

Summary of Bangladesh Country experience – implementing PNC home visits: March 26, 2012

1. Background

A mid-term review of the Bangladesh Health Nutrition and Population Sector Plan (2003-2010) (HNPS) in 2007 found that the area of neonatal health was not addressed adequately. In addition, the principal policy documents for maternal and child health – including the National Maternal Health Strategy (2001), the community-IMCI strategy (2004) and the IYCF strategy (2007) - did not include a comprehensive approach to improving newborn health. As a consequence, the MOH began a process to develop a National Neonatal Health Strategy and Guidelines (NNHS). In Bangladesh newborn program activities are implemented by two directorates of the Ministry of Health and Family Welfare – the Directorate General of Health Services (DGHS) and the Directorate General of Family Planning (DGFP). The system is centralized, with program responsibilities divided between 32 line directors at the central level. Each line director develops an annual implementation plan and budget, and is responsible for implementing activities on the ground – through districts, upazillas (sub-districts) and unions.

Health services in Bangladesh are provided by community clinics, satellite clinics and immunization clinics (community level) with each satellite clinic serving several villages; Union Health and Family Welfare Centers (union level); and by Upazilla Health Complex Hospitals (upazilla level). Low-level facilities might be staffed by a number of different cadres of health worker, including; Family Welfare Visitors (FWVs), Medical assistants (MAs), Sub-Assistant Community Medical Officers (SACMOs), and Paramedics. Upazilla level facilities are staffed by doctors and nurses. In communities, the primary government providers of health education and door-to-door visits are Family Welfare Assistants (FWAs) and Health Assistants (HAs). In addition, there are a number of NGO cadres of community health worker throughout the country. ***Most communities have community health committees, and regular meetings on health topics (Uthan Baithak meetings). NGO partners are expected to apply national policies and guidelines on maternal and newborn care, and timing of early PNC visits.***

2. Policy/strategy adoption – early PNC contacts 2007-2011

2.1 Process of introduction

A policy on early PNC home visits was formally adopted in October 2009, when the National Neonatal Health Strategy and Guidelines (NNHS) were approved. The development of the NNHS was an inclusive process that involved a number of central stakeholders, including program managers, professional bodies (Bangladesh perinatal society, obstetrics and gynecological society, neonatal forum and the pediatric association), NGOs and development partners – as well as district and sub-district staff. A National Core Committee for Neonatal Health (NCC-NNH) was formed in April 2007. Five Technical Subcommittees were then formed: Healthy Newborn Care, Maternal Care, Birth Asphyxia, Neonatal Sepsis, and Low Birth Weight. Each took responsibility for reviewing available data and experience, and making recommendations. Drafts were subsequently developed, and reviewed. Consultative workshops were conducted at the sub-national level. This intensive and inclusive process resulted in

acceptance of the NNHS at all levels and rapid adoption by the government when completed in 2009. Subsequently a NNHS action plan was developed, outlining major interventions, indicators and targets. Policy-makers report that acceptance of the NNHS was facilitated by involvement of the professional societies – who play an important role in setting official policy direction and gaining support of the medical community. As a result of the NNHS, maternal and newborn health interventions, including early PNC visits, were included in the National Health, Population and Nutrition Sector Development Program 2011-2016 (HPNSDP) – approximately 20% of the budget has been allocated to maternal, newborn and child health. The results framework for the HPNSDP includes an indicator on PNC within 2 days of delivery. In addition, operational plans for line directors responsible for maternal and newborn health now include activities for improving early PNC contacts – and include indicators and targets for PNC contacts within 48 hours. Staff at both the DGFP and DGHS report that they are committed to improving the PNC home visit component of the program, and that this commitment is increasingly reflected in operational plans.

2.2 Content of policy

Government staff responsible for implementing community-based PNC are Female Welfare Assistants (FWAs) and Health Assistants (HAs). Female HAs are usually recommended for maternal and newborn home visits, because there is concern that mothers will not accept a male worker in the home during pregnancy and the postnatal period. The standard guidelines recommend that workers conduct PNC home visits as shown in the box below – 3 in the postnatal period at 24 hours, 3 days and between 7 and 14 days. If the baby is low birth weight then an additional 2 home visits are recommended – at days 14 and 28. Mothers and newborns screened at the same time. The NNHS neonatal care package includes the 7 core competencies recommended by WHO and others – in order to deliver key maternal and newborn interventions¹. The policy recommendation is that community-based health workers refer women for ANC and PNC at satellite clinics or Family Welfare Centers.

CHW PNC home visit schedule – Bangladesh

First PNC visit within 24 hours after delivery

Second PNC visit on the 3rd day after delivery

Third visit within 7-14 days after delivery

Fourth visit by 42 days after delivery

Low birth weight babies should receive additional visits at days 14 and 28

¹Core PNC competencies: Promotion of NB care (early/exclusive BF, warmth, hygiene); Promotion of optimal care for mother (nutrition & family planning); Promotion of care-seeking for mother & newborn; Identification of danger signs in mother + referral; Identification of danger signs in newborn + referral; Support for breastfeeding; Care of low birth weight infant (feeding, skin-to-skin contact)

2.3 Supporting policies/strategies

Other policies/strategies that support early PNC contacts include:

- National policy on delivery by skilled birth attendants. SBAs are recommended for all deliveries. The primary recommended place of delivery is a health facility equipped for delivery; home deliveries by SBAs are also permitted. Since the majority of deliveries in Bangladesh still take place at home, the presence of a SBA increases the likelihood that an early PNC contact will be received.
- Development and staffing of community health clinics. Community clinics are a new category of clinic designed to be constructed by communities to serve a population of approximately 6000 people. They will be managed by a community clinic management group and staffed with a new category of health worker – community health care provider (CHCP). CHCPs will receive 12 weeks training (6 weeks classroom and 6 weeks on-the-job). Currently 13500 CHCPs have been selected; training will begin in early 2012. The role of community health providers is to provide basic services, including immunizations, family planning services, simple case-management, ENC, PNC and counseling. It is hoped that they will free up FWAs and HAs to spend more time conducting household visits – and therefore increase the coverage of early PNC home visits. In addition, by placing a trained provider closer to communities, access to basic maternal and newborn care will be improved.
- Demand side financing approach. This approach is currently being tested in 53 upazillas. Vouchers are given to women to cover costs of services, including ANC, delivery and PNC. Criteria for who can receive vouchers have been developed, and the system is administered through the upazilla health complex. Funds come from the donor pool fund and are available until 2016. This approach is being tested and documented; if it shows promise, then it may be extended more widely.
- Training of community SBAs (cSBA). CSBAs are classified as skilled birth attendants and conduct deliveries in households and health centers. Because cSBAs attend deliveries, they are able to provide PNC immediately after the delivery (home or facility). The policy recommendation is that there are three cSBAs allocated to each Union. Field staff report that this program needs more support –cSBAs often do not have essential equipment and supplies for conducting safe deliveries, and have not been receiving supervision or technical updates.
- Misoprostol for post-partum women. A policy of misoprostol just after delivery to prevent post-partum hemorrhage has been adopted and is currently being tested in 6 districts. Women can be given misoprostol either during an early PNC visit, or during an ANC visit – when they are counseled on how and when to self-administer the dose. Further expansion of this approach will potentially reduce the risk of PPH in the post-delivery period, and reduce the need for referral.

Lessons learned: adoption of early PNC home visits policy

- A national coordinating body was essential to developing the policy. Involvement of all stakeholders, both within and outside of the MOH, resulted in widespread acceptance of the policy and national adoption. The formation of technical working groups ensured that local stakeholders were engaged in the process. Involvement of professional societies was an important factor in acceptance of the policy by the medical community.
- Implementation of the policy required the health sector plan to include a focus on PNC home visits and an early PNC indicator. This was required to ensure program managers included activities in their operational plans.
- Supporting policies increase the likelihood that PNC home visits will take place, including the development community health clinics staffed by community health providers; and the training of cSBAs. New demand side financing may impact on care seeking for PNC. Introduction of misoprostol at the community level may decrease the incidence of PPH and reduce post-partum complications.

3. Selection and training of community health workers

3.1 Selection criteria for community health workers

Government cadres

There are three principal government cadres who provide home visits – FWAs, HAs and community SBAs. All receive a government salary.

Criteria for selection of FWAs include:

- secondary school education (initially they were required to have at least a grade 8 level education, but this has now been increased);
- female;
- 25-45 years of age
- live in the community to which they are assigned;
- respected by the community.

FWAs are responsible for conducting home visits. They provide family planning, pregnancy registration, basic PNC and referral for facility-based case-management is required. FWAs are assigned to a population of approximately 6000 people; or 1200 eligible couples of reproductive age. Due to population increases and staff shortages, many FWAs are now responsible for populations of up to 2500 eligible couples. HAs have similar selection criteria to FWAs except that they may be male as well as female; and their role in communities is focused on immunization and child health. They are responsible for child health, immunizations, simple curative care, case detection and registration of women and children.

Community SBAs – are FWAs and female HAs who have received additional 18 months SBA training, and are considered qualified to conduct deliveries at facilities or in the home – in addition to their routine activities. Staff must be aged between 25 and 35 to be eligible for selection.

Non-government cadres

Local community volunteers have been recruited in many areas to provide community education and to assist with home visits – many of these are recruited and trained by NGO or donor funded projects. Roles and responsibilities of these workers vary with the project; some are purely voluntary; others receive in-kind or monetary incentives.

The local NGO BRAC has been a partner in delivery of the maternal and newborn care package and uses community volunteers Shasthya Shebikas and Shasthya Kormis. Since BRAC community health workers are widespread in Bangladesh, they are presented here as an example. Criteria for selection are shown in the box below.

Shasthya Shebika (SS)	Shasthya Kormi (SK)
<ul style="list-style-type: none"> • Selected from BRAC microfinance groups • Married and youngest child not less than 2 years • Age 25-45 years • Reading and writing skills • Willingness to provide voluntary services • Acceptable to community • Must live in the community- as close to the center as possible 	<ul style="list-style-type: none"> • Selected from communities • Age 25-35 years • Married • Minimum SSC • Willingness to work • Acceptable to community

Unlike FWAs and HAs, SS have much smaller catchment areas. The SS is responsible for approximately 150 households. SSs keep a register of households in their areas and are responsible for pregnancy identification, treatment of diarrhea and pneumonia, referral of mothers for ANC and PNC, and referral of sick mothers and newborns. SSs receive performance-based incentives for specific indicators, including pregnancy identification in the first trimester, mothers receiving ANC visits, attending the delivery, and for mothers receiving PNC visit 1 (24hrs) and 2 (3 days). In addition, they make a small margin on sales of drugs, contraceptives and ORS – that are supplied by the BRAC store.

SKs supervise approximately 10 SS and are not expected to conduct door to door household visits. They keep the main community register and update this using the SS register. SKs are responsible for providing ANC, PNC and KMC. SKs receive a small monthly honorarium in addition to incentives based on their performance. SSs and SKs are supported by a network of BRAC staff. Direct supervisors are Program Organizers (POs) who are at Union level and have

a motorbike for making field visits. BRAC reports that drop-out rates can be high for SKs in some areas, due to the availability of other opportunities, dissatisfaction with the incentives, or limited supervision by POs.

Lessons Learned: selection criteria for CHWs

- Both government and non-government community health workers are accepted by communities. Health workers report that relatively un-educated volunteers are able to master all counseling tasks, and to recognize danger signs and refer.
- FWAs and HAs have catchment populations that exceed the national guidelines. Since it is not possible for them to make reach all households every month, alternative methods are needed for identifying deliveries and providing early PNC.
- The requirement that SSs live in communities they serve means that they are able to make regular HH visits – and are more likely to find and attend deliveries, and to ensure that PNC visits take place. This approach increases the resource requirements, including funds for incentives, training, and supervisory staff.

Training of CHWs in maternal and newborn health

Training in the maternal and newborn intervention package has begun only in early implementation areas. In these areas, NGOs and other partners have used materials adapted from standard international guidelines. At the beginning of 2012, the DGFP completed its own standard in-service guidelines on ENC and PNC – training materials include the core competencies for PNC. In addition to the training materials, a set of counseling cards on key messages along the continuum of care, and a mother's and child card have been finalized. The mother's and child card is designed to be kept in the home by families – all key contacts during pregnancy and after delivery are recorded and space is provided for the mother to write the cell-phone number of the FWA – in order to facilitate early birth notification and the reporting of danger signs. These MOH materials were based on materials that had been tested in early implementation areas. In the longer term they will be used to train all FWAs. Currently only FWAs in partner-supported early implementation areas have received training in the MNH package. In these areas, FWAs registers are adapted to include columns for PNC home visits (not in the standard register). At the national level the job description for FWAs and HAs does not yet include PNC visits – this needs to be revised before the approach can be adopted nationally.

A summary of the training in MNH provided for main government and BRAC community-based staff is shown in Table 1. Community-based volunteers in early implementation areas generally use the standard in-service MNH training package.

Table 1: Training for health workers providing community-based maternal and newborn care, Bangladesh, January 2012

Category of CHW	Basic training	Maternal and newborn health included in basic training	In-service maternal and newborn health home visit package – early implementation areas
FWA	6 weeks	Limited – beginning process to change curriculum	5 days
HA	6 weeks	ENC, no PNC	5 days (female HA)
Community SBA	FWAs or female HAs + 18 months (6 months central residential training, 9 months on-the-job experience and an additional 3 months residential training).	Includes ANC, delivery, ENC and PNC	5 days
Shasthya Shebika	18 days	Includes referral for ANC and PNC, attendance at delivery, ENC	Monthly updates include MNH
Shasthya Kormi	15 days	Includes ANC, ENC, PNC	Monthly updates include MNH

Lessons learned: Training of community health workers

- Training in a maternal and newborn health package, including early PNC home visits, has only been conducted in early implementation districts and is not nationwide.
- National in-service training guidelines on MNH, counseling cards and a mother’s card, have recently been developed by the DGFP for national use. These are now ready to be rolled out.
- The pre-service training curriculum for FWAs and HAs does not include updated MNH home visit guidelines –the DGFP plans to revise the curriculum. In the longer term, effective pre-service training is a more effective approach to improving knowledge and skills.
- Community registers for FWAs and HAs do not currently contain space for recording 3 early PNC home visits. In addition, job descriptions for these workers do not include PNC. Both need to be revised, in order to begin national implementation.
- The BRAC training approach, which includes basic training and then monthly technical updates/refresher training, is relatively resource intensive - and may be difficult to sustain on a wide scale.

4. Implementation

4.1 Intervention areas

The MNH package, including early PNC home visits, has been implemented in 31 districts. This represents 48% (31/64) of all districts in Bangladesh. There are four principal implementation projects, as shown in the Table 2. All include the maternal and newborn interventions along the continuum of care. The focus of each is slightly different: the MNCS project includes sick child care; the IMNCS project includes strengthening of EmONC services and sick child care; the MNHI project includes more of a focus on family planning and reproductive health.

Table 2: Maternal and newborn projects including early PNC home visits, Bangladesh, January 2012

Name of project	# Districts	Implementing partners	Estimated duration	Intensity of resource inputs
MaMoni – improve maternal, neonatal and child health outcomes	2	DGFP and DGHS, SC, Jhpiego, Local NGOs (Shimantik, FIVDB)	2009-13	Government + Routine GO system supplemented to fill staffing gaps, pay training costs, planning and coordination, better community engagement with GO system
Maternal Newborn can Child survival Project (MNCS)	8	DGHS – IMCI unit, UNICEF, ICDDRB and local NGOs	2008 – 2013	Government ++ Routine GO system with provision of logistics support, training and incentives for CHWs
Maternal and Neonatal Health Initiative (MNHI)	11	MOH Reproductive health unit and UN partners (UNFPA, UNICEF, WHO)	2007 – 2016	Government ++ Routine GO system with provision of logistics support, training and incentives for CHWs
Improving Maternal, Neonatal and Child Survival Project (IMNCS)	10	DGHS - Reproductive health unit, UNICEF, BRAC	2008 -2013	Government +++ Intensive inputs – staff at all levels, training, equipment and supplies, logistics support, incentives

4.2 Trends in indicators: 2001 - 2010

Data from two sources are presented:

1. Bangladesh Maternal Mortality and Health Care Survey (BMMS) 2001 and 2010.
This large-sample household survey was designed calculate national estimates of the Maternal Mortality Ratio (MMR) and causes of death. It also tracked coverage of key maternal and newborn interventions along the continuum of care.
2. Community-based postnatal care operations research from Faridpur district, 2008-2010.
This operations research compared an intervention district (Madhukhali) and a non-intervention district (Nagarkanda). One of the objectives was to determine whether government CHWs would be able to deliver MNH interventions, including early PNC home visits. The intervention approach used was similar to that now being developed by the MCHIP MaMoni project.

Trends in national maternal mortality and coverage indicators: MMS 2001 and 2010

Mortality

Maternal mortality declined from 322/100,000 LB to 194/100,000 LB between 2001 and 2010 – a 40% decline. The survey estimated that deaths during pregnancy and delivery declined by 50%, while deaths in the post-partum period declined by 40%. Postpartum hemorrhage and eclampsia, the two most important causes of maternal death in 2001 were estimated to have declined by 35% and 50% respectively. Declines in these causes of death suggest that facility deliveries and access to EmONC had increased during this period.

Trends in coverage

ANC

ANC, delivery and PNC coverage are shown in Figure 1. During the period 2001-2010 ANC from medically trained providers increased from 40% - 54%. An additional 17% of women received ANC from a non-medically trained provider. BRAC health workers and government CHWs (FWA or HA) were the most commonly reported non-medically trained providers. The proportion of women who received the recommended number of ANC visits (ANC 4+) has doubled since 2001 – to 23% - but still remains low. Limited data on the quality of ANC are available – although a relatively low proportion of mothers reported that ANC included counseling on danger signs.

Delivery

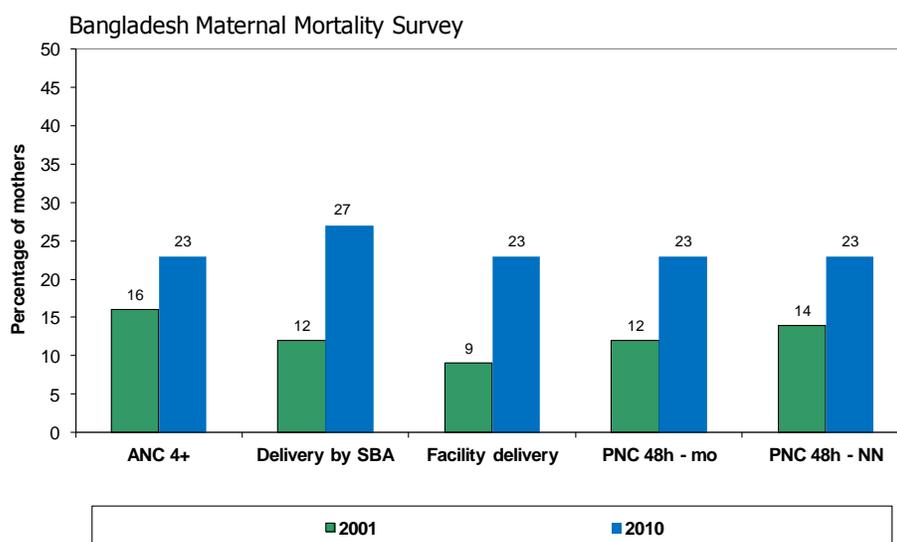
Delivery by skilled providers increased from 12% to 27% between 2001 and 2010. This increase is largely due to facility deliveries, which increased from 9% - 23%. Only 0.3% of deliveries were attended by community SBAs, suggesting that this cadre is inactive. Two percent of

facility deliveries were attended by an un-skilled health worker. Only 4% of deliveries at home were attended by skilled providers – this remains the same that reported in 2001.

PNC

In 2010, 23 % of women received PNC from a skilled provider within 2 days of delivery – regardless of the place of delivery. The same proportion of newborns received PNC, suggesting that PNC was provided at the same time. Ten percent of mothers and newborns received a PNC check from an un-skilled provider within 2 days of delivery. Overall, therefore, early PNC contacts were made for 32% of all women and children. No data are available on what proportion of PNC contacts were home visits. A total of 59% of mothers received no PNC checkups, and 53% of newborns. The proportion of newborns receiving no checkup is slightly lower than mothers, because they are more likely to receive a checkup in the 2 months after delivery.

Figure 1: Coverage of Maternal and Newborn Interventions, Bangladesh, 2001 and 2010



Likely causes of declines in maternal mortality

A rise in facility deliveries attended by a skilled birth attendant should mean that complications are recognized and treated early. However, the majority of women still deliver at home without a skilled provider; declining mortality suggests that a proportion of these women are recognizing danger signs and seeking care early. The caesarian section rate between 2001 and 2010 rose from 3% to 12%. Fifteen percent of women with convulsions and 26% of women reporting high blood pressure reported having a c-section. In addition, women experiencing obstetric complications reported seeking care more often in 2010 than in 2001 (53% to 68%). Seeking care from a facility increased from 16% to 29%. Overall these data suggest that the availability

of facility deliveries and c-section services has improved over time, and that more women are seeking care when needed.

Other factors likely to be associated with a decline in mortality include:

- Improved availability of upazilla health centers offering EmONC (there were 132 centers in 2010. In addition, 1500 health and welfare centers had been upgraded to conduct deliveries).
- Better communication using cell-phones. This may have helped ensure that women who had problems could call the FWA or HA immediately for referral.
- Increasing female education (the proportion of women with no education halved between 2001 and 2010 and the proportion with secondary school education almost doubled).
- Improved economic conditions – per capital income rose from \$350 in 2001 to 550 in 2008.
- A decline in the total fertility rate from 3.2 to 2.5, which has meant reduced pregnancies to high parity women who are at higher risk of complications.

Overall: A third of women nationally report an early PNC contact - although only 23% received PNC from a skilled provider. PNC was not provided by a SBA for 4% of women. A high proportion of both mothers and newborns receive no PNC checkups at all. More data are needed the provision of PNC after facility deliveries and home deliveries. No data were available on what fraction of PNC contacts were provided by home visits.

Community-based postnatal care – operations research²

This study aimed to test the feasibility of using the routine government system to implement a community home visits approach to improve maternal and newborn care. It was conducted in two upazillas in Faridpur district – Madhukhali (intervention) and Nagarkanda (comparison), between early 2008 and August 2010. Local community health workers – FWAs, HA, cSBAs and Community Nutrition Promoters (CNPs) were trained in a maternal and newborn care package. All were already engaged as part of the existing government system – interventions were designed to improve local capacity. CNPs, a volunteer cadre used by the national nutrition program, are no longer active. CHWs were trained to visit households and make a total of 7 contacts as shown in the table below.

Contact	Timing	Provider
1	Second trimester	FWA, CNP
2	Third trimester	FWA, CNP
3	Delivery	SBA/cSBA
4	Within 24 hours of delivery	CNP
5	2-3 days after delivery	FWA/female HA
6	4-7 days after delivery	CNP
7	42 days of delivery at the immunization center	HA and FWA

Intervention inputs included:

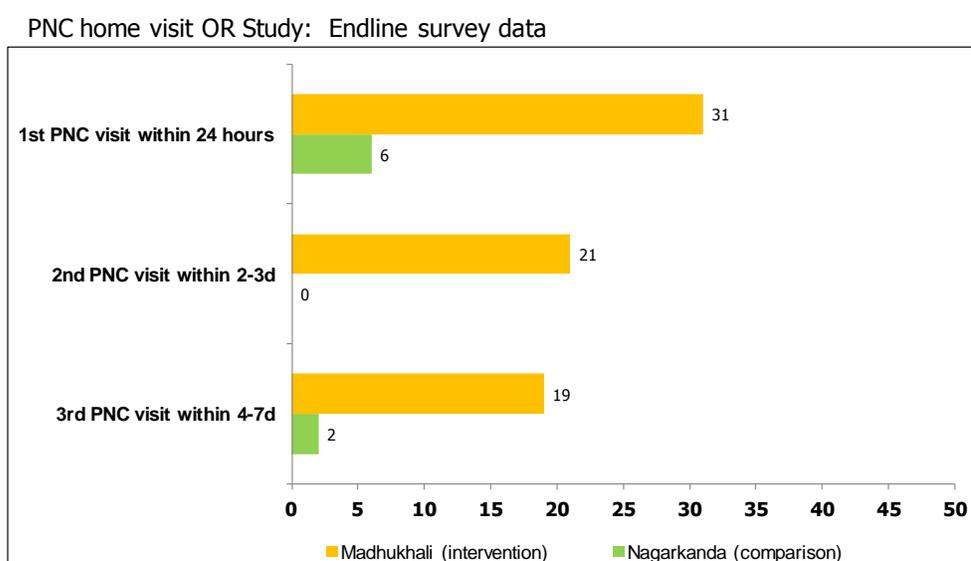
- Development of training materials on community-based delivery of MN interventions – and training of CHWs and facility staff including supervisors. The training approach used a cascade model. Master trainers were trained in Dhaka. All other training was conducted at upazillas.
- Development of BCC materials and job aids for CHWs – and supply of these to low level staff. Job aids included a flip charts for IPC and group meetings; a mothers card; an ANC card; a birth notification poster; a thermometer; ARI timer; weighing scales; PNC visit checklist; an PNC training manual; and a demonstration doll.
- Monthly micro-planning meetings at the union level with HAs, FWAs, CNPs, other CHWs and all union supervisors. At this meeting, community registers were reviewed and data compiled and summarized as a union-level report; pregnancy mapping was conducted; and responsibilities for home visits were coordinated and shared.
- Development of a system for birth notification. The telephone number of CHWs was written on the mothers card, and mothers were told to call them at the time of delivery.
- Development of a mothers and newborn card to be left with mothers.

² NIPORT, MOHFW Bangladesh, SC. Community-based postnatal care study in Bangladesh. Baseline and endline survey findings. December 2011.

Main findings: PNC

The study found that early PNC home visits rose in the intervention area compared with the comparison area (Figure 2). At endline, 31% of mothers reported a home PNC home visit within 24 hours of delivery; 21% within 2-3 days of delivery; and 19% within 4-7 days of delivery. PNC visits were most often provided by FWAs, HAs and CNPs. Visits within 24 hours were most often provided by community-based volunteers (CNPs) rather than FWAs and HAs. Visits on days 2-3 days were more often made by FWAs and HAs.

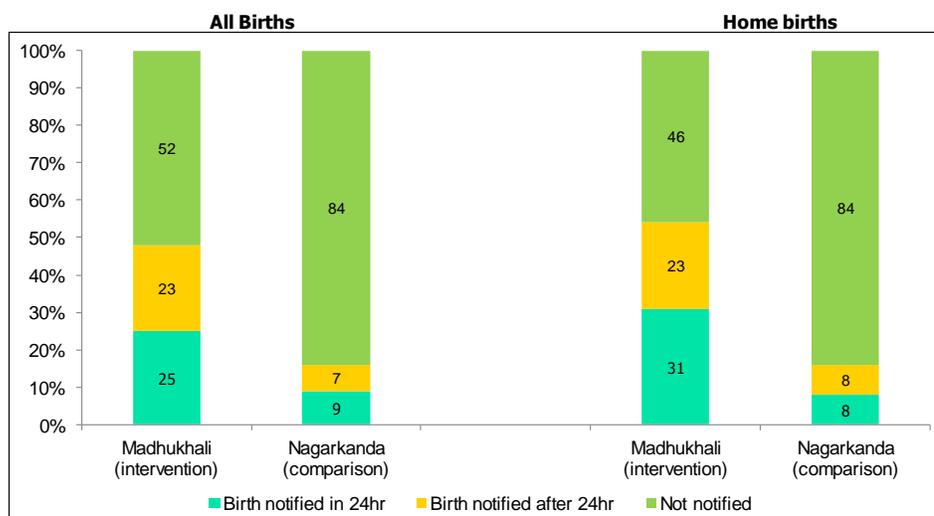
Figure 2: Postnatal visits at home, 2 Upazillas, Faridpur District, Bangladesh, 2010



DGFP, OBSB, STC, NIPORT, BRAC Bangladesh

Birth notification: Overall 48% of mothers notified CHWs of the delivery. This proportion was higher among home births – with 54% of home births notified. Of these, 31% of notifications took place on the first day, and 14% 2 or more days after delivery. Birth notification data are summarized in Figure 2.

Figure 3: Timing of birth notification, 2 Upazillas, Faridpur District, Bangladesh, 2010



DGFP, OBSB, STC, NIPORT, BRAC Bangladesh

Data on the timing of the birth notification and the first home PNC visit are shown in Table 3. , Notification of the CHWs on the day of delivery resulted in a high proportion receiving a PNC home visit in the first 24 hours (51%) or in the first 2-3 days (31%). Notification on the second day after delivery resulted in a PNC home visit within 2 or 3 days in 72% of cases. Overall, these data suggest that notification of the CHW of the delivery results in an early home PNC visit in a high proportion of cases. However notification on the day of delivery had the greatest impact on ensuring that a PNC visit happened in the first 24 hours.

Table 3: Timing of First PNC visit after birth notification, Medhukhali, Bangladesh, endline survey 2010.

Timing of 1st PNC visit at home	Timing of birth notification		
	Same day (%)	2 nd day` (%)	After 2 nd day` (%)
Within 24 hours	51	8	17
Within 2-3 days	31	72	39
Within 4-7 days	5	8	22
After 7 days	7	8	9
No PNC visit	5	4	13
Total	100	100	100
Number of deliveries	74	25	23

Conclusions of the PNC home visits operations research study:

This study concluded that early PNC home visits are possible using government workers. Community-based volunteers (CNPs) were important providers of PNC within the first 24 hours after delivery – because they are generally located within their own communities – unlike FWAs and HAs who are allocated several villages. For this approach to be effective, three important elements need to be addressed:

- 1) Provision of technically updated materials, job aids, and counseling materials to CHWs;
- 2) Development of a system of early birth notification to CHWs using cell phones or other methods. A mothers card that was left in the home was a useful method for reminding mothers and families of the number of contacts they were supposed to have – and for providing the cell phone number of the CHW;
- 3) Monthly micro planning at the union level that allowed all pregnant women to be identified, and home visit tasks to be shared and coordinated between CHWs.

4.3 Program activity areas: supporting community home visits

4.3.1 Number and deployment of community health workers

Different MN project areas have used models which differ in their resource requirements.

High human resource inputs: The BRAC approach recruits SS and SK workers and program officers to supervise them. SSs have a catchment population of 150 households, and an intensive schedule of home visits is used; SS notify SKs of deliveries, to ensure that PNC visits are done early. This approach is relatively resource and labor intensive – several additional cadres are trained and work alongside government CHWs.

Moderate human resource inputs: The MNCS approach recruits and pays community health promoters who are responsible for home visits, and link with FWAs and HAs to ensure that early visits take place. This approach is closer to the government system, but requires an additional paid cadre.

Minimal human resources inputs: The MaMoni approach works with government health workers (FWAs, HAs). It has trained additional workers when necessary (FWAs, HAs and FWVs) to fill gaps in government posts. At the community level, health education and mobilization are conducted by volunteers who do not receive payment. This approach focuses on improved local planning each month to help map pregnant women and used existing CHWs most efficiently to improve PNC visits. Never-the-less, a number of inputs are required to support improved planning and to train and support community volunteers.

Mapping of CHWs has been used to track areas where there are gaps in manpower³. Mapping shows that distribution of trained government CHWs is relatively similar across all districts –

³ MHSW, SC. Study on Status of Community-based Health workers in Bangladesh. MHSW/SC/SNL, 2011.

FWAs and HAs are present in all areas; although their average density is low (4.27 CHWs/10,000 population). The distribution of NGO CHWs is uneven, with some districts having numbers well in excess of the national average; and others remaining underserved. Mapping showed that if all FWA posts were filled nationally the average number of couples of reproductive age in each FWA catchment area would be approximately 1090; on average this corresponds to approximately 8 deliveries a month. It was therefore determined that it should be feasible for FWAs to make PNC home visits in their catchment areas. For this reason, the MOH is focusing on developing approaches to staffing un-filled FWA– and rolling out new ENC/PNC training guidelines, job aids and mothers cards.

Lessons learned: deployment of community health workers

- Although CHW coverage in areas supported by NGOs and development partners is high, concerns remain about the long term sustainability of this approach.
- Government CHWs – FWAs and HAs – can potentially provide PNC home visits, if vacant positions are filled, and if all are trained in the essential MN package. A costed training plan for FWAs and HAs is needed in order to mobilize resources for training.
- Regular CHW geographic mapping is recommended, in order to track where CHWs are located, their density, and skills. This will help identify gaps that can be used for planning.

4.3.2 **Birth notification**

Data from the PNC home visit operations research study, as well as experience from BRAC and other MN implementation areas, suggests that early birth notification is important for improving early PNC home visits. Several approaches have been useful for improving notification, including; use of a mother’s card which shows when PNC visits should occur, and includes the cell-phone number of the CHW; information posters on PNC that are put up around the house during pregnancy; improved health education of the family; ensuring that birth notification is discussed as a part of antenatal visits; and home visits by the CHW round the expected due date.

Lessons learned: birth notification

- Strategies for improving birth notification should be included in CHW training in the MN package developed by the DGFP.
- Use of a mother’s card with contact phone number is useful for improving awareness of the need for early notification.
- Antenatal counseling of both the mother and family are important for increasing awareness of early notification.
- Education of community support groups and village leaders and decision makers may help promote early notification.

4.3.3 Local planning and coordination

Improved local planning has been important for ensuring that all pregnant women are identified and followed-up in areas where the MN package has been implemented. Monthly meetings at the union level between CHWs and their supervisors including Assistant Health Inspectors, Family Planning Inspectors, Family Welfare Visitors (FWVs), has focused on ensuring that the FWA register is complete, and that all pregnant women are identified. Plans are made for ensuring all pregnant women receive home visits at the appropriate time – CHWs can share responsibilities between themselves. Implementing this approach requires training and motivating of supervisors. Lessons learned from the MaMoni project should be used to develop this approach for wider use nationally.

The national health information system currently collects data from FWA registers each month. Data are aggregated and entered at the upazilla level. The HIS system is an internet-based direct entry system at the upazilla level – all facility and community routine reports are entered directly into the national data-base. The long term plan is for the internet data-base to be extended to union and community health post level. Currently the facility-based HIS indicator for PNC is: any PNC visit received within 6 weeks of delivery. No PNC indicators are currently collected from FWA registers. The MNCS project is testing the collection of community surveillance data from community health promoter registers – these include all contacts along the continuum of care, and 3 PNC visits. These data are entered directly by MNCS project staff at the upazilla level. Data are aggregated by the national HIS office, although this system is running parallel to the routine HIS.

Lessons learned: local planning

- Local planning is essential for improving pregnancy tracking and scheduling home visits.
- All local partners including government and NGO CHWs need to be involved in local planning in order for it to be successful.
- Lessons learned from Ma Moni and other projects using local planning should be documented and used to develop the MOH approach, as they roll out the new MN package.
- Facility-based HIS indicators for PNC need to be revised to be consistent with the new national policy. Experience with the MNCS project community surveillance should inform the revision and further development of the national FWA community reporting system.
- FWA registers need to be updated to include PNC indicators – that are not currently included.

4.3.4 System supports for CHWs

- CHWs implementing the MN package require some essential equipment and supplies, including: job aids and counseling materials, a thermometer, weighing scales, mother's cards, a community register and a carry bag. Depending on the job description of the CHW, they may also carry family planning methods, ORS, co-trimoxazole for the management of pneumonia and a timer. In all MN project areas, these have been supplied by the project or the NGO partner. Approaches to supplying FWAs and HAs as the MN package is rolled out, need to be developed.
- In areas where the MN package has been used, supervisors are important for overseeing monthly planning and coordination, helping with referral of sick mothers and newborns and overseeing the activities of CHWs. Supervisors need to be trained in the MN package and in micro-planning at monthly meetings.
- Care-seeking. Care-seeking has been strengthened by giving families the cell phone numbers of CHWs. In many project areas, posters of danger signs in pregnancy and in newborns are given to families before the delivery and put up in the house. ANC counseling on danger signs for referral and birth preparedness is important. In BRAC areas, program organizers are allocated to the upazilla health complex and hospitals; they can be called by CHWs when they have a referral. The organizers ensure that referred women and newborns are seen in a timely fashion. In BRAC areas, agreements with local transport drivers have been developed – when a client needs referral, they agree to provide transportation within 10 minutes of the call. Some or all of these costs are paid by BRAC, depending on the ability of the family to pay. For nighttime referrals, BRAC has instituted a “referral hub” system – this is a well recognized landmark. The referral and driver and the family use the referral hub as a place to meet, to avoid delays.
- Community mobilization and support. In some project areas, community mobilization has been used to educate communities, and build support for MN activities. Communities can help ensure that birth notification takes place and improve referral to facilities. In addition, community groups can be useful for identifying and mapping pregnant women, and providing education on birth preparation, the need for ANC and PNC and danger signs. Experience with community mobilization in ACCESS and MaMoni areas will be documented and used to inform implementation nationally.

Lessons learned: Supports for CHWs

- Further expansion of the MN package through the government system, will require the training of supervisors as well as CHWs. Approaches to improving supervisory skills for key MN contacts are needed- experiences from early implementation projects should inform this process.
- A mechanism for procuring and supplying essential equipment and supplies to CHWs in government areas is needed – as the package is rolled out.

- Lessons learned from project areas that have used community mobilization to improve support and implementation of the MN package should be documented and used to inform the government approach.
- In order to improve referral of sick mothers and newborns, the MOH should build on the high availability and use of cell-phones – and better links between CHWs and families. Lessons learned from BRAC areas may be able to be used more widely by engaging local communities.

4.2.5 Sustainability

Long term sustainability of the home PNC approach is promoted by:

- Inclusion of PNC home visits in national policies, strategies and operational plans.
- 20% of the National Health, Population and Nutrition Sector Development Program 2011-2016 (HPNSDP) allocated to MNC health.
- Government salaried CHWs – FWAs and HAs – who will be in place in the long term.
- New strategies, including community health posts, demand side financing and use of misoprostol by CHWs.
- The development of ENC/PNC training materials, mothers card and job aids by the DGFP – and a strategy for training.
- Strong collaboration between the MOH, NGOs and development partners - which has improved the reach of MN program activities and contributed to improved intervention coverage.
- High quality local research data to inform implementation and planning

Long term sustainability of the home PNC approach may be made less likely by:

- Lack of community manpower. A number of FWA positions are currently unfilled – more trained workers are needed.
- Lack of costing data on NGO/partner supported projects. Concerns remain as to whether these approaches are sustainable in the longer term using local resources. Many provide funds to support staff positions and incentive payments.
- Potentially high costs of deploying more FWAs, training and supplying these workers, and ensuring that they are supervised.

Indicator Table: PNC home visit review - Bangladesh

Objective/ Result	Indicator	2004 DHS	2007 DHS	2010 MMS
IR1: Increased availability of and access to key MNC services	Proportion of mothers who received at least 4 ANC visits	16%	21%	23%
	Proportion of mothers who received TT2+ during pregnancy	64%	60%	
	Proportion of newborns protected against NNT at birth		90%	
	Proportion of deliveries by skilled birth attendants	13%	18%	27%
	Proportion of deliveries at a health facility	9%	15%	23%
	Proportion of rural pregnancies having a c-section	2%	5%	
	Proportion of mothers who had a care contact in the first 2 days after delivery	15% (home births)	27%	32%
	Proportion of newborns who had a care contact within 2 days after delivery	12% (home births)	27%	32%
IR 2: Improved quality of key maternal and newborn care services	Proportion of mothers women who received iron tablets or syrup during pregnancy	50%	55%	
	# of pregnant women who took 2 doses of Sp as IPT during pregnancy	-	NA	
	Proportion of babies who had the cord cut with a clean instrument	-	82%	
	Proportion of babies who were dried, wrapped immediately after birth	-	Dried – 6% Wrapped – 2%	

Objective/ Result	Indicator	2004 DHS	2007 DHS	2010 MMS
	Proportion of children age 0-23 months whose first bath was delayed at least 24 hours after birth	-	37%	
	Proportion of mothers who initiated BF within 1 hour of birth	24%	43%	
	Proportion of babies weighed at birth		-	
IR 3: Improved household level knowledge and attitudes for key essential newborn care and related maternal care behaviors	Proportion of pregnant women who slept under an ITN the previous night	NA	NA	
	Proportion of newborns exclusively breastfed	55%	64%	
	Percentage of infants age 0-5 months exclusively breastfed	42%	43%	
	Proportion of children born in the last 5 years who were born least 24 months after the previous surviving child	84%	85%	