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A Monitoring and Evaluation Plan for the Core Competencies of Skilled Birth Attendants in Nepal

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by

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LIST OF ABBREVIATIONS

Affiliate of John Hopkins University	JHPIEGO
Basic Obstetric Care	BeOC
California Department of Public Health	CDPH
Emergency Obstetric Care	CeOC
External Development Partners	EDP
Family Health Division	FHD
Manual Vacuum Aspiration	MVA
Maternal Mortality Rates	MMR
Millennium Development Goals	MDG
Ministry of Health	MoH
Ministry of Health and Population	MoHP
Monitoring and Evaluation	M&E
Monitoring Information System	MIS
Public Health Community Clinic	PHCC
Skilled Birth Attendants	SBA
World Health Organization	WHO
United Nations Population Fund	UNFPA

ABSTRACT

The purpose of this capstone is to present a Monitoring and Evaluation (M&E) plan of the core competencies, for Skilled Birth Attendants (SBA) of Nepal. The World Health Organization has laid out 10 specific skills that assess a SBAs competency. Nepal presently lacks any formal process for monitoring quality assurance of its SBAs and therefore has no measurement of their effectiveness. This Capstone proposes a simple M&E plan to begin the process of quality measurement, using a recent follow-up study done by the Nepali government, other articles and the experiences of the author. The tools included in this Capstone are presented with the intention that they will be modified as necessary by the government in ways consistent with government protocols. Quality of care is complex, and skill assessment is only one component of a much larger system filled with many smaller constraints facing the efficacy of SBAs. Micro-level constraints are reviewed and examined. Recommendations include, (1) eliciting the cooperation of international partners, (2) with the help of these partners, gleaning wisdom from successful SBA M&E processes functioning elsewhere, and (3) creating M&E programs for other components of SBA operations.

PART I--INTRODUCTION:

In my mid 20's I began taking courses in midwifery. I completed a post-baccalaureate pre-med program and studied with one of the foremost authorities on direct entry midwifery, Elizabeth Davis. I felt and continue to feel that every woman has the right to a healthy and safe birth. I started studying birth in other countries and began traveling around the world, where I ended up working for a short time in a rural clinic in the mountains of Nepal. It was a wonderful experience that left me sad. The women were so eager for birth control and it made me wonder about the system of birth in Nepal. I began wondering how birth complications were handled in these remote mountain regions. I soon learned about the huge maternal mortality rates in Nepal and how much higher they were in the rural areas. Not only was there a lack of skilled attendants in these regions but also a lack of skilled attendance or equipment, facilities and all logistical support needed to perform a healthy birth. My dreams of becoming a midwife faded into the background as a realization that policy and logistical systems planning seemed most likely to have the greatest impact on the most numbers. I applied to the SIT graduate program, with the focus on program development and management with the hopes of affecting the greatest change through program development instead of the one by one care midwifery provides.

For my practicum I went to work for the Policy Division of the Maternal Child and Adolescent Department of the California Department of Public Health (CDPH) in Sacramento. After a few months of working in an office filled with red tape and bureaucracy, I was extremely discouraged that the United States, one of the richest countries in the world, ranked 41st in terms of maternal mortality rate. I was further

disturbed that Black and Latino women had a 4 times higher maternal mortality rates than Caucasian women. It was then that I began planning to return to Nepal. However, before I left, I learned how policy is made at the State level in California and helped to implement change within the CDPH system by creating a health equity-training program for all CDPH employees. In the fall of 2010, I left for Nepal hoping to take what I had learned in Californian and make a large positive impact on maternal mortality rates.

Soon after arriving in Nepal I found work as a consultant with the United Nations Population Fund (UNFPA) and the Family Health Division (FHD) of Nepal. The focus of my work was on the status of Skilled Birth Attendants (SBA). My objectives were to gather background information, provide an update on progress and critically review the targets, objectives and strategies set in the 2006 SBA policy. This work was to be presented at a workshop being held for all stakeholders including private, non-profit and governmental agencies.

While working at the FHD, I began researching if there was a Monitoring and Evaluation (M&E) plan for the SBAs. I was interested in answering many questions including: Is there a way to determine if all of the effort spent recruiting, training and deploying SBAs was making a difference? Was maternal mortality decreasing? Where the clinical and knowledge skills being taught proving to be effective in the deep recesses of Nepal? How would we know? Was there any kind of M&E for quality assurance in place? I found that there was no management of a formal M&E plan to assess the core competencies of the SBAs with the exception of a 6-month follow-up evaluation written into the training strategy and targeted for 30 percent of all SBAs. During my research I could find no record of these evaluations. Aside from an SBA follow-up report done in 2009, I was unable to find any other information of quality assurance regarding M&E.

This capstone proposes and presents a large scale monitoring plan for the core competencies of Skilled Birth Attendants (SBA) in Nepal, as well as an evaluation plan to assess the extent to which newly trained SBAs have improved deliveries in the country as a means to reducing Nepal's maternal mortality rate.

The monitoring of core competencies is just one piece amongst a much larger system of issues surrounding the efficacy of SBAs. There are other areas within the system that could also benefit from M&E such as the training process and refresher courses that are offered. Implementation of an M&E plan is likely to improve the effectiveness of the SBA program as a whole and help thousands of women and their babies.

PART II--LITERATURE REVIEW

In the article written by Harvey et al, entitled ''Are skilled birth attendants really skilled? A measurement method, some disturbing results and a potential way forward'', the authors review the Millennium Development Goal 5 progress of reducing maternal mortality by using the amount of skilled birth attendants as indicators. Harvey uses the numbers that the World Health Organization uses to track to the amount of SBAs but argues that little is known about their competency level. Harvey further assesses the competency of SBA in five different settings and finds that after the first phase, a second phase is necessary so as to perfect the trial. The article concludes that there is a great difference in evidence based standards and the actual competence to manage obstectric complications.

Harvey's article points to systemic barriers that are getting in the way of reducing

maternal mortality, such as the requirement for a "comprehensive quality improvement initiative to address the drug availability and distribution, equipment supply and maintenance, ineffective supervision, low morale…." but that countries must work on raising competency levels while they work are these larger scale systemic issues.

In the article by M. Carlough entitled, "Skilled birth attendance: What does it mean and how can it be measured? A clinical assessment of maternal and child health workers in Nepal", the author begins by addressing the literature that states having an SBA reduces maternal mortality, but begins immediately to question the ability of SBAs to treat complications. Carlough notes the lack of facility based obstetric care and describes the training of the of the SBAs. Carlough finds that there is a statistically significant difference in test scores between SBAs that take refresher courses and those that don't. The article further points out that competency alone is not enough to improve the health situation birthing Nepali women find themselves in and emphasizes in conclusion that SBAs will only truly reduce maternal mortality rates when they have the proper logistical and policy support.

In 2009, JHEIPGO and the Nepal Ministry of Health (MoH) partnered to conduct the "Post Training Follow-up for Skilled Birth Attendants: Review of Implementation Experiences" report. They acknowledge, "effectiveness of training is heavily dependent on the support the trainees receive after returning to their place of work." The report credits the shortage of resources and staff to the lack of follow-up services for newly trained SBAs.

For this study, 119 SBAs, (48 percent PHCC-based and 26 percent hospital based), were interviewed and evaluated from 38 service sites. Twenty four trainers from five training sites were selected for the 2-3 day follow-up sessions. Open and closed questions

were used as well as a skills checklist to evaluate the SBAs. Many SBAs and their supervisors voiced their opinions about the lack of trainer follow up as one of the greatest barriers to optimum development of SBA skills and confidence. A larger scale follow-up was recommended (post-training follow-up, Sept. 2009) as a result of this work.

PART III—RESEARCH

METHODS:

This capstone presents a generic M&E plan for SBAs in Nepal, based on my experience and the work of Harvey and Carlough. Methodology includes using suggestions and the evaluation worksheets from the MoH follow-up report conducted in 2009, and several other articles. Other resources include individual meetings with professionals said to have necessary information, attending group meetings, conducting email correspondence, searching through handwritten ledgers, and basically hunting down by any means possible all the information I could find on SBAs in Nepal. In the absence of a centralized management information system this task was challenging. What I found were, hand-written ledger books, maintained by individuals, working in different departments in different buildings scattered around Kathmandu. These books provide the names of individual SBAs trained, and the town or district to which they are initially deployed. Given the frequent transfers of SBAs, it is difficult to determine, from the available information, the number of SBAs per geographic area in the country.

Background Information on Pregnancy and Delivery Problems in Nepal and the Critical Importance of Quality Assurance of SBAs:

The Nepal National Safe Motherhood program was created in 1997 with the intent of reducing maternal mortality. According to a United States Agency for International Development (USAID) access report "By 2004, there was a growing consensus in Nepal that a significant reduction in maternal and newborn mortality would require an increase in skilled birth attendance at the community level. This focus on skilled birth attendance was bolstered by the Government of Nepal (GoN) commitment to achieving United Nations Millennium Development Goals (MDGs) on reducing child mortality and improving maternal health. As a result, the Government of Nepal drafted a National Policy on Skilled Birth Attendants with full participation of various divisions in the Ministry of Health and Population (MoHP) and external development partners (EDP)."

In 2006, the GoN approved the National Policy on Skilled Birth Attendants, in line with international recognition of the critical role of the SBA in reducing maternal mortality. This policy uses the World Health Organization (WHO) standard international definition of an SBA trained to be proficient in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns.

Following the creation of this national policy, the National In-Service Training Strategy for Skilled Birth Attendants was approved and implementation initiated in 2007. This strategy outlines approaches for achieving the enormous task of training 5,000 SBAs required by 2012 in order to meet the Millennium Development Goal target of 60% of all births attended by an SBA by 2015. Part of this training strategy was a follow-up plan to have at least 30% of all SBAs evaluated after 6 months. This was supposed to be

conducted by a supervisor, but with a shortage of staff and resources, these were rarely performed. Such an evaluation would require, in many cases, an SBA leaving her post unattended so that she could make the journey, frequently two days travel, to the nearest clinic to provide supervised clinical practice. Currently, there are only fifteen functioning SBA training sites (see Annex) throughout the country of Nepal, each with a team of trainers and the capacity to provide didactic teaching with model practice and supervised clinical practice. To date over 1,000 SBAs have received training. (Post Training Follow-up, Sept 2009)

The 2006 Government of Nepal policy has five stated goals:

- To ensure the sufficient numbers of SBAs are trained and deployed at primary health care levels with necessary support systems.
- To strengthen referral services for safer motherhood and newborn care, particularly at the first referral level (district to hospitals).
- To strengthen pre-service and in-service SBA training institutions to ensure that all graduates will have the necessary skills.
- To strengthen supervision and support systems to ensure that all SBAs are able to provide quality maternal and newborn health care according to national standards and protocol.
- To develop regulating, accrediting and re-licensing systems for ensuring that all SBA have the ability and skills practice in accordance with the core competencies.

Over the past 10 years, maternal mortality has significantly decreased but remains high at 380 per 100,000 live births. According to a study done by H4 the external

development partners have dedicated about $20 million for maternal and newborn health.). These external aid programs include:

Table 1-H4

Agency	**Funding amount (approx. US $)**	**Active since**	**Projects**
DFID	5 million	1996	Nepal Safer Motherhood Programme / Support to Safe Motherhood Program
UNICEF	2 million	1980	Five Safe Motherhood Districts. DACAW program. (Community-based Safe Motherhood) Women's Right to Live and Health Project (MRT/BEoC trg. AMDD), MNH Project/SSMP (SBA training)
UNFPA	11 million	1988	MCHW and SBA training. Training Centers for MCHWs, regional health training centres
USAID/NHFP	3 million	1985	Safe Motherhood, family planning, Newborn health (JHPIEGO)
GAVI	1 million	2002	Immunization

Table 2-Nepali Demographic and Health Highlights

Nepali Demographic and Health Highlights	
Population 2010	29,900,000
Average population growth rate (%)	1.9
Projected population, 2025	35,700,000
Projected population, 2050	49,000,000
Infant deaths per 1,000 live births	38
Total fertility rate	2.76
Population age <15(%)	37
Population age 65+(%)	4

Urban population (%)	19
Ever-married females ages 15-19 (%)	42
Family Planning /Indicators on Women	
Contraceptive prevalence, all methods (%)	48
Births per 1,000 women ages 15-19	101
Unmet need for family planning (%)	24
Births attended by a skilled health personnel (%)	19
Births attended by a skilled health personnel, urban (%)	51
Births attended by a skilled health personnel, rural (%)	14
Maternal deaths per 100,000 live births (%) 2008	380
Illiteracy, ages>15, 2010 Female/Male (%)	54.6/28.9
Secondary school enrolment, Female/Male, 2000-2004 (as of school-age enrolment)	39/50

Sources for statistics: UNFPA (State of the World Population 2010), Population Reference Bureau, iv 2010 World Population Data Sheet.

A Nepal Family Health Survey, which took place in 40 districts, showed an increase in deliveries attended by an SBA from 19 percent in 2006 to 29 percent in 2009, and an increase in institutional deliveries from 18 percent in 2006 to 27 percent in 2009. Yet, after the information was disaggregated by economic status, women in the highest economic quintile remained constant from 2006-2009 at 58%. The inequity in access to SBAs depending on economic status and location is a major constraint to the improvement of maternal mortality. (13 Minca, M. 2011)

A Maternal Mortality and Morbidity Survey done in 2009, reported that maternal deaths had nearly doubled at 41% in health facilities since 1998. A recent push to transfer women with high risk or complicated pregnancies is one of the main reasons, although these may occur too late. There are several reasons for this, one may be the lack of competence of SBAs to notice complications too late. Another reason may be the long journey women in labor must take from remote regions being carried on a stretcher through mountainous terrain.

These are only two reasons for such an increase in numbers and Carlough addresses

these barriers by stating that in Nepal, the issue of measuring competence according to the defined clinical interventions of skilled attendance has not been addressed, and that most attendants aren't able to save women's lives effectively due to the inability to treat complications and refer properly in rural settings. Carlough further states that even the most competent and available skilled birth attendant will fail to improve maternal mortality without addressing and removing the following barriers:

- Little support for SBAs at the family/community level
- Lack of transportation resources, emergency funds and unclear referral systems at the community level
- Cultural and financial barriers to seeking obstetric services at all levels
- Lack of quantity and quality facilities providing basic and comprehensive EmOC
- Supervisors or managers who obstruct in various ways, including controlling access to essential medications and equipment
- National policies, which preclude health workers at all levels from performing tasks they are qualified and expected to perform

Many of these larger systematic barriers need to be addressed, but this capstone will focus on competency and make a case for its importance. The article by Lugina states, "Competence requires skills, knowledge, attitude and experience. Development of competence requires regular, repeated, supervised, hands-on practice in the clinical area and assessment of the competencies acquired. Too often current curricula do not allow for the development or testing of competency, and assume that a level of competency has been reached based on simulations in the classroom or on models, and attendance of a

limited number of cases for hands-on-care. One of the major challenges among low-income countries is the gap between the midwifery school, its theoretical teachers and supervisors, and the clinical reality. It is crucial to reduce or eliminate this gap." (Lugina, 2003).

The UNFPA has addressed these problems as well and continues to work on solving these larger systemic issues. They also speak of the same issues arising with midwives. "….problems are varied and may arise only occasionally. [Many] may never have experienced in their initial training some of the problems and complication that they may meet during their professional career. With this in mind and because quality control and improvements need to be continuous, providing midwives with capacity-building supervision is essential, especially for those working in the community. However, supportive supervision has been neglected until recently, and there is limited evidence from which to draw models of best practice".
http://www.unfpa.org/webdav/site/global/shared/documents/publications/2008/midwives_eng.pdf

The EDPs who have been involved with the Safe Motherhood program address these issues as well by making clear that numbers alone won't solve the problem. "Sufficient numbers of competent birth attendants are essential to this strategy. A health worker shortage is one important barrier, but inadequate competence among existing health workers may be equally important. Our findings appear to confirm this conclusion: a woman who delivers at a formal health facility assisted by a so-called 'skilled' attendant cannot necessarily assume she will receive competent care." (Harvey et al 2007)

There is more than just competency and increasing SBAs numbers that affects the maternal mortality rates. Recent graduates from private nursing schools were interviewed and many of them noted that they had no interest in working in public facilities due to:

- Lack of security (personal safety, non-availability of staff quarters)
- Poor physical facilities
- Lack of equipment/supplies
- Poor working environment
- Lack of opportunity for upgrading knowledge
- Lack of HR-transfer posting policies
- Ad hoc posting: This is not need-based, but often influenced by favoritism, and transfers are frequent, often at short notice, disrupting service availability, especially in rural areas.
- Incentives for remote posting: These are essential for encouraging skilled staff to work in difficult places, but are opposed by civil service demands for equality of all staff. (Minca, M. 2011)

The students are the future of the country and have identified where the problems are, and if the government is serious about addressing maternal mortality it will make the rural regions a more welcoming place to work by creating an incentives program or something of the like.

Finally, Harvey says it best in his article, “No amount of training will lead to more hand washing if health facilities lack soap and water. Health personnel cannot be

expected to identify magnesium sulfate as the drug of choice for pre-eclampsia and eclampsia if it is unavailable... Systemic problems require more comprehensive quality-improvement initiatives to address drug availability and distribution, equipment supply and maintenance, ineffective supervision, low morale and other problems that affect health services in many high maternal-mortality settings." (Harvey et al., 2007)

PART IV—PRESENTATION AND ANALYSIS

What is an M&E Plan and Why is it Important?

Monitoring focuses on improving the day-to-day operations. It can provide insight on a regular basis of what is going right in a program and what improvements need to be made. Resources are often limited and even though there is some cost involved with M&E, it may outweigh the costs of a project that doesn't work or worse, causes negative results.

This monitoring project will examine the competency of SBAs in Nepal through a series of supervised follow-up visits, clinical assessments and written tests for knowledge. There will also be a portion for self-evaluation and assessment. The Monitoring portion will focus on the ten core competencies as defined by the WHO.

Many developing country governments and large aid organizations around the globe use the quantity of SBAs as key programmatic indicators in efforts to reduce maternal mortality. Accordingly, it would be useful to be able to assess the specific effects of SBAs in maternal mortality reduction. At present there is virtually no empirical data on these effects. More urgently, there are no standardized frameworks for monitoring and evaluating the impact of SBAs.

Most articles reviewed for these capstones had one recommendation to make. "An effective monitoring and evaluation framework, to inform policy makers on the progress and impact of implementing the strategy of Skilled Birth Attendance for every delivery in a variety of settings is needed." (Adegoke, 2009)

OVERALL M&E PLAN

Objectives of this M&E project:

1. To assess the performance of SBAs in the core competencies
2. To provide on-site monitoring in addressing problems
3. To assess the effectiveness of the training
4. To utilize this information in improving the training and follow up system
5. To evaluate the effect SBAs have on the reduction of maternal mortality, using measurable indicators and collecting initial baseline data.

The supervisors will be measuring the following ten competencies using written tests, clinical testing on live patients, self evaluation and oral testing in case scenarios:

1. Safely conduct a normal delivery using aseptic technique
2. Active management of the third stage of labor
3. Provide immediate care of the newborn, including resuscitation
4. Manage most postpartum hemorrhage through use of parenteral oxytocics and abdominal massage
5. Manually remove the placenta
6. Manage eclampsia through provision of parenteral antihypertensives
7. Recognize and manage postpartum infection through use of parenteral antibiotics

8 . Perform assisted vaginal delivery through the use of a vacuum extractor

9. Manage incomplete abortions with manual vacuum aspiration (MVA)

10. Know how to refer women to the next level of care and stabilize them for their journey (UNICEF et al. 1997)

Table 3--RESULTS CHAIN LOGIC FRAMEWORK

Inputs	***Outputs***	**Intermediate Outcomes**	**Outcomes**	**Assumptions -Liabilities**	**Impact**	**Long-term Impact**
In coordination with Management Division,	*% of SBAs trained at a public accredited training site*	Trained SBAs have necessary knowledge and skills:	*% of SBAs trained in the 10 competencies*	In order for upgrading of SBAs to translate into reduced maternal mortality, the following would also need to be in place.	SBAs improve birth outcomes	• ↓ Maternal mortality
Develop and implement a quality assurance program	*% of SBAs trained at a private accredited site*	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to safely conduct a normal delivery using aseptic technique	*% of SBAs that are able to pass national standard tests in all competencies directly following training*	Standardization of training	*% of mothers recently given birth indicating satisfaction with SBAs*	•↓ Infant mortality
Standardize the training program so all trainers in public/Private/NGO sectors are training the exact same material in the exact same way	*% of SBAs that meet the National standard at the 6 month follow-up*	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Active management of the third stage of labor	*% of SBAs retested and evaluated at 6 months*	Standardization of materials used to train	*% of evaluated deliveries in which mother died at home*	
Create a standard certification process for every trainer and SBAs	*% of SBAS that meet the National Standard at the 1 year follow-up*	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Provide immediate care of the newborn, including resuscitation	*% of SBAs that are able to pass national standard tests in all competencies skills 6 months after training*	Standardization of testing, supervising and evaluating	*% of evaluated deliveries in which mother has died in clinic*	

Insure sufficient logistical support is in place for pre and post service training	*% of SBAs that meet the National standard at the 2 year follow-up*	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Manage most postpartum hemorrhage through use of parenteral oxytocics and abdominal massage	*% of SBAs retested and evaluated at 1 year follow-up*	Regular availability of medical supplies and delivery instruments and logistical support in the field	*% of women that were referred to a clinic during birth but did not go.*	
Develop, plan and implement different monitoring and supervision systems at all levels	*% of Supervisors to SBAs ratio*	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to manually remove the placenta	*% of SBAs that are able to pass national standard tests in all competencies after 1 year from training*	Adequate facilities	*% of women that were referred to a clinic and went*	
	% of Trainers to SBAs ratio	% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Manage eclampsia through provision of parenteral antihypertensives	*% of SBAs retested and evaluated at 2 year follow-up*	Adequate number of supervisors	*% of women that delivered at home*	
		•% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Recognize and manage postpartum infection through use of parenteral antibiotics	*% of SBAs that are able to pass national standard tests in all competencies after 2 years from training*	Adequate number of trainers	*% of women that delivered in a clinic*	
		% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Manage incomplete abortions with manual vacuum aspiration (MVA)Perform assisted vaginal delivery through the use of a vacuum extractor % of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Manage incomplete abortions with manual vacuum aspiration (MVA)		A centralized data system to track SBAs and the results of their follow-up evaluations		
		% of trained SBAs scoring at least an 8 on a 10 point scale on a test assessing understanding and skills pertinent to Know how to refer women to the next level of care and stabilize them for their journey				

A results chain logic framework was created to act as the roadmap for this M&E

plan. This framework is used as a way to help organize the project and make data analysis easier and more targeted so that changes can be made later from the data analysis. It also clarifies the projects desired effects and helps keep implementers accountable of resources to stakeholders. Additionally, it can act as a guide to show where certain activities have been beneficial so that these can be replicated.

This project is designed to increase the effectiveness of SBAs, recognizing that this is only one factor among many required to significantly reduce maternal mortality in the Nepal. This framework will examine those activities that will directly cause higher competency. The inputs were taken from recommendations given in the Post-Training Follow-up Report of 2009. In this framework the inputs will be the resources needed that will be necessary to carry out the primary project activities.

INPUTS:

- The development and implementation of a quality assurance program. This is to be done in coordination with the Family Health Division.
- The standardization of the training program for SBAs.
- The creation of a standardized certification for every trainer and SBA.
- Insure that sufficient logistical support is in place for pre and post service training.
- The development, planning and implementing of various monitoring and supervising system at all levels.

OUPUTS:

The output column lists the indicators that reflect the activities that need to take

place in order to achieve an impact. In this project the indicators used are measurements of the immediate actions that will take place in order to ensure steps necessary to make SBAs competent. There are assumptions about the information of the outputs and expectations about how the goods or services will be used. These assumptions should have been addressed in the beginning of the project, but when an M&E plan is integrated into an already existing project it may be difficult to account for these assumptions. In this project it is assumed that once a national standard for training is created, that all Non-governmental Organizations (NGOs) with SBA training programs, will adopt this. It is assumed that they will use the same process for testing and evaluating the SBAs. However until another study is conducted it cannot be certain that this will be the case. Monitoring these inputs will make it easier to see where there might be deficits in the programming. If there is a low percent of supervisors using accredited material then it will be easier to find the reason and fix the problem. Routinely collecting the information will inform where change needs to occur. These outputs along with the following intermediate outputs will be used for this monitoring plan to assess the skill level of SBAs.

- *% of SBAs trained at a public accredited training site*
- *% of SBAs trained at a private accredited site*
- *% of SBAs that meet the National standard at the 6 month follow-up*
- *% of SBAS that meet the National Standard at the 1 year follow-up*
- *% of SBAs that meet the National standard at the 2 year follow-up*
- *% of growth of Supervisors and Trainers*
- *% of supervisors that use newly accredited guidelines and checklist for testing*

- *% of SBAS that are tested with nationally accredited materials*
- *% of increase of supervisors*
- *% of increase of trainers*

INTERMEDIATE OUTCOMES:

Intermediate Outcomes are the intermediate effects directly resulting from a project outputs; these are mostly the behavioral changes that take place or the skills that are acquired. These changes may result in improved impacts, such as better quality deliveries. To the extent that SBA skills are available – and are removed as a limiting factor in birth outcomes, other constraints will become more apparent and can be more systematically addressed, e.g. a lack of adequate facilities, and lack of medicine to dispense. These factors obviously limit the effect of SBAs. The healthcare system and policies in place that support the program will need to address these limitations.

In this project the primary intermediate outcomes are the skills emanating from the training. Specifically, SBAs will be expected to be able to carry out the following:

- Safely conduct a normal delivery using aseptic technique
- Active management of the third stage of labor
- Provide immediate care of the newborn, including resuscitation
- Manage most postpartum hemorrhage through use of parenteral oxytocics and abdominal massage
- Manually remove the placenta
- Manage eclampsia through provision of parenteral antihypertensives

- Recognize and manage postpartum infection through use of parenteral antibiotics
- Perform assisted vaginal delivery through the use of a vacuum extractor
- Manage incomplete abortions with manual vacuum aspiration (MVA)
- Know how to refer women to the next level of care and stabilize them for their journey

Indicators will be the following:

- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to safely conduct a normal delivery using aseptic technique*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to active management of the third stage of labor*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to provide immediate care of the newborn, including resuscitation*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to manage most postpartum hemorrhage through use of parenteral oxytocics and abdominal massage*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to manually remove the placenta*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to manage eclampsia through provision of parenteral antihypertensives*

- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to performing vaginal delivery through the use of a vacuum extractor*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to manage incomplete abortions with manual vacuum aspiration (MVA)*
- *% of trained SBAs scoring at least an eight on a ten point scale on a test assessing understanding and skills pertinent to know how to refer women to the next level of care and stabilize them for their journey*

ASSUMPTIONS AND LIMITATIONS:

In order for upgrading of SBAs to translate into improved birthing services and improved birth outcomes, the following would also need to be in place.

- Standardization of training
- Standardization of materials used to train
- Standardization of testing, supervising and evaluating
- Regular availability of medical supplies and delivery instruments and logistical support in the field
- Adequate facilities
- Adequate number of supervisors
- Adequate number of trainers
- A centralized data system to track SBAs and the results of their follow-up evaluations

IMPACTS:

These are the changes that occur as a direct result of the inputs and outputs and are the primary objectives of a project. Generally, the future of a project is evaluated using the information gathered from the impacts and outcomes.

In this project the primary impacts will be improved birthing services and improved pregnancy outcomes. The indicators are:

- *% of mothers recently given birth indicating satisfaction with SBAs*
- *% of evaluated deliveries in which mother died at home*
- *% of evaluated deliveries in which mother has died in clinic*
- *% of women that were referred to a clinic during birth but did not go*
- *% of women that were referred to a clinic and went*
- *% of women that delivered at home*

BENEFITS:

The benefits of a project are the broader effects that usually occur from a combination of other factors. The prime benefit will be the reduction of maternal morality.

MONITORING:

The outputs and intermediate outputs of this framework will be used for the monitoring portion of this capstone. The implementation of this program should be done in coordination with the FHD of Nepal. The ultimate goal is to get SBAs to a place where they are competent in the skills set as listed in the INTERMEDIATE OUTPUTS column.

This framework will refer to the OUTPUTS that are measurable without creating new national policies, but that can be implemented with the approval of governmental agencies in charge. National policy will need to be implemented in order to be most effective, specifically, creating a national standardization of accreditation for testing and training. As of March 2010, a development of standards for accreditation was under review.

A chart for Assessing the Potential Value of Information Collection was designed by using the framework as a guide and listing the outputs in Column 1. The second column determines what information is required for each competent of the framework and the third column lists who will be in charge of collecting this information. In this project the information collected will be by the supervisors and trainers. It is important to look at the benefits of collecting information compared to the time and resources it takes to do so. This last column examines this comparison and can later be drawn upon to determine the future of the project.

Table 4--Assessing the Potential Value of Information Collection

Components of the conceptual framework being considered for inclusion in monitoring system	**Information to be collected which will allow assessment of each component**	**Possible for field staff to measure or requires a special study?**	**Will the benefits of data collection during implementation offset the extra effort required?**
Number of SBAs that are taking the standardized tests in all competencies directly after training	Standardized tests	Field staff (supervisor)	I'm not sure this is only one variable in a wide array of constraints that lead to MMR
Number of SBAs that pass the national standardized tests in all competencies directly after training	Standardized tests	Field staff (supervisor)	Yes, because if the data begins to show that SBAs are not competent then something has to change in the training process.

Number of SBAs that are supervised, evaluated and retested on the core competencies, 6 months after training	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then the money put into training is a waste.
Number of SBAs that pass the evaluation and testing at the 6 month follow up	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then the money put into training is a waste.
Number of SBAs that are supervised, evaluated and retested on the core competencies, 1 year after training	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then the money put into training is a waste.
Number of SBAs that pass the evaluation and testing at the 1 year follow up	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then the money put into training is a waste.
Number of SBAs that are supervised, evaluated and retested on the core competencies, 2 year after training	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then refresher courses need to created and mandated.
Number of SBAs that pass the evaluation and testing at the 2 year follow up	Supervisors Evaluation forms Standardized tests	Field staff (supervisor)	Yes. The entire reason for so many SBAs being trained is to lower MMR, if they are not retaining the information then refresher courses need to created and mandated.

From the creation of a chain framework, a Monitoring Information System (MIS) was designed. This is a valuable tool that helps to organize data into a coherent system that keeps information current and accurate. It should be accessible to all project managers and should be user friendly. The information that is entered into a MIS should act as a centralized data system. In this project this will be an essential tool to begin with

since there is a lack of any system of this kind in Nepal. Along with this component should be an agreed upon system for data entry, utilization and access point. It should be accessible to all managers and supervisors working on this project so in the event of staff turnover there is more than one person responsible for the data. This will help to eleviate a major barrier in current data system organization

The Monitoring Information Summary Chart is used to catalog who and what are being collected. The Summary Chart in this project is used as a way to determine if the objectives of regular supervised evaluations are being completed, and who is completing them and what materials they are using to evaluate it. This will help later in the project to examine those indicators that measure competency and skill set levels.

Table 5--Monitoring Information Summary

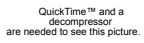
Person to collect information	**Activity**	**Location of the Activity**	**Information to be collected**	**Forms/Registers Needed**
Supervisor	Testing and evaluating newly trained SBAs	Training site	Comprehension of all core competencies	Standardized Tests
Supervisor	Testing and evaluating of SBAs at 6 month follow up	Regional Facility	Comprehension of all core competencies	Standardized tests and evaluation forms
Supervisor	Testing and evaluating of SBAs at 1 year follow -up	Regional Facility	Comprehension of all core competencies	Standardized tests and evaluation forms
Supervisor	Testing and evaluating at 2 year follow-up	Regional Facility	Comprehension of all core competencies	Standardized tests and evaluation forms

The forms that will be used to evaluate and test the SBAs were created for the 2009 follow-up Report. It is not the intention of this capstone to re-create a testing program, but it should be noted that these forms were used with successful results as indicated in

the literature review. The next necessary step is to make revised versions of these evaluation forms in order to pass through an accreditation process. So that all NGOs, aid organizations and governmental programs will be able to use them and be more effective. It is also recommended that a committee be formed by stakeholders to periodically study these evaluating forms for optimal results.

A Gantt Chart is a timeline of activities that are outlined and referred to through out the life of the project. The Gantt Chart for this capstone maps out the timeline of major activities that will affect the efficacy of SBAs, this includes regularly scheduled evaluations. The Gantt Chart also refers to inputs from the framework, such as recruitment of trainers, training the trainers and policy revision for standardization of evaluation forms and process of evaluation.

Table 6—Gantt



EVALUATION:

"Mainly used to help in the selection and design of future projects. Evaluation studies can assess the extent to which the project produced the intended impacts …and the distribution of the benefits between different groups, and can evaluate the cost-effectiveness of the project as compared with other options" (Bamburger, M., Hewitt, E. 1986)

There are many evaluation designs that can be used to collect data, but impact evaluation is the simplest when a project is already underway. Impact evaluation first uses the ongoing monitoring system to ensure the quality of the implementation process, by reviewing the data during periodic checkpoints. Having assured that the project was implemented according to project plans, the evaluation collects data to provide information on the effect of the project. Random selection is ideally done to ensure that identical groups will be used pre and post project. This is done to ensure valid comparisons and to minimize the potential problems of possible bias and confounding.

To ensure what changes have been made in an evaluation, pre and post information is necessary to collect in order to make a complete comparison. Evaluation using explicit indicators makes the change measurable and targeted. The information can then be used to inform stakeholders of the impact of a project using this quantified information.

Without a control group but with the pre and post information collected "an evaluator can carefully examine external factors to the project to judge if these influences were likely to have had a notable positive or negative effect….conclusions always will be uncertain because of the difficulty in isolating the effects of these external factors…"

(Levinson et al., 1999)

The evaluation plan in this capstone will use the pre and post information collection system. The first part of this evaluation system will follow the deployed SBAs through the monitoring portion of this project. The field supervisors will collect the necessary information on how the skills being measured are utilized in the field. The skills that will be used are tracked. These skills are listed as the intermediate outcomes and the information gathered by the supervisors will provide information on how and when these skills are being utilized, by comparing the tests and evaluation scores of the newly trained SBAs with those after six months, one year and two years.

The impact indicators are used to assess SBAs effect on deliveries and on the survival of mothers and infants. Before the initial deployment of newly trained SBAs, baseline data will be collected from the three ecological areas; mountains, hills and terrain. A random sampling of communities around Nepal will be visited and information pertaining to the indicators will be collected from deliveries over the past month.

After one year from the initially deployment of SBAs, a mid-term evaluation of the same survey will be implemented but with a different set of randomly selected communities. This evaluation should be repeated annually for the next couple of years. A comparison will be made between the SBAs that have been trained with the national standard materials and those that haven't as well as a comparison between SBAs with six months to two years post training. The comparison will be between the baseline and mid-term data of the overall state of the deliveries.

This will be conducted by an outside source of skilled surveyors, preferable as an inclusion of a few additional questions into the Demographic and Health Survey. There may be a chance that there is another outside source from another aid organization that is

collecting this or similar information, since information of this type is typically being taken for any number of projects. It might be fiscally wise to research other aid organizations current surveyor teams before employing new workers.

ASSESSMENT TOOL

The tool that will be used was developed by JHPIEGO in the manual *Guidelines for assessment of skilled providers after training in maternal and newborn healthcare*. This tool was originally meant to be conducted by a worker from JHPIEGO, but it is the intention in the M&E plan that Nepali supervisors be trained to conduct the visit.
In this guideline the process for evaluation begins by:

Preparing for the follow-up visit

- Plan to spend 1 to 2 days with each learner.
- Contact the learner and agree on a date for the visit. Review the purpose of this follow-up visit.
- Select the appropriate assessment tools according to the subject area of the course the leaner attended.
- Arrange to take the anatomic models appropriate to the skills to be evaluated
- Review the learners performance during the course (test and skills scores achieved) and action plan, if appropriate.
- Make copies of the assessment tools needed to conduct the follow-up visit.

During the Follow-up Visit

- Administer the assessment tools in the order they are listed in Table 1

- Use the Checklist of Assessment Tools (page 69) to keep track of which forms are to be completed for each learner
- Record the learners scores on the Follow-up Visit Summary Form (page 71).
- Coach the learner as needed throughout the follow-up visit assessment.
- Review your findings and recommendations
- Use the Additional Comments Sheet (page 99) to record any other information about the visit.
- Encourage learners to work with their team to practice skills through role plays and with models and checklists, and to reinforce their knowledge with the knowledge questionnaires and case studies.

After the follow-up visit

- Submit the completed assessment tools and Follow-up Visit Summary Form to the assessment coordinator or data manager of the organization or agency sponsoring the training and follow-up visit.
- Review the report of findings
- Plan to participate in the dissemination of assessment findings.
- Use the information gathered during the assessment to review future training and assessment activities.

The assessment tool care be found in its entirety here:

http://www.jhpiego.org/en/node/468

BUDGET:

In many past projects M&E actions have been limited by budgetary constraints. If there is a budget for M&E at all, the costs are underestimated or funds originally allocated are transferred to other activities. But both can generate critical information that can serve as a basis for making decisions on adjustments in the magnitude, scope and focus of programs or projects that may be necessitated by an unfavorable financial situation. (Levinson et al., 1999)

The most important factors to consider when estimating the amount of money that will be needed for monitoring and evaluation actions are their scope, methodology and participants. The diversity in the types of interventions and the development context in each program country must be considered as well. (UNDP, 2011) Typically 3% of any projects budget is allocated for M&E. Without the financial information from the Nepali government and other stakeholders, it is difficult to assess exactly how much money would need to be spent on M&E, but it would need to be an amount that is sustainable and able to be allocated on an ongoing basis. While this project has an endpoint of three years, an M&E project of this type would best be suited for continual implementation. (UNDP, 2011)

Table 7--Sample Budget Chart

	Activity	2012	2013	2014	2015	Total
1	**Coordination & Roles of Stakeholders in M&E System**					
	Printing and dissemination of M&E plan					**$-**
	Technical working group meeting and retreats					**$-**
	Joint Annual Review					**$-**
2	**Routine Date Sources**					

	Collection of data at the district level					$-
3	**Surveys & Surveillance as Periodic Data Sources**					
	Learning quality assessment					$-
4	**Management of M&E System Data**					
	Electronic Repository of M&E related data and information both at national & district levels					$-
	Establish linkages between relevant database					$-
5	**Dissemination and Use of Education Sector M&E System Data**					
	Dissemination annual education sector report					$-
	Ad hoc information needs					$-
6	**Human Capacity Building**					
	Training of district data officers					$-
	Training of Implementers					$-
	Post-graduate certificate/diploma					$-
	Training of Trainers					$-
	Customize the existing M&E curriculum					$-
7	**Evaluation & Research**					
	Maintain & update the research agenda					$-
	Update research database					$-
	Facilitate Revision of research ethnic guidelines					$-
8	**Data Audits & Supportive Supervision**					
	Development of data audit & verification guidelines & tools					$-
	Development data verification plan					$-
	Conduct data audit and verification visits & spot-checks					$-

9	**Monitoring and Evaluation Human Resources**					
	M&E Unit salaries					**$-**

Revised from Monitoring and Evaluation, Levinson et al.

PART V—DISCUSSION:

I first learned about M&E in class at SIT. Since then I realize its importance and also how little it is done. While working at CDPH, there were no M&E plans linked to any of the programs I was involved with. When I talked to many project managers, they seemed like it was just a bother to them or that they didn't work and ended up being a waste of money and time. But, when done correctly, M&E can be a valuable asset to any program, and can save money and time.

It is obvious from the literature that there is a critical need for an M&E plan for the SBAs program in Nepal, and they realize this as well. In the 2009 Follow-up Report, they say that they aren't evaluated enough and wish that they were. It is obvious from the self evaluations that self confidence is lacking in some of their skills and helping to foster SBAs confidence through post-training supervision may be a key component in helping to lower Maternal Mortality Rates (MMR).

This capstone presents a basic M&E plan for the core competencies, which could also be used as a tracking system for deployment and training of SBAs, while being utilized to measure the skill quality of SBAs**.** This is possible if it becomes a priority. A follow-up plan of how to utilize the data collected here needs to be established. More questions need to be addressed and answered before the implementation of this program, so that the data can be used to make the training system stronger and more effective. There are other constraints to consider before the implementation of this program:

- Lack of any centralized data system: At present, as indicated, there is no centralized data management system and no centralized means of tracking the deployment or effectiveness of SBAs
- Lack of funding
- Lack of staff in the supporting, planning and implementing. Many staff do not want to be in the most remote areas. Security is an issue, as well as pay and lack of adequate facilities.
- Inadequate donor support.
- Instability of the government. This affects the appointed positions in governmental sectors, such as the FHD. Every time there is an election or take over, the heads of each governmental department are reappointed. These new department heads then fill the managerial positions underneath them with their friends and colleagues. This affects all the work of the positions underneath them. Additionally, there is little job security.
- Absence of an accreditation system that allows for congruency.
- Disparity of services among geographic areas – with better services in economically advantaged areas.
- Lack of properly equipped Birthing Centers, including those that provide basic obstetric care (BeOC) and emergency care (CeOC).

Given present capacity limitation, the Government of Nepal should work closely with international partners and local NGOs to facilitate implementation and to assure proper functioning of this critically important M&E system. Larger EDPs, such as DFID or UNFPA, which have funded larger scale projects in the past, have considerable

capacity to assist the government in collecting and utilizing the M&E data. Additionally, the Nepal FHD should augment its own M&E capacity for this and other M&E undertakings. Hopefully, if positive results come out of the findings and this information proves to be beneficial then larger and more inclusive M&E programs will be implemented in other arenas of the public health sector.

CONCLUSION:

The majority of Nepali women will continue to deliver children in their own communities and homes, while a large scale recruitment of professionals to train SBAs is underway, a framework to measure their competency is still absent. The rate of delivery with a skilled birth attendant in Nepal is the lowest in SE Asia and one of the lowest in the world. Maternal mortality continues to be unacceptably high even though much effort has been made in increasing deployment and retention of SBAs working in the field. The barriers for SBAs efficacy are great and need to be addressed.

This M&E plan presents a results chain logic framework or map of the M&E process, and a set of useful tools to facilitate an effective M&E program. Included also is a Gantt chart suggesting a sequential timeframe of activities, a financial scheme to be used with real monetary figures from the MoH in Nepal, and an MIS. The evaluation plan can be useful to any country seeking to address MDG 5. In the future, I suggest that at the onset of all new projects, M&E be written into all strategies and that a minimum of 3% of total project costs be earmarked for this dimension of program operations.

The theoretical focus of this capstone arose out of the needs found during the research process. Structural functionalism begins to describe the needs that arose as the role of SBAs in Nepal was understood and examined, which resulted in the M&E plan

presented. The concepts of critical theory begin to immerge and lead to further dissection of the causes by examining the roles that gender and class play in the causation of high MMR. Many other organizations address these issues and have been working on women's empowerment programs as well as programming for people classified in the Dalit caste. For now the function of this capstone was to address the need for competency review by implementing a national programming. The true conclusion of this capstone cannot be known until the M&E plan is implemented and the data analyzed. It makes a case for the need and presents a solution and draws on conclusions as presented from the literature reviewed and experiences of the researcher.

Bibliography

Adegoke, AA., van den Broek, N. (2009). Skilled birth attendance-lessons learnt. BJOG: An International Journal of Obstetrics & Gynaecology, 116(s1), 33.

Bamburger, M., Hewitt, E. (1986). Monitoring and evaluating urban development programs, A handbook for program managers and researchers. World Bank Technical Paper, 53

Carlough, M., McCall, M. (2005). Skilled birth attendance: What does it mean and how can it be measured? A clinical skills assessment of maternal and child health workers in nepal. International Journal of Gynecology and Obstetrics, 89, 200.

Graham, W. J., Bell, J. S., & Bullough, C. H. (2001). Can Skilled Attendance at Delivery Reduce Maternal Mortality in Developing Countries ? Safe motherhood strategies A review of the evidence, Studies in, 1-28. ITG Press

http://www.prb.org/Datafinder/Geography/Summary.aspx?region=145&region_type=2 (accessed 25 May 2011)

Human Resources Strategy Options for Safe Delivery (Riitta-Liisa Kolehmainen-Aitken, MD, DrPH Prof. Ishwar Bahadur Shrestha), Ministry of Health and Population Government of Nepal January 2009, HSRSP Report No. 2.11-01-09

INVESTING IN MIDWIVESAND OTHERS WITH MIDWIFERY SKILLSTO SAVE THE LIVES OF MOTHERS ANDNEWBORNS AND IMPROVE THEIR HEALT. (2006). http://www.unfpa.org/webdav/site/global/shared/documents/publications/2008/midwives_eng.pdf

JHEIPGO, Post-Training Follow Report for Skilled Birth Attendants of Nepal, September, 2009.

http://www.jhpiego.org/en/node/468 (accessed 25 May 2011)

Levinson, J.F., Monitoring and Evaluation A Guidebook for Nutrition Project Managers in Developing Countries. Human Development Network. The World Bank, Sept. 1999.

Manandhar DS, Osrin D, Shrestha BP, Mesko N, Morrison J, Tumbahangphe KM, Tamang S, Thapa S, Shrestha D, Thapa B, Shrestha JR, Wade A, Borghi J, Standing H, Manandhar M, Costello AM; Members of the MIRA Makwanpur trial team. Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial.Lancet. 2004 Sep 11-17;364(9438):970-9.

NHSP IP II 2010-2015 Final Draft. 7 April 2011

Personal communication of J. Sazaki, UNFPA Rep, to Vincent Fauveau (3rd of Aug 2006)

State of World Population 2010. From conflict and crisis to renewal: generation of change –UNFPA 2010

UNDP. (2011). Handbook on planning, monitoring and evaluating for development results
Retrieved 2011http://www.undp.org/eo/documents/HandBook/ME-HandBook.pdf.

UNICEF/WHO/UNFPA. Guidelines for Monitoring the Availability and Use of Obstetric

Services. New York7 United Nations Children's Fund; 1997.

Appendix:

Nepal Training Sites:

S.N.	Name	District	Remarks
1	Balkumari College	Chitwan	Supported by NFHP, good infrastructure, enough faculty, updated clinical sites
2	Nepal Polytechnic Institute	Chitwan	Supported by NFHP, infrastructure not satisfactory, new faculties
3	Koshi Health Institute	Morang	Supported by NFHP, good infrastructure, enough faculty, clinical sites
4	Vocational Training Center	Morang	Supported by NFHP, infrastructure not satisfactory, new faculties
5	Ziri Technical School	Dolkha	Good infrastructure, supported by JHPIEGO, enough faculty, trained faculty by FP
6	Madan Memorial Trust ANM Training Center	Urlabari, Jhapa	Good infrastructure, supported by JHPIEGO, enough faculty, trained faculty by FP
7	Seti Technical School	Dipayal, Doti	Good infrastructure, supported by JHPIEGO, enough faculty, trained faculty by FP
8	Institute of Community Health ANM Training Center	Kanchampur	Good infrastructure, good management
9	AMDA Referral Health Center	Damak	Good infrastructure, enough faculty, updated clinical sites
10	Kavre Health Training Institute	Banepa	Yet to be assessed
11	Makawanpur Technical Institute	Hatauda	Enough faculty, percentage of graduates is high
12	Jumla Technical ANM school	Jumla	Considered good, but yet to be assessed
13	Janakpur Nursing Campus	Dhanusa	Supported by National Health Training Center.