MCHIP Country Brief: Nepal

Selected Health and Demographic Data for Nepal	
Maternal mortality ratio (deaths/100,000 live births)	229
Neonatal mortality rate (deaths/1,000 live births)	33
Under-5 mortality rate (deaths/1,000 live births)	54
Infant mortality rate (deaths/1,000 live births)	46
Contraceptive prevalence rate	43
Total fertility rate	2.6
Skilled birth attendant coverage	78.5%
Antenatal care,4+ visits	50%
Sources: * The Himalayan. Daily Newspaper. April 29, 2014; ** Central Bureau of Statistics (CBS). 2012; *** Nepal Maternal Mortality and Morbidity Study 2008/09; **** Nepal Demographic and Health Survey 2011 (NDHS); ***** WHO Nepal Country Health Profile	

Health Area

- Family Planning

Program Dates	January 2010–June 2014					
Total Mission Funding	Redacted					
Geographic Coverage	**No. (%) of provinces**	60%	**No. of districts**	4	**No. of facilities**	65
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INTRODUCTION

Nepal is one of the few countries that are poised to meet Millennium Development Goals by 2015. Improvement in maternal health has been accompanied by a reduction in maternal mortality, decline in the total fertility rate, and an increase in skilled birth attendant (SBA) rate. Despite these improvements, significant challenges remain. Postpartum hemorrhage (PPH) was once the leading cause of maternal mortality but it has been reduced greatly. Current evidence reveals PE/E as a leading cause of maternal mortality when the antepartum and postpartum hemorrhage are disaggregated. Despite political challenges in the past decade, Nepal has implemented numerous innovative interventions such as community-based distribution of misoprostol for prevention of PPH and application of chlorhexidine for umbilical cord care to prevent newborn sepsis. The scale-up of these innovations as well as the provision of traditional maternal and newborn health (MNH) services at the facility and the community levels needs to be uniform in all 75 districts. The Ministry of Health and Population (MoHP) in Nepal is making a greater effort to pilot innovative interventions, it is crucial to strengthen its capacity and that of government research agencies on research and data for decision-making. Finally, monitoring the scale-up of new programs is essential to ensure their quality as well as their impact on the provision of existing MNH services.

KEY ACHIEVEMENTS

With these gaps in mind, the Maternal and Child Health Integrated Program (MCHIP), in collaboration with the MoHP, designed objectives and interventions to address PE/E and to move toward a common framework for providing uniform and universal access to MNH services in Nepal. A key component is government capacity-building on research and use of data for decision-making. The MCHIP interventions are shown in the table below.

MCHIP Interventions in Nepal

Provide technical and financial assistance for the calcium supplementation for prevention of PE/E.
Provide technical and financial assistance for proteinuria test pilots.
Support implementing partners for advocacy, evaluation, documentation, and dissemination of evidence-based maternal, neonatal, and child health (MNCH)/family planning (FP) interventions at the national level.
Support capacity-building to institutionalize research for decision-making to improve health outcomes

The major accomplishments of the country program by interventions are:

Provide technical and financial assistance for the calcium supplementation for prevention of PE/E: PE/E is one of the leading causes of maternal mortality in Nepal and globally. The World Health Organization (WHO) recommends calcium supplementation for pregnant women in low-resource settings to prevent PE/E. MCHIP conducted a pilot to assess the acceptability of two forms of calcium (tablet and powder) in two village development committees (VDCs) of Banke district. Another pilot was conducted to assess the coverage and compliance of antenatal calcium distribution to prevent PE/E in Dailekh district in Nepal. Although global evidence exists to show that calcium supplementation during pregnancy reduces the incidence of PE/E, this pilot is the first of its kind to test the integration of antenatal calcium distribution into the existing health system to prevent PE/E.

Pregnant women received calcium tablet from health facility.
Photo credit: Dipendra Rai

Through the pilot, MCHIP reduced the risk of PE/E occurrence in 9,246 pregnant women who received calcium and counseling from health workers and female community health volunteers (FCHVs) on the benefits of taking calcium. The findings from the pilot show that the antenatal care (ANC) supplementation of calcium is feasible with high coverage and compliance. The ANC providers and FCHVs reported that calcium distribution is acceptable and feasible to incorporate into their current responsibilities. The findings from the survey of the sample of women who received calcium are summarized in the table below.

The health care workers and FHCVs gave positive feedback on their willingness to distribute and promote the distribution of calcium for the prevention of PE/E. One provider said: "PE/E has been controlled, and because of calcium program, ANC checkup has become regular among pregnant women in their health facilities."

Findings from the Calcium Pilot

Coverage of calcium among pregnant women	High, 95.0% (1,178/1,240) of all women surveyed received calcium.
Compliance among women who received calcium	High, 67.0% (789/1,178) of women who received calcium taking the full course (150 days).
Level of knowledge among ANC providers and FCHVS on calcium for prevention of PE/E	High. Among ANC workers more than 94% (102 /109) reported that calcium prevents PE/E and more than 97% (105/109) demonstrated correct knowledge about calcium intake.
Iron consumption	Did not reduce iron absorption. Of the RDW who received both calcium and iron tablets (n=1,157), 99.8% (n=1,155) reported taking them at separate times of the day, as instructed

Sunita Adhikari is one of the 9,426 pregnant women in Dailekh who received calcium to prevent PE/E. Sunita attended ANC regularly during her third pregnancy. The local FCHV told her that the local health clinic was now giving out calcium for free to all pregnant women. The next day, she went to the clinic. There, health workers did a thorough checkup (including testing her urine and measuring blood pressure), counseled her on calcium, and gave her a bag containing two bottles of calcium and an information brochure. When she met a MCHIP staff person later in her pregnancy, she shared, "I already finished one bottle and started the second bottle and I am feeling better. I have recovered from the weakness which I was experiencing."

Through this intervention, MCHIP has demonstrated that ANC distribution is feasible and can maximize coverage, thus reducing the risk of PE/E and ultimately saving lives of women and newborns. As a next step in Nepal, MCHIP recommends the scale-up of calcium distribution in the country. Leadership from the MoHP is essential for the scale-up, which should integrate the training, supervision, and procurement of calcium into the existing government system. MCHIP's contribution toward the prevention of PE/E is valuable not only for Nepal, but also globally. The resources developed, such as the training and counseling materials and brochures, can be adapted for use in other countries. Looking at the encouraging results, the GON is committed to scaling up the calcium supplementation starting in two terai districts.

Provide technical and financial assistance for proteinuria test pilots:
Jhpiego, in collaboration with the Johns Hopkins Whiting School of Engineering, developed a simple, low-cost point-of-care test to detect elevated protein in urine. Protein in urine is one of the symptoms of PE/E, which is one of the leading causes of maternal death in Nepal and globally. In resource-poor settings such as Nepal, many women are often not tested during

pregnancy for elevated proteinuria because they are not able to make it to a health facility. Our new screening test for proteinuria was designed to be prepared by the existing Female Community Health volunteer (FCHV) handles the pen, prepares the test paper, and distributes the test paper to the pregnant woman, who then uses the self-test at home. The low cost point-of-care test that diagnoses PE/E can save the lives of mothers and newborns if appropriate care is received in a timely manner.

A three-phase pilot project was designed to test the diagnostic tool. This component of the project was cost shared with other United States government (USG) and non-USG funding sources. Findings from or the individual steps are shown in the table below.

Findings from the Three-Phase Pilot for the PE/E Low-Cost Point-of-Care Test

STEP 1	Johns Hopkins University laboratory	Formulation of the proteinuria agent and the delivery platform of the proteinuria agent were finalized.
STEP 2	Routine ANC clinic in Nepal	Sensitivity, specificity, positive predictive value and the negative predictive value of the new protein test were identified against the standard dipstick urinalysis and the Esbach test.
STEP 3	Rural ANC clinic in Nepal	Conducted to determine the acceptability of self-test and the majority found the test to be acceptable.
STEP 4	Rural ANC clinics and community in Nepal	It was conducted to determine the acceptability and feasibility of PW in the community to perform proteinuria screening self-test and to interpret the color of the test. Unacceptably high positive rate on the screening was encountered: Overall, 388 pregnant women were recruited by 27 FCHVs and carried out the self-test. The percent positive on the self-test as determined by pregnant woman and FCHV during the FCHV visit to the women's homes was 68% (262/388). All positive women were referred to the primary health care center (PHC) by FCHVs, of these 58% (152/262), arrived at the PHC. Of the women who arrived at the PHC for further testing only 10% (14 women) were confirmed with elevated protein. Hence, the further enrollment was suspended.

In conclusion, given the high positive rate identified in Step 4, the decision was made to discontinue the study. During the course of implementing Step 4, it was observed that the community study was well-received by local health authorities, the facility in-charge, and the FCHVs. Women in the community were also enthusiastic about the ability to self-test for proteinuria. Pregnant women performed the self-test after they received orientation and education from the FCHVs. The existing FCHV program platform in Nepal was highly effective at reaching hundreds of pregnant women in a short amount of time (1–7 November 2011).

The initial tests on the self-diagnostic model for PE/E provided valuable information to re-design and refine the product further. The recommended next step is to redesign the test to correct the high positive rate. In the meantime, strengthening the recommended PE/E detection practices, such as blood pressure measurement and dipstick urine tests at health facilities during ANC visits is important. To date, prevention, diagnosis, and management interventions in Nepal were implemented separately, either in different geographic locations or during different time periods. As a next step, MCHIP recommends that a combined PE/E prevention, diagnosis, and management intervention be piloted in a few sites in Nepal and the government is planning to pilot in two districts in the terai region where the incidence of PE/E is high.

Support implementing partners for advocacy, evaluation, documentation, and dissemination of evidence-based MNCH/FP interventions at the national level. MCHIP provided technical assistance to HealthRight International (HRI), a child survival grant recipient to implement the quality improvement process for maternal and newborn health services in health facilities of Argakanchi district in summer 2011.

The MoHP was interested in developing a core set of prioritized community-focused MNCH interventions in a package that can be scaled up by mobilizing FCHVs. Hence MCHIP supported NFHP and other local and international experts and stakeholders, to assist the MoHP in defining integration and to develop various tools to guide integration.

Products Developed with assistance from MCHIP for Community-Focused MNCH Interventions Package for Scale-Up

A common framework for MNH in Nepal	The framework provides a common way of thinking and talking about various MNH interventions, showing how all the pieces should relate to each other and guiding the MoHP and the stakeholders in planning and management. The framework is governed by the principle of highest coverage for interventions directly leading to improved health outcomes with a flexible strategy for implementation.
Concept note on the evolution of an integrated training program for community-based MNCH interventions	The concept note presents a framework for addressing trainings for a variety of interventions for community-based approaches in a streamlined manner. The conceptual framework would: allow the government and partners to fill in the gaps by completing core training for all currently approved interventions; reorganize training guidelines and materials to remove redundancy and establish a continuum of care approach; include a modular approach that allows introduction of new interventions as evidence establishes their value; and simplify the work of FCHVs by organizing activities around client needs.

The Community Based Newborn Care Package (CB-NCP) was developed by Saving Newborn Lives/Save the Children under the leadership of the Child Health Division and Family Health Division (FHD) of the MoHP to address the high and stagnant rates of newborn mortality. CB-NCP was initially piloted in 10 districts and rapidly scaled up. Currently it is in 41 districts. MCHIP facilitated the assessment in 10 initial pilot districts. MCHIP provided technical input during CB-NCP assessment design, finalization and printing the report. Findings from the CB-NCP assessment provided valuable information on the strength and weakness of the CB-NCP program. MCHIP organized meetings with MoHP officials, USAID and a small group of external development partners and stakeholders. Subsequently the CB-NCP package was revised and some content was changed. MCHIP printed 300 copies of the assessment report and shared it with the Child Health Division Department of Health Services (DoHS), MoHP.

The development of a common framework for MNH and evaluation of interventions are all important steps toward building the capacity of the MoHP to streamline MNH service delivery. MCHIP supported to initiate discussions on a common framework for MNH and provided products to facilitate these discussions, but this is just the beginning. A significant amount of leadership, commitment, and work is required from all stakeholders to develop a common pathway toward provision of rationalized and integrated MNH services. The quality of these interventions, as well as their impact on routine MNH services, should be assessed periodically. With the CB-NCP evaluation, MCHIP has helped establish precedence for the MoHP and other agencies to take the lead in reviewing and evaluating new interventions that are piloted and subsequently scaled up. The MoHP and stakeholders now need to ensure that feedback is absorbed by the program.

Support capacity-building to institutionalize research for decision-making to improve health outcomes.
The MoHP aims to increase the capacity of local institutions in Nepal on qualitative and quantitative research design and use of MNCH/ FP data at the national level. Nepal Health Research Council (NHRC) is a government body responsible for setting the agenda for research, conducting research, giving ethical approval, and monitoring other research being done in country. MCHIP helped identify ways to strengthen the capacity of the NHRC as a research regulating body.

Under this objective, MCHIP facilitated a workshop on "Evidence Based Policy and Programming in Public Health in Nepal" in September 2011 led by NHRC with MCHIP/USAID support. The workshop identified a set of priorities for evidence-based policy and program in public health. In order to follow up the recommendations and action points, NHRC with support from MCHIP/USAID organized a follow on meeting on 16th June 2014 at NHRC. All members in the meeting agreed that the initiative taken by the MCHIP was a very useful platform. Health for life and other concerned stakeholders will continue the initiative started by MCHIP

WAY FORWARD

Objective 1:

The MoHP should consider scaling up the piloted model of calcium distribution to other districts in Nepal. Leadership from the MoHP and the TAG, which was fundamental to help guide program implementation and monitoring, will be important in the future as well. The scale-up plan was discussed during the calcium TAG meeting held on November 21, 2013 and Advocacy meeting held on March 2014. The FHD has planned to scale up the program in 2014/2015 in two Terai districts in which PE/E caseload, number of pregnancies, and availability of partner agencies are high. To make this scale-up happen, the GON/FHD has requested support from concerned stakeholders and partners. Official memo (Tippani) from the FHD for scale-up of calcium supplementation in additional district and formation of PE/E TAG was approved on April 2014 by the MoHP. FHD has formed PE/E Technical Advisory Group and first meeting was held on 27 May 2014. Similarly, discussion is initiated in DOHS/MoHP to include calcium in the government essential drug list.

- If calcium supplementation is scaled up to additional districts, the MoHP can consider integrating training of health care workers and FCHVs into regular district review meetings or other ongoing meetings, and calcium procurement and distribution to health facilities could be incorporated into the government's logistics management system.
- Jhpiego will continue supporting TAG meetings to support GON in its scale up efforts.

Objective 2:

- Jhpiego is supporting to redesign the proteinuria test to address the high positive rate. In the meantime, strengthening the recommended PE/E detection practices, such as blood pressure measurement and dipstick urine test, at health facilities during ANC visits.

Objective 3:

- The integration of MNH requires a pathway or a step-by-step guideline for MNH integration and provision of uniform and universal access to services in all 75 districts. A mechanism to periodically evaluate new programs that are in the process of scale-up is also needed.

Objective 4:

- H4L and other concerned stakeholders will take this initiative forward.