Human Resource Strategy Options for Safe Delivery

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SSMP/NEPAL
Support to the Safe Motherhood Programme

RTI INTERNATIONAL

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This report examines the current and future availability of skilled health workers for safe delivery services and the factors influencing their retention in government health facilities, particularly in rural areas. The report presents strategy options to address the main obstacles to adequate and appropriate staffing for safe delivery. Funding was provided by the U.K. Department for International Development through the Health Sector Reform Support Programme. RTI International provided technical assistance. The opinions expressed herein are those of the authors and do not necessarily reflect the views of DFID.

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List of Acronyms

AA	Anaesthesia Assistant
AHW	Auxiliary Health Worker
AMDA	Association of Medical Doctors in Asia
ANM	Auxiliary Nurse Midwife
BEOC	Basic Emergency Obstetric Care
BMET	Biomedical Technician
CEOC	Comprehensive Emergency Obstetric Care
C/S	Caesarean Section
CTEVT	Council for Technical Education and Vocational Training
DDC	District Development Committee
DFID	Department for International Development
DA	Diploma in Anaesthesiology
DCH	Diploma in Child Health
DCP	Diploma in Clinical Pathology
DGO	Diploma in Gynaecology and Obstetrics
DH	District Hospital
DHO	District Health Office / District Health Officer
DMI	Development Management Institute (Pvt.) Ltd
DoHS	Department of Health Services
DPHO	District Public Health Office / Officer
EOC	Emergency Obstetric Care
FHD	Family Health Division
GoN	Government of Nepal
GTZ	German Technical Cooperation
HA	Health Assistant
HMC	Hospital Management Committee
HP	Health Post
HuRDIS	Human Resource Development Information System
HuRIC	Human Resource Information Centre
IoM	Institute of Medicine
JAR	Joint Annual Review

LMD	Logistic Management Division
MBBS	Bachelor in Medicine and Bachelor in Surgery
MCHW	Maternal and Child Health Worker
MDG	Millennium Development Goal
MDGP	Medical Doctor - General Practice
MoHP	Ministry of Health and Population
NDHS	Nepal Demographic and Health Survey
NGO	Non Governmental Organization
NHSP-IP	Nepal Health Sector Programme – Implementation Plan
NHTC	National Health Training Center
NPR	Nepali Rupees
NSI	Nick Simons Institute
OT	Operating Theatre
PHCC	Primary Health Care Centre
PHN	Public Health Nurse
RH	Regional Hospital
RHD	Regional Health Directorate
RTI	Research Triangle Institute
SBA	Skilled Birth Attendant
SD	Safe Delivery
SDIP	Safe Delivery Incentives Programmes
SHP	Sub Health Post
SLC	School Leaving Certificate
SSMP	Support to Safe Motherhood Programme
UCMS	Universal College of Medical Sciences
USG	Ultra sonogram
VDC	Village Development Committee
WHO	World Health Organization
ZH	Zonal Hospital

Executive Summary

Nepal's National Safe Motherhood Programme has long been a key component of the country's major health plans and strategy documents. A policy on skilled birth attendants (SBA) and a long-term plan have been formulated and in-service training of SBAs started. While the government has made considerable gains in reducing maternal mortality, further gains require improving women's access to competent normal delivery services and safe caesarean sections. Trained and motivated health workers, available at the time of birth, are essential for the provision of such services. The public sector has, however, been unable to maintain constant and adequate staffing of safe delivery services, particularly in rural health facilities.

Concerned that the current government health workforce is inadequate to reach the desired levels of improvement in access, the National Safe Motherhood Programme managers requested that a human resource strategy be developed to support the Programme. The DFID-funded Health Sector Reform Support Programme, implemented by RTI, provided the necessary funding to engage an international consultant, a senior national consultant and a local data collection team. Their task was to prepare the strategy, assure it reflected local decision makers' thinking and jointly with them, develop a three-year operational plan and budget.

Technical experts from the Support to Safe Motherhood Programme worked with the strategy team to define the critical staff categories and skill sets for safe delivery and the type of health facility these cadres work in. Primary data on staff numbers and skills were collected from all Regional Health Directorates and zonal, sub-regional and regional hospitals, as well as from a sample of 15 districts. The sample covered all geographic areas and development regions and urban and rural areas. Qualitative data, e.g. on factors affecting retention and motivation, were also gathered. Additional data came from visiting private and NGO facilities and local bodies and interviewing students of private medical colleges. Secondary data, available at the central level, were also analysed.

The following are the most important findings:

- A considerable variance exists between staff numbers in the MoHP HuRIC database and the data collected in the field. The MoHP is reported to be moving toward an e-HURIC, but whether this will improve available human resource data is not yet clear.
- A uniform database on health facilities appears not to be available or easily accessible at the central MoHP level.
- Staffing standards are facility-based, rather than workload-based, and human resource management remains highly centralised.

- Staff requirements for 2017, calculated on the basis of current MoHP facility expansion plans and staffing standards, are considerably larger than the currently available workforce. This is true for every category of safe delivery staff. The magnitude of required staff growth is such that meeting it by 2017 is not a realistic assumption.

- ANMs are the most stable staff category at every facility level. The majority of sanctioned ANM posts in rural facilities are filled and the majority of the ANMs filling these posts are working.

- Staff Nurses strongly prefer a post at higher-level facilities over PHCCs. Only 58 percent of sanctioned Staff Nurse posts are filled in PHCCs, but 87 percent are in zonal and regional hospitals.

- No sanctioned posts for AAs exist at the district hospital level. The AAs currently working appear not to be clear on their role and authority.

- MDGPs are trained to provide life-saving caesarean sections and supervise anaesthesia. The lack of a sanctioned MDGP post in district hospitals remains a serious de-motivator for retaining MDGPs at the district level, where these skills are critically important.

- Specialist doctors (obstetrician/gynaecologists, anaesthesiologists and MDGPs) are in overall short supply, and increasingly lost to migration and the private sector.

- The critical shortage of obstetrician/gynaecologists in zonal and regional hospitals severely affects these hospitals' ability to act as referral hospitals for mothers with obstetric complications.

- A severe gap of anaesthesiologists in zonal and regional hospitals seriously reduces these hospitals' ability to provide competent care in case of an obstetric emergency.

- The lack of a complete caesarean section (C/S) team in most district hospitals is a serious hindrance to the provision of CEOC services at this level. (A complete C/S team consists of a doctor who can do a caesarean section, a health worker capable of giving anaesthesia and a SBA-skilled nurse.)

- District hospital doctors, who have been trained in the use of ultrasound, appear not to be using their skills.

- All relevant cadres lack SBA skills. This is not surprising, given the recent start of SBA training in the country.

- MDGPs form one half of all inappropriately posted specialists in surveyed facilities. (An inappropriate posting was defined as one that does not require the qualifications which a person possesses.)
- The root cause of the problem in staffing safe delivery services is the inability of the Nepali government to attract and retain sufficient numbers of trained staff in the publicly funded health system.
- The overall lack of a functioning human resource management system underlies staffing problems in the safe delivery area.
- The very rigid nature of Nepal's civil service is a serious hindrance to appropriate staffing of safe delivery services.
- Before new training programmes are established, it is crucial to examine whether the proposed graduates are any more likely to accept a rural posting than the current ones. This is particularly important for the proposed diploma-level courses.
- If the MDGP is replaced by a DGO at the district hospital level, a diploma-holder in anaesthesia is needed to complete the safe delivery team. This will double the salary costs of specialist staff at this level.
- Improving staff housing, providing continuing education opportunities and better communication will increase staff satisfaction and help retain staff in remote government posts.

The short- and long-term human resource strategy options to be considered are:

Strategy # 1: Improving human resource planning and management

1. Make recruitment of critical safe delivery staff district and hospital-specific.
2. Decentralise recruitment powers for critical safe delivery staff to the district health office.
3. Develop workload-based staffing standards to replace current facility-based ones.
4. Develop a mechanism to ensure that infrastructure and equipment planning is linked with human resource planning.
5. Make sure that facility planning takes into account housing needs of critical safe delivery staff, who are expected to provide a 24-hour delivery service.
6. Install a reliable and functional human resource information system, produce regular analyses of the data for managers, and use the data for all human resource planning and management decisions.

Strategy # 2: Improving quantity of safe delivery staff in PHCCs and HPs

1. Increase ANM staffing in the existing 700 HPs to two ANMs to allow for 24-hour delivery service. Make sure that each of the 1,000 upgraded HPs has an ANM. If the ANM is upgraded from a MCHW and still draws an MCHW salary, increase the salary to that of an ANM.

2. Improve nurse staffing in PHCCs by giving the District Health Office the right to use the unused salary budget to contract Staff Nurses.

3. Improve nurse and ANM staffing in PHCCs and HPs by giving a government grant to VDCs in priority districts to hire these life-saving safe delivery staff.

4. Improve nurse and ANM staffing in PHCCs and HPs by reserving a certain percentage of the current grant of one million NPR to VDCs for hiring these life-saving safe delivery staff.

Strategy # 3: Improving supervision of safe delivery staff in PHCCs and HPs.

1. Improve technical supervision of Staff Nurses and ANMs who provide delivery services by equipping existing Public Health Nurses (PHNs) to act as supervisors. The supervision duty would be in addition to their current work.

Strategy # 4: Improving quantity and quality of safe delivery staff in district hospitals.

1. Increase the number of district hospitals with complete C/S teams by using a team approach for posting and retaining CEOC staff. (A district hospital CEOC team consists of a doctor with C/S skills, Anaesthesia Assistant and a nurse with SBA skills.)

2. Improve attractiveness of and retention in the MDGP career by

    a. Creating specialist doctor sanctioned posts for MDGPs in district hospitals,

    b. Developing career paths and promotion opportunities for MDGPs and

    c. Advocating for acceptance of MDGPs as specialists among their specialist colleagues.

3. Improve anaesthetic capability of district hospitals which provide CEOC by:

    a. Giving a financial incentive to AAs (payment for each anaesthesia) to encourage them to continue providing anaesthesia services while remaining in their old posts (as a Staff Nurse, HA, etc.).

    b. Developing a legal framework to guide AA practice and clarify the role and authority of an AA.

Strategy # 5: Improving safe delivery staff in first-referral hospitals.

1. Re-establish DGO, DA and DCH training programmes, but make them part of the MD-level training track. Give diploma holders preferential acceptance to MD training after a rural posting. Provide training credit for the one-year diploma study and for additional guided study/research during the rural work.

2. Engage skilled staff from first-referral hospitals in upgrading skills of district hospital staff, thus sharpening their own skills.

Strategy # 6: Increasing critical skills of safe delivery staff.

1. Maximise SBA training output by involving as many public, private and NGO training sites as possible, provided they can provide training of adequate quality.

2. Train one AA for each district hospital.

3. Ask medical schools to include C/S training as an option during the MBBS programme or during internship, particularly for the scholarship students.

4. Provide ultrasound training for doctors in district hospitals or ask medical schools to include it during internship, particularly for scholarship students.

5. Develop consensus on whether a new professional midwife category should be initiated. If yes, agree on the role, job functions and intended placement of this cadre and start the process of creating sanctioned posts for them.

Strategy # 7: Increasing staff retention in health facilities.

1. Provide an accommodation allowance for staff at PHCC and HP levels.

2. Provide district hospitals and PHCCs with internet access, e-mail and subscriptions to journals.

3. Provide a fixed telephone line to those PHCCs which do not currently have one.

1. Introduction

The Government of Nepal (GoN) is committed to improving the health status of Nepal's population through the provision of equitable and quality health care services. The 2007 Interim Constitution declared for the first time that health is a basic human right with the state having responsibility for it. The health sector consists of three main groups of providers: public sector, private sector (for profit) and NGO sector (not for profit). The Ministry of Health and Population (MoHP) has overall responsibility for health care delivery in the public sector. It executes this responsibility through Regional Health Directorates (RHDs) and District Health Offices, supported by Hospital Development Committees, District and Village Development Committees (DDCs and VDCs) and municipalities. Publicly funded health services are delivered in central, regional and sub-regional, zonal and district hospitals, primary health care centres (PHCCs), health posts (HPs) and sub-health posts (SHPs). The role and importance of the private (for profit) sector have expanded significantly after the 1990s. There are numerous doctor's offices, private clinics, small hospitals, and nursing homes, mainly in urban areas. NGOs are increasingly supporting government health services, both by implementing community-based programs and by managing health facilities.

In 2003, the GoN formulated a health sector reform strategy,[1] which is in line with Nepal's Poverty Reduction Strategy Paper and the Millennium Development Goals (MDGs). The strategy is implemented through the Nepal Health Sector Programme—Implementation Plan (NHSP-IP). The health status of Nepal's population has improved according to the Nepal Demographic and Health Survey (NDHS) of 2006. Mortality for children under five has been reduced by 48 percent (from 117 per 1,000 live births to 61) over the past 15 years, and infant mortality has decreased by 42 percent over the same period (from 82 per 1,000 live births to 48). Nepal is on track to achieve MDG 4, the reduction of under-five mortality to 54 per 1,000 live births by 2015. Increases in childhood immunisations may partially explain these reductions in deaths among young children. Neonatal mortality has been reduced to 33 deaths per 1,000 live births, a 33 percent decrease over the past 15 years. The majority of deaths of infants, however, are still neonatal.

Between 1996 and 2006, differences between castes, ethnic groups, and wealth quintiles decreased in under-five and infant mortality rates. They also decreased in contraceptive use, childhood immunisation, diarrhoeal disease control, and treatment for acute respiratory infection. Disparities in birth weight or size at birth also diminished.

Nepal's Millennium Development Goal for maternal health (MDG 5) is a 75 percent reduction in the maternal mortality ratio by 2015. Safe motherhood and neonatal health are key elements of the essential health care package in the NHSP-IP. Maternal mortality has declined. The 2006 NDHS reports a dramatic decrease in the maternal mortality ratio from 539 per 100,000 live births in 1996 to 281. Family planning use has also improved.

[1] *Health Sector Reform Strategy, an Agenda for Reform,* Ministry of Health and Population, Kathmandu, Nepal. 2003.

Currently, 44 percent of married women use a modern contraceptive, whereas 10 years ago only 26 percent did so. Use of skilled assistance at birth is still low, however. Peripheral health facilities are underutilised and poorly staffed, while zonal and regional hospitals are overcrowded with somewhat better staffing levels.

The government announced recently that essential health care services will be free of charge at district hospitals and primary health care centres. User fees were abolished at health and sub-health posts in January 2008. To increase safe deliveries equitably in institutions, the government will introduce free delivery services (for normal deliveries, those with complications and caesarean sections) at all health facilities.

Gains have thus been made since 1996 in reducing inequalities in access to and differences in utilisation of health services between castes and ethnic groups, as well as between poor and wealthier citizens of Nepal. Inequalities in access and use persist, however, and they are increasing for some services. The government faces serious challenges to providing equitable basic health services of acceptable quality to all citizens. Difficult terrain, poor social inclusion of certain population groups, variability in population density, recent political instability, unequal development, and inadequate health funding are examples of these challenges.

Further reducing the maternal mortality ratio requires improving women's access to safe delivery services. This includes both skilled assistance at normal deliveries and safe caesarean sections. These essential services cannot be provided without trained and motivated health workers being available at the time of birth. The public sector has been unable to maintain constant and adequate staffing of safe delivery services, particularly in rural health facilities. Concerned about the severe staffing constraints, the Support to Safe Motherhood technical team requested that a human resource strategy be developed to support the Programme. The DFID-funded Health Sector Reform Support Programme, implemented by RTI, provided the necessary funding to engage an international consultant and a local team. Their task has been to develop the strategy, assure it reflects local decision makers' thinking and together with them, prepare a three-year operational plan and budget.[2] This document is the outcome of their work.

2. Nepal's National Safe Motherhood Programme

The National Safe Motherhood Programme has long been a key component of all major health plans and strategy documents in Nepal. The National Safe Motherhood Long Term Plan was revised in 2006 to take account of MDGs and international developments in maternal health. The revised plan, *The National Safe Motherhood and Newborn Health - Long Term Plan 2006-2017*, seeks to reduce the maternal mortality ratio from 539 per 100,000 live births in 1996 to 134 per 100,000 by 2017, and the neonatal mortality rate from

[2] Annex 1 presents the terms of reference of the international consultant.

30 per 1,000 in 2002 to 15 per 1,000 by 2017. Particular emphasis is given to the poor and excluded segments of the population.

Considering the critical importance of skilled attendance at birth to saving mothers' and newborns' lives, the Long Term Plan sets the following indicators for increasing access:

- Deliveries assisted by a Skilled Birth Attendant (SBA) to 60 percent of total by 2017,[3]
- Deliveries in health facilities to 40 percent of total by 2017,
- Met need for emergency obstetric care to grow by 3 percent per year, and
- Met need for caesarean section to grow by 4 percent per year.

The Safe Motherhood Programme managers recognise that the current government health workforce is inadequate to reach the desired levels of improvement in access. Most Auxiliary Nurse Midwives (ANMs), Staff Nurses, and doctors lack SBA skills. Government health facilities have too few doctors with obstetric, surgical, and anaesthesiology skills and too few Staff Nurses. Many skilled staff emigrate out of Nepal. Sanctioned staff posts with appropriate career paths do not exist for key categories of staff, such as Medical Doctor - General Practice (MDGP) and Anaesthesia Assistant (AA). Budget constraints have prohibited meaningful increases in staff salaries, incentives, and staffing levels. Staff deployment and rotation require improvements to counteract the severe staffing gaps, particularly in rural facilities. Basic human resource management systems remain weak at both central and local levels, and absenteeism rates are high.

Two key documents support the Long Term Plan and stress the importance of increasing the number of SBA-competent health providers. They are the 2006 *National Policy on Skilled Birth Attendants* and the *National In-Service Training Strategy for Skilled Birth Attendants 2006-2012*.[4] The National SBA Policy defines who can be considered a Skilled Birth Attendant in Nepal. It lists the core competencies required of all SBAs and the advanced competencies of selected SBA categories. Short-, medium- and long-term measures to improve the workforce are identified. Short-term measures include:

- Competency-based core skills training or assessment of competencies and SBA certification (as appropriate) for ANMs, Staff Nurses and doctors working in Basic Emergency Obstetric Care (BEOC) sites,
- Advanced SBA training for doctors working in Comprehensive Emergency Obstetric Care (CEOC) sites, and
- Post-basic midwifery training for all Staff Nurses working in PHCCs and maternity units of district hospitals.

[3] The figure was 19% in 2006, according to the Department of Health Services.
[4] The 2006 *National Essential Maternal and Neonatal Health Care Package* is a third key document. It defines the Essential Maternal and Neonatal Care Services for Nepal.

Restructuring the current ANM course as a two-year course is a medium-term measure; introducing a new cadre of a professional midwife is a long-term one.

Following the recommendations of the 2003 *Nepal Strategic Plan for Human Resources for Health*,[5] the National SBA Policy states that by 2017, each health post will be staffed by one Staff Nurse and two ANMs and each sub-health post by two ANMs. These health workers are to be technically supervised by a nurse midwife or a professional midwife, working at the district hospital or PHCC.

The SBA In-Service Training Strategy aims to provide competency-based in-service training in SBA to all eligible current and newly recruited ANMs, Staff Nurses, and doctors who work in government facilities. It estimates that over 5,000 SBAs must be trained by 2012 to reach the target of 60 percent SBA assisted births in 2015.[6] The Training Strategy also includes identifying, strengthening and accrediting additional SBA training sites, because available training capacity is considered insufficient to reach the large training target.

3. Previous human resource strategy development efforts

Nepal has undertaken a number of efforts to develop appropriate human resource strategies. Implementation of their recommendations, however, appears incomplete or lacking. Two strategy development efforts of particular relevance to the current work are described below. They are the 2003 *Strategic Plan for Human Resources*[5] and the February 2005 WHO-supported "rapid appraisal of the current situation and outline strategy" for skilled birth attendance.

The 2003-2017 Strategic Plan for Human Resources was intended to (a) specify the direction and growth of human resource growth, (b) outline human resource objectives for the medium term, and (c) identify short-term policy actions for the Ministry of Health and Population. A WHO computer-modelling tool was used to project future human resource requirements and supply. The final document includes the projections and examines their implications for training and training institutions. The Plan projects a 71 percent increase in the public sector workforce by 2017 and proposes the following staffing standards, relevant to safe delivery[6]:

PHCC: 1 doctor, 1 nurse, and 2 ANMs
HP: 1 nurse and 2 ANMs
SHP: 2 ANMs

The Plan includes numerous policy proposals (40 in total), which are labelled an "initial set." They address organisational roles, health facility staffing, training, recruitment, employment, and deployment of staff, and public versus private sector work. Few of these proposals appear to have been implemented to date.

[5] *Strategic Plan for Human Resources for Health 2003 to 2017*, Ministry of Health, Kathmandu, Nepal. April 2003.
[6] N.B. The Long Term Plan and the In-Service Training Strategy differ slightly in the target year for reaching 60% SBA assisted births. The former uses 2017; the latter 2015.

The main objectives of the 2005 WHO-supported assignment were to (a) conduct a rapid appraisal of the existing situation regarding human resources for safe motherhood and (b) develop an outline of a strategic plan for such human resources. The document stresses the primary importance of developing and implementing a long-term human resource strategy. Its key recommendations are to:

- Commence, with immediate effect, the development of a new cadre of community or public health midwives,
- Require, also with immediate effect, that all Staff Nurses providing midwifery services undertake a one year post-registration midwifery training to become maternity nurses or nurse-midwives,
- Develop supportive mechanisms, including incentives for MDGPs, and
- Give "urgent, intensive and concerted" attention to the enabling environment.

There seems to have been little progress in implementing these recommendations.[7]

4. Planning environment at the time of developing the strategy

The development of the human resource strategy for safe delivery took place at a time when fundamental changes were taking place in Nepal's governance. Nepal was still a Hindu kingdom when the strategy development started. When it finished, Nepal had an elected Prime Minister from the Maoist party. The decision to change Nepal into a federal state has been made, but boundaries and powers of the federated parts were yet to be determined.

Nepal's new governing coalition has stated that health and education are priorities. How that commitment will translate to funding in the national budget remains to be seen. Delays in forming the post-election government led to postponing the release of the national budget by three months. Thus, it was not possible to examine either the potential role of the federated parts of Nepal in health facility staffing or the likely growth in health funding.

5. Methodology

The strategy development team consisted of an international consultant, a senior national consultant, and a contracted local team from DMI (Pvt.) Ltd, responsible for data collection. The team first met with technical experts from the Support to Safe Motherhood Programme. The meeting had two purposes: (1) Refine the broad terms of reference and (2) Define the critical staff categories, skill sets, health facilities, and equipment for which field data were to be collected. The initial terms of reference were to cover all maternal health staff. It was decided to narrow the focus to health workers required for safe delivery, considering the

[7] The WHO document was neither included in the list of resources in the international consultant's Terms of Reference nor was it referred to in most discussions with safe delivery experts. This raises the question of whether the government approves and is committed to its recommendations.

importance of this group. Particular emphasis was to be given to staff working at district hospitals and below.

The lists below show the critical staff categories and skill sets for safe delivery and the type of health facility the staff work in. The most important equipment for retaining skilled staff was also identified. (See page 32).

5.1 Critical staff cadres and their skill sets

5.1.1 Health posts with a birthing centre

- Staff Nurse(s) competent in SBA, including infection prevention
- ANMs competent in SBA, including infection prevention

5.1.2 Health posts without a birthing centre

- ANMs competent in SBA, including infection prevention

5.1.3 Primary Health Care Centre

- MBBS(s) competent in SBA, including infection prevention
- Staff Nurse(s) competent in SBA, including infection prevention
- ANMs competent in SBA, including infection prevention

5.1.4 District hospital with CEOC capability

- Obstetrician/gynaecologist or MDGP competent in caesarean section and SBA, including infection prevention
- AA
- Staff Nurses competent in SBA, including infection prevention, and in operating theatre (OT) management
- ANMs competent in SBA, including infection prevention
- MBBSs competent in SBA, including infection prevention, safe blood transfusion, and ultrasound (USG)
- Medical Statistician or medical recorder competent in EOC monitoring

5.1.5 District hospital with BEOC capability

- MBBSs competent in SBA, including infection prevention
- Staff Nurses competent in SBA, including infection prevention
- ANMs competent in SBA, including infection prevention
- Medical recorder competent in EOC monitoring

5.1.6 Zonal hospital – Maternal health unit

- Specialist obstetrician/gynaecologist and MDGP competent in caesarean section and SBA, including infection prevention
- Anaesthesiologist and AA (if the hospital has an obstetrician/gynaecologist or a MDGP)
- Paediatrician
- MBBSs competent in SBA, including infection prevention, safe blood transfusion, and ultrasound
- Professional midwife
- Staff Nurses competent in SBA, including infection prevention, and in operating theatre management
- ANMs competent in SBA, including infection prevention
- Medical Statistician competent in EOC monitoring

5.2 Data collection, analysis and reporting

The DMI data collectors first gathered and analysed secondary data, available at the central level. Next, they collected primary data from:

- Regional Health Directorates
- Zonal, sub-regional, and regional hospitals
- District health offices, district hospitals, PHCCs, and HPs
- Municipality, Village, and District Development Committees (VDCs and DDCs)
- Private sector institutions, organisations, and students
- Health managers and workers

To collect the data on site, the data collectors used questionnaires, guidelines, and checklists, which were previously designed for this purpose. They conducted in-depth interviews to gather qualitative data from private institutions, students, health managers and workers and the various Village and District Development Committees.

All Regional Health Directorates and zonal, sub-regional, and regional hospitals were visited and data collected from them.[8] Data on HP, PHCC, and district hospital staffing were collected from a sample of 15 districts. (See Annex 2 for a list of facilities in the study sample). The sample districts and health facilities cover all geographic areas (Mountains, Hills and Terai) and development regions (Eastern, Central, Western, Mid-Western and Far Western). The health facilities were selected from both urban and rural areas.

[8] Data from regional and sub-regional hospitals are discussed and presented in this report under the heading "regional."

The data collector validated with the District Health Office in each sample district the data on human resources, which the Regional Health Directorate had provided. In-depth interviews were carried out with the medical superintendents of the district hospitals, ward in-charges, and other maternal health workers, particularly those involved in safe delivery. In each district, the data collector visited two peripheral health facilities (one PHCC and one HP). Detailed information was collected on availability of delivery services and maternal health staff, staff skills, and factors contributing to the presence of staff at the district level and below.

The contribution of private and NGO health facilities to maternal health and safe delivery services was examined by visiting a total of ten institutions - five from Hills and five from Terai. (See Annex table 2.2.) Checklists were used to collect the information. In addition, students in private medical colleges were interviewed to learn their perspectives on serving the country through the public sector.

Local bodies, i.e. municipalities, VDCs and DDCs were visited to collect information on their views regarding health service delivery and their possible role in human resources for safe delivery. A total of 23 local bodies (3 from Mountain, 12 from Hills and 8 from Terai) were visited. (See Annex table 2.3).

At the start of the assignment, the strategy team solicited the views and concerns of senior Health Ministry and Department officials through a series of meetings. As work progressed, the team sought to meet with as many of the most important safe motherhood stakeholders and opinion leaders inside and outside the government as time allowed. The team members also met with representatives of relevant other ministries and government offices, such as Finance, Public Service, and General Administration. Selected preliminary findings were presented in the July 2008 Joint Annual Review (JAR) meeting.

A three-year operational plan and budget were prepared after the strategy report was ready in final draft form. The operational plan focuses on seven key strategies. It lists activities supporting these strategies, and the year of implementation, responsible agent and outputs for each activity. The draft operational plan was circulated to the Safe Motherhood technical team and responsible agency heads. Relevant feedback was incorporated.

The additional cost of implementing the operational plan was estimated using ingredient-based costing. The salary calculations are based on the GoN's new salary scale. The training and workshop costs use existing norms and rules for the first year and norms proposed by the National Health Training Centre (NHTC) for subsequent years.[9]

[9] NHTC has submitted to the Ministry a proposal for change in allowances of health workers during training.

6. Findings

6.1 Availability and quality of human resource data

Good human resource decisions require good information about the composition, deployment, and characteristics of the workforce. The MoHP's human resource information system, HuRIC (previously HuRDIS), was developed with technical assistance from GTZ over a decade ago. It was initially housed under the Department of Health Services, but was transferred to the Ministry approximately two years ago. Very few standard reports seem to be produced currently by the unit responsible for HuRIC.

At the regional level, human resource data appear to be more easily accessible, but the data are at variance with those available at the central level. A comparison of HuRIC data on filled posts with the data collected from all zonal and regional hospitals shows considerable discrepancy. The field study found 138 medical doctor filled posts (specialists and medical officers combined) in these hospitals, far fewer than in HuRIC (167), as Table 1 on the following page shows. Conversely, the field study identified substantially more filled posts for other staff than HuRIC (402 versus 173). The field study found three times as many filled Staff Nurse posts (328) as shown in HuRIC (113). Details are provided in Table 2.

Table 3 compares HuRIC data for district hospitals with field data from selected facilities. The discrepancy in medical officer filled posts may be explained if HuRIC includes MBBS graduates with a two-year service requirement. The large variance in Staff Nurse numbers, however, is more difficult to understand. HuRIC shows 16 Staff Nurses in the 10 district hospitals, while the field study identified 44, of whom only one is locally appointed. A 2006 Nick Simons Institute (NSI) study found the MoHP human resource data (in HuRDIS) for district hospital staff to be close to the staffing pattern which the NSI study team discovered.[10] It appears that the variance between MoHP and regional human resource information has increased in the last two years, particularly for Staff Nurses.

The differences between the data collected in the field and the HuRIC figures are a serious concern. Outdated or poor quality information on important human resource figures, such as filled posts, jeopardises all efforts to base human resource planning, training, and management on evidence. The Ministry is reported to be moving toward an e-HuRIC. It was not possible to examine whether an e-HuRIC is likely to improve the quality and availability of human resource information for health managers.

[10] *Deployment of Health Care Workers in Government District Hospitals in Nepal*. Nick Simons Institute, Kathmandu, Nepal. 2006.

Table 1: Filled posts for doctors in regional and zonal hospitals: Comparison of HuRIC and field survey data, 2008

District	Health facility	Anaesthesiologist		Obstetrician/ gynaecologist		Paediatrician		MDGP		Medical Officer		Total		
		HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	Field s. as % of HuRIC
A. Eastern Development Region														
Morang	Koshi ZH	0	0	0	1	0	1	0	1	26	12	26	15	58%
Jhapa	Mechi ZH	2	1	1	1	0	1	1	0	9	5	13	8	62%
Shaptari	Sagarmatha ZH	0	0	0	0	0	1	0	0	15	5	15	6	40%
B. Central Development Region														
Parsa	*Narayani Sub-ZH*	0	1	2	2	0	1	0	0	13	12	15	16	107%
Chitwan	Bharatpur ZH	0	1	1	1	1	2	1	1	13	10	16	15	94%
Dhanusa	Janakpur ZH	1	1	0	0	1	1	0	0	12	10	14	12	86%
Bhaktapur	Bhaktapur ZH	1	1	2	1	0	1	0	0	4	3	7	6	86%
C. Western Development Region														
Kaski	Western RH	1	1	2	1	1	2	0	1	20	20	24	25	104%
Rupedihi	Lumbini ZH	0	1	1	1	1	1	0	1	12	10	14	14	100%
D. Mid Western Development Region														
Banke	Bheri ZH	2	1	1	1	0	1	0	0	9	7	12	10	83%
Surkhet	Mid West RH	0	0	0	1	0	1	0	0	0	4	0	6	-
E. Far Western Development Region														
Kailali	Seti ZH	1	0	0	1	0	0	0	0	5	2	6	3	50%
Kanchanpur	Mahakali ZH	0	0	0	0	0	0	0	0	5	2	5	2	40%
Total		**8**	**8**	**10**	**11**	**4**	**13**	**2**	**4**	**143**	**102**	**167**	**138**	**83%**

Note: 1. HuRIC data includes temporary appointments and MBBS doctors bonded on a 2-year contract. 2. Field data excludes MBBS doctors bonded on 2-year contract. RH = Regional hospital; ZH = Zonal hospital; Sub-ZH = Sub-zonal hospital.

Source: HuRIC and Nepal Safe Delivery Survey, DMI, 2008.

Table 2: Filled posts of other staff in regional and zonal hospitals: Comparison of HuRIC and field survey data, 2008

District	Health facility	Medical Record Officer		Medical Record Assistant		Anaesthesia Assistant		Staff Nurse		ANM		Total		
		HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	Field s. as % of HuRIC
A. Eastern Development Region														
Morang	Koshi ZH	0	0	0	2	0	0	9	55	2	10	11	67	609%
Jhapa	Mechi ZH	0	0	2	1	0	0	4	9	8	6	14	16	114%
Shaptari	Sagarmatha ZH	0	0	1	1	0	0	5	16	1	6	7	23	329%
B. Central Development Region														
Parsa	Narayani Sub-ZH	0	1	1	1	0	0	12	40	6	6	19	48	253%
Chitwan	Bharatpur ZH	0	0	0	1	0	0	17	24	9	3	26	28	108%
Dhanusa	Janakpur ZH	0	0	2	1	0	0	4	18	4	3	10	22	220%
Bhaktapur	Bhaktapur ZH	0	0	1	1	0	0	3	18	4	4	8	23	288%
C. Western Development Region														
Kaski	Western RH	0	1	1	2	0	0	21	66	1	0	23	69	300%
Rupedihi	Lumbini ZH	0	0	1	1	0	0	11	24	3	3	15	28	187%
D. Mid Western Development Region														
Banke	Bheri ZH	0	0	0	1	0	0	17	24		3	17	28	165%
Surkhet	Mid West RH	0	0	1	1	0	0	3	11	4	4	8	16	200%
E. Far Western Development Region														
Kailali	Seti ZH	0	0	0	1	0	0	4	11	6	5	10	17	170%
Kanchanpur	Mahakali ZH	0	0	0	1	0	0	3	12	2	4	5	17	340%
Total		**0**	**2**	**10**	**15**	**0**	**0**	**113**	**328**	**50**	**57**	**173**	**402**	**232%**

Note: 1. HuRIC data includes temporary appointments and MBBS doctors bonded on a 2-year contract. 2. Field data excludes MBBS doctors bonded on 2-year contract. RH = Regional hospital; ZH = Zonal hospital; Sub-ZH = Sub-zonal hospital.

Source: HuRIC and Nepal Safe Delivery Survey, DMI, 2008.

Table 3: Comparison of HuRIC data for district hospitals with field data from selected facilities, 2008

District	Health facility	Obstetrician/ gynaecologist		Paediatrician		MDGP		Medical Officer		Medical Record Assistant		Staff Nurse		ANM		Total		
		HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	HuRIC	Field study	Field S. as % of HuRIC
Dhankutta	DH	0	0	0	0	0	0	1	0	1	1	1	4	3	2	6	7	117%
Panchthar	DH	0	0	0	0	1	0	0	0	1	1		1	2	2	4	4	100%
Sunsari	DH	0	0	0	0	0	0	3	3	0	1	1	4	4	3	8	11	138%
Dolakha	DH	0	0		0	0	0	3	1	0	0	0	3	1	2	4	6	150%
Baglung	DH	0	0	0	0	0	0	4	3	0	0	4	9	3	2	11	14	127%
Rupendehi	DH	0	1	0	1	1	0	5	1	1	1	6	9	4	3	17	16	94%
Dang	DH	0	0	0	0	0	0	2	2	2	1	2	9	3	3	9	15	167%
Jumla	DH	0	0	0	0	0	0	1	1	1	0	1	1	2	2	5	4	80%
Dadeldhura	DH	0	0	0	0	0	0	0	0	0	0	1	2	1	2	2	4	200%
Doti	DH	0	0	0	0	0	0	1	0	0	1	0	2	2	2	3	5	167%
Total		**0**	**1**	**0**	**1**	**2**	**0**	**20**	**11**	**6**	**6**	**16**	**44**	**25**	**23**	**69**	**86**	**125%**

Note: 1. HuRIC data includes temporary appointments and MBBS doctors bonded on a 2-year contract. 2. Field data excludes MBBS doctors bonded on 2-year contract. DH = district hospital.

Source: HuRIC and Nepal Safe Delivery Survey, DMI, 2008.

6.2 MoHP plans influencing staffing for safe delivery

Health worker requirements are influenced by national plans to change government health services and the out-of-pocket cost to the user of those services. They are also affected by changes in the number or mix of health facilities and the staffing standards used for each type of health facility.

Annex 3 lists the main strategies, targets, and indicators of the MoHP, which are of relevance to safe delivery staffing. They are drawn from the most important MoHP planning documents and summarised in Table 4, below. The MoHP's plan for expanding health facilities is particularly important for future staffing. The *Three Year Plan for 2007/08 to 2009/10* calls for upgrading 1,000 SHPs into HPs and establishing 14 new PHCCs. In addition, there are to be three more zonal hospitals and one additional regional hospital.

Table 4: Safe motherhood indicators

Indicator	2006	2007	2010	2015	2017	Source
Deliveries in facilities			25%		40%	1, 2
SBA-assisted deliveries	19%		35%		60%	2, 3
Maternal mortality ratio	281		250	134	134	2, 1
Districts providing CEOC		31%			60%	4
PHCCs providing BEOC		20%			80%	4
HPs with delivery service		10%			70%	4
RH established in Dhangadi			Target date			3
ZHs established in Rapti, Jumla and Baglung			Target date			3
PHCCs established			14			3
SHPs upgraded to HPs			1000			3
Enhanced skill mix by 10% at sub-health posts, 15% at health posts, 20% at PHCCs and 25% at district hospitals where BEOC and CEOC are provided			Target date			1
District and PHCC facilities fully staffed with SBAs (both number and type)				40%		1
Production of MDGPs, DA, DGO and DCH for district hospitals strengthened			Starting in 2009			1
Each district hospital with 10 Staff Nurses, 4 graduate nurses and 6 ANMs					Target date	5
Each HP with 2 ANMs and 2 Staff Nurses					Target date	5

1. Nepal Health Sector Programme - Implementation Plan (NHSP-IP) Revised Log-Frame, July 2008

2. National Safe Motherhood and Newborn Health - Long Term Plan (2006-2017), 2006

3. Three Year Plan 2007/08 – 2009/10, Ministry of Health and Population

4. Situation analysis of EmONC services and HR in Nepal, presented by Nepal Delegation in the Third Meeting of the South Asia Network for Reduction of Maternal and Neonatal Mortality and Morbidity, , 6-8 June 2008, New Delhi, India

5. Strategic Plan for Human Resources for Health 2003 to 2017, Ministry of Health, April 2003

Two projections were made of health workers required for safe delivery care by 2017 in district hospitals, PHCCs and HPs. The first projection (Table 5) is a “maximum” scenario and assumes that health facilities will grow and be upgraded in accordance with the MoHP targets and indicators in Table 4. The second projection (Table 6) is a “minimum” scenario, which assumes no increase or upgrading of current health facilities. Both projections use the staffing standards, which the MoHP 2003 Human Resource Strategic Plan set for these facilities.

The calculated staff requirements for 2017 are considerably larger than the currently available workforce for every category of staff. This is true of both the “maximum” and the “minimum” projection. A little over 1,700 staff now occupy the safe delivery cadres in government health facilities at the district level and below. Of them, approximately 250 are medical doctors and another 250 Staff Nurses. There are a little over 1,200 ANMs. Staffing district health facilities – current and new planned and upgraded ones – using currently approved staffing standards would require a total of almost 7,000 safe delivery staff. The number of ANMs would need to triple and the number of Staff Nurses grow by a factor of eight. Over 400 medical officers would be required for district hospitals. The total workforce in safe delivery cadres would increase by more than 5,000 health workers in nine years. Even the “minimum” staff projection implies a total staff growth of 3,500. There would be a five-fold increase in Staff Nurses, more than double the current number of ANMs, and one and a half times the number of doctors.

The magnitude of staff growth in either projection is such that meeting it by 2017 is not a realistic assumption. Clear priorities are needed for how safe delivery services are to be staffed and health workers trained for these posts. The projections also call into question the validity of the 2003 staffing standards, which are facility- and not workload-based.

The MoHP is currently revising its Safe Delivery Incentives Programme (SDIP). In the current Programme, health workers get an incentive for both home and institutional deliveries. Service utilisation, particularly by the poor, has increased as a result. The Ministry is reportedly considering the removal of the home delivery incentive to encourage institutional deliveries. It was not possible to predict to what extent its removal would increase such deliveries.

Table 5: Safe delivery staffing requirement by 2017, assuming planned growth in facilities, compared with current staffing, 2008

Staff category	Staffing requirement in 2017						Staffing in 2008							
							District hospitals		PHCCs		Health posts		Total	
	DH with CEOC	DH with BEOC	PHCC	HP with birthing centre	HP without birthing centre	Total	Sanctioned posts	Presently working	Sanctioned posts	Presently working	Sanctioned posts	Presently working	Sanctioned posts	Presently working
MDGP or obstetrician/ gynaecologist	37					37	0	6					0	6
Medical Officer	111	75	222			408	110	109	207	145			317	254
Anaesthesia Assistant	37					37	0	0					0	0
Graduate nurse	149	100				249	0	0					0	0
Staff Nurse	370	250	222	1,175		2,017	242	148	206	103	0	0	448	251
ANM	222	150	444	2,349	1,007	4,172	128	125	614	531	676	577	1,418	1,233
Medical Record Officer	37	25				62	0	0					0	0
Total	**963**	**600**	**888**	**3,524**	**1,007**	**6,982**	**480**	**388**	**1,027**	**779**	**676**	**577**	**2,183**	**1,744**

Source: Regional Health Directorates, 2008.
In 2008, there were 62 district hospitals, 208 PHCCs and 678 HPs.
Assumptions: No new district hospitals; 14 new PHCCs and 1,000 SHPs upgraded to HP by 2010; no increase after that. 60% of district hospitals with CEOC. 70% of HPs with delivery service by 2017.
Facility staffing standards come from the 2003 Strategic Plan for Human Resources for Health, adjusted by SSMP project experts for safe delivery. By 2017:

- **Each district hospital has 3 medical officers, 10 Staff Nurses, 4 graduate nurses, 6 ANMs, and 1 medical record officer. Each district hospital with CEOC has, in addition, 1 MDGP or obstetrician/gynaecologist and 1 Anaesthesia Assistant. The HR Plan recommendation of 3 medical specialists was not applied, except for substitution of MDGP by an obstetrician/gynaecologist.**
- **Each PHCC has 1 medical officer, 1 Staff Nurse and 2 ANMs.**
- **Each health post with birthing centre has 1 Staff Nurse and 2 ANMs.**
- **Each health post without birthing centre has 2 ANMs.**

Table 6: Safe delivery staffing requirement by 2017, assuming no growth in facilities, compared with current staffing, 2008

Staff category	Staffing requirement in 2017						Staffing in 2008							
							District hospitals		PHCCs		Health posts		Total	
	DH with CEOC	DH with BEOC	PHCC	HP with birthing centre	HP without birthing centre	Total	Sanctioned posts	Presently working	Sanctioned posts	Presently working	Sanctioned posts	Presently working	Sanctioned posts	Presently working
MDGP or obstetrician/ gynaecologist	37					37	0	6					0	6
Medical Officer	111	75	208			394	110	109	207	145			317	254
Anaesthesia Assistant	37					37	0	0					0	0
Graduate nurse	149	100				249	0	0					0	0
Staff Nurse	370	250	208	475		1,303	242	148	206	103	0	0	448	251
ANM	222	150	416	949	1,407	3,144	128	125	614	531	676	577	1,418	1,233
Medical Record Officer	37	25				62	0	0					0	0
Total	**963**	**600**	**832**	**1,424**	**1,407**	**5,226**	**480**	**388**	**1,027**	**779**	**676**	**577**	**2,183**	**1,744**

Source: Regional Health Directorates, 2008.
In 2008, there were 62 district hospitals, 208 PHCCs and 678 HPs.
Assumptions: No growth in facilities. 60% of district hospitals with CEOC. 70% of HPs with delivery service by 2017.
Facility staffing standards come from the 2003 Strategic Plan for Human Resources for Health, adjusted by SSMP project experts for safe delivery. By 2017:

- **Each district hospital has 3 medical officers, 10 Staff Nurses, 4 graduate nurses, 6 ANMs, and 1 medical record officer. Each district hospital with CEOC has, in addition, 1 MDGP or obstetrician/gynaecologist and 1 Anaesthesia Assistant. The HR Plan recommendation of 3 medical specialists was not applied, except for substitution of MDGP by an obstetrician/gynaecologist**
- **Each PHCC has 1 medical officer, 1 Staff Nurse and 2 ANMs**
- **Each health post with a birthing centre has 1 Staff Nurse and 2 ANMs.**

The availability of skilled health workers at the facility level is a factor both of the output of such graduates from training programmes and of a government health system's ability to attract and retain such staff. The Three Year Plan includes establishing courses for doctors in order to produce "MDGP, DA, DGO and DCP in adequate number." [11] The *Nepal Health Sector Programme - Implementation Plan (NHSP-IP), Revised Log-frame, July 2008* adds a DCH (Diploma in Child Health) to the list of diploma-level training programmes for medical graduates. "Production of MDGP, DA, DGO, DCH and DCP for strengthening 30 district hospitals started from 2009" is one of the NHSP-IP indicators. It was not clear at the time of writing this report, whether training institutions have already agreed to run such diploma courses. Whether the graduates would be any more likely than current MDGPs to take up employment in district hospitals is uncertain.

6.3 Public sector health facilities, bed strength, and delivery services

6.3.1 Public sector health facilities

The strategy team found it difficult to obtain a uniform list of public sector health facilities from the central level. The lack of a uniform database on health facilities at the centre seriously hampers planning the health workforce required to staff these facilities. Table 7 below presents information obtained from the RHDs on government health facilities by development region.

Table 7: Distribution of health facilities in the public sector by development region, 2008

Development region	Regional hospital	Zonal hospital	District hospital	PHCC	Health post	Total
Eastern	0	3	14	50	142	209
Central	1	3	12	67	170	253
Western	1	1	16	42	144	204
Mid Western	1	1	13	29	133	177
Far Western	0	2	7	20	89	118
Total	**3**	**10**	**62**	**208**	**678**	**961**

Source: Regional Health Directorates, 2008

An analysis of the facility data by geographic region shows that the hill region has the highest number of health facilities overall. The mountain region has no zonal or regional hospitals, (Table 8).

[11] DA = Diploma in Anesthesiology; DGO = Diploma in Gynaecology and Obstetrics; DCP = Diploma in Clinical Pathology

Table 8: Distribution of health facilities in the public sector by geographic region, 2008

Geographic region	Regional hospital	Zonal hospital	District hospital	PHCC	Health post	Total
Mountain	0	0	16	20	149	185
Hill	2	1	32	101	364	500
Terai	1	9	14	87	165	276
Total	**3**	**10**	**62**	**208**	**678**	**961**

Source: Regional Health Directorates, 2008

6.3.2 Bed strength and delivery services

Bed strength and the number of delivery services in the sampled facilities are shown in Table 9, below. The thirteen zonal and regional hospitals have 1,991 beds. Their average annual number of deliveries is 2,414, caesarean sections 404, and cases referred to higher level facilities 66. These second and third-level referral hospitals thus have an average of 15.8 deliveries per bed, indicating serious overcrowding.

Table 9: Health facility bed strength and delivery services, 2008

Particulars	Regional/zonal hospital (N = 13)		District hospital (N = 10)		PHCC (N = 15)		HP (N = 15)	
	Number	Average	Number	Average	Number	Average	Number	Average
Total Beds	1,991	153	233	23	44	3	0	0
Deliveries	31,388	2,414	5,607	561	1,474	98	410	27
C/S	5,254	404	68	7	-	-	-	-
Referrals	855	66	439	44	146	10	36	2

Source: Nepal Safe Delivery Field Survey, DMI, 2008

There are 75 districts but only 62 district hospitals. Their sanctioned bed capacity ranges between 15 and 25 beds, but the actual number of operational beds varies across the districts. The average bed strength was 23 per district hospital, according to the data gathered for this study. There were an average of 561 annual deliveries and seven caesarean sections per facility.

PHCCs have three commissioned beds of which one has to be designated for maternity cases. (A total of 44 beds was found to be operational in the 15 PHCCs visited by the study team.) The average annual number of deliveries is 98 per facility, a very low average of eight per month. There are ten referrals a year on average.

Health posts do not have any officially sanctioned beds, unless the HP has a birthing centre. A total of 410 annual deliveries is conducted by HP staff either at the health post itself or as a home delivery.

6.4 Availability of critical safe delivery staff

Human resources planning and management in Nepal are based on facility-based staffing standards. There are fixed numbers of sanctioned posts for each category of staff per level of health facility. This staffing pattern does not take into account either local needs or facility workloads. Furthermore, the numbers of health facilities, sanctioned posts, and staffing patterns in the publicly funded health system have remained virtually unchanged for the last 15 years. Human resource management remains highly centralised.

The current staffing situation for critical safe delivery staff was analysed by the number of government sanctioned posts, filled posts, and staff working on the day of the study team's visit. In addition to the government staff, information was collected from each visited health facility on the number of critical safe delivery staff who were locally appointed. Tables 10 and 11 provide summary analyses of the staffing situation in the district and below and at all three hospital levels. More detailed analyses of the same data (by category of staff and development region and geographic area) can be found in Annex tables 4.1 to 4.6.

Table 10: Total government safe delivery staff in PHCCs and HPs, 2008

Staff category	PHCC					HP					Total				
	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of
Medical Officer	207	77	145	37%	188%	NA	NA	NA			207	77	145	37%	188%
Staff Nurse	206	120	103	58%	86%	0	0	0			206	120	103	58%	86%
ANM	614	537	531	87%	99%	676	570	577	84%	101%	1290	1107	1108	86%	100%
Total	**1,027**	**734**	**779**	**71%**	**106%**	**676**	**570**	**577**	**84%**	**101%**	**1,703**	**1,304**	**1,356**	**77%**	**104%**

Source: Regional Health Directorates, 2008

Note: 85 MBBS doctors, trained on government scholarship and bonded for two years, are included in the PHCC

Table 11: Total government safe delivery staff in district, zonal and regional hospitals, 2008

Staff Category	Zonal or regional hospital					District hospital					Total				
	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Anaesthesiologist	17	8	6	47%	75%	NA	NA	NA	NA	NA	17	8	6	47%	75%
Obstetrician/gynaecologist	20	11	6	55%	55%	4	2	2	50%	100%	24	13	8	54%	62%
Paediatrician	21	13	13	62%	100%	4	2	0	50%	0%	25	15	13	60%	87%
MDGP	7	4	5	57%	125%	0	0	6			7	4	11	57%	275%
Medical Officer	137	102	116	74%	114%	110	69	109	63%	158%	247	171	225	69%	132%
Medical Record Officer	4	2	2	50%	100%	0	0	0			4	2	2	50%	100%
Medical Record Assistant	15	15	15	100%	100%	41	25	24	61%	96%	56	40	39	71%	98%
Anaesthesia Assistant	2	0	0	0%		0	0	0			2	0	0	0%	
Staff Nurse	375	328	284	87%	87%	242	163	148	67%	91%	617	491	432	80%	88%
ANM	58	57	69	98%	121%	128	122	125	95%	102%	186	179	194	96%	108%
Total	**656**	**540**	**516**	**82%**	**96%**	**529**	**383**	**414**	**72%**	**108%**	**1,185**	**923**	**930**	**78%**	**101%**

Source: Regional Health Directorates, 2008

Note: 18 MBBS doctors in RHs and ZHs and 43 in DHs, trained on government scholarship and bonded for two years, are included in the respective "Presently Working" columns.

The analyses of locally appointed staff in Tables 12 to 14 show that very few staff have been hired locally at the lower levels of the health system. Most of the locally hired staff work in zonal and regional hospitals and are Staff Nurses or doctors.

Table 12: Locally appointed safe delivery staff in district hospitals, PHCCs and HPs, 2008

Staff Category	District hospital (N = 10)	PHCC (N = 15)	HP (N = 15)	Total (N = 40)
Medical Officer	1	1	0	2
Staff Nurse	1	0	0	1
ANM	7	2	2	11
Total	**9**	**3**	**2**	**14**

Source: Nepal Safe Delivery Survey, DMI, 2008

Table 13: Locally appointed safe delivery staff in zonal and regional hospitals by development region, 2008

Staff category	Eastern	Central	Western	Mid Western	Far Western	Total
Anaesthesiologist	0	0	1	0	0	1
Obstetrician/gynaecologist	2	0	2	0	0	4
Paediatrician	0	0	0	0	0	0
MDGP	0	0	0	0	0	0
Medical Officer	24	23	31	5	5	88
Medical Record Officer	0	0	0	0	0	0
Medical Record Assistant	0	0	1	0	0	1
Anaesthesia Assistant	1	0	2	0	0	3
Staff Nurse	29	19	54	0	3	105
ANM	46	13	20	4	16	99
Total	**102**	**55**	**111**	**9**	**24**	**301**

Source: Nepal Safe Delivery Survey, DMI, 2008

Table 14: Locally appointed safe delivery staff in zonal and regional hospitals by geographic area, 2008

Staff category	Mountain	Hill	Terai	Total
Anaesthesiologist	0	1	0	1
Obstetrician/gynaecologist	0	2	2	4
Paediatrician	0	0	0	0
MDGP	0	0	0	0
Medical Officer	0	27	61	88
Medical Record Officer	0	0	0	0
Medical Record Assistant	0	0	1	1
Anaesthesia Assistant	0	2	1	3
Staff Nurse	0	49	56	105
ANM	0	11	88	99
Total	**0**	**92**	**209**	**301**

Source: Nepal Safe Delivery Survey, DMI, 2008

6.4.1 ANMs in HPs, PHCCs and district, zonal and regional hospitals

There are a total of 1,476 sanctioned posts for ANMs – 676 in HPs, 614 in PHCCs, 128 in district hospitals and 58 in zonal and regional hospitals. (See Table 15.) Of the total posts, 87 percent are filled. The number of staff presently working exceeds the number of filled posts by 16. These extra ANMs have presumably been deputed from other facilities. The percentage of filled posts was higher for ANMs than for any other category of safe delivery staff. Zonal and regional hospitals have the highest number of staff currently working, twelve more than filled posts, indicating a drift of ANMs toward higher level facilities. Information from the Regional Health Directorates revealed that hospital development committees hired an additional 99 ANMs for zonal and regional hospitals.

Table 15: Availability of ANMs in HPs, PHCCs and district, zonal and regional hospitals, 2008

Level of health facility	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Regional or zonal hospital	58	57	69	98	121
District hospital	128	122	125	95	102
PHCC	614	537	531	87	99
HP	676	570	577	84	101
Total	**1,476**	**1,286**	**1,302**	**87**	**101**

Source: Regional Health Directorates, 2008

6.4.2 Staff Nurses in PHCCs and district, zonal and regional hospitals

Table 16 shows the staffing situation for Staff Nurses at PHCCs and hospitals. (No sanctioned posts exist for them at the health post level.) Only 74 percent of the total 823 sanctioned posts for Staff Nurses are filled. The percentage of staff being present on the day of the study is 88 percent of all filled posts.

There is an inverse correlation between the facility level and the percentage of filled posts. The nurse staffing situation is worst at the PHCC level, where only 58 percent of the 206 sanctioned posts are filled. In district hospitals, this percentage rises to 67 percent, while at zonal and regional hospitals 87 percent of nursing posts are filled. Staff Nurses thus strongly prefer a post at higher level facilities over those at the PHCC level.

Table 16: Availability of Staff Nurses in PHCCs and district, zonal and regional hospitals, 2008

Level of health facility	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Regional or zonal hospital	375	328	284	87	87
District hospital	242	163	148	67	91
PHCC	206	120	103	58	86
Total	**823**	**611**	**535**	**74**	**88**

Source: Regional Health Directorates, 2008

6.4.3 Anaesthesia Assistants in district, zonal and regional hospitals

Only two sanctioned posts exist for Anaesthesia Assistants at the zonal and regional hospital level. Neither of them is filled. No sanctioned posts exist in district hospitals.

6.4.4 Medical Officers in PHCCs and district, zonal and regional hospitals

MBBS graduates hold medical officer posts, which are sanctioned for PHCCs and hospitals. Only about a half (55 percent) of the 454 medical officer posts are filled. More medical officers than the number of filled posts, however, were working on the day the study team visited. This discrepancy is due to deputation and the recent MBBS graduates who studied under government scholarships and are required to serve for two years in a designated government posting. Of the 370 doctors presently working, 146 are doctors working to fulfil the work requirement. The largest number (85) worked in Primary Health Care Centres, while 43 worked in district hospitals and 18 in zonal and regional hospitals.

In addition, the study team found 88 locally recruited medical officers in zonal and regional hospitals. Two more medical officers were appointed locally, one to a district hospital and the other to a PHCC.

Table 17: Availability of medical officers in PHCCs and district, zonal and regional hospitals, 2008

Level of health facility	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Regional or zonal hospital	137	102	116	74	114
District hospital	110	69	109	63	158
PHCC	207	77	145	37	188
Total	**454**	**248**	**370**	**55**	**149**

Source: Regional Health Directorates, 2008

6.4.5 MDGPs in district, zonal and regional hospitals

MDGP graduates are specialists in family medicine/general practice. They are trained to provide comprehensive and effective management of common health problems. This includes timely emergency and life saving surgical and obstetrical interventions. The graduates have completed an MBBS or equivalent degree, including an internship and at least one year of service in a recognised institution. The MDGP training programme is of three years duration with a 20-week rotation in obstetrics and gynaecology.

Sanctioned posts for any kind of a specialist exist only at health facilities above the district level. Their number depends upon the type of the hospital. Only seven sanctioned posts of a medical generalist (i.e. MDGP) exist in zonal and regional hospitals. Four of them are filled, but five MDGPs were working at the time of the study.

No sanctioned posts for MDGPs exist in district hospitals, but the survey found six MDGPs working in medical officer posts at this level. An MDGP being placed in a non-specialist post is an inappropriate posting, given the MDGP's specialist qualification. Furthermore, the lack of an MDGP post for a specialist whose skills are critically important at the district hospital level remains a serious de-motivator for retaining them at the district level.

An additional eight MDGPs were found in such posts as medical superintendent. This gives a total of 18 MDGPs from the district to the regional level.

Table 18: Availability of MDGPs in district, zonal and regional hospitals, 2008

Level of health facility	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Regional or zonal hospital	7	4	5	57	125
District hospital	0	0	6	-	-
Total	**7**	**4**	**11**	**57**	**275**

Source: Regional Health Directorates, 2008

An attempt was made to probe the MDGP staffing situation further. A list of 36 government MDGPs was obtained from the MoHP, showing names and facilities where the MDGPs were posted. Each work site was contacted to ask whether the posted MDGP conducted caesarean sections or not. The list has no information on the work location of eight MDGPs and a query next to one name as to whether this person is an MDGP or an obstetrician/gynaecologist. Of the remaining 27 MDGPs, 17 work in health facilities with an OT, nine where there is no OT, and one where the existence of OT is not known.

Eleven MDGPs are reported to be performing caesarean sections; ten are not. One MDGP was on leave and the C/S information was not available for the remaining five. Three district hospitals have two MDGPs (Baglung, Dang and Syanja). Both MDGPs in Baglung do caesarean sections. In contrast, neither of the two MDGPs in Dang is involved in caesarean sections, even though Dang has an OT. (Syanja does not have an OT.) Information on whether or not the MDGP performs caesarean sections was not available in two hospitals with OTs, and the MDGP in one hospital with OT was on leave. It is troubling to find only 41 percent (11 out of 27) of the MDGPs using their valuable C/S skills in their current post.

6.4.6 Obstetrician/gynaecologists in zonal and regional hospitals

Twenty posts are sanctioned for an obstetrician/gynaecologist in zonal and regional hospitals, but only 11 (55 percent) are filled. Furthermore, only six doctors (55 percent of filled posts) were working at post at the time of the survey. This reveals a critical shortage of this specialist cadre in these hospitals, which severely affects their ability to act as referral hospitals for mothers with obstetric complications.

No sanctioned posts for specialists are supposed to exist at the district hospital level. The survey team, however, found four sanctioned posts for obstetrician/gynaecologist in district hospitals. Two were filled and both specialists were currently working.

6.4.7 Anaesthesiologists in zonal and regional hospitals

The staffing situation for anaesthesiologists was found to be particularly critical. There are 17 sanctioned posts in 13 zonal and regional hospitals. Less than half of them (8) are filled. Only

six anaesthesiologists were working in the 13 referral hospitals of Nepal, when the study team visited. Such a big gap in essential anaesthetic skills in these upper-level hospitals also has serious implications for the ability of these hospitals to provide competent care in case of an obstetric emergency.

6.4.8 Paediatricians in zonal and regional hospitals

Zonal and regional hospitals have 21 sanctioned posts for paediatricians. Thirteen (62 percent) of these posts are filled and all filled posts have a paediatrician working. As mentioned above, existing policy excludes specialist posts in district hospitals. The study found, however, four sanctioned posts for paediatricians at this level. Of the four, two posts were filled, but no paediatrician was working in these district hospitals.

6.5 Access to competently staffed facilities

6.5.1 Health posts

A health post in Nepal is a peripheral level health facility with a Health Assistant as the person in charge. S/he is supported by an auxiliary health worker (AHW), ANM and Village Health Workers. The ANM has ten years of education and a School Leaving Certificate and has been trained for 18 months. She provides antenatal and postnatal care, delivery (in selected HPs), emergency obstetric first aid, family planning, tetanus toxoid vaccination, newborn resuscitation and parental administration of antibiotics to sick newborns.

Only four of the 15 health posts visited (Pakhribas, Tharpu, Parhawa and Lekfarsa) have a birthing centre. The remaining nine are ordinary health posts. All HPs, except Pakhribas, have only one ANM; Pakhribas has two. None of the 16 ANMs in the 15 visited HPs has been trained in SBA. One ANM has been trained in OT management but is not using her OT skills since there is no OT at the health post level.

6.5.2 Primary Health Care Centres

The person in charge of a PHCC is a doctor, supported by a Staff Nurse (when available), an ANM and an AHW. The Staff Nurse and ANMs provide the same type of maternal and child health services as at health posts. The Staff Nurse has three years training after SLC.

Of the 15 PHCCs visited, 14 are staffed with doctors. None of these doctors has been trained in SBA or the use of ultrasound. Staff Nurses are available in about one half of the PHCCs visited. Only one nurse has been trained in SBA.

A total of 46 ANMs was working in the PHCCs that the survey team visited. This is an average of three ANMs per facility. Only four are trained in SBA. Two PHCCs are led by ANMs, because both the doctor and the Staff Nurse are absent. One ANM has been trained in OT management but is not working in the operating theatre.

6.5.3 District hospitals

A district hospital is staffed by medical doctors, Staff Nurses, ANMs and AHWs. It provides the same maternal and child health services as lower level facilities, as well as BEOC. Select district hospitals are also centres for CEOC, which means they should have a functioning operating theatre and the skilled staff for caesarean sections. There should be a doctor capable of doing a caesarean section, a health worker trained to give anaesthesia and a Staff Nurse with SBA training.

Annex table 5.1 shows the availability of OTs and complete C/S teams in district, zonal and regional hospitals. Only three out of the ten visited district hospitals have a complete safe delivery team satisfying the above criteria. Two district hospitals do not have a functional OT (Sunsari and Dolakha). Only four have a doctor who can perform a caesarean section (Sunsari, Baglung, Rupandehi and Dang). A health worker with anaesthetic skills is available in seven of the ten district hospitals surveyed. Nine district hospitals have staff trained in SBA. Seventy percent of the district hospitals surveyed thus lack a complete safe delivery team. If this finding is representative of Nepal's district hospitals in general - and it is highly likely to be the case - it indicates a serious hindrance to provision of CEOC services at the district level.

Only three of the 28 doctors working in the ten district hospitals surveyed have SBA training. (See Table 19.) All three are working in safe delivery activities. Of the 36 Staff Nurses currently working in these hospitals, thirteen (36 percent) have SBA skills and nine are working in this area. Only one out of the 30 ANMs, however, has SBA training. She works in the safe delivery area. Four SBA-trained ANMs have moved away.

Table 19: Staff skills at the district hospital level, 2008

Staff category	Number presently working	SBA		USG		Anaesthesia		OT management	
		T	W	T	W	T	W	T	W
Doctor*	28	3	3	3	0	-		-	
Staff Nurse	36	13	9	-	-	-		6	1
ANM	30	1	1	-	-	1	1	3	0

Source: Nepal Safe Delivery Survey, DMI, 2008

*** Obstetrician/gynaecologist, paediatrician, MDGP or medical officer**

Note: T is number trained and W is number working.

One ANM and three HAs/AHWs in the ten district hospitals have been trained in anaesthesia. Only one of them (ANM) is working in an operating theatre to provide anaesthesia.

Six Staff Nurses, three ANMs and one HA/AHW have OT management training. Of them, only one Staff Nurse and none of the ANMs work in OT. Three doctors are trained in ultrasound, but not providing USG services.

The examples of mismatch between staff skills and posts come from the study sample of ten district hospitals. They represent only the tip of the iceberg, however, since other district hospitals are likely to suffer from similar mismatches.

6.5.4 Zonal and regional hospitals

Zonal and regional hospitals provide CEOC and manage neonatal complications, in addition to the maternal and child health functions of the lower level facilities. All 13 hospitals have functional operating theatres. Sagarmatha Zonal Hospital does not have an obstetrician/gynaecologist or an MDGP, while Bhaktapur Zonal Hospital lacks an anaesthesiologist or someone trained in anaesthesia. The remaining hospitals have at least one health worker with the critical C/S and anaesthetic skills. All 13 hospitals have nursing staff trained in SBA. A complete safe delivery team thus exists in 11 of the 13 zonal and regional hospitals, though only one such team may not be enough to cope with the higher work load at this level. (See Table 20.)

Only 14 of the 232 doctors working in the 13 zonal and regional hospitals are trained in SBA. Of those trained, 12 are working in maternity wards. Two doctors are trained in USG and both perform obstetric ultrasounds.

Table 20: Staff skills at the zonal and regional hospital level, 2008

Staff Category	Number presently working	SBA		USG		Anaesthesia		OT management	
		T	W	T	W	T	W	T	W
Doctor*	232	14	12	2	2	-	-	-	-
Staff Nurses	389	46	35	-	-	18	16	20	15
ANM	168	13	13	-	-	0	0	2	2

Source: Nepal Safe Delivery Survey, DMI, 2008

*** Obstetrician/gynaecologist, paediatrician, MDGP or medical officer**

Note: T is number trained and W is number presently working at the time of survey.

At the zonal and regional hospital level, only 46 of the 389 Staff Nurses have SBA training. Of them, 35 are posted in a maternity ward. Eighteen Staff Nurses are trained in anaesthesia and 16 of them do provide anaesthetic services. Fifteen of the twenty Staff Nurses trained in OT management work in OT. Thirteen of the 168 ANMs have received SBA training and all work in the concerned section. Both ANMs with OT management training work in OT.

6.6 Absenteeism

Absenteeism in the visited facilities was calculated by comparing the number of filled posts with the number of staff who were working on the day of the study team's visit. Table 21 shows the findings by the level of health facility and staff category.

Specialist doctors show the highest absenteeism rates of all cadres in zonal and regional hospitals. The rate for obstetrician/gynaecologists is 45 percent and for anaesthesiologists 25 percent. Approximately four percent of medical officers and over 13 percent of Staff Nurses were absent on the day of the survey. Deputation and leave are the main causes of absenteeism for doctors. For Staff Nurses, it is training, closely followed by deputation. In district hospitals, 18 percent of Staff Nurses were absent. Of the eight absent Staff Nurses, four were in training, two on deputation, one on leave and one absent without approval.

In the 15 PHCCs sampled, the absenteeism rate was 33 percent for medical officers, 30 percent for Staff Nurses and 5 percent for ANMs. Two of the six medical officers and two of the ten nurses were away on training. One Staff Nurse was absent but no information was available on the reason. The two absent ANMs (of 41) were on deputation. All 14 ANMs at the HP level were working on the day the study team visited.

Overall, disobedience was found to be a particularly notable cause of absenteeism for Staff Nurses and obstetrician/gynaecologists.

Table 21: Absenteeism of health workers and its causes in government health facilities, 2008

Staff category	Filled posts	Presently working	Number absent	% absent	Cause of absenteeism (%)			
					Leave	Study/ training	Deputation	Disobedience
Regional/zonal hospital								
Anaesthesiologist	8	6	2	25	50	0	50	0
Obs/Gyne	11	6	5	45	20	0	60	20
Paediatrician	13	13	0	-	-	-	-	-
MGDP	4	5	-1	-	-	-	-	-
Medical Officer	102	98	4	4	25	50	25	0
Staff Nurse	328	284	44	13	7	39	32	23
ANM	57	69	-12	(-21)	0	0	100	0
Total	*523*	*481*	*42*	*87*	*102*	*89*	*267*	*43*
District hospital								
Paediatrician	1	0	1	1	0	0	100	0
Medical Officer	11	10	1	10	0	0	100	0
Staff Nurse	44	36	8	18	12	50	25	13
ANM	23	23	0	0				
Total	*84*	*74*	*10*	*12*	*10*	*40*	*40*	*10*
Primary Health Care Centre								
Medical Officer	6	4	2	33	0	100	0	0
Staff Nurse	10	7	3	30	0	67	0	33
ANM	41	39	2	5	0	0	100	0
Total	*57*	*50*	*7*	*12*	*0*	*57*	*29*	*14*
Health post								
ANM	14	14		0				

Source: Nepal Safe Delivery Field Survey, DMI, 2008

6.7 Critical equipment to apply safe delivery skills

Appropriate equipment in a working condition is essential for a well-functioning safe delivery service. Furthermore, a lack of such equipment de-motivates the health workers who are responsible for service delivery. A list of critical equipment, necessary for safe delivery and important for retaining staff, was developed with the SSMP technical team experts. The study team used this list to assess equipment in the visited health facilities. The team examined whether the equipment was available, in working order and used by staff.

The following critical equipment is considered necessary for safe delivery at each level of health facility:

Regional/zonal hospital

- Surgical instruments for caesarean section
- Resuscitation equipment
- Anaesthetic equipment
- Ultrasound
- Vacuum extractor
- X-ray
- Craniotomy set
- Photo-therapy
- Oxygen
- Suction

Primary Health Care Centre

- Vacuum extractor
- Oxygen
- Suction

Health post with a birthing centre

- Delivery set

6.7.1 Availability of safe delivery equipment

All 15 health posts surveyed have a delivery set, the most basic equipment for delivery.

Table 22: Availability of safe delivery equipment in the 15 surveyed health posts, 2008

Name of equipment	% of equipment		
	Available	In working condition	Being used of those available
Delivery set	100	100	100

Source: Nepal Safe Delivery Survey, DMI, 2008

Delivery sets were available in 14 of the 15 visited PHCCs. Three PHCCs do not have a vacuum extractor or suction equipment. An oxygen set is available in less than half of PHCCs.

Table 23: Availability of safe delivery equipment in the 15 surveyed PHCCs, 2008

Name of equipment	% of equipment		
	Available	In working condition	Being used of those available
Vacuum extractor	73	91	73
Oxygen set	47	86	71
Suction equipment	73	100	100
Delivery set	93	100	100

Source: Nepal Safe Delivery Survey, DMI, 2008

As Table 24 shows, all ten visited district hospitals have a vacuum extractor, oxygen set and suction set but they lack most other critical equipment for safe delivery. One district hospital reported that they do not even have a delivery set! Furthermore, the study team found that the available equipment is not fully utilised by the staff.

Table 24: Availability of safe delivery equipment in the ten surveyed district hospitals, 2008

Name of equipment	% of equipment		
	Available	In working condition	Being used of those available
C/S equipment	30	100	33
Resuscitation equipment	40	100	100
Anaesthetic equipment	30	100	67
Ultrasound	40	100	50
X-ray	90	89	78
Craniotomy set	30	100	33
Phototherapy set	30	100	100
Vacuum extractor	100	80	80
Oxygen set	100	100	100
Suction set	100	100	100
Delivery set	90	100	100

Source: Nepal Safe Delivery Survey, DMI, 2008

Most critical equipment for safe delivery is available in the zonal and regional hospitals. Only one of the 13 hospitals lacks resuscitation equipment, ultrasound and suction in working condition. (See Table 25.)

Table 25: Availability of safe delivery equipment in all zonal and regional hospitals, 2008

Name of equipment	% of equipment		
	Available	In working condition	Being used of those available
C/S equipment	100	100	85
Resuscitation equipment	100	92	85
Anaesthetic equipment	100	100	92
Ultrasound	100	92	92
X-ray	100	100	100
Craniotomy set	77	50	40
Phototherapy set	85	100	100
Vacuum extractor	92	100	100
Oxygen	100	100	100
Suction	100	92	92
Delivery set	100	100	100

Source: Nepal Safe Delivery Survey, DMI, 2008

6.7.2 Health workers' perceptions about minimum equipment required for 24-hour service delivery

The facility in-charges were asked to identify the minimum equipment needed to provide round the clock maternity service in their facility. Annex 6 lists the range of equipment, which the facility in-charges at PHCC and district, zonal and regional hospital levels would like to have. Unfortunately, the information obtained is very superficial and contains a substantial amount of subjective bias.

6.8 Factors influencing staff retention and motivation

Both quantitative and qualitative data were collected on factors that potentially influence staff retention and motivation. Quantitative data covers the availability of adequate infrastructure, water, electricity and telephone at the health facility. Qualitative data comes from interviews

with health workers, in which they were asked what particular factors would encourage them to continue working at the health facility.

6.8.1 Infrastructure and amenities available in health facilities

All zonal and regional hospitals and the visited ten district hospitals have their own building with piped water, electricity and telephone. Space for maternal health service delivery is not considered adequate in any of them. More than half of the PHCCs (8 of 15) also reported that space was insufficient for the maternal health service that they wanted to provide. Access to piped water, electricity and telephone are limited in lower level health facilities.

Table 26: Health facility infrastructure and amenities, 2008

Type of health facility	Number	% of health facilities having			
		Adequate space	Piped water	Electricity	Telephone
Regional/zonal Hospital	13	69	100	100	100
District hospital	10	70	100	100	100
PHCC	15	53	73	87	73
HP	15	40	80	73	47

Source: Nepal Safe Delivery Field Survey, DMI, 2008

6.8.2 Availability of staff housing

Unavailability of staff quarters can be a strong disincentive for accepting and remaining in a rural post. The study team therefore assessed their availability in the visited health facilities. All district, zonal and regional hospitals have staff quarters.[12] Only six of the 15 PHCCs, however, have quarters for staff. At the health post level, the housing situation is even worse. Only four of the 15 HPs have any housing for their staff.

Table 27: Availability of staff quarters in health facilities, 2008

Type of health facility	Number	With quarters	% of health facilities with quarter
Regional/zonal Hospital	13	13	100
District hospital	10	10	100
PHCC	15	6	40
HP	15	4	27

Source: Nepal Safe Delivery Survey, DMI, 2008

[12] Who actually occupied these quarters was not examined during the field visit.

6.8.3 Health workers' views regarding motivating and de-motivating factors

Interviews were held to solicit the opinions of doctors, Staff Nurses and ANMs on motivating and de-motivating factors. The importance of such factors for different cadres is likely to reflect the cadres' age structure and length of service. The majority of each staff category is 25 to 34 years old. Overall, the ANMs are older than the other two staff categories. Thirty-eight percent of them is over 35 years old, while only 20 percent of doctors is in this age group.

The ANMs are also the longest serving group. As Table 28 below shows, 25 percent of them have served over 25 years and another 21 percent between 10 and 25 years. Only 10 percent of the doctors and 13 percent of the nurses have over 25 years of service.

Table 28: Age and length of service of interviewed safe delivery staff in district hospitals, PHCCs and HPs, 2008

Designation	% distribution of age			% distribution of length of service			
	<25 years	25-34 years	35+ years	< 5 years	5- 10 years	10 - 25 years	25 + years
ANM	8	54	38	21	33	21	25
Staff Nurse	13	60	27	27	33	27	13
Doctor	0	80	20	30	40	20	10

Source: Field survey in district hospitals, PHCCs and HPs, 2008

6.8.3.1 Motivating factors for staff working in health posts

The twelve respondents in health posts chose 'opportunity for training and further study,' 'salary and incentives' and 'availability of staff quarters' as their three highest motivating factors, as Table 29 below shows.

Table 29: Factors motivating staff to work at health posts, 2008

Motivating factors	Number	%
Opportunity for training and further study	10	83
Salary and incentives	7	58
Staff quarters	5	42
Recruitment condition and career development opportunities	3	25
Good working environment	2	17
Personal safety	1	8
Team work and supportive staff	1	8

Source: Nepal Safe Delivery Survey, DMI, 2008

N =12

6.8.3.2 Motivating factors for staff working in PHCCs

Every one of the fourteen respondents at the PHCC level chose 'opportunity for training and further study' as the most important motivating factor. 'Salary and incentives' was second, with six out of the 14 mentioning it. (See Table 30.)

Table 30: Factors motivating staff to work at PHCCs, 2008

Motivating factors	Number	%
Opportunity for training and further study	14	100
Salary and incentives	6	43
Recruitment condition and career development opportunities	3	21
Personal factors (such as safety, communication)	3	21
Good working environment	2	14
Team work and supportive staff	2	14
Appreciation and recognition of work	2	14
Quarter facilities	1	7
Supportive community	1	7
Supportive supervision and monitoring	1	7

Source: Nepal Safe Delivery Survey, DMI, 2008

N =14

6.8.3.3 Motivating factors for staff working in district hospitals

More than two-thirds of those interviewed in district hospitals mentioned 'recruitment condition and career development opportunities,' 'opportunities for training and further study' and 'salary and incentives.'

Table 31: Factors motivating staff to work at district hospitals, 2008

Motivating factors	Number	%
Recruitment condition and career development opportunities	7	78
Opportunity for training and further study	6	67
Salary and incentives	6	67
Good working environment	3	33
Staff quarters	2	22
Personal factors	2	22
Team work and supportive staff	2	22
Appreciation and recognition of work	1	11
Supportive supervision and monitoring	1	11

Source: Nepal Safe Delivery Survey, DMI, 2008

N = 9

6.8.3.4 Motivating factors for staff working in zonal and regional hospitals

'Opportunity for training and further study' was again the top choice, mentioned by ten of the twelve respondents. 'Salary and incentives' and 'personal factors' were next. One-third of the respondents also mentioned 'availability of staff quarters' as important for retaining staff.

'Supportive community' was considered equally important for staff retention in these hospitals. (See Table 32.)

Table 32: Factors motivating staff to work at zonal and regional hospitals, 2008

Motivating factors	Number	%
Opportunity for training and further study	10	83
Salary and incentives	5	42
Personal factors (such as safety, communication)	5	42
Quarter facilities	4	33
Supportive community	4	33
Recruitment condition and career development opportunities	3	25
Good working environment	2	17
Team work and supportive staff	2	17
Appreciation and recognition of work	1	8

Source: Nepal Safe Delivery Survey, DMI, 2008

N = 12

6.8.3.5 De-motivating factors for staff retention

The respondents were further asked about de-motivating factors. Annex tables 7.1 to 7.4 present the most frequently chosen factors at each facility level.

At the health post level, 'no appreciation of work,' 'lack of equipment' and 'insufficient or no staff quarters' were the most frequently mentioned de-motivating factors. Both the PHCC and the district hospital respondents selected 'lack of training to other staff in delivery' as their top choice. The second choice of PHCC respondents was 'lack of incentive for extra work.' In district hospitals, it was 'lack of equipment.'

Zonal and regional hospital respondents placed somewhat different factors at the top of the list. 'Public threats and protests' was chosen most frequently, followed by 'no incentive for extra work,' 'incomplete team,' and 'lack of equipment.' One half or more of the 12 respondents mentioned these four de-motivating factors. 'No appreciation for good work,' 'lack of support staff,' 'lack of security' and 'heavy work load' were mentioned by over one-third.

7. Potential resources for future staffing

7.1 Training outputs from preservice training programmes

7.1.1 Medical doctors (MBBS)

Nepal had just two institutions training medical doctors until 1996. The recent mushrooming of private medical colleges has changed the scene drastically. The annual intake to MBBS programmes is now over 1,240, of whom approximately 240 receive a government scholarship. (See Annex table 8.1.) After graduation, the scholarship holders are required to

work for two years in government health facilities in Nepal. Few young graduates, however, are willing to remain in government health service. Many private hospitals have opened in urban areas and graduates increasingly aspire to work abroad.

7.1.2 Staff Nurses

The annual intake to nursing schools is about 1,300. (See Annex table 8.2.) The establishment of teaching hospitals without a nursing school drains many nursing graduates out of the government health sector. Nurses prefer private sector employment over government service and working in teaching hospitals over lower-level health facilities. The magnitude of the outflow is such that the annual nursing output is insufficient to meet staff requirements for safe delivery in government health facilities.

7.1.3 ANMs

The Council of Technical Education and Vocational Training (CTEVT) and its affiliated campuses train around 1,000 ANMs every year.

7.2 Training current staff in SBA, anaesthesia and OT management

The National Health Training Central has the central-level responsibility to develop and implement health training for government staff. Training is implemented through central, regional and district based institutions.

7.2.1 SBA training

The NHTC trained 242 students in SBA from January to April 2008. Of these, 39 were doctors, 104 nurses and 99 ANMs. Twelve came from HPs, 55 from PHCCs, 68 from district hospitals, 63 from zonal and regional hospitals and 22 from central-level hospitals.

7.2.2 Anaesthesia training

The NHTC provided anaesthesia training to 15 health workers between May 2007 and July 2008. Seven were health assistants and eight nurses. Nine came from district hospitals, five from zonal and regional hospitals and one from a central hospital.

7.2.3 OT management training

The NHTC trained 33 health workers in OT management between May 2007 and March 2008. Twenty-one were nurses, ten ANMs and two came from other staff categories. Fourteen came from district hospitals, fourteen from zonal/regional hospitals and five from central hospitals

7.3 Inappropriately posted highly skilled staff

Countries with a critical shortage of skilled human resources must make particular efforts to place their skilled health workers in posts where they can use their skills and be appropriately rewarded. An inappropriate posting was defined in the field study as one where a health worker occupied a post that did not require the qualifications she or he possessed. For example, a doctor with a MDGP or MD (Ob/Gyn), posted as a medical officer, was considered inappropriately posted. Another example of inappropriate posting is a Staff Nurse with anaesthesia training who is working in a general ward and not in the OT.

Fifteen specialist doctors were inappropriately posted in the surveyed facilities, because they held a medical officer post. Half of them (7) were MDGPs. (See Table 33.)

Table 33: Specialist doctors working as medical officers in the surveyed health facilities, 2008

Type of health facility	Number	Additional qualifications after MBBS
Regional/zonal hospital (n=13)	1	MDGP
	3	MD Obstetrics and Gynaecology
	3	DGO
	1	MD Anaesthesia
District hospital (N=10)	6	MDGP
PHCC (N=15)	1	MD Obstetrics and gynaecology

Source: Nepal Safe Delivery Survey, DMI, 2008

MDGPs have been trained to perform surgery, do caesarean sections, provide anaesthesia and work in public health and emergency medicine. Thus they form a very valuable specialist cadre, particularly for the district hospital level. Table 34 shows the number of MDGPs and the level of the posts their hold, according to the Regional Health Directorates.

Table 34: Number of MDGPs and their present posts, 2008

Type of health facility	Number with MDGP	Approved MDGP post	Number of MDGPs working	Present post		
				8th level	9th level	11th level
Regional/zonal hospitals	5	7	6	1	4	1
District hospitals	11	0	12	5	7	0
Total	**16**	**7**	**18**	**6**	**11**	**1**

Source: Regional Health Directorates, 2008

7.4 Willingness of private medical and nursing students to work for government

In-depth interviews were held with private medical and nursing students to solicit their opinion regarding preference for public or private sector work after graduation. Of the 18 students interviewed (10 medical and 8 nursing), eight were male and ten female. The average age was 24 years for medical students and 19 years for nursing students.

None of the students intends to join the government health service after completion of study. Twenty percent of the medical students want to join the private or NGO sector and the remaining 80 percent intend to continue their studies abroad.

More than half of the nursing students (57 percent) want to work for the private or NGO sector after graduation. Nearly 14 percent would like an international job. The remaining 29 percent plan to continue their studies.

The students were asked to give reasons why they did not want to join the public sector. The five top reasons of the medical students are:

- Poor physical facilities
- Lack of equipment/supplies
- Poor working environment
- Lack of opportunities for upgrading knowledge
- Lack of complete team

The nursing students' five top reasons are:

- 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

Interestingly, the general civil service grievance of low salary and incentives does not appear to be a significant reason for not wanting to join the government service. The students were asked what salary they would expect, if they were to join the public sector. The medical students expected an average salary of NPR31,100 and nursing students NPR15,000.

7.5 Willingness of the private (for profit) and NGO sectors to partner with government

Seven private and NGO health institutions were visited. Information was collected on the number of safe delivery staff these organisations employ and the services they provide. Possible areas of present and future collaboration with government were probed with the representatives.

The following private and NGO institutions were visited:

NGO sector

- Association of Medical Doctors in Asia (AMDA) Hospital, Jhapa (Eastern Region)
- Sheer Memorial Hospital, Kavre (Central Region)
- TEAM Hospital, Dadeldhura, (Far Western Region)

Private medical college and teaching hospital

- Manipal College of Medical Sciences (Western Region)
- Universal College of Medical Sciences, Bhairahawa (Western Region)
- Nepalganj Medical College, Banke (Mid-Western)

Community hospital

- Dhulikhel Hospital, Kavre (Central Region)

The number and category of critical safe delivery staff employed by the private sector institutions is shown in Table 35.

Table 35: Number and category of safe delivery staff employed by the visited private and NGO health institutions, 2008

Staff category	NGO hospitals (N=3; AMDA, Sheer Memorial and TEAM)	Private medical college (N=3; Manipal, UCMS, and Nepaljung)	Community Hospital (N=1; Dhulikhel)
ANM	31	21	5
Staff Nurse	14	44	12
SN with AA training	2	11	4
Medical Recorder	2	5	2
Medical Officer	9	8	1
MDGP	3	0	
Paediatrician	2	6	4
Anaesthesiologist	3	6	3
Obst/gynaecologist	3	6	6

Source: Nepal Safe Delivery Field Survey, DMI, 2008

The private and NGO hospitals visited provided the following maternal and safe delivery services during the previous year:

Table 36: Safe delivery and maternal health services provided by visited private and NGO health institutions, 2008

Types of Services	NGO hospitals (N=3; AMDA, Sheer Memorial and TEAM)	Private medical college (N=3; Manipal, UCMS, and Nepaljung)	Dhulikhel Community Hospital (N=1)
Antenatal care	13,983	29,965	3,940
Delivery	4,837	2,005	1,336
C/S	1,823	605	273

Source: Nepal Safe Delivery Field Survey, DMI, 2008

Interviews with the private and NGO sector representatives brought out the following opportunities and incentives for working for or with government:

- Greater number of patients at government health facilities,
- Extra incentives in the public sector,
- Health facilities recognised by the public,
- Basic infrastructure available in public health facilities,
- Opportunities for training,
- Opportunities for capacity development, and
- Trained human resources available in government sector; therefore sharing of knowledge and technology transfer becomes possible.

Factors that hinder private sector collaboration with government include:

- Bureaucracy – delayed decision making process,
- Instability in policy or policy not being fully implemented on the ground,
- Difficulty in coordination and collaboration,
- Poor working environment,
- Lack of defined operational mechanism to collaborate, and
- Obligation of government to provide free health services to the public.

The respondents were asked about the current status of their institutions' collaboration with government. They mentioned training Staff Nurses and ANMs and technical support to health camps as activities which they are already engaged in. The list below identifies other areas in which the respondents were potentially interested in future collaboration with government.

- Provision of safe delivery services in district hospitals, based on mutual agreement,[13]

[13] It was pointed out that homework is necessary before such an agreement is prepared.

- Sending staff from the private institution to work in government health institutions,
- Participating in government staff training and refresher training for SBA,
- Provision of C/S training to MBBS doctors, and
- Practical technical training for government staff, e.g. anaesthesia, OT management, USG, etc.

7.6 Capacity of local governments to support safe delivery staffing

The Department of Health Services reportedly intends to transfer funds this year to several districts for them to appoint additional safe motherhood staff locally. The plan is to contract 200 ANMs for HPs and PHCCs for 24-hour delivery service, 25 Staff Nurses for PHCCs and district hospitals for BEOC services, and 6 MDGPs or obstetrician/ gynaecologists to CEOC sites for around-the-clock CEOC services.

It was not possible to assess the potential future contribution of local governments themselves, however, because of the highly fluid situation regarding their future form and number. An examination of data collected during the field survey (Table 12) shows, however, that few safe delivery staff have thus far been hired by local government for the district level and below (14 staff in the 40 visited health facilities).

The field survey team attempted to gather financial data from DDCs, municipalities and VDCs in order to assess local governments' financial capacity to hire more safe delivery staff. Information was gathered on annual budgets and the allocation to the health sector. An attempt was also made to collect the actual expenditure on staff for safe delivery, but it proved impossible to obtain these data. The itemised average annual expenditure is shown in Table 37 below. It was not possible, however, to verify the accuracy of these data.

Table 37: Allocation of DDC, municipality and VDC funds for health services (in NPR)

Description	Per DDC (N=8)	Per municipality (N=2)	Per VDC (N=4)
Average annual budget for past 3 years (2005/06 to 2007/08)	118,052,355	11,565,345	850,138
Average budget allocation in health services for past three years (2005/06 to 2007/08)	576,927	207,023	34,842
% of budget allocation in health services	0.5%	1.8%	4.1%
Average expenditure in health services for past three years (2005/06 to 2007/08)	751,560	489,080	62,138
Average expenditure in infrastructure for past three years (2005/06 to 2007/08)	366,841	322,661	25,375
Average expenditure in human resource for past three years (2005/06 to 2007/08)	20,485	0	9,375
Average expenditure in drugs for past three years (2005/06 to 2007/08)	14,657	75,000	12,500
Average expenditure in equipment for past three years (2005/06 to 2007/08)	12,813	0	0
Average expenditure in other items such as training, health camp, allowance to women health volunteers, grant etc for past three years (2005/06 to 2007/08)	336,766	91,419	14,888

Source: Nepal Safe Delivery Field Survey, DMI, 2008

8. Summary of findings

The shortage of trained staff is not the fundamental reason for shortage of Staff Nurses and medical officers in rural health facilities in Nepal. Public and private medical schools and training programmes produce substantial numbers of graduates every year. The root cause of the staffing problem with these cadres (and others) is the inability of the government to attract and retain sufficient numbers of trained staff in the publicly funded health system.

8.1 ANMs, Staff Nurses and medical doctors at the district level and below

The ANMs are the most stable staff category. The majority of sanctioned posts for ANMs in rural facilities are filled and the majority of the ANMs filling these posts are working. Staff Nurses are strikingly absent at the PHCC level and even district hospitals are far from having their sanctioned posts filled. Medical doctors in district hospitals are largely fresh scholarship graduates. Their total number is more than adequate to staff district hospitals, but they lack C/S skills and technical support and supervision. They also appear reluctant to remain in government service after receiving their full license.

- ✓ The main strategy options for these cadres should aim to attract them to and retain them in government service at the district level and below. Training more staff will not accomplish this.

8.2 Specialist doctors

Specialists - obstetrician/gynaecologists, anaesthesiologists and MDGPs - are the one category, which is in overall short supply. Increasingly, these valuable specialists are lost, not only to the domestic private health sector, but through migration overseas.

- ✓ The strategy options should seek both to increase their overall stock through training and to improve the attractiveness of government careers.

8.3 C/S team

At the district hospital level, the main skill problem is the lack of caesarean section skills, coupled with poor anaesthetic capability. Many hospitals lack a complete C/S team (a doctor with C/S skills, a health worker capable of giving anaesthesia and a SBA-skilled nurse).

- ✓ Proposed strategy options include using a team approach to posting staff to district hospitals with the aim of ensuring a complete safe delivery team.

8.3.1 MDGPs versus diploma doctors

Before establishing new training programs, it is important to examine whether the graduate is any more likely to accept a rural posting than the health worker cadre who currently performs the most important components of the new graduate's intended scope of work. This is particularly important for the proposed diploma-level training programmes for doctors. Issues related to the lack of career ladder and further study and promotion possibilities are now a severe deterrent for MDGPs. They are likely to be a similar hindrance for diploma-graduates accepting and remaining in district hospital posts. The situation will almost certainly be even worse for DGOs than for MDGPs, given the large number of unfilled vacancies for obstetrician/gynaecologists in higher-level hospitals.

Cost-effectiveness of the proposed staff category is another important consideration. As frequently emphasised in this report, CEOC services in Nepal's district hospital require C/S and anaesthetic skills, as well as SBA-skills. A DGO graduate would have deeper skills in obstetrics and gynaecology than a MDGP. A serious drawback, however, is that a DGO would not be able to supervise an Anaesthesia Assistant, which a MDGP is trained to do.

- ✓ A strategy option of placing DGOs in district hospitals requires a simultaneous placing of a diploma-holder in anaesthesia in order to complete the safe delivery team. This will double the salary cost of doctors required for C/S in district hospitals.

8.3.2 Anaesthetic staff

Health workers, who have been trained as Anaesthesia Assistants, appear to have different interpretations of the conditions under which they are allowed to provide anaesthesia. The legal framework for their practice seems not to be clear.

- ✓ The proposed strategy option is to establish the legal framework of AA practice.

8.4 SBA skills

All relevant cadres lack SBA skills. This is not surprising, given the very recent start of SBA training in Nepal. Ultrasound skills are also in short supply. This is a concern because all district hospitals are reportedly receiving ultrasound machines soon.

- ✓ Strategy options include pre-service and in-service training to improve skill levels.

8.5 Retention of staff

Lack of staff housing, continuing education opportunities and communication emerge as particularly important de-motivating factors for health workers in rural areas. Strategies to strengthen these areas, if implemented, will increase staff satisfaction and the willingness of health workers to remain in government service in remote postings.

8.6 Human resource planning and management

The human resource problems in the safe delivery field are not unique to it alone. They affect other health worker categories as well. Two critical issues underlie the problems. The first is the overall lack of a functioning human resource management system and skills at every level of the government health system. The second is the very rigid nature of Nepal's civil service.

Previous documents, such as the 2003 Human Resource Plan, have stressed the importance of establishing and maintaining a sound system for managing the government health workforce. The findings in this document support the importance and urgency of it. A few strategy suggestions in this regard are included below, but a thorough examination of the issue lay outside the terms of reference of this work.

The rigid civil service system severely hinders effective and equitable staffing of health services. As Nepal adopts a federal system, it would be advisable to critically examine the way its civil service is managed. Suggesting strategies for civil service reform, however, is beyond the scope of this work.

9. Strategy options for safe delivery

The short- and long-term human resource strategy options to be considered are:

Strategy # 1: Improving human resource planning and management

1. Make recruitment of critical safe delivery staff district and hospital-specific.
2. Decentralise recruitment powers for critical safe delivery staff to the district health office.
3. Develop workload-based staffing standards to replace current facility-based ones.
4. Develop a mechanism to ensure that infrastructure and equipment planning is linked with human resource planning.
5. Make sure that facility planning takes into account housing needs of critical safe delivery staff, who are expected to provide a 24-hour delivery service.
6. Install a reliable and functional human resource information system, produce regular analyses of the data for managers, and use the data for all human resource planning and management decisions.

Strategy # 2: Improving quantity of safe delivery staff in PHCCs and HPs

1. Increase ANM staffing in the existing 700 HPs to two ANMs to allow for 24-hour delivery service. Make sure that each of the 1,000 upgraded HPs has an ANM. If the ANM is upgraded from a MCHW and still draws an MCHW salary, increase the salary to that of an ANM.
2. Improve nurse staffing at PHCCs by giving the District Health Office the right to use the unused salary budget to contract Staff Nurses.
3. Improve nurse and ANM staffing in PHCCs and HPs by giving a government grant to VDCs in priority districts to hire these life-saving safe delivery staff.
4. Improve nurse and ANM staffing in PHCCs and HPs by reserving a certain percentage of the current grant of one million NPR to VDCs for hiring these life-saving safe delivery staff.

Strategy # 3: Improving supervision of safe delivery staff in PHCCs and HPs

1. Improve technical supervision of Staff Nurses and ANMs who provide delivery services by equipping existing Public Health Nurses (PHNs) to act as supervisors. The supervision duty would be in addition to their current work.

Strategy # 4: Improving quantity and quality of safe delivery staff in district hospitals

1. Increase the number of district hospitals with complete C/S teams by using a team approach for posting and retaining CEOC staff. (A district hospital CEOC team consists of a doctor with C/S skills, Anaesthesia Assistant and a nurse with SBA.)

2. Improve attractiveness of and retention in the MDGP career by

    a. Creating specialist doctor sanctioned posts for MDGPs in district hospitals,

    b. Developing career paths and promotion opportunities for MDGPs, and

    c. Advocating for acceptance of MDGPs as specialists among their specialist colleagues.

3. Improve anaesthetic capability of district hospitals which provide CEOC by

    a. Giving a financial incentive to AAs (payment for each anaesthesia) to encourage them to continue providing anaesthesia services while remaining in their old posts (as a Staff Nurse, HA, etc.), and

    b. Developing a legal framework to guide AA practice and clarify the role and authority of an AA.

Strategy # 5: Improving safe delivery staff in first-referral hospitals

1. Re-establish DGO, DA and DCH training programmes, but make them part of the MD-level specialist training track. Give diploma holders preferential acceptance to MD training after rural posting. Provide training credit for the one-year diploma study and for additional guided study/research during the rural work.

2. Engage skilled staff from first-referral hospitals in upgrading skills of district hospital staff, thus sharpening their own skills.

Strategy # 6: Increasing critical skills of safe delivery staff

1. Maximise SBA training output by involving as many public, private and NGO training sites as possible, provided they can provide training of adequate quality.

2. Train one AA for each district hospital.

3. Ask medical schools to include C/S training as an option during the MBBS programme or during internship, particularly for the scholarship students.

4. Provide ultrasound training for doctors in district hospitals or ask medical schools to include it during internship, particularly for scholarship students.

5. Develop consensus on whether a new professional midwife category should be initiated. If yes, agree on the role, job functions and intended placement of this cadre and start the process of creating sanctioned posts for them.

Strategy # 7: Increasing staff retention in health facilities

1. Provide an accommodation allowance for staff at PHCC and HP levels.

2. Provide district hospitals and PHCCs with internet access, e-mail and subscriptions to journals.

3. Provide a fixed telephone line to those PHCCs which do not currently have one.

The following section presents a three-year operational plan for those strategies, which are considered most important and feasible in this time period. The plan defines the objectives to be reached under each strategy, as well as the required activities, time frame, responsibility for implementation and outputs. A three-year budget costing the operational plan concludes the report.

10. Three-year operational plan for implementing human resource strategies for safe delivery

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
Strategy # 1 Improving human resource planning and management						
1. Strengthen human resource information system	Integrate a reliable and functional safe delivery (SD) human resource information system (software) at all levels linking with National Health Training Center (NHTC) training data base and Ministry of Health and Population (MoHP) E-HURIC	X	X		MoHP/DoHS (MD)/NHTC/RHDs/D(P)HO (In coordination with MoHP's E-HURIC)	HRIS in place
	Generate Human Resource (HR) report on safe delivery staff, including HR training information, regularly either electronically or manually	X	X	X	FHD/NHTC/RHDs	Report produced
	Present HR information in a quarterly team meeting for HR planning and management review	X	X	X	DoHS/RHDs/FHD/DHO	HRIS utilised in decision making
2. Establish work load based staffing standards	Conduct work load study of district hospitals to find out the need for critical staff and equipment for safe delivery services	X			FHD	Report produced
3. Plan for safe delivery related infrastructures and	Deliver essential equipment to refurbish health facilities where SD staff are deployed	X	X	X	FHD/LMD	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
equipment linking with human resource planning	Appoint necessary SD staff where SD equipment and infrastructure are available	X	X	X	DoHS/RHD/D(P)HO	
	Organise one-day district level meeting on use of safe delivery equipment available at health facilities with participation of store-in charge, Public Health Nurse (PHN), District Public Health Office (DPHO), hospital in-charge and stakeholders	X	X	X	FHD/D(P)HO	Strategy of optimum use of equipment identified
	Provide grants to selected Health Facility Management Committees to hire necessary staff and procure basic equipment through D(P)HO for 24-hour B/CEOC service	X	X	X	MoHP/D(P)HO	Service delivery enhanced
Strategy # 2: Improving quantity of safe delivery staff in PHCCs and HPs						
1. Provide around-the-clock services at HPs by making two ANMs available	Create 2,200 additional Auxiliary Nurse Midwife (ANM) posts (700 for existing and 1,500 for upgraded health posts) Y1: 800 Y2: 900 Y3: 500	X	X	X	Personnel Management Division, MoHP	2,200 post created
	Recruit 600 additional ANMs for the existing HPs (100 ANMs are already recruited through the pool fund) Y1: 200 Y2: 400	X	X		Personnel Management Division, MoHP/ DoHS/RHD	Additional 700 ANMs in place

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	Upgrade and deploy 1,500 trained Maternal and Child Health Workers (MCHWs) to the post of ANM in the upgraded HPs Y1: 500 Y2: 500 Y3: 500	X	X	X	Personnel Management Division/MoHP/ DoHS/RHD	1,500 upgraded MCHWs in place
	Recruit 1,500 new ANMs for the upgraded HPs Y1: 500 Y2: 500 Y3: 500	X	X	X	Personnel Management Division, MoHP/ DoHS/RHD	Additional 1,500 ANMs in place
2. Ensure safe delivery services in PHCCs by filling nursing staff posts (1 SN and 3 ANMs)	Create 16 additional Staff Nurse posts and 46 ANM posts (for existing 208 and 14 new PHCCs)	X			HRD, MoHP	62 additional nursing staff posts created
	Recruit 102 Staff Nurses (86 vacant and 16 new posts)		X		Personnel Management Division, MoHP, DoHS, RHD	Additional 102 SNs in place
	Recruit 123 ANMs (77 vacant and 46 new posts)		X		Personnel Management Division, MoHP/DoHS/RHD	Additional 123 ANMs in place
3. Ensure availability of doctors for safe motherhood and newborn care in PHCCs (one doctor in each PHCC)	Create 15 additional posts for MBBS doctors as medical officer (for one existing and 14 new PHCCs)	X			HRD, MoHP	15 additional medical officer posts created
	Fill sanctioned posts of medical officers by recruiting MBBS graduates through regular and/or contractual service	X	X	X	Personnel Management Division, MoHP/DoHS/ D(P)HO	All sanctioned posts filled

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
4. Improve the existing appointment system of health workers by D(P)HO through a contractual service arrangement system (Procurement Act)	Review the existing contractual appointment system and prepare a guideline for contractual service of health workers at the district level, as well as by VDCs, to fill immediate staff needs (including the option of using unspent money for approved posts with the approval of concerned authorities)	X			MoHP	
	Recruit safe delivery staff at the local level on contract, based on an approved guideline and using unspent money or available additional fund/VDC grant.	X	X	X	MoHP/D(P)HO	District posts filled
Strategy # 3: Improving supervision of safe delivery staff in PHCCs and HPs						
1. Improve technical supervision of safe delivery staff at PHCCs and HPs	Revise job description of Public Health Nurse (PHN) to include technical supervision of SNs and ANMs on safe delivery as one of their responsibilities	X			MD/FHD/NHTC	Revised job description provided to PHNs
	Revise guideline and checklist for technical supervision of safe delivery and develop the same for managerial supervision (including availability and condition of equipment)	X			FHD/NHTC	Guideline and checklist available
	Develop and implement a work plan for technical and managerial supervision of PHCCs and HPs by the district hospital staff, PHN and other staff.	X	X	X	D(P)HO	Supervision report

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
2. Improve utilisation of health facilities for safe delivery services	Organise, with the participation of stakeholders, a quarterly meeting to review the utilisation of health facilities for safe delivery and the availability of staff, equipment and supplies at the district level (Safe Delivery Audit).	X	X	X	FHD/D(P)HO	District Safe Delivery Audit Report
Strategy # 4: Improving quantity and quality of safe delivery staff in district hospitals						
1. Improve safe delivery by strengthening CEOC services in district hospitals	Collect information on critical safe delivery staff from district hospitals where OT facilities are available (19 district hospitals)	X			FHD/RHD	
	Establish a complete C/S team in district hospitals where OT facilities are available (19 district hospitals) - A doctor with C/S skills - Anaesthesia Assistant - Staff Nurse with SBA skills - Staff with OT management skills	X	X	X	FHD/RHD	
	Establish new CEOC sites in 18 district hospitals	X	X	X	FHD/RHD	CEOC services strengthened
	Appoint 27 doctors with C/S skills for district hospitals (MDGP/DGO/MO with C/S skills) Y1: 6 Y2: 8 Y3: 13		X	X	MoHP (PMD)/ DoHS/RHD	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	Deploy SD staff to complete a C/S team in all district hospitals by transferring skilled staff to facilities where the skills can be utilised.	X	X	X		SD facilities with complete C/S teams available
2. Ensure quality of SD in district hospitals through continuous supervision	Develop guideline and checklist for technical supervision of district hospital SD staff by referral hospitals	X			FHD/NHTC	Guideline and checklist available
	Develop and implement a work plan for technical supervision of district hospital SD staff by specialists and nursing supervisors in referral hospitals	X	X	X	FHD/RHD	Supervision report
	Organise/arrange exposure visits for SD staff to higher-level health facilities		X	X	DoHS/RHD/D(P)HO	
3. Ensure availability of essential equipment and supplies for C/S	Provide funding to cover casual expenses for repair, maintenance and procurement of standard sets of equipment and supplies for SD services (including C/S) in district hospitals where B/CEOC facilities are available	X	X	X	FHD/LMD/RHD/DHO	
Strategy # 5: Improving safe delivery staff in first-referral hospitals						
1. Complete team of specialists for safe delivery service in referral hospitals	Provide study opportunity for MOs in MDGP course (3 years) Y1: 5 Y2: 5 Y3: 5	X	X	X	MoHP/FHD	Trained HR in referral hospital

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	Provide study opportunity for MOs in DGO course (1 year) Y2: 7 Y3: 8		X	X	FHD/NHTC	Trained HR in referral hospital
	Provide study opportunity for MOs in DA course (1 year) Y2: 7 Y3: 8		X	X	FHD/NHTC	Trained HR in referral hospital
2. Strengthen technical capacity of district hospital staff	Provide on the job refresher training (one week) in referral hospitals to upgrade the skills of district hospital MOs C/S: Annual 26 USG: Annual 4 Anaesthesia: 4	X	X	X	Referral hospitals	Trained MOs
	Provide on-site technical supervision to SD staff of district hospitals and PHCCs by specialists from regional/zonal hospitals – 12 visits per year	X	X	X	Referral hospitals	
Strategy # 6: Increasing critical skills of safe delivery staff						
1. Increase number of SBA-trained doctors, Staff Nurses and ANMs by including public, private and NGO sectors	Provide advanced SBA training (CEOC, including C/S) to medical officers (2 ½ month group-based training) Y1: 5 Y2: 5 Y3: 5	X	X	X	NHTC/FHD	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	Conduct two months training on SBA for existing and newly recruited ANMs Y1: 400 Y2: 800 Y3: 1000	X	X	X	NHTC/FHD	
	Conduct two month training on SBA for existing and newly recruited Staff Nurses Y1: 200 Y2: 200	X	X		NHTC/FHD	
	Conduct 45 days training on SBA for existing and newly recruited doctors Y1: 50 Y2: 100 Y3: 100	X	X	X	NHTC/FHD	
	Conduct 15 days advanced training on SBA for existing and newly recruited MDGPs, DGOs and obstetrician/gynaecologists who will be SBA trainers and for selected medical officers/nurses who already have BEOC training Y1: 20 Y2: 30 Y3: 30	X	X	X	NHTC/FHD	
2. Increase number SNs/HAs trained in anaesthesia in district hospitals	Conduct 6 months training on anaesthesia to SNs/HAs working in district hospitals Y1: 12 Y2: 20 Y3: 30	X	X	X	NHTC/FHD	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
3. Increase number of doctors trained in USG in district hospitals and above	Conduct USG training for doctors (about three months duration) Y1: 8 Y2: 10 Y3: 10	X	X	X	NHTC/FHD	
4. Increase quality of technical supervision from PHN to SNs and ANMs who provide delivery services	Develop training package for PHNs on SBA, including supervisory skills (about 7 days for SBA orientation and 7 days for supervisory skills)	X			NHTC/FHD	
	Conduct training on supervisory skills/SBA orientation for PHNs (about one week duration) Y1: 35 Y2: 40	X	X	X	NHTC/FHD	
	Conduct feasibility study of a professional midwifery course	X			FHD/NHTC	
5. Increase number of SNs trained in OT management in district hospitals and above	Conduct training in OT management (about 42 days) Y1: 20 Y2: 30 Y3: 30	X	X	X	NHTC/FHD	
6. Advocate among medical schools to include C/S skill in MBBS programme	Conduct consultative workshop in 5 development regions with medical schools in public, private and NGO sectors to develop strategy to incorporate C/S skill in MBBS programme	X			MoHP/RHD/ FHD/NHTC	Strategy paper

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
7. Institutionalize CME for updating the knowledge and skills of safe delivery staff	Provide financial assistance for health workers (if their papers are accepted) to present experiences of safe delivery services in national and international seminars/ workshops and to undertake study visits.	X	X	X	MoHP/DOHS/FHD/RHD	Nepal's experience on improving safe delivery services documented and presented at various forums.
8. Develop a partnership with the private and NGO sectors to upgrade skills of health workers for safe delivery	Conduct a workshop to formulate a partnership framework, including a guideline for a contractual financial agreement for health worker skill upgrade training and other activities	X			MoHP/DOHS/NHTC	Partnership framework
	Identify potential institutions from private and NGO sectors to conduct a programme of skill training for health workers in other areas, such as USG, anaesthesia, OTM and SBA, based on the partnership framework.	X	X	X	MoHP/FHD/NHTC	List of institutions
Strategy # 7: Increasing staff retention in health facilities						
1. Retain MDGPs in their career by providing appropriate incentives.	Organise three workshops (one each in central, eastern and western regions) on "Role of MDGP as specialist in providing SD services," to increase their recognition among the medical professionals	X			MoHP/RHD/Association of GPs	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	Develop and implement a clear strategy for recruitment, promotion and career development of MDGPs.	X			MoHP/DoHS/D(P)HO	Retained staff
	Provide an education allowance to MDGPs working in safe delivery for up to two children	X	X	X	MoHP	
	Prepare and implement a policy, accommodating transfer of MDGPs from remote to non-remote areas and vice versa	X			MoHP	
	Provide accommodation allowances to MDGPs where quarters are not available	X	X	X	MoHP/DoHS/MD	
2. Ensure a continuous SD service in hospitals by MDGPs	Develop and implement an attractive financial package for contractual service under which the Hospital Management Committees (HMC) appoint MGDPs. (Such contracts will be terminated immediately with availability of regular MDGPs.) (HMC will be provided adequate resources and authorities to implement this activity.)	X	X	X	MoHP/DoHS/ HMC	
3. Ensure anaesthetic services in district hospitals	Organise a workshop to develop a legal framework clarifying the role and authority of Anaesthesia Technicians and AAs (HWs/SNs trained in anaesthesia).	X			MoHP/FHD	Legal framework
	Provide financial incentives to health workers trained in anaesthesia for each case performed. This incentive will be in addition to their share of the incentive which is	X	X	X	MoHP/D(P)HO	AAs working in place

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
	provided for complicated deliveries under the free health service guidelines					
4. Ensure availability of functional equipment at district hospitals	Provide a health hazard incentive to the person with BMET skills for repair and maintenance of equipment	X	X	X	MoHP/D(P)HO	
5. Retain nursing staff in district hospitals, PHCCs and HPs	Provide an education allowance to nursing staff in remote district hospitals, PHCCs and HPs for up to two children	X	X	X	MoHP	
	Prepare and implement a policy accommodating transfer of nursing staff from remote to non-remote areas and vice-versa	X			MoHP	
	Provide accommodation allowances to nursing staff in district hospitals, PHCCs and HPs where quarters are not available	X	X	X	MoHP/DoHS/MD	
6. Ensure availability of doctors in district hospitals and PHCCs	Provide accommodation allowances for doctors performing C/S in district hospitals where quarters are not available	X	X	X	MoHP	
	Provide five-day refresher training to upgrade the knowledge and skills of doctors every two years	X	X	X	MoHP/DHO	
	Develop and implement a policy giving priority for higher education to doctors who complete a minimum of two years' service in district hospitals and PHCCs.	X	X	X	NHTC/FHD	Policy paper
7. Ensure communication	Provide e-mail/internet facilities in district	X	X	X	LMD	

Objectives	Activities	Time frame			Main responsibility	Output
		Y1	Y2	Y3		
and electricity facilities to enhance the working environment	hospitals and PHCCs where internet service is available					
	Provide a power back up service for district hospitals	X	X	X	LMD	
	Provide a telephone line/CDMA set for all PHCCs and HPs	X	X	X	LMD	
	Provide communication compensation to ANMs working in PHCCs and HPs who use their mobile phone for safe delivery services	X	X	X	MoHP/DHO	
8. Improve performance of health facilities by improving the performance evaluation system	Review strengths and limitations of the existing performance evaluation system for the health sector.	X			MoHP	
	Improve health service regulations to implement a performance-based (result and evidence) evaluation system.		X		MoHP	
	Select candidates for higher education based on the improved performance evaluation system		X	X	MoHP	
	Reward health workers based on the improved performance evaluation system (particularly for career development)		X	X	MoHP	

11. Budget for the three-year operational plan

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Strategy # 1: Improving human resource planning and management										
Integrate a reliable and functional safe delivery (SD) human resource information system (software) at all levels linking with National Health Training Centre (NHTC) training data base and Ministry of Health and Population (MoHP) E-HURIC	Orientation at regional level	100,000	Per orientation programme	2	3		200	300	-	500
Generate Human Resource (HR) report on safe delivery staff, including HR training information, regularly either electronically or manually	Information collection and processing, format development and printing by FHD	100,000	Per report	2	2	2	200	200	200	600
Present HR information in a quarterly team meeting for HR planning and management review	No additional cost	-					-	-	-	-
Conduct work load study of district hospitals to find out the need for critical staff and equipment for safe delivery services	Consultancy (research study in sample health facilities)	1,500,000	Study	1			1,500	-	-	1,500
Deliver essential equipment to refurbish health facilities where SD staff are deployed	No additional cost; transportation cost from regular budget						-	-	-	-
Appoint necessary SD staff where SD equipment and infrastructure	No additional cost						-	-	-	-

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
are available										
Organise one day district level meeting on use of safe delivery equipment available at health facilities with participation of store- in charge, Public Health Nurse (PHN), District Public Health Office (DPHO), hospital in-charge and stakeholders	Meeting expenses	5,000	Per meeting	75	75	75	375	375	375	1,125
Provide grants to selected Health Facility Management Committees to hire necessary staff and procure basic equipment through D(P)HO for 24-hour B/CEOC service	Lump-sum grant	200,000	Per district	75	75	75	15,000	15,000	15,000	45,000
Total							**17,275**	**15,875**	**15,575**	**48,725**
Strategy # 2: Improving quantity of safe delivery staff in PHCCs and HPs										
Create 2,200 additional Auxiliary Nurse Midwife (ANM) posts (700 for existing and 1,500 for upgraded health posts) Y1: 800 Y2: 900 Y3: 500	No additional cost									
Recruit 600 additional ANMs for the existing HPs (100 ANMs are already recruited through the pool fund) Y1: 200 Y2: 400	Salary of ANM	8,280	Per person per month	200	400		21,528	64,870	65,728	152,126
Upgrade and deploy 1,500 trained Maternal and Child Health	Salary difference	720	Per person per month	500	500	500	4,680	10,075	16,185	30,940

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Workers (MCHWs) to the post of ANM in the upgraded HPs Y1: 500 Y2: 500 Y3: 500										
Recruit 1,500 new ANMs for the upgraded HPs Y1: 500 Y2: 500 Y3: 500	Salary of ANM	8,280	Per person per month	500	500	500	53,820	108,355	163,605	325,780
Create 16 additional Staff Nurse posts and 46 ANM posts (for existing 208 and 14 new PHCCs)	No additional cost									
Recruit 102 Staff Nurses (86 vacant and 16 new posts)	Salary of 16 SNs	10,970	Per person per month	0	16	0	-	2,282	2,309	4,591
Recruit 123 ANMs (77 vacant and 46 new posts)	Salary of 46 ANMs	8,280	Per person per month	0	46	0	-	4,951	5,017	9,969
Create 15 additional posts for MBBS doctors as medical officer (for one existing and 14 new PHCCs)	No additional cost						-	-	-	-
Fill sanctioned posts of medical officers by recruiting MBBS graduates through regular and/or contractual service	Salary of 14 Medical Officers	13,450	Per person per month	4	5	5	699	1,582	2,475	4,756
Review the existing contractual appointment system and prepare a guideline for contractual service of health workers at the district level, as well as by VDCs, to fill immediate staff needs (including the option of using unspent money for approved posts with the approval of concerned authorities)	Consultancy service	1,000,000	Per study	1			1,000	-	-	1,000

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Recruit safe delivery staff at the local level on contract, based on an approved guideline and using unspent money or available additional fund/VDC grant.	No additional cost						-	-	-	-
Total							**81,727**	**192,115**	**255,319**	**529,162**
Strategy # 3: Improving supervision of safe delivery staff in PHCCs and HPs										
Revise job description of Public Health Nurse (PHN) to include technical supervision of SNs and ANMs on safe delivery as one of their responsibilities	One day review workshop	30,000	Per workshop	1			30	-	-	30
Revise guideline and checklist for technical supervision of safe delivery and develop the same for managerial supervision (including availability and condition of equipment)	Three day review workshop	100,000	Per workshop	1			100	-	-	100
Develop and implement a work plan for technical and managerial supervision of PHCCs and HPs by the district hospital staff, PHN and other staff.	No additional cost						-	-	-	-
Organise, with the participation of stakeholders, a quarterly meeting to review the utilisation of health facilities for safe delivery and the availability of staff, equipment and supplies at the district level (Safe Delivery Audit).	No additional cost						-	-	-	-

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Total							**130**	**-**	**-**	**130**
Strategy # 4: Improving quantity and quality of safe delivery staff in district hospitals										
Collect information on critical safe delivery staff from district hospitals where OT facilities are available (19 district hospitals).	Travel and daily allowance	25,000	Per visit	19			475	-	-	475
Establish a complete C/S team in district hospitals where OT facilities are available (19 district hospitals) - A doctor with C/S skills - Anaesthesia Assistant - Staff Nurse with SBA skills - Staff with OT management skills	No additional cost						-	-	-	-
Establish new CEOC sites in 18 district hospitals	Refurbishment of OT	8,000,000	Per hospital	4	6	8	32,000	48,000	64,000	144,000
Appoint 27 doctors with C/S skill for district hospitals (MDGP/DGO/MO with C/S skills) Y1: 6 Y2: 8 Y3: 13	No additional cost	16,480	Per person per month	6	8	13	1,285	3,015	5,836	10,137
Deploy SD staff to complete a C/S team in all district hospitals by transferring skilled staff to facilities where the skills can be utilised.	No additional cost						-	-	-	-
Develop guideline and checklist for technical supervision of district hospital SD staff by referral hospitals	Three day review workshop	100,000	Per workshop	1			100	-	-	100

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Develop and implement a work plan for technical supervision of district hospital SD staff by specialists and nursing supervisors in referral hospitals	No additional cost						-	-	-	-
Organise/arrange exposure visits for SD staff to higher level health facilities	Travel and daily allowance	100,000	Per district		30	45	-	3,000	4,500	7,500
Provide funding to cover casual expenses for repair, maintenance and procurement of standard sets of equipment and supplies for SD services (including C/S) in district hospitals where B/CEOC facilities are available	Basic equipment and supplies	50,000	Per district	19	15	28	950	750	1,400	3,100
Total							**34,810**	**54,765**	**75,736**	**165,312**
Strategy # 5: Improving safe delivery staff in first-referral hospitals										
Provide study opportunity for MOs in MDGP course (3 years) Y1: 5 Y2: 5 Y3: 5	Scholarship	1,000,000	Per person per course	5	5	5	5,000	5,000	5,000	15,000
Provide study opportunity for MOs in DGO course (1 year) Y2: 7 Y3: 8	Scholarship	350,000	Per person per course	0	7	8	-	2,450	2,800	5,250
Provide study opportunity for MOs in DA course (1 year) Y2: 7 Y3: 8	Scholarship	150,000	Per person per course	0	7	8	-	1,050	1,200	2,250

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Provide on the job refresher training (one week) in referral hospitals to upgrade the skills of district hospital MOs C/S: Annual 26 USG: Annual 4 Anaesthesia: 4	Travel and daily allowance; resource person allowance	9,123	Per person per programme	26	26	26	237	237	237	712
	Travel and daily allowance; resource person allowance	14,200	Per person per programme	4	4	4	57	57	57	170
	Travel and daily allowance; resource person allowance	14,200	Per person per programme	4	4	4	57	57	57	170
Provide on-site technical supervision to SD staff of district hospitals and PHCCs by specialists from regional/zonal hospitals – 12 visits per year	Travel and daily allowance (5 days)	10,000	Per person per visit	12	12	12	120	120	120	360
Total							**5,471**	**8,971**	**9,471**	**23,912**
Strategy # 6: Increasing critical skills of safe delivery staff										
Provide advanced SBA training (CEOC, including C/S) to medical officers (2 ½ month group-based training) Y1: 5 Y2: 5 Y3: 5	CEOC with C/S training to medical officers	167,615	Per training per participant	5	5	5	838	1,096	1,096	3,030
Conduct two months training on SBA for existing and newly recruited ANMs Y1: 400 Y2: 800 Y3: 1000	SBA training to existing and newly recruited ANMs (2 months)	29,840	Per training per participant	400	800	1,000	11,936	32,143	39,298	83,378

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Conduct two month training on SBA for existing and newly recruited Staff Nurses Y1: 200 Y2: 200	SBA training to existing and newly recruited Staff Nurses (2 months)	28,415	Per training per participant	200	200	0	5,683	6,063	-	11,746
Conduct 45 days training in SBA for existing and newly recruited doctors Y1: 50 Y2: 100 Y3: 100	SBA training to existing and newly recruited doctors (45 days)	45,925	Per training per participant	50	100	100	2,296	4,708	4,708	11,713
Conduct 15 days advanced training in SBA for existing and newly recruited MDGPs, DGOs and obstetrician/gynaecologists who will be SBA trainers and for selected medical officers/nurses who already have BEOC training Y1: 20 Y2: 30 Y3: 30	Advanced training in SBA to existing and newly recruited MDGPs, DGOs and Obst/gyns (15 days)	44,605	Per training per participant	20	30	30	892	1,371	1,371	3,634
Conduct 6 months training in anaesthesia to SNs/HAs working in district hospitals Y1: 12 Y2: 20 Y3: 30	Training in anaesthesia to SNs/HAs working in district hospitals (6 months)	80,090	Per training per participant	12	20	30	961	1,501	2,034	4,496
Conduct USG training for doctors (about three months duration) Y1: 8 Y2: 10 Y3: 10	USG training for doctors (about three months duration)	85,665	Per training per participant	8	10	10	685	707	707	2,100
Develop training package for PHNs on SBA, including	Consultancy	250,000	Per consultancy	1			250	-	-	250

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
supervisory skills (about 7 days for SBA orientation and 7 days for supervisory skills)										
Conduct training on supervisory skills/SBA orientation to PHNs (about one week duration) Y1: 35 Y2: 40	Training in supervisory skills/SBA orientation to PHNs	17,540	Per training per participant	35	40		614	720	-	1,334
Conduct feasibility study of a professional midwifery course	Consultancy	250,000	Per consultancy	1			250	-	-	250
Conduct training on OT management (about 42 days) Y1: 20 Y2: 30 Y3: 30	OT management training	43,790	Per training per participant	20	30	30	876	1,465	1,465	3,806
Conduct consultative workshop in 5 development regions with medical schools in public, private and NGO sector to develop strategy to incorporate C/S skill in MBBS programme	Two-day consultative workshop	150,000	Per workshop	5			750	-	-	750
Provide financial assistance for health workers (if their papers are accepted) to present experiences of safe delivery services in national and international seminars/ workshops and to undertake study visits.	Subsidy for participation	100,000	Per person	15	15	15	1,500	1,500	1,500	4,500
Conduct workshop to formulate a partnership framework, including a guideline for contractual financial agreement for health worker skill upgrade training and other activities	Two-day consultative workshop	150,000	Per workshop	1			150	-	-	150

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Identify potential institutions from private and NGO sectors to conduct a programme of skill training for health workers in other areas, such as USG, anaesthesia, OTM and SBA, based on the partnership framework.	No additional cost									
Total							**27,682**	**51,276**	**52,180**	**131,137**
Strategy # 7: Increasing staff retention in health facilities										
Organise three workshops (one each in central, eastern and western regions) on "Role of MDGP as specialist in providing SD services," to increase their recognition among the medical professionals	Two day consultative workshop	100,000	Per workshop	3			300	-	-	300
Develop and implement a clear strategy for recruitment, promotion and career development of MDGPs	No additional cost						-	-	-	-
Provide an education allowance to MDGPs working in safe delivery for up to two children	Allowance	1,000	Per person per month	20	60	60	240	720	720	1,680
Prepare and implement a policy, accommodating transfer of MDGPs from remote to non-remote areas and vice versa	No additional cost						-	-	-	-
Provide accommodation allowances to MDGPs where quarters are not available	Allowance	5,000	Per person per month	10	20	20	600	1,200	1,200	3,000

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Develop and implement an attractive financial package for contractual service under which the Hospital Management Committees (HMC) appoint MGDPs. (Such contracts will be terminated immediately with availability of regular MDGPs.) (HMC will be provided adequate resources and authorities to implement this activity.)	Consultancy (including workshop)	600,000	Per HMC	10	10	10	6,000	6,000	6,000	18,000
Organise a workshop to develop a legal framework clarifying the role and authority of Anaesthesia Technicians and AAs (HWs/SNs trained in anaesthesia)	Two-day review workshop	100,000	Per workshop	1			100	-	-	100
Provide financial incentives to health workers trained in anaesthesia for each case performed. This incentive will be in addition to their share of the incentive which is provided for complicated deliveries under the free health service guidelines	Allowance	150	Per case	1,900	3,400	6,200	285	510	930	1,725
Provide health hazard incentive to the person with BMET skills for repair and maintenance of equipment	Allowance/remuneration	5,000	Per hospital	19	34	62	95	170	310	575
Provide an education allowance to nursing staff in remote district hospitals, PHCCs and HPs for up to two children	Allowance/remuneration	500	Per person per month	1,000	1,500	2,000	6,000	9,000	12,000	27,000

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Prepare and implement a policy accommodating transfer of nursing staff from remote to non-remote areas and vice versa	No additional cost						-	-	-	-
Provide accommodation allowances to nursing staff in district hospitals, PHCCs and HPs where quarters are not available	Allowance	1,000	Per person per month	500	750	1,000	6,000	9,000	12,000	27,000
Provide accommodation allowances for doctors performing C/S in district hospitals where quarters are not available	Allowance	3,000	Per person per month	23	29	37	828	1,044	1,332	3,204
Provide five day refresher training to upgrade the knowledge and skills of doctors every two years	Refresher training (20 health workers)	10,413	Per programme	20	20	20	208	208	208	625
Develop and implement a policy giving priority for higher education to doctors who complete a minimum of two years' service in district hospitals and PHCCs	No additional cost						-	-	-	-
Provide e-mail/internet facilities in district hospitals and PHCCs where internet service is available	Installation plus monthly subsidy	8,000	Per hospital/PHCC	50	150	250	400	1,200	2,000	3,600
Provide a power back up service for district hospitals	Generator/inverter	100,000	Per hospital	19	25	38	1,900	2,500	3,800	8,200
Provide a telephone line/CDMA set for all PHCCs and HPs	Telephone line	5,000	Per PHCC/HP	500	1,000	1,000	2,500	5,000	5,000	12,500
Provide communication compensation to ANMs working in PHCCs and HPs who use their mobile phone for safe delivery services	Sim card charge	200	Per person/month	500	1,000	2,000	1,200	2,400	4,800	8,400

Activities	Cost item	Unit cost (NPR)	Unit	Quantity (Number)			Amount (NPR in '000)			
				Y1	Y2	Y3	Y1	Y2	Y3	Total
Review strengths and limitations of the existing performance evaluation system for the health sector.	Consultancy (including workshop)	200,000	Per study	1			200	-	-	200
Improve health service regulations to implement a performance-based (result and evidence) evaluation system.	No additional cost						-	-	-	-
Select candidates for higher education based on the improved performance evaluation system	No additional cost									
Reward health workers based on the improved performance evaluation system (particularly for career development)	No additional cost						-	-	-	-
Total							**26,856**	**38,952**	**50,300**	**116,109**

Cost summary by strategy and year

Strategy	Amount (NPR in '000)			
	Y1	Y2	Y3	Total
Strategy # 1: Improving overall human resource planning and management	17,275	15,875	15,575	48,725
Strategy # 2 Improving quantity of safe delivery staff in PHCCs and HPs	81,727	192,115	255,319	529,162
Strategy # 3: Improving supervision of safe delivery staff in PHCCs and HPs	130	-	-	130
Strategy # 4: Improving quantity and quality of safe delivery staff in district hospitals	34,810	54,765	75,736	165,312
Strategy # 5: Improving safe delivery staff in first-referral hospitals	5,471	8,971	9,471	23,912
Strategy # 6: Increasing critical skills of safe delivery staff	27,682	51,276	52,180	131,137
Strategy # 7: Increasing staff retention in health facilities	26,856	38,952	50,300	116,109
Total in NPR	**193,951**	**361,954**	**458,581**	**1,014,487**
Total in USD (@ 1 USD = 80 NPR)	**2,424**	**4,524**	**5,732**	**12,681**

Annex 1: Consultant Terms of Reference

IMPROVING SUB-SECTOR, SAFE MOTHERHOOD SERVICES THROUGH IMPROVED HUMAN RESOURCE PLANNING

SUPPORT TO SAFEMOTHERHOOD PROGRAMME

TERMS OF REFERENCE FOR DR. RIITTA-LIISA KOLEHMAINEN-AITKEN

Background

The National Safe Motherhood Programme is a priority within the Government of Nepal's Health Sector Strategy, which works towards meeting the Tenth Five-Year Development Plan (2002-07) and the health sector targets set out in the Millennium Development Goals. The goal for maternal health is to reduce the maternal mortality ratio by three quarters between 1990 and 2015. The framework for implementation of the safe motherhood programme is the National Safe Motherhood and Newborn Health Plan 2002-2017 (revised in 2006), the goal of which is "maternal and neonatal health improved" and the purpose, "sustained increase in utilisation of quality maternal health services."

Critical to meeting the safe motherhood Millennium Development Goal is increased and improved safe delivery services. Currently, the MoHP has a significant deficit of skilled birth attendants amongst their current medical staff posted throughout the country. Additionally, nationwide there is an inadequate number of basic delivery or comprehensive delivery service sites equipped and staffed for 24-7 delivery services. The National In-Service Training Strategy for Skilled birth Attendants 2006-2012 provides a road map for addressing the SBA knowledge/competency deficit for current GON health staff. This strategy advises, as an initial first step for its implementation, the development of a 5-year, in-service SBA operational plan, which the SSMP core technical assistance team is in the process of addressing with NFHTC and other key GON departments. Having adequate numbers of SBA staff within the government health system over the coming 8 years will also include assuring that additional staff are hired who have SBA competencies, and, thus, considerable work with pre-service programmes is also envisioned but not yet addressed. However, even having adequate numbers of SBA competent staff in the GON system is still not sufficient to assure skilled birth attendant services reach 60% of delivering women by 2015.

Since the Government of Nepal's initiation of national health services, the system's ability to provide basic services has been plagued with problems related to human resource deployment. Uneven development and modernization in the country exacerbated by difficult terrain, varying population density, history of political power determining areas of resource use and inadequate budgets has made

the resolution of this critical area of service delivery an inscrutable problem. Regulations, policies, and the best intentions of government officials and concerned donors have all tangled with the issue over the years with such frequency that seasoned health visionaries now back away from the seemingly unsolvable but vitally important task of assuring throughout the country deployment of health staff who are working full time at posts that their skills support, staying for a full assignment, having replacement staff for study leaves and being provided the support they need to be willing to do this.

Recognizing the magnitude of the health human resource planning task, this consultancy would focus specifically on a portion of the overall health human resource problem making its resolution more manageable. The portion would be staffing issues related to improved maternal health. Not only would critical maternal health staffing meet a large health need country wide, but just having adequate MH staff in a VDC to district-level network would allow most other basic health service needs to be met. Thus, a sub-sector solution could benefit the larger sector.

Purpose of the Consultancy

Provide a way forward for the GON to meet its MDG 5 by assuring adequate maternal health human resources.

Tasks/ Methodology

The international consultant, together with local consultants also contracted by HSRSP/RTI, will confer with key GON officials involved in human resource planning and execution (Personnel Administration, Training and HRMIS), the Health Sector Reform Unit within the Ministry, SSMP and HSRSP/RTI. They will utilise existing data plus additional information gleaned from individual meetings and or workshops to:

- **Define the extent of the country's safe motherhood service delivery human resource problem by determining the following (some of the data may be available through the 5-year, in-service SBA training plan noted below). The MH posts include both midwifery and non-midwifery maternity team members:**

    1. lack of sanctioned critical MH posts
    2. unfilled sanctioned critical MH posts
    3. posts plagued by absenteeism (both out of disobedience of provider and deputation of assigned staff to another post or training opportunity)
    4. inappropriate posting of MH skilled staff to non-MH service sites

5. MH team members without posts or career ladders (MD General Practice doctor (MDGP) Anaesthesia Assistant (AA),Biomedical Equipment Technician (BMET)
6. partially complete MH teams in MH service sites rendering the site unable to provide MH services such as caesarean section.
7. positions without regular supportive supervision
8. shortened hours of service due to lack of appropriate supervision or community demand.

- **Determine the most important contributory factors to the problems listed above which prevent successful deployment and maintenance of high-quality services:**

1. sites without quarters
2. sites without quality education or positions without education allowances that allow staff to send at least 2 children to quality education institutions
3. hardship sites without allowances to compensate for the losses that a more developed area would not present
4. sites without communication (telephones or easy to reach-less than 2 hours to distant sites with other health professionals)
5. lack of re-certification processes/requirements to support provider update and development
6. lack of social inclusion sensitivity awareness building programmes.

- **Identify resources currently or potentially available to resolving deployment and quality service problems:**

1. numbers of current and properly posted staff who will year by year be appropriately skilled (available in the 5 year in-service SBA training plan)
2. numbers/types of appropriately skilled staff already in the system but not appropriately posted
3. future potential staff as determined by those in training both as scholarship students dedicated to government service for at least 2 years to meet bond demands
4. privately funded students who might with creative incentives be attracted to GON health service posts
5. potential private-sector or NGO-sector service providers or institutions that could be contracted to staff/manage a service site or perhaps fill a vacancy of a seconded staff member
6. availability of HR funds at VDC and DDC levels for hiring MH service providers
7. examples of good HR deployment in health programmes from within the region or countries with similar social, economic and geographical barriers and lessons learned from these as to their success
8. status of medical professional associations plans for re-certification of cadres of health providers
9. status of designation of new posts and career ladders for MDGP, AA, & BMET

- **Based on the analysis above of problems, contributory factors and resources:**

    1. develop a maternal health human resource strategy (may revise and specify for MH the current NEPAL Strategic Plan for Human Resources)
    2. assure the strategy is a product of key Maternal Health Human Resource decision makers' thinking, which addresses how to overcome MH HR gaps and promotes quality of services in the public health service system so that Nepal may more effectively provide MH services to the majority of women by 2015
    3. engage this group in preparing a step-by-step operational plan to implement the strategy defining responsible units for each step
    4. prepare with responsible implementers budget estimates broken into 3 separate years of work to implement the strategy - first as a pilot, and then as a country-wide solution so as to guide the GON towards phased resolution of the HR crisis in maternal health services.

Timeframe and LOE

HSRSP/RTI expects the scope of work to be completed in July-August 2008 and includes levels of effort from both the international consultant and local consultants. We anticipate the international consultant making three trips 3 weeks each to accomplish the scope of work. The consultant's first trip should be on or about March 25 to April 17, and the consultant's total LOE should not exceed 66 days.

Deliverables

The international consultant will be responsible for completing the scope of work, developing the strategy, operational plan and budget estimates with assistance from the local consultants. It is expected that the local consultants will be primarily responsible for collecting data and reporting on needs, barriers and resources as summarized above. The international consultant will guide this process and be primarily responsible for the analysis, which will lead to the strategy, operational plan and budget estimates with assistance from the local consultants.

The international consultant will deliver draft softcopies of a maternal health human resource strategy and a final draft revision of the current Nepal Strategic Plan for Human Resources for Health 2003 for maternal health. The strategy and revision will be quickly reviewed by a selected team. The consultant will make revisions if necessary and deliver final softcopies.

The international consultant will deliver a draft operational plan to implement the strategy. The operational plan will be quickly reviewed by a selected team. The consultant will make revisions if necessary and deliver final softcopy.

The international consultant will deliver a draft 3-year budget to pilot implementation and then to scale up nationwide. The budget will be quickly reviewed by a selected team. The consultant will make revisions if necessary and deliver final softcopy.

Resources

1. NEPAL Strategic Plan for Human Resources for Health 2003-2017
2. Review of Situation within the MoHP with regard to Human Resources Policy and Management by Dr. Olivier Weil
3. National Policy on Skilled Birth Attendants
4. National in-Service Training Strategy for Skilled Birth Attendants 2006-2012
5. Nepal's General Practitioners, Where are they and what are they doing in 2006, NSI
6. Deployment of Health Care Workers in Government District hospitals in Nepal, NSI
7. Web sites for Asia-Pacific Action Alliance for Human Resources for Health and for Global Health Workforce Alliance
8. Anaesthesia Assistant in Nepal, NSI (to be published in Tropical Doctor)
9. Experienced health service experts on HR needs other than officials directly charged with human resource management:

   Dr. B.R. Marasini

   Dr. B.K. Suvedi

   Dr. Ganga Shakya

   Bindu Bajracharya

   Devi Prasad

   Ragu Ghimire

   Dr. Rajendra Bhadra

   Dr. Mark Zimmerman

Annex 2: Facilities in the Nepal Safe Delivery Field Study Sample

Annex table 2.1: Sampled health facilities in the public sector, Nepal Safe Delivery Field Survey, DMI, 2008

Development region and type of health facility	Geographic region	Urban/rural
Eastern Development Region		
Regional/zonal hospital (N = 3)		
Koshi Zonal Hospital	Terai	Urban
Mechi Zonal Hospital	Terai	Urban
Sagarmatha Zonal Hospital	Terai	Urban
District hospital (N = 3)		
Dhankuta Hospital	Hill	Urban
Panchthar Hospital	Hill	Rural
Inaruwa Hospital	Terai	Urban
PHCC (N = 3)		
Dandabazar, Dhankuta	Hill	Rural
Gopitar, Panchthar	Hill	Rural
Itahari, Sunsari	Terai	Urban
HP (N = 3)		
Pakhribas, Dhankuta	Hill	Rural
Tharpu, Panchthar	Hill	Rural
Bakhlauri, Sunsari	Terai	Rural
Central Development Region		
Regional/zonal hospital (N = 4)		
Narayani Sub Regional Hospital	Terai	Urban
Janakpur Zonal Hospital	Terai	Urban
Bharatpur Hospital	Terai	Urban
Bhaktapur Hospital	Hill	Urban
District hospital (N = 2)		
Jiri Hospital	Mountain	Rural

Development region and type of health facility	Geographic region	Urban/rural
PHCC (N = 3)		
Dhulikhel, Kavre	Hill	Urban
Charikot, Dolakha	Mountain	Urban
Mahandranagar, Dhanusa	Terai	Rural
HP (N = 3)		
Nala, Kavre	Hill	Rural
Dolakha, Dolakha	Mountain	Rural
Ghorghas, Dhanusa	Terai	Rural
Western Development Region		
Regional/zonal hospital (N = 2)		
Western Regional Hospital	Hill	Urban
Lumbini Zonal Hospital	Terai	Urban
District hospital (N =2)		
Baglung Hospital	Hill	Urban
Rupandehi Hospital	Terai	Urban
PHCC (N = 3)		
Sishuwa, Kaski	Hill	Urban
Kusmesera, Baglung	Hill	Rural
Dhakdehi, Rupandehi	Terai	Rural
HP (N = 3)		
Batulechaur, Kaski	Hill	Urban
Dhamja, Baglung	Hill	Rural
Parhawa, Rupandehi	Terai	Rural
Mid Western Development Region		
Regional/zonal hospital (N = 2)		
Mid Western Regional Hospital (1)	Hill	Urban
Bheri Zonal Hospital	Terai	Urban
District hospital (N =2)		
Jumla Hospital	Mountain	Rural

Development region and type of health facility	Geographic region	Urban/rural
Dang Hospital	Terai	Urban
PHCC (N = 3)		
Mailkuna, Surkhet	Hill	Rural
Kalika, Jumla	Mountain	Rural
Khajura, Banke	Terai	Rural
HP (N = 3)		
Lekhfarsa, Surkhet	Hill	Rural
Hatsinja, Jumla	Mountain	Rural
Jaispur, Banke	Terai	Rural
Far Western Development Region		
Regional/zonal hospital (N = 2)		
Seti Zonal Hospital	Terai	Urban
Mahakali Zonal Hospital	Terai	Urban
District hospital (N = 2)		
Diti Hospital	Hill	Urban
Dadeldhura Hospital	Hill	Urban
PHCC (N =3)		
Saraswatinagar, Doti	Hill	Rural
Jogbudha, Dadeldhura	Hill	Rural
Malakheti, Kalali	Terai	Rural
HP (N =3)		
Ladagada, Doti	Hill	Rural
Saharsalinga, Dadeldhura	Hill	Rural
Basiti	Terai	Rural

Annex table 2.2: Sampled health facilities in private and NGO Sectors, Nepal Safe Delivery Field Survey, DMI, 2008

Development region and type of health facility	Geographic region	Urban/rural
Eastern Development Region		
BP Koirala Institute of Health Science, Dharan	Terai	Urban
AMDA Hospital, Damak	Terai	Urban
Sagarmatha Nursing Campus, Morang	Terai	Urban
Central Development Region		
Dhulikhel Hospital, Kavre	Hill	Urban
Sir Memorial Hospital, Kavre	Hill	Urban
Nepal Medical College, Kathmandu	Hill	Urban
Western Development Region		
Manipal College of Medical Science, Pokhara	Hill	Urban
Universal College of Medical Science, Bhairahawa	Terai	Urban
Mid Western Development Region		
Nepalgunj Medical College, Banke	Terai	Rural
Far Western Development Region		
Team Hospital, Dadeldhura	Hill	Urban

Annex table 2.3: Local bodies (DDC, municipality, VDC) visited, Nepal Safe Delivery Field Survey, DMI, 2008

Development region and local body	Geographic region	Urban/rural
Eastern Development Region		
Dhankuta DDC	Hill	Urban
Sunsari DDC	Terai	Urban
Panchthar DDC	Hill	Rural
Dandabazar VDC, Dhankutta	Hill	Rural
Itahari Municipality, Sunsari	Terai	Urban
Tharpu VDC, Panchthar	Hill	Rural
Central Development Region		
Dolakah DDC	Mountain	Urban
Dahanusa DDC	Terai	Urban
Kavre DDC	Hill	Urban
Bhimeshwar Municipality	Mountain	Urban
Dhulikhel Municipality	Hill	Urban
Western Development Region		
Rupandahi DDC	Terai	Urban
Baglunj DDC	Hill	Urban
Kaski DDC	Hill	Urban
Lekhnath Municipality	Hill	Urban
Kusmisera VDC	Hill	Rural
Dahkdehi VDC	Terai	Rural
Mid Western Development Region		
Jumla DDC	Mountain	Rural
Banke DDC	Terai	Urban
Surkhet Municipality	Hill	Urban
Far Western Development Region		
Kailali DDC	Terai	Urban
Diti DDC	Hill	Urban
Malaketi VDC, Kailali	Terai	Rural

Annex 3: Main strategies, targets and indicators of relevance to safe delivery staffing in key MoHP planning documents

National Safe Motherhood and Newborn Health - Long Term Plan (2006-2017)

Key indicators

- Increase SBA assisted deliveries to 60% by 2017
- Increase facility-based deliveries to 40% by 2017
- Increase EOC met need by 3% per year
- Increase caesarean section met need by 4% per year

- Priority to areas serving socially excluded groups

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National Policy on Skilled Birth Attendants (SBAs), July 2006

HRD short-term measures

- Competency-based core skills training and certification as SBAs
    - Staff Nurses and ANMs currently working and WITHOUT additional midwifery training
    - Newly appointed Staff Nurses and ANMs

- Assessment of competencies and certification as SBAs
    - Staff Nurses and ANMs currently working WITH additional midwifery training (either BEOC or MRT [midwifery refreshment] training)

- Post-basic midwifery training (one year) and certification as SBAs
    - All Staff Nurses working in PHCCs
    - All Staff Nurses providing maternity services at district hospitals

- Competency-based core skills training
    - Doctors in PHCCs and district hospitals, providing safe motherhood and newborn care (BEOC sites)

- Advanced SBA training
    - Doctors in maternity units/departments at district, zonal, regional and central hospitals (CEOC sites)

HRD medium-term measures

- Current ANM course restructured as a two-year course

HRD long-term measures

- Initiate new cadre of professional midwife

SBA deployment and retention

- Each health post: Two ANMs and one Staff Nurse by 2017
- Each sub-health post: Two ANMs by 2017
- Priority posting of ANMS to remote districts

SBA technical supervision
- Nurse midwife/Professional midwife working at the PHCC or district hospital

Professional licensure
- Re-licensing system established for SBAs

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National in-Service Training Strategy for Skilled Birth Attendants, 2006-2012

Goals and objectives of in-service SBA training strategy
- Competency based SBA training by 2012 to all eligible government doctors, Staff Nurses and ANMs
- Assessment of all eligible newly recruited public sector doctors, Staff Nurses and ANMs and provision of competency based SBA training, as required
- Strengthening and accreditation of sufficient SBA training sites to meet national training needs

Deployment and retention of trained staff
- SBAs to be deployed at locally accessible birthing centres, linked with PHCCs and health posts
- System of exchange and rotation

Guideline criteria for SBAs required to meet MDGs
- Mountain areas: One SBA for 50 expected pregnancies per year
- Hill areas: One SBA for 100 expected pregnancies per year
- Terai areas: One SBA for 150 expected pregnancies per year

Training requirements
- Doctors and nurses:
    - 4,573 for 60% coverage by 2012 plus 540 to account for 3% annual attrition
    - 7,623 for 100% coverage by 2012 plus attrition

Training sites
- Current and potential: 22

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Three Year Plan - 2064/65 - 2066/67 (2007/08 - 2009/10)

Objectives of relevance to HR for safe delivery

1. Provide equal opportunity for health development to all with special emphasis to socially disadvantaged, poor, women, and disabled people as per the provision of "Basic Health as Human Rights" in the Interim Constitution of Nepal 2063.
2. Strengthen ongoing high priority EHCS and achieve MDGs in accordance with the principles of Primary Health Care, equity and social justice.
3. Redesign health system to make people oriented, efficient and effective through reform in institutional management and health professional education.
4. Strengthen Public Private Partnership.

Strategies of relevance to HR for safe delivery
- Sub-Health post will be upgraded to Health post
- New PHCCs will be established in electoral constituencies which do not have one
- Special effort will be made for improvement in the health service in the Mid-Western and Far-Western Regions
- Human resource planning and management system will be strengthened and effectively implemented.

Activities of relevance to HR for safe delivery
- Long term health policy with 20 years vision developed with provision for having one PHCC in each VDC within the next 20 years
- 1,000 Sub-Health posts will be upgraded to health posts
- PHCCs will be established in 14 electoral constituencies that do not have one
- Regional hospitals with subspecialties will be established in Dhangadi of Far-Western Region
- Zonal hospitals will be established in Rapti zone, Jumla of Mid-Western Region and Baglung of Dhaulagiri zone.
- Free service for "inpatient and emergency" for people below poverty line will be expanded to all districts
- Links and mechanism will be established through FCHV to make funds available for enabling women to avail emergency obstetric service through FCHVs with the "Saving

and Cooperative programme" under Ministry of Agriculture which are operational up to the smallest community level
- Basic Emergency Obstetric Care facilities will be expanded up to the PHC level.
- Comprehensive emergency obstetric care will be provided in additional hospitals for care of mothers and new born.
- All services from district hospitals will be included in the priority EHCS and strengthened to provide BEOC, permanent surgical contraception facilities and other general curative care. Two ways referral system will be developed for ensuring quality and continuity of care.
- Birth centres will be established in health posts and in those sub-health posts which have trained health workers and adequate infrastructure.
- Skilled attendants will be trained as per SBA policy and trained health workers will be utilised for delivery at the community level during the transition period.
- The existing Maternity Incentive Scheme as well as Birth Preparedness programme will be strengthened.
- Skilled attendance and institutional deliveries will be increased through gradually bringing Private and NGO sector institutions into the fold of Maternity Incentive Scheme.
- For production of high level health professionals needed for strengthening district hospitals and expanding EOC services following will be emphasized: MDGP, DA, DGO and DCP in adequate numbers.
- Permanent registration of the new doctors studying under government fellowship scheme will be provided only after mandatory service in remote areas for pre determined period.
- Computer with email and internet access will be provided to all hospitals having internet facility.
- A high level Commission for Health Professional Education will be established.

<u>Indicators of relevance to HR for safe delivery</u>
- Upgrading 1,000 SHPs
- Establishing 14 PHCCs
- Numbers of DGP, DA, DGO
- Numbers of health facilities with availability of MBBS doctors
- Skilled attendance at birth increased from 19% in 2006 to 35% in 2009/10

Resource estimation: NPR16 billion in the first year, increasing to NPR18 billion in the third year.

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NHSP-IP Revised Log-Frame, July 2008

Outputs

- 25% of deliveries in facilities, 10% for lowest income quintile by the end of July 2010
- Contracts signed with non-state hospitals/clinics in 5 districts to provide CEOC by 2010
- Enhance staff skill-mix by 10% at sub-health posts, 15% at health posts, 20% at PHCCs and 25% at District hospitals where BEOC and CEOC are provided by 2010
- At least 40% of health facilities (District and PHCC) fully staffed by SBAs (with skill mix, both number and types by 2010
- Incentive package for doctors, nurses, paramedics, especially for remote areas designed in 2008 and implemented by 2009
- Production of MDGP, DA, DGO, DCH and DCP for strengthening 30 district hospitals started from 2009
- HR flexible fund established for short-term contracting of critical medical staff by 2009

Annex 4: Government safe delivery staff by development region

Annex table 4.1: Government safe delivery staff in HPs by development region, 2008

Staff category	Eastern			Central			Western			Mid Western			Far Western			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
ANM	140	128	129	170	165	171	144	114	114	133	81	81	89	82	82	676	570	577	84%	101%

Source: Regional Health Directorates, 2008

Annex table 4.2: Government safe delivery staff in HPs by geographic area, 2008

Staff category	Mountain			Hill			Terai			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
ANM	147	75	75	372	344	346	157	151	156	676	570	577	84%	101%

Source: Regional Health Directorates, 2008

Annex table 4.3: Government safe delivery staff in PHCCs by development region, 2008

Staff category	Eastern			Central			Western			Mid Western			Far Western			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Medical Officer	50	15	37	66	43	62	42	7	35	29	9	8	20	3	3	207	77	145	37%	188%
Staff Nurse	49	32	28	66	48	46	42	17	12	29	16	12	20	7	5	206	120	103	58%	86%
ANM	146	132	132	198	170	167	124	113	110	87	68	68	59	54	54	614	537	531	87%	99%
Total	**245**	**179**	**197**	**330**	**261**	**275**	**208**	**137**	**157**	**145**	**93**	**88**	**99**	**64**	**62**	**1027**	**734**	**779**	**71%**	**106%**

Note: 85 MBBS doctors, trained on government scholarship and bonded for two years, are included in the "Presently Working" columns.

Annex table 4.4: Government safe delivery staff in PHCCs by geographic area, 2008

Staff category	Mountain			Hill			Terai			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Medical Officer	20	7	11	100	32	77	87	38	57	207	77	145	37%	188%
Staff Nurse	20	10	5	99	57	49	87	53	49	206	120	103	58%	86%
ANM	59	44	42	296	264	260	259	229	229	614	537	531	87%	99%
Total	**99**	**61**	**58**	**495**	**353**	**386**	**433**	**320**	**157**	**1027**	**734**	**779**	**71%**	**106%**

Note: 85 MBBS doctors, trained on government scholarship and bonded for two years, are included in the "Presently Working" columns.

Source: Regional Health Directorates, 2008

Annex table 4.5: Government safe delivery staff in district hospitals by development region, 2008

Staff category	Eastern			Central			Western			Mid Western			Far Western			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Obstetrician/ gynaecologist	0	0	0	1	1	1	2	1	1	1	0	0	0	0	0	4	2	2	50%	100%
Paediatrician	0	0	0	1	1	0	2	1	0	1	0	0	0	0	0	4	2	0	50%	0%
MDGP	0	0	3	0	0	1	0	0	2	0	0	0	0	0	0	0	0	6		
Medical Officer	27	14	22	21	18	29	28	20	28	23	14	21	11	3	9	110	69	109	63%	158%
Medical Record Assistant	12	9	9	9	6	6	9	5	5	6	2	1	5	3	3	41	25	24	61%	96%
Staff Nurse	54	34	24	49	40	40	60	47	43	55	32	32	24	10	9	242	163	148	67%	91%
ANM	29	29	29	25	22	22	33	31	33	27	26	27	14	14	14	128	122	125	95%	102%
Total	**122**	**86**	**87**	**106**	**88**	**99**	**134**	**105**	**112**	**113**	**74**	**81**	**54**	**30**	**35**	**529**	**383**	**414**	**72%**	**108%**

Note: 43 MBBS doctors, trained on government scholarship and bonded for two years, are included in the "Presently Working" columns.

Source: Regional Health Directorates, 2008

Annex table 4.6: Government safe delivery staff in district hospitals by geographic area, 2008

Staff category	Mountain			Hill			Terai			Total				
	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	Sanctioned post	Filled post	Presently working	% filled of sanctioned posts	% presently working of filled posts
Obstetrician/ gynaecologist	0	0	0	2	1	1	2	1	1	4	2	2	50%	100%
Paediatrician	0	0	0	2	1	0	2	1	0	4	2	0	50%	0%
MDGP	0	0	0	0	0	3	0	0	3	0	0	6		
Medical Officer	21	13	24	57	35	59	32	21	26	110	69	109	63%	158%
Medical Record Assistant	6	3	3	22	11	11	13	11	10	41	25	24	61%	96%
Staff Nurse	45	28	24	122	88	83	75	47	41	242	163	148	67%	91%
ANM	32	29	30	65	65	67	31	28	28	128	122	125	95%	102%
Total	**104**	**73**	**81**	**270**	**201**	**224**	**155**	**109**	**109**	**529**	**383**	**414**	**72%**	**108%**

Note: 43 MBBS doctors, trained on government scholarship and bonded for two years, are included in the "Presently Working" columns.

Source: Regional Health Directorates, 2008

Annex 5: Availability of complete C/S teams in district, zonal, and regional hospitals

Annex table 5.1: Availability of operating theatre and C/S team in district, zonal and regional hospitals, 2008

Health Facility	Operating theatre	Ob/gyn or MDGP	Anaesthesiologist or health worker with anaesthesia training	Staff Nurse with SBA	Complete safe delivery team
District hospitals					
Dhankuta	1	0	1	1	0
Panchthar	1	0	1	0	0
Sunsari	0	1	0	1	0
Dolakha	0	0	0	1	0
Baglung	1	1	1	1	1
Rupandehi	1	1	1	1	1
Dang	1	1	1	1	1
Jumla	1	0	1	1	0
Dadeldhura	1	0	0	1	0
Doti	1	0	1	1	0
Sub Total	8	4	7	9	3
Regional/zonal hospitals					
Western Regional Hospital	1	1	1	1	1
Mid-Western Regional Hospital	1	1	1	1	1
Narayani Sub-regional Hospital	1	1	1	1	1
Koshi Zonal Hospital	1	1	1	1	1
Mechi Zonal Hospital	1	1	1	1	1
Sagarmatha Zonal Hospital	1	0	1	1	0
Bharatpur zonal Hospital	1	1	1	1	1
Janakpur Zonal Hospital	1	1	1	1	1
Bhaktapur Zonal Hospital	1	1	0	1	0
Lumbini Zonal Hospital	1	1	1	1	1
Bheri Zonal Hospital	1	1	1	1	1
Seti Zonal Hospital	1	1	1	1	1
Mahakali Zonal Hospital	1	1	1	1	1
Sub Total	13	12	12	13	11
Grand Total	**21**	**16**	**19**	**22**	**14**

Note: '1' represent availability and '0' represent non-availability.

Source: Nepal Safe Delivery Field Survey, DMI, 2008.

Annex 6: Perceptions of facility in-charges regarding minimum equipment for 24-hour delivery services

Annex table 6.1: Perceptions of in-charges regarding minimum equipment for safe delivery in PHCCs, 2008

Name of equipment and supplies	Number of equipment wanted by in-charges	Minimum number wanted	Maximum number wanted
Ambu bag	1	1	1
Autoclave	2	1	1
Baby weighing machine	4	1	1
Delivery table	5	1	2
Delivery set	6	1	10
Doppler machine	1	1	1
Intubation set	3	1	2
Episiotomy set	2	4	5
Forceps	1	2	2
Nebulizer machine	1	1	1
Newborn resuscitation set	2	1	2
Oxygen set	3	1	2
Stethoscope/Littman	3	1	2
Suction	5	1	5
Vacuum set (plastic)	6	1	3
Neonatal table	2	1	1
Solar light	1	1	1

Source: Nepal Safe Delivery Survey, DMI, 2008

N = 9

Annex table 6.2: Perceptions of in-charges regarding minimum equipment for safe delivery in district hospitals, 2008

Name of equipment and supplies	Number of equipment wanted by in-charges	Minimum number wanted	Maximum number wanted
Autoclave	1	1	1
Anaesthetic equipment	1	1	1
Baby incubator	3	2	3
Baby weighing machine	1	1	1
CAC set	2	1	4
Caesarean section equipment	1	3	3
Craniotomy set	1	2	2
Delivery table	2	1	2
Delivery set	4	4	8
Doppler machine	2	1	1
Emergency set	1	1	1
Intubation set	2	1	3
Episiotomy set	2	5	5
Forceps	3	3	6
Infusion set	1	3	3
MVA set	1	6	6
Newborn resuscitation set	2	2	6
Oxygen set	2	1	5
PAC set	1	2	2
Phototherapy	2	2	2
Stethoscope/Littman	1	2	2
Suction	2	5	8
USG set	3	1	2
Vacuum set (plastic)	3	2	4
Warmer box for neonate	2	2	3
X-ray machine	1	1	1
Ventilator	1	1	1
Neonatal endotracheal set	1	3	1
IUD set	1	2	1
Norplant Set	1	2	2

Source: Nepal Safe Delivery Survey, DMI, 2008

N = 10

Annex table 6.3: Perceptions of in-charges regarding minimum equipment for safe delivery in zonal and regional hospitals, 2008

Name of equipment and supplies	Number of equipment wanted by in-charges	Minimum number wanted	Maximum number wanted
Ambu bag	5	2	2
Autoclave	4	1	1
Anaesthetic equipment	1	4	4
Baby incubator	5	1	4
Baby weighing machine	5	1	2
Caesarean section equipment	6	3	6
Craniotomy set	4	1	2
CTG machine	1	1	1
Delivery table	4	2	4
Delivery set	4	4	20
Doppler machine	7	1	3
Intubation set	4	1	3
Episiotomy set	5	3	10
Focus light	1	4	4
Forceps	5	1	4
Instrument trolley	3	1	4
MVA set	1	3	3
Nebulizer machine	3	2	2
Newborn resuscitation set	6	1	5
Oxygen set	7	1	10
Oxygen head set	1	4	4
Phototherapy	5	2	3
Stethoscope/Littman	5	2	4
Sonicaid	1	3	3
Suction	8	1	8
USG set	2	1	2
Vacuum set (plastic)	9	1	6
Warmer box for neonate	6	1	4
X-ray Machine	2	2	3
Ventilator	2	1	3

Source: Nepal Safe Delivery Survey, DMI, 2008
N = 13

Annex 7: Most important de-motivating factors for working in government health facilities

Annex table 7.1: De-motivating factors for working in health posts, 2008

De-motivating factors	Number	%
No appreciation of work	4	33
Lack of equipment	4	33
Insufficient or no staff quarter	4	33
Lack of security	3	25
Lack of training to other staff in delivery	3	25
No incentive for extra work	2	17
Lack of support staff	2	17
Public protest and threats	2	17
Lack of telephone	2	17
No proper system of performance evaluation	1	8
No timely supply of medicine and supplies	1	8
Lack of piped water	1	8
Lack of adequate space	1	8
Incomplete team	1	8
No electricity	1	8
No vehicle	1	8
Heavy work load	1	8
Lack of budget	1	8
No learning/practice opportunity for MBBS	1	8
Lack of good governance	1	8

Source: Nepal Safe Delivery Field Survey, DMI, 2008

N = 12

Annex table 7.2: De-motivating factors for working in PHCCs, 2008

De-motivating factors	Number	%
Lack of training to other staff in delivery	6	43
Lack of incentive for extra work	6	43
Insufficient or no staff quarter	4	29
Lack of appreciation of work	4	29
Incomplete team	4	29
Lack of adequate space	3	21
Lack of equipment	3	14
Lack of support staff	2	14
Lack of piped water	2	14
Lack of security	2	14
No learning/practice opportunity for MBBS	2	14
Lack of budget	2	14
Lack of telephone	1	7
Lack of vehicle	1	7
Unsatisfactory class division of doctors, SNs and HAs	1	7
Public protest and threats	1	7
Lack of working environment	1	7
No proper system of performance evaluation	1	7
Lack of good governance	1	7

Source: Nepal Safe Delivery Field Survey, DMI, 2008

N = 14

Annex table 7.3: De-motivating factors for working in district hospitals, 2008

De-motivating factors	Number	%
Lack of training to other staff in delivery	5	56
Lack of equipment	5	56
Lack of appreciation of work	4	44
Lack of support staff	3	33
Lack of incentive for extra work	3	33
Work pressure	3	33
Lack of adequate space	2	22
Insufficient or no staff quarter	2	22
Incomplete team	2	22
Unsatisfactory class division of health staff	2	22
Interrupted power supply	1	11
No proper system of performance evaluation	1	11
Low salary	1	11
Lack of working environment	1	11
Lack of good governance	1	11

Source: Nepal Safe Delivery Field Survey, DMI, 2008

N = 9

Annex table 7.4: De-motivating factors for working in zonal and regional hospitals, 2008

De-motivating factors	Number	%
Public protest and threats	7	58
No incentive for extra work	6	50
Incomplete team	6	50
Lack of equipment	6	50
No appreciation of work	5	42
Lack of support staff	4	33
Lack of security	3	25
Work pressure	3	25
Insufficient or no staff quarter	2	17
Lack of training to other staff in delivery	2	17
Unsatisfactory class division of doctors, SNs and HAs	2	17
Poor working environment	2	17
Lack of adequate space	1	8
No timely supply of medicine and supplies	1	8
Inadequate vehicle	1	8
Lack of good-governance	1	8

Source: Nepal Safe Delivery Field Survey, DMI, 2008

N = 12

Annex 8: Annual intakes to health worker training programmes, 2007/2008

Annex table 8.1: Annual intake to MBBS programmes and the number of students under the government scholarship scheme, 2007/2008

Name of the institution	Annual intake	With scholarship
1. Institute of Medicine	60	42
2. BP Koirala Institute of Health Science	100	29
3. Manipal College of Medical Science	150	30
4. Nepalgunj Medical College	150	15
5. Nepal Medical College	150	15
6. Universal College of Medical Sciences	125	50
7. Kathmandu Medical College	75	8
8. Kathmandu University Medical School	45	3
9. National Medical College	150	15
10. Janaki Medical College	75	8
11. Nobel Medical College	60	6
12. Bhartapur Medical College	100	20
Total	**1,240**	**241**

Note: The scholarship scheme requires working for two years in the government health service after graduation.

Annex table 8.2: Annual intake to nursing training programmes, 2007/2008

Name of the institution	Annual intake
TU – IoM and its affiliated campuses	270
BPKIHS	40
Kathmandu University	40
Council of Technical Education and Vocational Training (CTEVT)	960
Total	**1,310**

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