lantian	Lanqiao	Obstetrics	technical secondary school	3	N	N	Y	Y
8	Lantian	Puhua	Obstetrics	technical secondary school	3	N	N	Y	Y
9	Lantian	Gepai	Obstetrics	technical secondary school	3	N	N	Y	Y
10	Lantian	Hongxing	Obstetrics	technical secondary school	3	Y	Y	Y	N

Note: The trainees also include 124 MCH workers in village clinics in the above 10 townships.