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Improving the Quality of Pre-Discharge Postnatal Care (PNC) in Selected Facilities in Banke District

Dr Shilu Aryal
Maureen Dariang
Rachel Cullen

Strengthening Health Systems-Improving Services

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ACRONYMS

ANM	auxiliary nurse midwives
BEmONC	basic emergency obstetric and newborn care
BP	blood pressure
BZH	Bheri Zonal Hospital
CEmONC	comprehensive emergency obstetric and newborn care
CHD	Child Health Division
DoHS	Department of Health Services
EPI	Expanded Programme of Immunisation
FCHV	Female Community Health Volunteer
FHD	Family Health Division
HFI	Health Facility In-charge
HFOMC	Health Facility Operations Management Committee
HMIS	Health Management Information System
HP	health post
IEC	information and education communications
KII	key informant interview
MoH	Ministry of Health
MoHP	Ministry of Health and Population
NDHS	Nepal Demographic Health Survey
OR	operational research
PHCC	primary health care centre
PMTCT	prevention of mother to child transmission of HIV
PNC	postnatal care
SN	staff nurse
SHP	sub-health post
Unicef	United Nations Children's Fund
VDC	village development committee

EXECUTIVE SUMMARY

A. Introduction

In spite of major gains over the past two decades, Nepal still ranks poorly on global rankings for maternal and neonatal mortality. High quality postnatal care (PNC) is one of the key strategies for reducing such deaths by providing immediate medical attention and information on danger signs and referral pathways to emergency obstetric care. The latest data (2006) shows that only 33% of mothers and babies receive postnatal check-ups in Nepal (MoHP et al. 2007).

An operational research exercise was carried out in Banke district, mid-western Nepal to test a model for improving quality of care of PNC provided just before discharge from a health institution. Banke district was chosen for this research as it has a number of birthing centres with sufficiently high caseloads to monitor change arising from a strengthened PNC process.

A model was developed by government health officials and other experts based on national and international good practices for delivering PNC. The following two measures were introduced in selected Banke health facilities to improve mothers' access to checks, advice and danger sign information prior to discharge from birth facilities:

- A job aid checklist to support health workers to deliver PNC checks, advice and danger sign information. Education to women on how to safeguard the health of themselves and their babies was provided individually (in all health facilities) and in groups (at Banke hospital).
- An information leaflet for patients to reinforce the messages provided during counselling.

Two of these interventions were new while the counselling of women should already be carried out, although in lower level facilities it is usually done on a one-to-one basis. Orientation and training were provided to health workers, health facility in-charges and health facility operations management committee representatives.

The research was carried out between June 2012 and January 2013 to investigate the impact of the new measures. This research focused on the quality of the pre-discharge PNC and the ability of health workers to provide PNC checks. It collected information on 10 indicators using the checklists themselves (which served as data collection sheets), post-counselling/exit interview surveys of women clients and key informant interviews.

Analysis was only undertaken of data from the four facilities that had provided checklist data consistently during the June 2012 to January 2013 period: Bheri Zonal Hospital, Bankatwa primary health care centre (PHCC), Phattepur health post and Baijapur sub-health post. The follow-up surveys of clients were only undertaken at these facilities. Control sites where the model had not been introduced were identified to compare the project's health post and sub-health post against. No control site was available for Bheri Zonal Hospital.

A limitation of the study is that data from Bheri Zonal Hospital was collected from women an average of two days after birth while women who had delivered at lower level facilities were interviewed at their homes an average of 15 days post-partum, during which time they may have been exposed to other sources of information.

B. Findings on Effectiveness of the PNC model

The research did not find evidence of greater recall of PNC advice and danger sign information among women who delivered at intervention sites compared to control sites for most recall items (the notable exception being family planning advice). However, the interventions were found to have supported health workers to provide more systematic and comprehensive PNC counselling. No evidence was found of reluctance among health staff to implement the new measures despite time pressures and their generally heavy workloads especially at the hospital. One solution to the time challenge, adopted at Bheri Zonal Hospital, was to provide group rather than individual counselling.

The main findings of the study are as follows:

1. ***Staff support for strengthened PNC*** — Most of the health personnel at the participating facilities supported the changes and appreciated that, while providing the PNC advice and information detailed in the checklists takes time, the delivery of quality pre-discharge PNC is something to be proud of and will improve the health of women and newborns once they return home.
2. ***Group Education session is linked to the greater recall of advice and danger sign information among women*** — Group Education sessions on PNC were provided to 41% of women delivering at Bheri Zonal Hospital. Women who received information in a group with other women prior to discharge were found to have a greater recall of important PNC advice and danger signs than women who had received individual counselling. This finding is consistent with evidence that providing information to women in groups can strengthen recall and improve postnatal and neonatal outcomes. Based on this finding, facility group information sessions should be considered as a best practice in sufficiently large facilities. This approach could also be promoted through existing community mechanisms in women's home communities.
3. ***Recall of family planning messages was higher at intervention facilities:*** The recall of family planning messages was higher among women who delivered at intervention sites; although more investigation is needed to isolate the element of the pre-discharge PNC package that supported this change. It is not possible to attribute change directly to the interventions as other factors could have contributed or caused these changes. However, even if the PNC interventions only contributed to change, family planning must be an integral component of any PNC strengthening programme. The integration of family planning into pre-discharge information can be provided with modest resources and is already included in Nepal's standard recommended approach for maternal and newborn health care.
4. **The use of checklists strengthened health worker capacity to provide comprehensive, systematic health advice and danger sign information.** The use of checklists improved the content of group information and individual counselling at participating facilities. Health workers reported that this made them more satisfied with their work.

The main barriers for providing institutional pre-discharge PNC were identified as language difficulties, lack of health staff time and low levels of family support for the PNC education process. All these contributed to disjoints between the advice and danger sign information that

health workers say they provide and the information women say they receive. These need to be considered if this initiative is to be scaled up.

C. Conclusions

This research explored the challenges associated with reintroducing what should be a routine part of pre-discharge care and through use of the checklist tool started to make the systematic provision of PNC routine in participating health facilities. This was found to be most effective at large facilities where the volume of births is high.

Two overall points arising from this study in relation to scaling up the improved provision of PNC across Nepal are that:

- pre-discharge PNC needs to be integrated within a broader framework for strengthening PNC; and
- mothers and their families should be at the centre of any PNC campaign, which must be developed around their language and communication needs, the needs of the communities they live in and how that community supports PNC.

Recommendations:

1. The reach of pre-discharge PNC messages should be widened so that they are reinforced in women's communities.
2. Identify opportunities for PNC task shifting both to reduce pressure on hospital wards and reinforce messages in communities.
3. Explore the potential for visits by a lay person to provide essential newborn care information once women return home.
4. Promote group PNC counselling at facilities where there are sufficient births to make this feasible and augment with standardised, quality assured IEC materials.
5. Branding of PNC information should be aligned across the tools used by health workers, materials received by women and other PNC materials available at community level.
6. Reconsider the on-going requirement for a checklist as a tool for health workers and as a monitoring tool for the delivery of PNC.
7. Ensure that pre-discharge PNC focuses on the first 6 to 24 hours post-partum as many women are discharged within 6 hours post-partum.
8. Identify indicators for monitoring the level of PNC provision including PNC quality (eight indicators are suggested).
9. Use pre-discharge counselling on family planning as an opportunity to connect women with the continuum of care.
10. Link community based PNC interventions to interventions at health facilities.

1 BACKGROUND

1.1 THE PROBLEM

The estimated maternal mortality ratio in Nepal declined from 539 maternal deaths to 281 per 100,000 live births between 1993 and 2003 (Hussein et al. 2011), and neonatal mortality has fallen from 49.9 to 33.0 per 1,000 live births (DoHS et al. 1997; MoHP et al. 2007; MoH et al. 2002). Despite this progress, Nepal still ranks poorly in global rankings for maternal and neonatal mortality (226th and 168th respectively) (Hogan et al. 2010; Unicef 2009) and the recent NDHS 2011 report reveals that the downward trend for newborn mortality has actually stalled from 2006 to 2011. Furthermore, disparities between urban and rural settings and richer and poorer sectors of society remain (MoHP et al. 2007).

High quality postnatal care (PNC) is crucial to both monitoring the health of mothers and babies and delivering important messages around family planning, child health and other key maternal and newborn health areas. Despite substantial efforts around community-based newborn care, opportunities have been missed to deliver adequate facility-based PNC during the high-risk 48 hours postpartum and to enable linkages across other components of the continuum of care, such as family planning.

1.2 THE GLOBAL CASE FOR POST NATAL CARE

The risk of postpartum maternal mortality is extremely high, often higher than for the intrapartum period. An analysis using data from the high-profile Matlab study (Bangladesh) found that the number of maternal deaths on the first 24 hours after birth was 52 times higher than the number of deaths occurring during pregnancy[1] (Hurt et al. 2008 pp 401 table 2).

Furthermore, a paper analysing findings from many developing countries found postpartum deaths accounting for 60% of all maternal deaths, compared to only 15.5% for intrapartum and 23.9% for antepartum deaths (Li et al. 1996). On the neonatal side, the average mortality rate for children under five is 30 times higher during the neonatal period than at any other time, and a quarter to half of all neonatal deaths occur in the first 24 hours (Lawn et al. 2005). Morbidity during the postpartum period is also very common. A study from India showed that 43% of women suffered some form of morbidity during this time, while a Bangladeshi study reported rates of 92% (Bang et al 2004).

Evidence from developing countries worldwide suggests that a simple package of interventions, such as providing advice on postnatal danger signs, advice on self-care, and iron folate supplementation, as well as early detection and referral of postnatal maternal complications, are effective in reducing maternal mortality (Campbell et al. 2006; Graham et al. 2006). Furthermore, the following interventions have been proven to significantly reduce neonatal mortality:

- promotion of breastfeeding (55-87%);
- prevention and management of hypothermia (18-42%); and
- kangaroo mother care (reduction in 75% in incidence of infections)[2].

Postnatal care also provides a unique opportunity to connect women to other health interventions within the continuum of care and to promote healthy behaviours. Evidence from Latin America

[2] Breastfeeding and community-based management of pneumonia were shown to be effective in large programme conditions; there is evidence of efficacy for the other interventions, but lack of data on effectiveness in real world contexts.

suggests that contraceptive uptake is higher when women receive immediate postpartum contraception (Quiterion 2007; Rivero Fuentes et al. 2007), and a randomised controlled study from Syria showed that exclusive breastfeeding was higher for women who received postnatal visits (Bashour et al. 2008). Such interventions, especially when delivered as a package of care linking maternal and newborn health, can be very cost effective. Postnatal care is twice as cost effective as intrapartum care for preventing new born deaths (Darmstadt et al. 2005).

1.3 THE CASE FOR POST NATAL CARE IN NEPAL

The high proportion of post-partum deaths (34% of maternal deaths[3]) and neonatal deaths (54% of under-5 deaths (MoHP et al. 2007) in Nepal clearly justifies the country's focus on improving PNC in addressing maternal and child mortality. However, the latest data shows only 33% of mothers and babies currently receive any postnatal check-up (MoHP et al. 2007) during which immediate medical attention or information on danger signs and referral pathways to emergency obstetric care could be provided. This 33% figure automatically includes all women delivering at a health facility, regardless of whether women actually received routine checks and high quality PNC advice and danger sign information prior to discharge.

As only 35% (NDHS 2011) of Nepali women deliver in a health facility, Nepal's strategy has focused on community-based PNC.

Given existing strong community-based efforts in newborn care, this operational research sees a cost-effective opportunity to strengthen facility-based PNC for both mothers and babies. Although only a minority of women currently deliver in health facilities, facility-based deliveries are on an upward trend, increasing from 18% in 2006 to 35% in 2011 (NDHS 2011). The fact that younger women are more likely to deliver at a health facility strongly suggests a further upward momentum. Even if women do not return to the facility after discharge, providing a check-up as well as relevant information within 24 hours of births, before leaving the health facility, could help prevent some of the 38.7%[4] of maternal deaths that currently occur within this crucial window (Suvedhi et al. 2010). Strengthening postpartum referral systems that link community-based postnatal care interventions to health facilities are also crucial, in order to enable women who deliver at home to access life-saving emergency obstetric care.

PNC could also help catalyse other improvements in outcomes. Currently, only 12% of mothers wait a month before resuming their normal workload (Gurung et al. 2007), only 35% of mothers practice the early initiation of breastfeeding (MOHP 2007 = 2006 NDHS) and the contraceptive prevalence rate is 44% (2006 NDHS). Linking PNC to other health-enhancing opportunities is highly consistent with Nepal's strategy to strengthen the continuum of care across different health interventions.

1.4 IDENTIFYING THE NEED FOR PNC IN BANKE

The need for improved PNC was identified as an issue in Banke district by district health officials during a context-specific planning exercise carried out in 2011 to identify ways to improve maternal and neonatal health. Banke district lies in the southern Terai plains of mid-western Nepal. It was decided to investigate a means of strengthening facility based (i.e. pre-discharge) PNC provision, at

[3] Proportion of all maternal deaths occurring after the first 24 hours postpartum, p. 114, Pradhan et al. (2010)

[4] Timing of pregnancy related deaths: 32.5% (Intrapartum and up to 24 hours postpartum) and 6.2% (Early postpartum: 24 to 48 hours), p.114 in the Nepal Maternal Mortality and Morbidity (MMM) Study.

selected birthing centres in the district, and busy facilities such as Bheri Zonal Hospital (BZH — Nepalgunj), a tertiary facility which accepts patients from across Nepal.

As PNC involves the physical check-up of the mother and her baby and imparting a large amount of advice and danger sign information, it was suggested to explore the potential role of a job aid to strengthen delivery of PNC information. Job aids have been used in many contexts to improve quality of services provided to patients for reproductive and newborn care (Khan et al. 2008, Darmstadt et al. 2009, Partapuri, 2009) and are frequently used in contexts where delivery of a service is dependent upon remembering a large volume of information. They are also commonly used in situations where there is little time or resources for additional training, although job aids that are supplemented with training are found to be more effective (Harvey et al. 2008).

Banke district is an ideal location for this operational research as it has a number of birthing centres with sufficiently high caseloads to monitor change arising from a strengthened PNC process. As the number of institutional deliveries rises, it is likely the Banke experience will be replicated at other larger birthing facilities across the country.

2 DESCRIPTION OF THE OPERATIONAL RESEARCH

2.1 AIM

The aim of this operational research is to improve the quality of PNC checks, advice and danger sign information provided to women prior to discharge from birthing centres in Banke district.

2.2 THE FORMATIVE DESIGN PROCESS

The current operational research was developed based upon formative research carried out in Banke in the December 2011 – February 2012 period. This research suggested that pre-discharge PNC checks, advice and danger sign information were provided inconsistently despite health worker awareness of the importance of PNC and the availability of a number of PNC job aids (guidelines, protocols etc., which are listed at Annex 1). A stark difference was identified between items of advice and danger sign information health workers reported *providing* and that women reported *receiving*. For example, 78% of health workers interviewed reported routinely providing information about fever while only 17% of women reported receiving any information about that danger sign. Health workers identified lack of time as the main challenge to providing PNC closely followed by factors related to poor infrastructure including inadequate space and, particularly at smaller health facilities, lack of heat and light.

Formative investigations undertaken during the design of this operational research concluded that a job aid alone would be insufficient to change how PNC is provided. PNC provision needs to be reinforced through training and, crucially, visible senior staff commitment, particularly if changes in working practices are needed to ensure adequate staff time and physical space is allocated for PNC services. It is acknowledged that health workers are already under the pressure of heavy workloads so any job aid needs to be short and easy to use (this is challenging taking into account the potential to deliver many PNC messages). The formative process also identified opportunities to explore delivery of counselling and the effects of providing information to groups, individuals and with families present (as women are unlikely to make decisions about acting on advice and danger signs alone).

The final research design was led by the Family Health Division (FHD) of the Department of Health Services in early 2012 and included inputs from a team of national maternal and neonatal health experts who incorporated learning from best practices nationally and internationally as well as feedback from the baseline interviews. A list of experts who supported this design process is attached at Annex 2.

District level inputs were also integral to the design process. Baseline information was shared with district managers who oversaw the operational research in Banke, selected health facilities to participate in the study and supported the process of staff training and orientation.

2.3 THE PRE-DISCHARGE PNC SERVICE MODEL

Central to the pre-discharge PNC service model used in the intervention is the principle of delivering quality PNC checks, advice and danger sign information to *all* women who deliver in a facility, irrespective of factors such as parity, type of delivery and length of stay. Women who discharge themselves from hospital early should not be excluded from pre-discharge PNC provision. The model used comprises three basic components, which may be adapted to the context of a specific facility

according to the number and complexity of deliveries performed, staff training and capacity and so on. The components are described below:

i Counselling and group education on PNC advice and danger sign information

Group education and counselling is the one component of the PNC model which should already be undertaken as a matter of course on hospital wards and in health facilities.

In most health facilities, individual counselling is the norm (generally with families and companions present). The exception is Bheri Zonal Hospital (BZH) where group education of a number of women and their families prior to discharge is common (the formative baseline suggested that 25% of all women delivering at BZH were counselled in this way) as pressure of workload resulting from the high volume of deliveries restricts health worker time for providing comprehensive one-on-one counselling.

The checklist (described next) was designed as a tool for structuring the counselling sessions, to be used in conjunction with a number of existing tools available at health facilities such as flipcharts and posters.

ii A practical, paper-based PNC checklist

It is not the intention of this operational research to duplicate other assessments; however the formative investigation identified that the existing PNC guidelines were not being routinely used by health workers. The challenge for the operational research was to create a tool that is both useable and used by health workers as an integral part of delivering PNC.

The final job aid took the form of a checklist which itemised all the PNC checks, advice and danger sign information that health workers should deliver to women and their families prior to discharge. This is information that should be familiar to all health workers from their professional training.

The checklist is paper-based so that health workers could tick off information given during counselling. It also doubles as a monitoring tool, including information related to time of delivery, time of PNC, age, number of previous deliveries, which will help evaluate how and with whom the checklist was used. In addition, it incorporates space to record key checks that health workers need to record anyway for the patient record, including vital signs (blood pressure, temperature), bleeding and uterine consistency. World Health Organization colleagues who are testing how PNC information can be validated through client surveys, also identified blood pressure, bleeding and uterine consistency as 'memorable' by women and therefore suitable for inclusion in follow-up surveys i.e. a woman is likely to remember if a health worker put a 'cuff on her arm', 'pressed her tummy' or 'looked at her private parts'.

iii. A PNC leaflet for clients

A PNC leaflet (Annex 7) was developed by technical experts including the FHD director, and was then pre-tested with women delivering at BZH, by the consultancy company HERD. The leaflet was for distribution to all women who gave birth in participating facilities.

2.4 IMPLEMENTATION OF THE OPERATIONAL RESEARCH

Training was provided to health workers (auxiliary nurse midwives [ANMs] and staff nurses), health facility in-charges and health facility operations management committee (HFOMC) representatives on the aims and objectives of the study, the new checklist and PNC leaflets and on the operational

research monitoring procedures. In addition, health workers received brief refresher training on the provision of PNC checks, advice and danger sign information. A total of 28 staff (ANM/SN) and 9 VDC level stakeholders took part in orientation and training.

Phased implementation of the operational research began in June 2012 as described in Table 1. Following collection of the first month of data in June and July 2012, a further district consultation exercise was undertaken in Nepalgunj to establish whether any further adaptations of the model were required prior to roll out to the remaining sites. Following consultations with health workers, district managers and FHD representatives, a number of revisions were made to the checklist including removing some content and redesigning it to improve usability. The final checklist is attached at Annex 3.

Table 1: Phased implementation of the PNC operational research

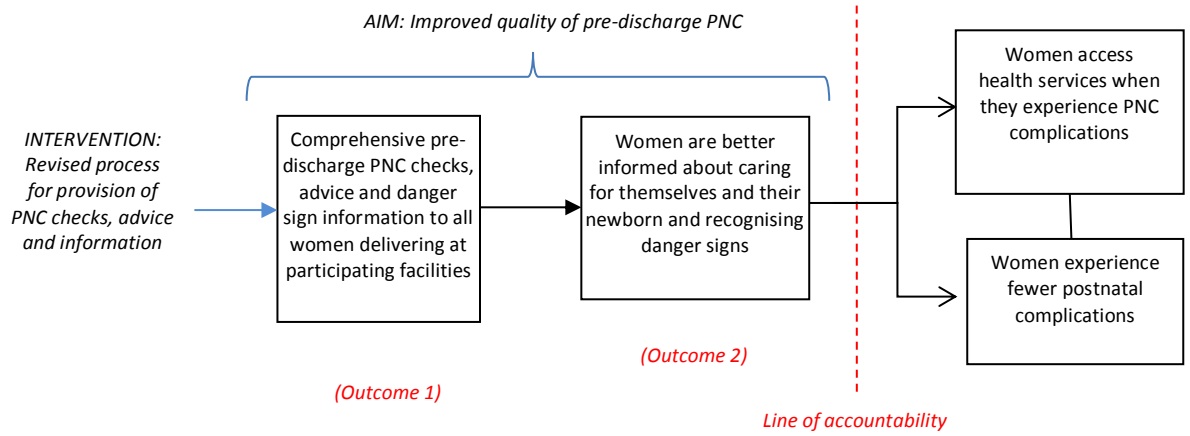
Implementation of job aid	Facility	Training
16 June 2012 (beginning of Nepali month)	Bheri Zonal Hospital	28 staff (13 from 5 HF and 15 from hospital) in May 2012; 9 HFI and HFOMC chair persons Review in Aug 2012 with all service providers
1 July 2012	Bankatwa PHCC, Phattepur SHP, Baijapur HP, Sonpur HP, Narivanpur HP,	
16 Sept 2012	Betani HP, Khajura HP	

3 EVALUATION METHODOLOGY

3.1 THEORY OF CHANGE

The theory of change for this operational research is summarised in Figure 1 and the associated results framework at Table 3.

Figure 1: Theory of change on improving the quality of pre-discharge PNC



Assumptions:

- Only women for whom a job aid is completed are provided with PNC.
- Health workers are competent to deliver PNC as a result of their professional training.
- Women have received PNC information from the health facility on discharge and not from other sources.
- If quality of counselling is good then women are more likely to retain information.

The overall aim of this operational research is to improve the quality of pre-discharge PNC delivered in facilities.

The theory of change is that:

- Systemising the delivery of PNC checks, advice and information will result in the provision of comprehensive pre-discharge PNC to all women giving birth at participating facilities (Outcome 1).
- As a result of this, women will be better informed about caring for themselves and their newborns and recognising danger signs (Outcome 2).

If women are better informed, then the theory of change is that this will lead to women who are more likely to access health services when they experience PNC complications and/or less likely to experience PNC complications in the first place.

However, there is a line of accountability (see Figure 1) that indicates the point beyond which this intervention could not be accountable for change. Knowledge alone is insufficient to change health-seeking practice and in the absence of a baseline which unpacks the barriers to identifying or seeking healthcare for complications, this study was not able to make any conclusions about whether the intervention affected how women access services or the number of PNC complications they experience. The short time-frame of data collection prevented indicators relating to the continuum of care such as follow-up PNC attendance, immunisations or family planning uptake being included within the monitoring framework.

Instead, the study focused on the quality of the pre-discharge PNC and the ability of health workers to provide PNC checks and assumed that, if the quality of counselling was good, then this would improve women's ability to retain information.

The formative work undertaken at the design stage of this operational research involved a survey of health workers and clients; but the numbers were very low (only 21 health workers and 24 clients) — insufficient to form a baseline against which to evaluate change.

Instead, a decision was made to identify control (comparison) sites. However, it was only possible to identify control sites for health posts (HPs) and sub-health posts (SHPs) as there was no equivalent to BZH in the district against which a comparison could be made. The control sites are shown in Table 2 below.

Table 2: Operational research control sites for follow-up survey

Facility type	Name	Number of women surveyed
SHP	Binauna	24
HP	Jayespur HP	13
SHP	Mahadevpuri	24
SHP	Saigoun	25
SHP	Udharapur	11
	Total	**92**

Comparisons with BZH are further complicated because data from women delivering at BZH was collected via exit interview an average of two days after giving birth (and within hours of receiving PNC counselling), while women who delivered at the HP and SHP facilities were interviewed in their households an average of 15 days (but up to one month) post-partum, during which time these women may have been exposed to other sources of information. It was also not possible to implement such rigid quality assurance checks for the collection of the household interview data.

The two outcomes, the choice of indicators and limitations are described in more detail below.

Outcome 1: Comprehensive PNC checks, advice and danger sign information provided to all women who give birth at participating facilities prior to discharge

For the purposes of this study, comprehensive PNC is defined as the provision of *all* items on the checklist (physical checks, advice for women and newborns, and danger sign information) to *all* the women who deliver in a facility.

This outcome is therefore concerned with the functioning of the PNC process and how it supports health workers to provide PNC to all women regardless of factors such as age of the mother, parity, ethnicity, type of delivery, length of stay and discharge time.

Change against this outcome is described mainly through key informant interviews (KIIs) with project staff and health workers at participating institutions. This qualitative data will provide an understanding of whether the operational research improved the ability of staff to provide PNC and whether it overcame (or created new) challenges to delivery. It will provide contextual information so implications of the operational research can be understood within the context of both a busy comprehensive emergency obstetric and newborn care (CEmONC) facility, such as BZH, as well as at

health posts or sub-health posts that may only deliver a handful of births per month. The findings of the KIIs are therefore critical to capturing learning from the project.

In addition, data collected from the job aids themselves enables analysis of whether 'all women' received PNC, whether any groups of women were under-represented in the population of PNC receivers, and the completeness of the counselling provided. However, this assumes that only women for whom a checklist is completed were provided with PNC (the validity of this assumption was explored through KIIs).

Refresher training was provided to health workers at participating facilities pre-implementation; however, pre-post training provider knowledge was not included as an indicator here. Instead an assumption was made that health workers were competent to deliver PNC as a result of their professional training: i.e. that health workers had the knowledge and skills to provide comprehensive PNC.

Outcome 2: Women are better informed about caring for themselves and their newborn and recognising danger signs

This outcome focuses on the ability of women to recall receiving checks, advice and danger sign information and some specific PNC messages.

An assumption was made that women had received PNC information only from the health facility on discharge and not from other sources.

Change against this outcome was analysed at BZH through exit surveys and at other intervention sites through follow-up surveys with clients at 1-2 weeks post-delivery. As discussed above, the control sites only provided a comparison for Bankatwa, Phattepur and Baijapur intervention sites and not for BZH.

Nevertheless, it was still possible to stratify the analysis of recall data to establish any differences in recall according to factors related to the profile of the mother (e.g. age of mother, parity, type of delivery, ethnicity, length of stay) and factors related to the delivery of PNC at a particular institution (e.g. time/day of PNC, type of health worker providing PNC, individual counselling or group education session, etc.).

The operational research examined the situation of the 10 indicators shown in Table 3.

Table 3: Indicator table: Improving the quality of pre-discharge postnatal care (PNC) in selected facilities in Banke district, Nepal

Change	Indicators	Data source
1. Comprehensive pre-discharge PNC checks, advice and danger sign information to all women delivering at participating facilities	1. % of women giving birth at the hospital/health facility provided with PNC using the checklist. 2. % of checklists that are complete: - % boxes ticked - % recording blood pressure, bleeding and uterine consistency. 3. Women described on checklists reflect the typical profile of women giving birth at the facility (age, parity, type of delivery, length of stay, ethnicity) Qualitative: 4. Improved PNC process: - Convenience of the checklist	Checklists Interviews with health workers Health Management Information System (HMIS)

	- Appropriateness of checks/information in the checklist - Effect of change in counselling arrangements - Contextual information about how the checklist is used (time of day, length of time post-delivery, type of counselling, position of staff)	
2. Women are better informed about caring for themselves and their newborn and recognising danger signs	5. % Women report receiving the following checks: - blood pressure - temperature - perineum check/bleeding - uterine consistency 6. % Women report receiving advice on the following items: - family planning information - cord care - breastfeeding 7. % Women report receiving advice on all 3 'advice' items 8. % Women report receiving information on the following danger signs: - headaches - bleeding - cord infection 9. % women who are able to recall accurate information on the following items: - family planning - cord care - breastfeeding - headache danger sign - bleeding danger sign - cord infection 10. % of women who had received and % who had read the PNC leaflet	Exit interviews (Banke) Home-based survey (other HPs and SHPs), control and intervention sites

3.2 DATA COLLECTION METHODS

The evaluation used a mixed method approach to exploring resulting changes which included analysis of information collected through the following methods:

- Checklist data
- HMIS data
- Client follow-up survey
- Exit interviews
- Key informant interviews. .

Formal consent was obtained from all participants in the evaluation. All quantitative data collected was entered into an epi-info database for analysis using MS Access and Excel. Qualitative data was collected by an experienced researcher, recorded and transcribed into English and then coded manually.

A full description of the data collection methods used, including limitations of each method, is at Annex 8.

3.3 DATA ANALYSIS

Analysis was undertaken only of data collected from the 4 facilities which provided checklist data consistently during the 8 month period between June 2012 and January 2013 (as implementation was phased, the other facilities used participated in the operational research for only a few months). These facilities were BZH, Bankatwa primary health care centre (PHCC), Baijapur HP and Phattepur

SHP and so represent a range of facility types. These are also the only facilities where follow-up surveys of clients were undertaken.

The majority of data analysed are from BZH due to the higher volume of deliveries there compared to at other participating facilities — 75% of all checklists analysed and 63% of all follow-up interviews. For this reason, data from Banke is routinely analysed separately in the rest of this report. The data collected is summarised in Table 4 below.

Table 4: Overview of data collected

	Bheri Zonal Hospital (CEmONC)	Bankatwa PHCC	Baijapur (HP)	Phattepur (SHP)	Control sites
Deliveries by type *Intervention sites: June 2012–January 2013 (monthly averages)* *Controls: Feb-April 2013 (monthly averages)*	3,048 (381)	87 (10.5)	164 (20)	200 (24)	Binuana: 8 Jayespur: 3 Mahadevpuri: 7 Saigoun: 9 Udharapur: 6
Normal deliveries	2,336	84	162	194	All deliveries
Caesarean section	454				
Ventouse/forceps	186	3			
% Checklists by facility					
% of total checklists received	76%	6%	8%	10%	n/a
Number of checklists received*					
June 2012	134	5	4	15	n/a
July 2012	151	5	14	22	n/a
August 2012	154	11	20	21	n/a
September 2012	195	17	23	24	n/a
October 2012	162	13	22	29	n/a
November 2012	155	17	24	19	n/a
December 2012	167	15	20	22	n/a
January 2013	108	19	9	16	n/a
Total	1,226	102	136	159	n/a
Checklists as % total deliveries at each facility (HMIS)**	40%	117%	83%	80%	n/a
Number of women surveyed					
Total	300	46	64	63	98
% of total pop women surveyed	63%	10%	14%	13%	n/a
Counselling type					
Individual	55	4	1	3	
With family and friends	94	42	62	60	
Group	104				
Unknown	47		1		
Median time post-delivery that interview took place	1 day	16 days	15 days	16 days	12 days

* The checklists are dated based on the month of birth of the child as recorded in the job aid.

** A greater number of job aids was received than the number of total deliveries recorded per month for the following facilities: Baijapur (August, September, November), Phattepur (July and October) and Bankatwa (June, August, September, October, November)

*** Number of interviews at each control site: Binuana SHP – 25 interviews, Jayespur HP – 13 interviews, Mahadevpuri SHP – 24 interviews, Saigoun SHP – 25 interviews, Udharapur SHP – 11 interviews

4 RESULTS ON HEALTH WORKER ABILITY TO PROVIDE PNC CHECKS, ADVICE AND DANGER SIGN INFORMATION (OUTCOME 1)

4.1 OVERVIEW

Table 5: Results of implementation of pre-discharge PNC, by facility

	Bheri Zonal Hospital	Bankatwa, Phattepur, Baijapur health facilities
Checklists as % of total deliveries *(indicator 1)*	40% (consistent across all months)	No accurate data available Average figures for % deliveries were >100% of deliveries for many months of the operational research (inaccuracies in HMIS?) Averages over the operational research period were as follows: Bankatwa – 6%, Baijapur – 83%, Phattepur – 80%
Completeness of the checklist –checks *(Indicator 2)*	Health workers consistently record completing most checks on the checklists all months analysed). Perineum and uterine consistency checks are slightly less likely to be recorded by health workers	Health workers consistently record completing most checks on the checklists (all months analysed). Perineum and uterine consistency checks are slightly less likely to be recorded by health workers
Completeness of the checklist – information and danger signs *(Indicator 3)*	Key advice – 75% completed (checklist data) Key danger signs – 72% completed (checklist data) Health workers report on checklists that key advice (cord care, family planning, breastfeeding) and key danger signs (bleeding, headache, cord infection) were not provided for one quarter of all women.	Key advice – 94% completed (checklist data) Key danger signs – 95% completed (checklist data) Key advice and danger signs provided for the vast majority of women at Bankatwa, Baijapur and Phattepur health facilities, according to health worker monitoring on checklists
Profile of mothers on checklist *(Indicator 3)*	Overall, the profile of mothers on the checklists closely matched the profile of women delivering at the facilities in terms of parity, ethnicity, delivery type, and length of stay First time mothers were marginally under-represented in the checklist group compared to the HMIS.	Overall, the profile of mothers on the checklists closely matched the profile of women delivering at the facilities in terms of parity, ethnicity, delivery type and length of stay

4.2 CHECKLISTS AS PERCENTAGE OF ALL DELIVERIES (INDICATOR 1)

At BZH, checklists were completed for around two-fifths of all deliveries each month. This suggests that either a majority of women delivering at Banke did not receive pre-discharge PNC or that the job aid was used inconsistently. Key informants suggested the latter, that pre-discharge PNC is usually provided but that the checklist is not always used, or if it is used it is not completed and submitted for monitoring as staff are simply too busy to complete forms every time (see discussion on 'challenges' below). In many cases the forms which are completed have demographic and other data added at the end of the day rather than during the counselling session.

4.3 COMPLETENESS OF CHECKLISTS (INDICATOR 2)

Where the checklist had been used, it was generally complete at Bankatwa, Phattepur and Baijapur health facilities, while health workers at BZH were more likely to omit some key pieces of advice and information. However in the KIIs health workers described the difficulty of completing forms at the

same time as providing counselling and information so the accuracy of the 'ticks' on the form is questionable.

4.4 PROFILE OF WOMEN ON CHECKLISTS

The profile of women described on the job aids closely matches the overall profile of women delivering at the facility, suggesting that no particular groups (for example, particular ethnic groups, women who already have children, etc.) are marginalised from the PNC process.

4.5 IMPROVED PNC PROCESS (INDICATOR 4)

Table 7 summarises how pre-discharge PNC was provided at the sampled facilities. The KIIs suggested that a pragmatic approach is taken to PNC delivery depending on capacity and workload at the facilities, and by particular day.

For example, BZH is a large facility with strict schedules for discharge compared to the lower level health facilities where there are fewer staff and greater flexibility on the timing of discharge. As a referral facility providing caesarean sections, the profile of women delivering at BZH was also different, with women more likely to experience a complicated delivery and extended length of stay[5]. One significant factor was the higher number of staff at BZH (including the presence of students on the ward), which enables the division of tasks; although staff capacity is stretched in the face of the high number of deliveries. As a result, antenatal care, delivery and PNC tasks were allocated at the start of each shift, while in a smaller facility one or two health workers would perform all functions.

Findings from KIIs related to each component of the PNC model are discussed below:

Counselling and group education on PNC advice and danger sign information

Group Education sessions only took place at BZH, the one site where the volume of deliveries was sufficient to make this approach viable.

The availability of counselling materials varied by facility, with some respondents using existing materials and others requesting *"a flipchart with pictures" (R2)* as none were available at their site. Instead, the checklist formed the basis of counselling for health workers. Interestingly the client leaflet, the main source of information for women and their families once they return home, was not referenced as a guide for counselling by any of the KIIs.

Counselling with family and companions present was the norm at all facilities and BZH was the only place where counselling was sometimes provided to women alone. The KIIs noted that family members often asked questions during Group Education sessions about caring for the woman at home and that:

> *"Involvement of family members has improved counselling" (R6).*

The level of Group Education sessions at BZH appears to have doubled since the baseline was carried out between December 2011 and February 2012 (although the number of women interviewed at the baseline was very low), rising to two fifths of all women. The KIIs suggested that Group Education sessions are more likely on busy days when staff are particularly time constrained, although

[5] Length of stay was defined by date of birth of the child compared to date of completion of the job aid. This assumes that the job aid was completed at discharge.

individual counselling always occurs if a woman has experienced complications and requires targeted advice.

For every shift, specific staff were allocated to PNC tasks at BZH, but Group Education sessions were not the remit of any one individual within the PNC team:

> *"One separate staff member should be designated in PNC counselling, It makes her feel more responsible as well as less workload. Then she can give more time and make it more understandable for the mothers". (R4, BZH)*

The paper-based checklist

All key informants stated that the checklist helped them provide better quality counselling through structuring and systematising the delivery of PNC, ensuring important information was not left out. Even now that the operational research is over and most facilities have run out of checklists, staff continue to follow the checklist structure for counselling, reporting a change of practice as a result of using the checklist for the period of the operational research:

> *"We had to complete the checklist so we did it. It made us habitual followers of the checklist." (R5)*

However, the comprehensive, *'Complete package' (R3)* that health workers praised has resulted in a checklist that is long and time-consuming to administer in an already busy work environment. Time remains the main barrier identified by health workers to providing pre-discharge information, particularly in terms of completing and submitting the information on the checklist.

Leaflet

The KIIs did not discuss the leaflet, which is distributed to all women at discharge. It is unclear how the information provided during counselling aligns to the leaflet and no health workers mentioned using the leaflet as a counselling tool.

4.6 CHALLENGES TO PROVIDING PNC

The challenges identified by the smaller non-hospital health facilities were slightly different to those described by the KIIs at BZH; but they shared the following common themes.

Time pressure:

- At BZH, sometimes 20-25 patients are discharged at once so health workers skip vital signs monitoring unless there are students on the ward who can take temperatures and blood pressure.
- Time pressure affects the quality of counselling (individual and group information sessions) because there is no time to check whether women have really understood counselling messages.

Language difficulties:

- Language is a problem especially for women from ethnic groups (including Janajatis)
- BZH sometimes provides information by language group to either Nepali or Hindi first language speakers.

- Health workers reported that mothers from the Terai (southern plains) did not speak Nepali well, which is a problem because not all health workers speak Hindi (which the women understand).
- For illiterate women, messages had to be repeated; but there is not always time for this. The KIIs said that women may be unable to recall information because it is not repeated enough.

Lack of engagement of family members and companions:

- Health workers reported that not all women and families paid attention. Mothers and families were also in a hurry to get home. Also, women who were on their second and third child had already heard the messages and so didn't think they needed to hear it again:

  "Mother in law says, 'we delivered in the jungle, why do you need to check all those things.'" (R1, SHP)

District officials described how, prior to the introduction of the operational research, PNC had become a marginalised component of maternity service delivery. They acknowledged that strengthening PNC provision has required a change in established ways of working; yet in the KIIs no resistance was reported by front line service providers. While acknowledging more time pressure as a result of the introduction of PNC, health workers appreciated the support to provide more comprehensive care:

"[we are] Proud that we provided complete information" (R8).

"There is a lack of time and human resources, [but] otherwise it is not a burden" (R4).

[The checklist is long but the content is], "a must" (R7).

Health workers generally reported that the provision of PNC is stronger as a result of the new process.

5 *RESULTS ON IMPROVED ABILITY OF WOMEN TO RECALL HEALTH INFORMATION AND DANGER SIGNS (OUTCOME 2)*

5.1 OVERVIEW — RECALL OF CHECKS, ADVICE AND DANGER SIGN INFORMATION

In the context of this operational research, 'quality' pre-discharge PNC is defined as PNC that supports women to retain important PNC advice and danger sign information, and relay this knowledge to researchers post-counselling. As discussed above, it is possible that women who delivered at Bankatwa, Phattepur and Baijapur health facilities could have received the information from other sources as they were interviewed around 14 days after delivery, compared to an average of 2 days for women at BZH. It was therefore hypothesised that women delivering at BZH would have higher levels of recall as they were interviewed within only a few hours of receiving counselling. It was also hypothesised that women delivering at intervention sites would exhibit higher levels of recall than women delivering at control facilities.

The recall of checks, advice and information is presented in Figures 2 and 3 and Table 6 by intervention site and control sites (aggregated data is given as the numbers at each control site were very small). These show the above hypotheses to be incorrect.

When the proportions of women reporting checks or retaining advice or danger sign information at the intervention and control HPs and SHPs are presented alongside each other, all HPs and SHPs follow a similar pattern for nearly all items, with the exception of family planning (see Figure 2). This suggests that the operational research had little or no effect on retention by women delivering at HPs and SHPs that participated in the study. Indeed knowledge of cord care and bleeding as a danger sign were higher at control sites than at the intervention sites.

Figure 2: Percentage of women reporting pre-discharge checks, advice and danger sign information by facility and facility type at health posts and sub-health posts

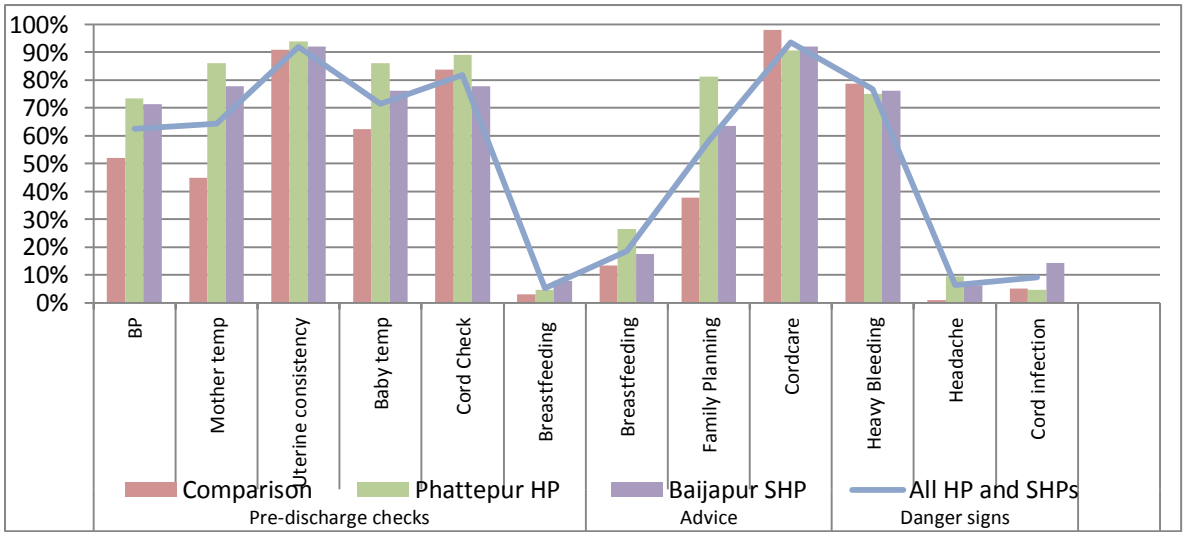
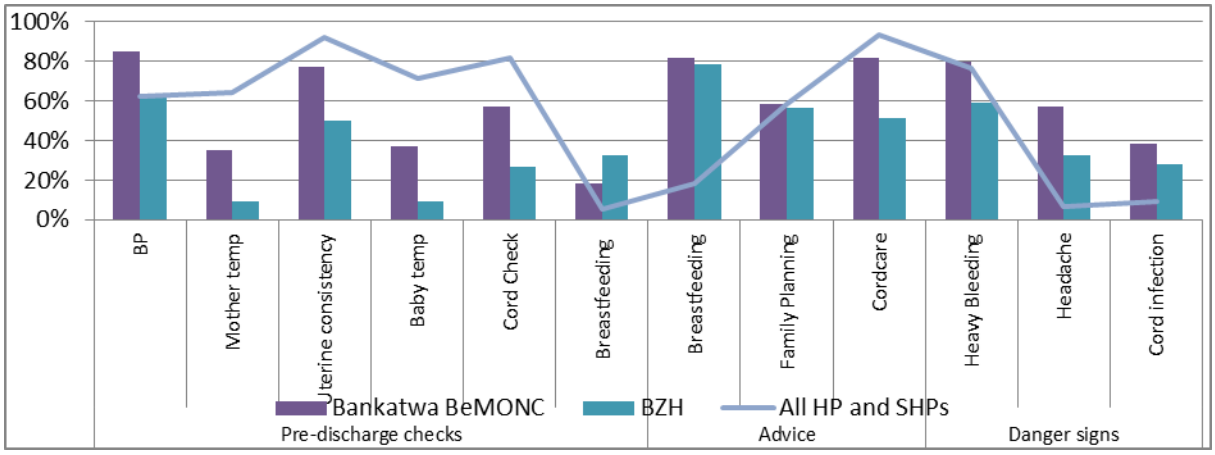


Figure 3 shows the proportion of women reporting checks and retaining advice or danger sign information at BZH and Bankatwa PHCC. The findings here exhibit a very different pattern, suggesting greater similarity between all control and intervention HPs and SHPs than between all intervention sites compared to control sites. In the absence of any hospital level comparator, there

is no baseline against which to measure improved advice and danger sign knowledge among women who delivered at BZH and Bankatwa PHCC.

Figure 3: Percentage of women reporting pre-discharge checks, advice and danger sign information by facility and facility type on BeMONC and CeMONC



While overall the effect of the intervention on recall of advice and information by women was low, a few individual items on the checklist were exceptions including recall of three or more key pieces of advice and receipt of family planning information. A full list of recall results for all checks, advice and danger sign information contained on the checklist is given at Annex 6 together with a chart showing differences between the recall of women and reported checks, advice and information provided by health workers (Annex 6).

5.2 RECALL OF PNC PHYSICAL CHECKS

The reporting of vital signs was higher at intervention sites, which is interesting as health workers reported that these checks were often not performed when staff are under pressure (despite these checks being reported on over 90% of job aids collected – which brings into question the accuracy of information provided on job aids, which were often completed at the end of a shift and not when the actual checks and information were being given) (Table 6).

At BZH, it was reported by key informants that checks were more likely to take place when there were students on the ward as these are tasks that can be easily delegated. However, students were not generally providing counselling so would not have been responsible for completing the checklists.

In general women were less likely to recall checks on their babies than on themselves (perhaps women were not always present when checks were undertaken or did not know what checks were being done).

Table 6: Recall of key checks, advice and danger sign information by facility

		Control average	BZH	Bankatwa	Phattepur	Baijapur
Indicator 5:	% women reported receiving the following checks:	45%	8%	13%	86%	78%
	• Blood pressure	96%	39%	89%	91%	94%
	• Uterine consistency	91%	32%	83%	94%	92%
Indicator 6:	% of women reported receiving:					
	• family planning advice	38%	36%	78%	81%	63%

	• cord care advice	98%	32%	76%	91%	92%
	• breastfeeding advice	91%	50%	85%	94%	95%
Indicator 7:	% of women reported receiving all 3 key pieces of advice	36%	38%	54%	75%	57%
Indicator 8:	% of women reported receiving the following danger sign information:					
	• headaches	17%	21%	63%	34%	22%
	• bleeding	85%	37%	87%	88%	90%
	• cord infection	50%	23%	50%	59%	44%

In terms of whether the descriptions of physical checks used during interviews with women were appropriate for validating job aid information, no clear conclusions can be made as no alternative questions were tested. Nevertheless, it was clear that the descriptive question for asking about bleeding ("look at private parts") was confusing. The instruction that health workers report heaviness of bleeding on job aids based upon saturation of pads also proved difficult for health workers to implement due to the reluctance of women to discuss bleeding and present pads.

5.3 RECALL OF PNC ADVICE AND DANGER SIGN INFORMATION

The proportion of women reporting that they had received the three key pieces of advice (family planning, breastfeeding and cord care) was considerably higher among women at intervention HPs and SHPs than among the women at the control sites. The exception in this positive picture was BZH, where nearly one third of women interviewed did not report receiving information about *any* of the key items (family planning, breastfeeding or cord care). A similar pattern emerged in terms of danger signs where most women were able to name 9 of the 18 danger signs on the checklist, but in BZH less than 60% of the women could do this.

In general, women delivering at all facilities were less likely to recall the danger signs than the PNC advice, with recall of some signs such as headache being particularly low (even though headache remains an important indicator of pregnancy-induced hypertension). Cord care is also interesting in that, while the women appear to have retained a high level of information about how to care for the cord appropriately, fewer than 50% of women were aware of the cord danger signs.

Few women from either the control or intervention sites identified attendance of follow-up PNC as advice they had received. Likewise the proportion identifying attending for immunisation was also low at some facilities, particularly Bankatwa where no women mentioned PNC (in spite of the uptake of the Expanded Programme of Immunisation [EPI] being known to be generally high). Follow-up to these services is important in terms of continuum of care and post-partum uptake of family planning.

However, receipt of family planning information was recalled by twice as many women at intervention sites than at the control sites. The difference in family planning information is a significant finding and needs to be explored in more detail (see discussion in Chapter 6), particularly in terms of implications for the continuum of care.

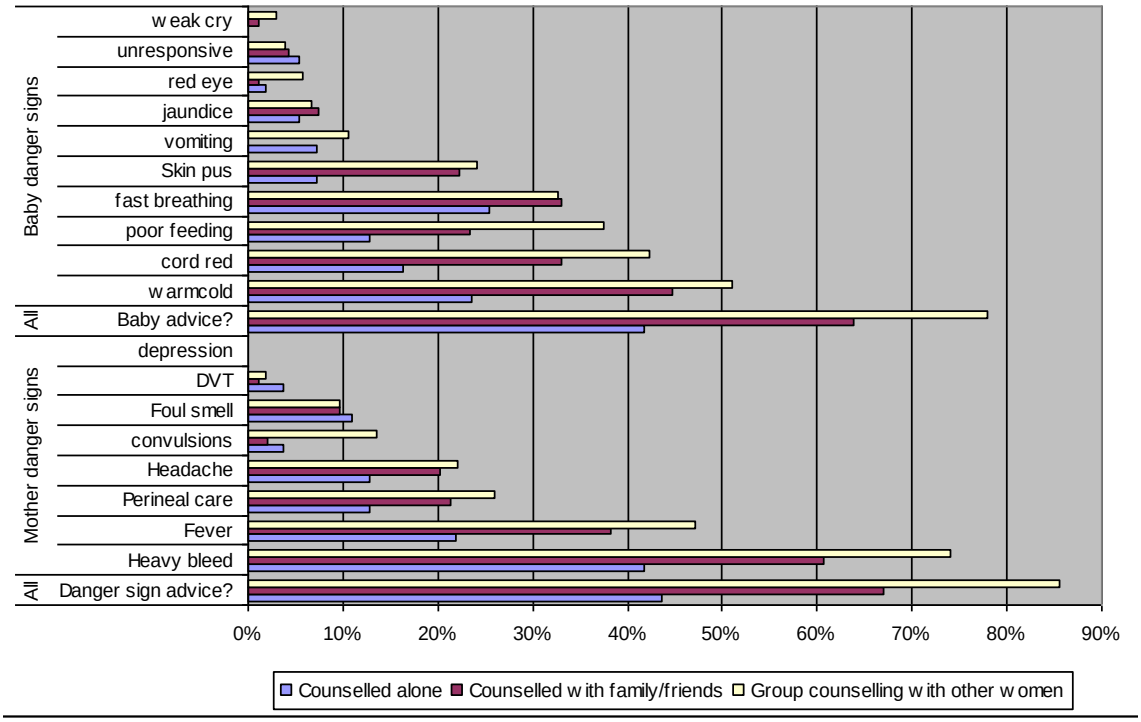
Advice and danger sign responses were then further analysed to identify any differences in recall according to characteristics of the woman such as number of previous children and their age.

When analysed by parity it was found that cord care advice, breastfeeding advice and all danger sign information was up to 15 percentage points lower at all sites among women who had just delivered their first or second child compared to women who had delivered their third, although interestingly

there was very little difference with regard to family planning. This is important in understanding why recall for all advice and danger sign information was so much lower at BZH which had approximately 50% more first time mothers among its population than the other intervention sites.

The data was also analysed against factors related to how PNC was provided at the facilities including on the health professional that provided the information, the type of counselling received and the length of time after giving birth that counselling was provided. No difference was identified in recall according to health care provider (although this was very poorly coded), time of day or length of stay. However, recall of PNC advice and danger sign information was considerably higher among women who delivered at BZH and received *group education* than among women who delivered at BZH and received *individual counselling*. The difference can be seen in Figure 4, with recall among women who were given education in groups nearly double that of women counselled alone.

Figure 4: Advice recalled according to type of counselling received (individual counselling n=55, with family and friends n = 94, with other women in groups n=104)



5.4 RECALL OF IMPORTANT ADVICE AND DANGER SIGN MESSAGES (INDICATOR 9)

As a guide to indicate the quality of counselling the women were questioned to assess whether they had understood the advice and danger sign information they had been given. See Annex 6 for findings. They were asked to recall:

- two pieces of advice provided (family planning messages and cord care information); and
- three pieces of danger sign information (heavy bleeding, headache and cord infection).

No women who reported receiving this advice, recalled messages that were factually incorrect, leading to the conclusion that, when women can recall being given information, their ability to accurately recall the content of messages is high. This suggests that, if the quality of counselling and

group education provision can be strengthened, it is possible to have a positive effect on women's knowledge of advice and danger sign messages.

Accurate recall of family planning messages was also high, despite some health workers interviewed stated that they did not feel family planning advice is useful information to be provided at PNC and that they would prefer this to be discussed at the baby's first immunisation meeting. Full details of messages recalled by women can be found at Annex 10.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 EFFECTIVENESS

This operational research did not find evidence of greater recall of advice and danger sign information among women who delivered at intervention sites compared to control sites for most recall items (the notable exception was family planning advice). However, the interventions were found to have bolstered the PNC process at participating facilities from the perspective of health workers by supporting them to provide more systematic and comprehensive PNC counselling. Concerns that the reluctance of staff to implement new ways of working might prevent the successful introduction of a new PNC process appear to have been unwarranted despite the time pressures that health workers face due to the large volume of work they have to manage. One solution to this time challenge — the delivery of group education sessions rather than individual counselling — is already being implemented at BZH and appears to be improving the quality of recall.

Four of the primary ways this operational research was effective or generated learning are discussed below:

i. Staff support for strengthened PNC: A negative reaction from staff to strengthened PNC was a recognised acknowledged risk with this operational research, as per experiences from other countries such as Swaziland where, despite investing in training around new PNC procedures, staff reluctance to change established ways of working was a barrier to revising pre-discharge procedures (Mazia et al 2004). However, in this operational research, the findings from the health worker KIIs suggest that most health staff were supportive of change and appreciated that, while providing the PNC advice and information detailed in checklists takes time, the delivery of quality pre-discharge PNC is something to take pride in and will improve the health of women and newborns once they return home.

District managers also provided high level support for the operational research. It could also be significant that an NHSSP researcher attended facilities very regularly to collect checklists and in the case of BZH to undertake exit interviews. This may have helped maintain a focus on the operational research among health workers.

ii. Group Education sessions are linked to greater recall of advice and danger sign information among women: Group Education was provided to 41% of women delivering at BZH. Women who received information in a group with other women prior to discharge had a greater recall of important PNC advice and danger signs than women who received individual counselling.

This finding is not inconsistent with peer reviewed evidence that providing information to women in groups can strengthen recall and improve postnatal and neonatal outcomes. The delivery of information through women's groups (that provide a supportive environment for exploring care strategies and solutions) has been shown to improve neonatal outcomes in Nepal and India, reducing neonatal mortality by up to 30% (Morrison et al. 2005, Tripathy et al. 2010). Bolam et al. 1998 also uncovered that the individual health education of postnatal mothers in Nepal had no impact on postnatal care practices. Interestingly, the exception in the 1998 paper was family planning, which it concluded may be slightly enhanced by both group and individual counselling, again reflecting the findings from the current operational research.

Based on this finding, facility group information sessions, rather than being considered a 'second best' option for times when the ward is too busy for individual sessions, could be promoted as best practice in sufficiently large facilities and some resources invested to strengthen this approach further (for example through facilitation training and by developing specific materials).

A group approach could be promoted not only within health facilities but also in communities. Further consultations are needed to explore how existing community mechanisms can mobilise women to engage in preventive practices and support each other to recognise danger signs post-partum.

iii Recall of family planning messages was higher at intervention facilities: The recall of family planning messages was higher among women who delivered at intervention sites than control sites; but more investigation is needed to isolate the element of the pre-discharge PNC package which supported this change. This is a common problem with this kind of mixed approach intervention (USAID 2000; Ndoye 2004). Refresher training provided as part of the orientation for the operational research could also have had some effect. It is not possible to attribute change directly to the interventions as other local family planning programmes may have been running concurrently, or indeed local health workers may have received training during the course of the operational research which impacted service delivery (further investigation is needed around this).

Even if the interventions only contributed to change, family planning must be an integral component of any PNC strengthening programme; so this opportunity to direct women towards family planning services is not lost. The integration of family planning into pre-discharge information can be provided with modest resources and is already included in Nepal's standard recommended approach for maternal and newborn health care. Evidence suggests that it is never too early to talk about family planning. An integrated approach to maternal and child health and family planning in India delivers family planning messages to clients even during pregnancy, using job aids as a means to achieve consistency of messaging (Ringheim et al. 2011).

iv. The use of checklists strengthened health worker capacity to provide comprehensive, systematic health advice and danger sign information. Key informants described how the checklists supported health workers to provide comprehensive, systematic advice and danger sign information, thus improving the content of group information and individual counselling at the participating facilities. The operational research therefore used the checklist in a classic scenario – i.e. where there is a lot of information to be provided but little time for training. Health workers reported that this made them more satisfied with their work:

Evidence supports the finding that, where job aids are of good quality, an appropriate tool can increase job satisfaction, reduce staff attrition rates and elevate status in the community (BBC Media Action 2013).

So, in the context of this operational research, this checklist job aid successfully increased the confidence of providers (which can be linked to improved quality of care), but this was not matched with a rise in recall of advice and danger signs in communities. It is not unusual for job aids to improve quality of counselling, but not necessarily outcomes (Jennings et al. 2010). A study in Lesotho where job aids were used in *conjunction with training manuals* and *an information leaflet* improved PNC to similar effect with a rise in the proportion of new mothers receiving check-ups after delivery (Warren et al. 2008). It also found that gaps in knowledge remained.

The operational research also identified three main barriers to providing institutional pre-discharge PNC:

- language difficulties;
- lack of time; and
- low levels of family support for the PNC counselling process.

All of these were found to contribute to a disjoint between the advice and danger sign information that health workers say they provide and the information women say they receive. While lack of available time was recognised as a risk to implementation from the outset, the issues of language and family support were not directly addressed in the design of this research. These would need to be considered if this initiative were to be scaled up.

It is interesting that the patient leaflet — a key component of the operational research design and the primary mechanism for reinforcing PNC messages delivered pre-discharge — did not feature in feedback from key informants. It also did not appear to be used as a communication tool either during individual counselling or group information sessions.

6.2 RECOMMENDATIONS

If this PNC initiative is to be scaled up across Nepal, a key message from this research is that **pre-discharge PNC needs to be integrated within a broader framework for strengthening PNC;** a framework which considers:

- pre and post discharge access to PNC through health workers or volunteers;
- how messages can be reinforced in communities; and
- the monitoring of PNC provision including the quality of PNC.

A second important message is that **mothers and their families should be at the centre of any campaign**, which must be developed around their language and communication needs, the needs of the communities they live in and how that community supports PNC.

The checklist was the primary tool created for this operational research and as such became the main method of communicating information to mothers and their families. But while the checklist was convenient and liked by health workers, it was found not to support the improved recall of information by women.

In health facilities, women are currently not exposed to PNC messages and symbols that are matched by consistent messages and symbols in their communities. So any final tools that are rolled out, such as checklists or counselling aids, need to face the double challenge of:

- supporting health workers (or else health workers will not use them); *and*
- being accessible to women in terms of both content and presentation (or women and their families will not engage with them and retain information).

Some specific recommendations that could feed into a PNC framework for scale-up are as follows:

1. The reach of pre-discharge PNC messages should be widened so that **pre-discharge PNC messages are reinforced in women's communities.** The three components of this operational research were the checklist, counselling and the patient leaflet. It is recommended that for scale-up the model is broadened to incorporate a wider range of materials that can be accessed from female community health volunteers (FCHVs) and other stakeholders (e.g. community

based organisations that work in the communities) or by mainstreaming PNC posters alongside nutrition and other posters commonly found in health centres so that messages delivered in health facilities are reinforced once women return home. All materials should be aligned in terms of messaging and design (pictures, branding, etc.). There is evidence that recall of information increases when supplementary measures are included to help women retain information, such as the engagement of community workers and media campaigns (Ndoye et al. 2004). There are opportunities to create a conversation in communities about PNC related issues such as how women's groups and other mechanisms can be mobilised to consolidate messages to women and their families and the effect of social norms around accessing care immediately after birth on maternal morbidity and neonatal mortality.

2. Are there **opportunities for task shifting both to reduce pressure on hospital wards and reinforce messages in communities?** There is evidence that pictorial job aids provide an opportunity to enable less skilled nurses to provide better PNC (Jennings et al. 2011 and Jacob et al. 2002). In BZH, there are students on the ward; but could a cadre of volunteers be used for this role with support and oversight from regular staff? Could similar training be provided to community volunteers to reinforce messages, either in communities through women's groups or in the home among communities where cultural taboos exist that prevent women from leaving their homes in the first weeks after giving birth?
3. Follow-up PNC in the home is essential, particularly for women who are unable to leave the house in the period following birth. **The potential for visits by a lay person to provide essential newborn care information should be explored** which is in line with current best practice. Community based care with home visits and counselling of mothers during pregnancy and the early post-natal period has proved effective in reducing perinatal, newborn and maternal mortalities (Lewycka et al 2013). This must be closely aligned to the messages provided pre-discharge, using the same or similar materials so women become familiar with messages and symbols. In addition, a systematic review of community based newborn care found a 27% reduction in newborn mortality could be achieved in a resource limited setting through timely home visits by lay community health workers, but only if visits took place within one day (a 67% reduction in mortality) or two days following birth (64% reduction). The benefit increases with coverage of the programme; higher coverage (>50%) is essential to achieving meaningful reduction in newborn mortality (Gogia et al, 2011).
4. **Group Education sessions should be promoted** at facilities where there are sufficient births to make this approach feasible. The quality of counselling provided by health workers is not clearly understood and a needs assessment should be undertaken to enable targeted refresher training at participating institutions as well as training in facilitation skills (focusing on techniques for managing groups and reinforcing messages, as well as content) and the provision of flipcharts or cards as the PNC messages currently provided are not consistent across participating institutions. Standard, quality assured training tools and materials should be provided as the style of information that supports health workers to provide education will not be the same as the style of information that women need in order to retain messages. Aids should be pictorial, supporting understanding by women who do not have Nepali as their first language. There is evidence of largely pictorial job aids strengthening communication by health providers, but only when combined with training (Jennings et al. 2010). Therefore training of health workers to support counselling must form part of the model.

5. **Branding of PNC information should be aligned across the tools used by health workers, materials received by women and other PNC materials women could access in their communities.**
6. The **on-going requirement for a checklist as a tool should be reconsidered**. Health workers clearly like the checklist, which is a reason to retain it. It includes reminders around PNC checks which are required prior to counselling. Continued use of a checklist may be most appropriate if it is also useful as an on-going monitoring tool for the delivery of PNC more generally — perhaps retained within patients' records as evidence that PNC took place?
7. Pre-delivery PNC should retain a **focus on the first 6-24 hours** post-partum as many women are discharged within 6 hours post-partum so information related to danger signs during the first 24 hours must be central in the design. Materials need to consider the needs of women who are discharged at different times. This is a challenge, if materials are to be as concise as possible.
8. Officials in Banke district were eager to create a quality standard for PNC and **indicators for monitoring of the level of PNC provision including PNC quality should be explored.** There is no indicator for PNC checks currently in the Health Management Information System (HMIS) and there is no consistent measure of PNC globally (although a lot of work is underway around this issue). Potential standards or indicators might include:
    a. *The number of health workers and number of volunteers trained in PNC* (% health worker on maternity ward, refresher training received).
    b. *Having a champion of PNC identified in each facility,* who will be responsible for PNC provision and reporting. This could be a health worker or someone from the HFOMC who is responsible for roll out in their community.
    c. *The number of women who receive PNC checks post-partum and women who receive PNC counselling post-partum.* Including number of women who attend individual counselling or group education sessions (not currently recorded in the patient record). Could the checklist be attached to the record to avoid additional form filling? How to assess the quality of PNC received?
    d. *The number of health facilities routinely providing information prior to discharge* (included in Aama rapid assessment).
    e. *The number/proportion of health facilities with stocks of comprehensive IEC materials* (for distribution to women and materials for health workers to use for IEC).
    f. *The number of women who receive PNC materials prior to discharge.*
    g. *The number of women who attend follow-up PNC* – Women do not necessarily attend for FP at facilities where they deliver, so measuring this will be difficult (and even within BZH, women attend a different out-patient department clinic, so details of such visits will be on separate registers).
    h. *Number of attendances within 6 weeks post-partum* – This is recorded routinely at all facilities.

    If the model is scaled-up, then it would be important to extend any monitoring framework to incorporate outcome measures.
9. Pre-discharge **counselling on family planning** is an opportunity to plug women into the continuum of care, especially as the operational research suggests that where family planning advice is given the quality of recall of key family planning messages is good. There are also

opportunities to reinforce messages at PNC+7 days, immunisations and other contacts with the health system. There is a natural convergence here with the Expanded Programme of Immunisation (EPI) and family planning operational research undertaken in Kalikot district, which have been investigating the potential to integrate family planning into EPI services.

10. With support from health workers and community volunteers, women and families need to be able to act on PNC danger signs. Here strengthened post-partum referral systems are needed **to link community based PNC interventions to health facilities**. Referral systems must be understood by and accessible to local communities so that women and newborns are able to access life-saving care.

6.3 CONCLUSIONS

This operational research has explored the challenges associated with reintroducing what should be a routine part of pre-discharge care and has, through use of the checklist job aid, started to make the systematic provision of PNC routine again in participating health facilities. This was found to be most effective at large facilities where the volume of births is high (a full needs assessment would be required before deciding to scale-up at health post or sub-health post level).

Overall, health workers were very supportive of the checklist and supported the need for more structured delivery of PNC advice and danger sign information, although the length of the checklist would need to be reviewed before rolling out to other large facilities. The clear gap in PNC information and advice identified among women who gave birth in hospitals suggests that any scale-up must focus on the quality information provided and how that can be assured as well as the mechanism for delivering advice.

Crucially many women do not leave the home during the weeks following birth, so poor PNC attendance following discharge is not surprising:

> *"Mothers will not leave the house due to the tradition of Kawaz Malam, which prevents women from attending PNC outside of the home in the first weeks after delivery" (R2)*

This makes the provision of quality PNC advice and information within facilities prior to discharge all the more important as it may represent the only opportunity to reach women and their families with essential PNC information during the crucial first weeks post-delivery. The potential to create community or home based opportunities for accessing PNC advice and information which strengthen the messages provided in hospital requires further investigation.

REFERENCES

Bang RA, Bang AT, Reddy MH, Deshmukh MD, Baitule SB, Filippi V. Maternal morbidity during labour and the puerperium in rural homes and the need for medical attention: A prospective observational study in Gadchiroli, India. BJOG. 2004 Mar; 111(3):231-8. PubMed PMID: 14961884.

Bashour, H., Kharouf, M., Abdulsalam, A., El-Asmar, K., Tabaa, M., & Cheikha, S. (2008) Effect of postnatal home visits on maternal/infant outcomes in Syria: a randomised controlled trial. Public Health Nursing, Volume 25 (2) pp.115-125.

BBC Media Action, MacPherson Y and Chamberlain S (2013). Health on the Move: Can Mobile Phones Save Lives? Policy Briefing; BBC Media Action.

Bolam A, Manandhar DS, Shrestha P, Ellis M, Costello AM. (1998) The effects of postnatal health education for mothers on infant care and family planning practices in Nepal: A randomised controlled trial. British Medical Journal. 14 March 14 1998; 316(7134): 805-11.

Campbell OM, Graham WJ. (2006) Strategies for reducing maternal mortality: getting on with what works. The Lancet. 368 (9543), 1284–1299.

Darmstadt et al. (2005) Evidence-based, cost-effective interventions: How many new-born babies can we save? The Lancet, 365: pp. 977-88.

Darmstadt GL, Baqui A, Choi Y, Bari S, Rahman S, Mannan I et al. (2009). Validation of community health workers' assessment of neonatal illness in rural Bangladesh. Bulletin of the WHO 12-19DoHS, New ERA, Macro International Inc (1997) Nepal Demographic and Health Survey 1996. Calverton: Macro International Inc.

Gogia, S. et al (2011) Community based new born care: A systematic review and meta-analysis of evidence: UNICEF-PHFI series on new born and child health, India. Indian pediatrics, July 2011. Available at http://indianpediatrics.net/july2011/537.pdf

Graham WJ, Cairns J, Bhattacharya S, et al. Maternal and Perinatal Conditions. In: Jamison DT, Breman JG, Measham AR, et al., editors. Disease Control Priorities in Developing Countries. 2nd edition. Washington (DC): World Bank; 2006. Chapter 26. Available from: http://www.ncbi.nlm.nih.gov/books/NBK11742/

Gurung et al. (2007) Pelvic organ prolapse in rural Nepalese women of reproductive age groups: what makes it so common? Nepal Journal of Obstetrics and Gynaecology, 2(2): 35-41.

Harvey S, Jennings L, Chinyama M, Masaninga F, Mullholland K and Bell D (2008). Improving Community Health Worker Use in Malaria Rapid Diagnostic Tests in Zambia: Package Instructions, Job Aids and Job aid-plus-training. Malaria Journal 7:160Hogan MC, et al. (2010) Maternal mortality for 181 countries, 1980—2008: A systematic analysis of progress towards Millennium Development Goal 5. The Lancet, Volume 375, Issue 9726, Pages 1609 - 1623, 8 May 2010.

Hurt L, Alam N, Dieltiens G, Aktar N, Ronsmans C (2008) Duration and magnitude of mortality after pregnancy in rural Bangladesh. International Journal of Epidemiology (37), pp.397-404.

Hussein J, Bell J, Dar Iang M, Mesko N, Amery J, et al. (2011) An Appraisal of the Maternal Mortality Decline in Nepal. PLoS ONE 6(5): e19898. doi:10.1371/journal.pone.0019898

Jacob E, Brambila C and Venon R. (2002) Reproductive Health Care in the Postnatal Period in Guatemala. USAID

Jennings L, Yebadokpo A, Affo J and Agbogbe M (2010). Antenatal counselling in maternal and newborn care: use of job aids to improve health worker performance and maternal understanding in Benin. BMC Pregnancy and Childbirth 10:75

Khan M, Mishra A, Sharma V, Varkey L. (2008). Development of a Quality Assurance Procedure for Reproductive Health Services for District Public Health Systems: Implementation and Scale-up in the State of Gujarat. Population Council and UNFPA

Lawn JE, Cousens S, Zupan J; Lancet Neonatal Survival Steering Team (2005) 4 million neonatal death: When? Where? Why? The Lancet Mar 5-11; 365(9462):891-900

Lewycka S et al (2013) Effect of women's groups and volunteer peer counselling on rates of mortality, morbidity and health behaviours in mothers and children in rural Malawi: a factorial, cluster-randomised controlled trial. *The Lancet* - 18 May 2013 (Vol. 381, Issue 9879, Pages 1721-1735)

Li XF, Fortney JA, Kotelchuck M, Glover LH (1996) The postpartum period: the key to maternal mortality. International Journal of Gynecology and Obstetrics (54), pp. 1-10.

Macro International (2011) Preliminary findings of Nepal Demographic and Health Survey 2011.

Mazia G, Narayanan I, Warren C, Mahdi M, Chibuye P, Walligo A, Mabuza P, Shongwe R, Hainsworth M (2009). *Integrating quality postnatal care in to PMTCT in Swaziland*. Global Public Health: An International Journal for Research, Policy and Practice, 4:3. 253-270, DOI: 10.1080/17441690902769669

MoH, New ERA, ORC Macro (2002) Nepal Demographic and Health Survey 2001. Kathmandu: Ministry of Health.

MoHP (2010) Nepal Health Sector Programme – Implementation Plan II, 2010-2015. Ministry of Health and Population.

MoHP, New ERA, Macro International Inc (2007) Nepal Demographic and Health Survey 2006. Kathmandu: Ministry of Health and Population.

Morrison J, Tamang S, Mesko N, Osrin D, Shrestha B, Manandhar M, Manandhar D, Standing H and Costello A (2005) Women's health groups to improve perinatal care in rural Nepal *BMC Pregnancy and Childbirth* 2005, **5**:6 doi:10.1186/1471-2393-5-

Ndoye A, Fall M, Mboup B, Narayanan I, Thiam A, Plowman B, Rose M, Barry H, Sarr C, Toure S, Sow M, Diop B and Cisse M. 2004. Newborn Health Interventions in Senegal: The Early Implementation Phase. Senegal and Arlington, VA: MOH (Senegal), and BASICS II for the United States Agency for International Development.

Partapuri T (2009). Job Aids for Immunization. IMMUNIZATION basics and USAID.

Pradhan et al. (2010) Nepal Maternal Mortality and Morbidity Study 2008/2009. Family Health Division, Department of Health Services, Ministry of Health and Population, Government of Nepal, Kathmandu.

Quiterio et al. (2007) Dominican Republic: diagnostic study of postpartum, post-abortion and PMTCT contraceptive services. FRONTIERS final report. Washington DC: Population Council.

Ringheim K, Gribble J and Foreman M. (2011). Integrating Family Planning And Maternal and Child Health Care: Saving Lives Money and Time. Population Reference Bureau; Policy Brief.

Rivero-Fuentes et al. (2007) Haiti: situational analysis of the use of contraception in postpartum, post-abortion and PMTCT contraceptive services, FRONTIERS final report. Washington DC: Population Council.

Tripathy P, Nair N, Barnett S, Mahapatra R, Borghi J, Rath S, Rath S, Gope R, Mahto D, Sinha R, Laksmaniarayana R, Patel V, Pagel C, Prost A, Costello, A (2010) Effect of a participatory intervention with women's groups on birth outcomes and maternal depression in Jharkhand and Orissa, India: a cluster-randomised controlled trial. The Lancet - 3 April 2010 (Vol. 375, Issue 9721, Pages 1182-1192) DOI: 10.1016/S0140-6736(09)62042-0

UNICEF (2009) The State of the World's Children 2008. Available at http://www.unicef.org/sowc08/report/report.php

USAID (2000) The Use of Manual Job Aids by Health Care Providers: What Do We Know? Quality Assurance Issue Paper. USAID. Vol. 1.

Warren C, Phafoli S, Majara B and Tsukulu R (2008). Extending Prevention of Mother-To-Child Transmission Through Postpartum Family Planning in Lesotho. USAID and Population Council

ANNEXES

ANNEX 1: MNCH JOB AIDS AVAILABLE IN NEPAL

List of MNCH Job Aids currently available in Nepal:

- NFHP PNC job aid (JA)
- Nepal Medical Guidelines (MS)
- CB-NCP Guidelines (CB-NCP)
- UK NICE Guidelines
- USAID pre-discharge PNC Guidelines and associated supervisory and evaluation checklists for managing the third stage of labour and the postpartum period (http://pdf.usaid.gov/pdf_docs/PNADN147.pdf)
- POPPHI. Integrating active management of the third stage of labor (AMTSL) and immediate postnatal care: A Reference Manual for Health Care Providers. Seattle: PATH; 2009.
- UNICEF 'Baby Friendly Initiative' pre-discharge hospital checklist (focusing on child feeding)

ANNEX 2: LIST OF EXPERTS WHO SUPPORTED THE DESIGN PROCESS.

- Dr Senendra Raj Upreti – Director, FHD
- Dr Shilu Aryal, RH Coordinator, FHD
- Dr Meera Thapa, Sr Consultant OB/GYN, director at Nepal Family planning training centre, Chetrapatti (current WHO consultant)
- Dr Ganga Shakya, MNH advisor, NHSSP
- Dr Sushil Baral, ED, HERD
- Ms Yesoda Ghimire, SN/ Researcher, HERD
- Dr Maureen Dariang, EHCS advisor, NHSSP
- Ms Kamala Shrestha, MNCH specialist, NHSSP
- Mr Jewan Kumar Malla
- Mr Angat Shahi
- Jagannath Bista, Field coordinator, NHSSP/Banke

ANNEX 3: CHECKLIST

POST-NATAL CARE JOB-AID

Background

This job aid will guide you with doing physical checks on mothers and babies and providing new mothers with information on post-natal care (PNC) and danger signs, to ensure early detection and treatment of any complications.

This job aid will also be used as monitoring tool to test whether the new PNC procedures are working or not.

Instructions

- Tick all the boxes when you have done a check or provided information.
- It is important to complete all the boxes ☐ which are included in the document.
- Begin by completing the details about the women.
- If you provide individual counselling, continue on this form after the checks and complete this form.
- If you provide group counselling after you have completed physical check-up, please complete the separate form provided to you.

When you have completed filling the job-aid, please put it in the box as agreed with NHSSP.

ID number: _____ (to be filled by NHSSP staff)

Registration Number: _____

Name of the woman: _____

Age of the woman: _____

No. of previous children: _____

Date of birth of the Child: _____Time of birth _____

Type of Delivery:	Normal	Vacuum
(put a circle around whichever is correct)	Caesarean Section	Forceps
		Other (specify)_____

Position of person who did the check	Nurse-in-charge	ANM
(put a circle around whichever is correct)	Staff Nurse	OJT

Date when check done: _____ Time of check: _____

Place of check *(write hospital or facility name as relevant):*_____

CHECKS – MOTHER followings	**tick (√) if you check the**	**Take action if…**
1. Check pulse		**Mother has heavy bleeding?** Yes ☐ (treat and delay discharge/refer)
2. Check pallor		
3. Check temperature		
4. Examine breasts for - Retracted nipple - Flow of milk - Cracked/sore nipples - Engorgement		No ☐ (discharge) **Mother need to start antibiotics IF she has** temperature > 100.4 and chills or tender lower abdomen or foul smelling vaginal discharge
5. Check and **record blood pressure** (example 110/70)		
6. Check for oedema of face and hands		
7. Check uterus is round and contracted, if there is tenderness, and **record uterine consistency (circle one)**	Round and Hard OR Soft and Flabby	
8. Inspect perineum for tears, bleeding and swelling		Yes ☐ (treat and delay discharge/refer)
9. Is the mother bleeding too much (Two pads or cloths soaked in less than 30 minutes or constant trickling)? - **record bleeding as expected**	Normal OR Heavy bleeding	No ☐ (discharge)
10. Check mother's legs for tenderness/ heat/ swelling (unilateral)		
11. Ask: has mother passed urine without difficulty?		

CHECKS – BABY -	**tick (√) if you check the followings**	**Take action if…**
1. Assess infant's general appearance, colour, movement and cry		**Baby need treatment IF he/she has one of the followings:** Unresponsive or weak cry Convulsion Fast breathing > 60/min; slow breathing < 30/min Chest in-drawing, grunting Baby too cold < 35 C or too warm > 38 C Umbilical cord red extending to skin Not feeding well **Danger sign present** ☐ (treat and delay discharge/refer) **Danger sign absent** (discharge) ☐
2. Check if any difficulty in breathing, grunting, chest in-drawn		
3. Check temperature by touching foot and abdomen		
4. Check umbilical cord for bleeding and infection		
5. Check if pustules on skin		
6. Check eyes for discharge		
7. Look for signs of jaundice in forehead, abdomen, palm and foot		
8. Ask if infant is breastfeeding well		

Fill the following if you continue with **Individual Counselling Session**

Date of counselling session: _____ Time: _____

Person completing the form *(circle all that apply)*: Nurse-in-charge / Staff Nurse / ANM /OJT

	Tick (√) *if the following information is provided*
INFORMATION/COUNSELLING - EXPLAIN CARE OF BABY -	
1. Provide advice on breastfeeding and care of nipple including a. Ensure baby is feeding well b. Practice exclusive breastfeeding c. Feed on demand (8-10 times a day and at least 10-15 mins each feed) d. Show correct positioning and attachment if mother has problems e. Explain hazards of artificial feeding f. Explain that hand-washing before breastfeeding is important	
2. Keep baby warm; Kangaroo mother care if baby low birth weight	
3. Explain cord care - do not apply any thing	
4. Explain eye care- keep eye clean, do not use oil or gajal	
5. Explain the importance of birth registration	
6. Advise about immunisation for baby, including dates and location (Provide immunization schedule: BCG after birth; DPT, OPV, HbB at 6 weeks; provide immunisation card)	
INFORMATION/COUNSELLING - EXPLAIN CARE OF MOTHER	
1. Eat well (extra one meal per day), sleep well, drink water or juice every time the baby feeds	
2. Explain about genital hygiene and hand washing	
3. Explain care for any perineal wounds if applicable	
4. Explain that rest is important (no grinding, no strenuous work, do not squat for a long period)	
5. Explain can have sex only when it is comfortable (avoid for 2 – 3 weeks after delivery but alright from 3-4 weeks if she is well)– use a condom if have lochia/ blood	
6. Family planning counselling	
7. Explain that follow-up PNC visits on 3rd day and 7th day	
8. Advise - to the family members (not to mother) about their role during post-partum period	

		Tick (√) *if the following information is provided*	
	INFORMATION/COUNSELLING - EXPLAIN DANGER SIGNS - MOTHER		
1.	Heavy bleeding		**Advice to go to hospital if she has any one of these**
2.	Severe headache and blurred vision		
3.	Convulsion and loss of consciousness		
4.	Fever		
5.	Foul smelling vaginal discharge		
6.	Swelling and pain in perineum		
7.	Baby blues symptoms (irritated, depressed , unable to sleep, and not caring the baby)		
INFORMATION/COUNSELLING - EXPLAIN DANGER SIGNS – BABY			
1.	Unable to feed		**Advice to go to hospital if she has any one of these**
2.	Unresponsive or weak cry		
3.	Fast breathing, or severe chest in drawing, or grunting		
4.	Baby is too warm or too cold (has fever / hypothermia)		
5.	Cord: redness around umbilicus		
6.	Abscess or pustules on skin		

Thanks for completing the form. Please put it in the box/location identified by your manager so we can collect it for monitoring purposes.

Group Counselling Session (Fill the following for every group session)

Date of counselling session: _____ Time _____

Person completing the form *(circle all that apply)*: Nurse-in-charge / Staff Nurse / ANM /OJT

Place of counselling: Hospital Health facility

SN	Patient's name	Family members present in counselling session (Yes/ No)
1		
2		
3		
4		
5		
6		
7		
8		

	Tick (√) *if the following information is provided*	
INFORMATION/COUNSELLING - EXPLAIN CARE OF BABY -		
1.	Provide advice on breastfeeding and care of nipple including g. Ensure baby is feeding well h. Practice exclusive breastfeeding i. Feed on demand (8-10 times a day and at least 10-15 mins each feed) j. Show correct positioning and attachment if mother has problems k. Explain hazards of artificial feeding l. Explain that hand-washing before breastfeeding is important	
2.	Keep baby warm; Kangaroo mother care if baby low birth weight	
3.	Explain cord care - do not apply any thing	
4.	Explain eye care- keep eye clean, do not use oil or gajal	
5.	Explain the importance of birth registration	
6.	Advise about immunisation for baby, including dates and location (Provide immunization schedule: BCG after birth; DPT, OPV, HbB at 6 weeks; provide immunisation card)	

INFORMATION/COUNSELLING - EXPLAIN CARE OF MOTHER	
1. Eat well (extra one meal per day), sleep well, drink water or juice every time the baby feeds	
2. Explain about genital hygiene and hand washing	
3. Explain care for any perineal wounds if applicable	
4. Explain that rest is important (no grinding, no strenuous work, do not squat for a long period)	
5. Explain can have sex only when it is comfortable (avoid for 2 – 3 weeks after delivery but alright from 3-4 weeks if she is well)– use a condom if have lochia/ blood	
6. Family planning counselling	
7. Explain that follow-up PNC visits on 3rd day and 7th day	
8. Advise - to the family members (not to mother) about their role during post-partum period	

	Tick (√) *if the following information is provided*	
INFORMATION/COUNSELLING - EXPLAIN DANGER SIGNS - MOTHER		
1. Heavy bleeding		**Advice to go to hospital if she has any one of these**
2. Severe headache and blurred vision		
3. Convulsion and loss of consciousness		
4. Fever		
5. Foul smelling vaginal discharge		
6. Swelling and pain in perineum		
7. Baby blues symptoms (irritated, depressed , unable to sleep, and not caring the baby)		
INFORMATION/COUNSELLING - EXPLAIN DANGER SIGNS – BABY		
1. Unable to feed		**Advice to go to hospital if she has any one of these**
2. Unresponsive or weak cry		
3. Fast breathing, or severe chest in drawing, or grunting		
4. Baby is too warm or too cold (has fever / hypothermia)		
5. Cord: redness around umbilicus		
6. Abscess or pustules on skin		

Thanks for completing the form. Please put it in the box/location identified by your manager so we can collect it for monitoring purposes.

ANNEX 4: POST-COUNSELLING QUESTIONNAIRE

Interview Guide: Home Interview (5 PHCC/HP/SHP)

You need to have: this interview guide, a photo on blood pressure measuring, & a leaflet on PNC

I want to ask you a few questions about your care at the hospital on the day you left the hospital. Would you agree for interview for 10 -15 min: Agree/ Disagree (circle one and continue if agree)

Date of interview: _____

HF name: _____

VDC name: _____

Interview site: hospital/ home (circle one)

Facility type – BC/BEOC/CEOC (To be circled by NHSSP staff later)

SECTION A: CHECK-UP

1.1	How old are you?		
1.2	How many live children do you have?		
1.3	How many days ago was your last child born?		
1.4	Did anyone check you and your baby just before you left the hospital?	**For mother** Yes No → go to 1.10	**For Baby** Yes No → skip 1.10
1.5	Who did the check-up? **Tick (√) one for mother and one for baby**	**For mother** Doctor Sister Other (specify) ……	**For Baby** Doctor Sister Other (specify) ……
1.6	What check did she/ he do on you? **NOTE: Do NOT read the list.** Wait for spontaneous response. Tick **(√)** multiple	Checked temperature Checked BP Checked tummy (uterus) Checked private area/perineum Others (specify): ……	
Note: if no spontaneous response to Q 1.6 above, ask the following questions:			
1.7	Did the doctor /sister touch your tummy?	Yes /No /don't know	
1.8	Did the doctor /sister put a cuff on your arm to take your blood pressure? **(show the picture of taking BP)**	Yes /No /don't know	
1.9	Did the doctor /sister check to see your private part or ask about heavy bleeding?	Yes /No /don't know	
1.10	What check did she/ he do on your baby? NOTE: Do NOT read the list. Wait for spontaneous response. Tick (√) multiple	Checked baby temperature Checked Baby cord Checked Baby skin	

		Asked if Baby breastfed Others (specify): ……

SECTION B: INFORMATION

2.1	Did the sister / doctor give you some information about your and your baby's health before you left the hospital	Yes No → go to 3.1
2.2	Did she / he give you this information when you were on your own; with your family; or as a group with other women who just had a baby	Alone With family/friend With others in a group
2.3	Can you tell me 4 pieces of information she/he t told you? **(wait for spontaneous response)**	1. 2. 3. 4.
2.4	Did the sister/ doctor give you any information about caring for your baby's cord?	Yes No Don't know
2.5	If yes, what did he/she tell you?	
2.6	Did the sister/ doctor give you any information about the risk of getting pregnant too early or about family planning?	Yes No Don't know
2.7	If yes, what did he/ she tell you?	
2.8	Did you get advice about breastfeeding?	Yes No Don't know
2.9	IF YES, What advice were you given about breastfeeding?	

SECTION C: Information on DANGER SIGNS

3.1	Did the nurse or doctor tell you about any physical signs/feelings you might experience which could mean that **you could be in danger** so you should go to the hospital immediately?	Yes No → go to 4.1 Don't know → go to 4.1
3.2	IF YES, Can you tell me what those signs were? Please tell me **4 danger signs** that you should immediately go to the hospital.	1. 2. 3. 4.
3.3	Were you told anything about severe headache with blurred vision?	Yes No Don't know
3.4	IF yes, can you tell me what you should do if you have severe headache with blurred vision	
3.5	Were you told anything about heavy bleeding?	Yes No Don't know
3.6	IF yes, can you tell me what you should do if you have heavy bleeding?	

4.1	Did the nurse or doctor tell you about any physical signs which could mean that **your baby could be in danger** so you should go to the hospital?	Yes No → go to 5.1 Don't know → go to 5.1
4.2	IF YES, Can you tell me what those signs were? Please tell me **4 signs of ill babies** that you should immediately take him/her to the hospital.	1. 2. 3. 4.
4.3	Were you told anything about cord infection?	Yes No Don’t know
4.4	IF YES, can you tell me how do you know that the baby’s cord is infected?	

Leaflet Questions:

5.1. Have you seen this leaflet? (Show her the PNC leaflet) Yes/No
5.2. Has anyone in your family read it? Yes/No

How many of the family member read it? (write the number) _____
5.3. What other information would have been helpful to help you care for yourself and your baby at home?

ANNEX 5: INTERVIEW GUIDE: EXIT INTERVIEW (BANKE ZONAL HOSPITAL)

You need to have: this interview guide, a photo on blood pressure measuring, & a leaflet on PNC

I want to ask you a few questions about your care at the hospital on the day you left the hospital. Would you agree for interview for 10 -15 min: Agree/ Disagree (circle one and continue if agree)

Date of interview: _____

HF name: Banke zonal hospital VDC name: Nepalganj municipality Interview site: hospital exit interview Facility type –CEONC

SECTION A: CHECK-UP

1.1	How old are you?		
1.2	How many live children do you have?		
1.3	How many days ago was your last child born?		
1.4	Did anyone check you and your baby just before you left the hospital?	**For mother** Yes No → go to 1.10	**For Baby** Yes No → skip 1.10
1.5	Who did the check-up? **Tick (√) one for mother and one for baby**	**For mother** Doctor Sister Other (specify) ……	**For Baby** Doctor Sister Other (specify) ……
1.6	What check did she/ he do on you? **NOTE: Do NOT read the list.** Wait for spontaneous response. Tick **(√)** multiple	Checked temperature Checked BP Checked tummy (uterus) Checked private area/perineum Others (specify): ……	
Note: if no spontaneous response to Q 1.6 above, ask the following questions:			
1.7	Did the doctor /sister touch your tummy?	Yes /No /don't know	
1.8	Did the doctor /sister put a cuff on your arm to take your blood pressure? **(show the picture of taking BP)**	Yes /No /don't know	
1.9	Did the doctor /sister check to see your private part or ask about heavy bleeding?	Yes /No /don't know	
1.10	What check did she/ he do on your baby? NOTE: Do NOT read the list. Wait for spontaneous response. Tick (√) multiple	Checked baby temperature Checked Baby cord Checked Baby skin	

		Asked if Baby breastfed Others (specify): ……

SECTION B: INFORMATION

2.1	Did the sister / doctor give you some information about your and your baby's health before you left the hospital	Yes No → go to 3.1
2.2	Did she / he give you this information when you were on your own; with your family; or as a group with other women who just had a baby	Alone With family/friend With others in a group
2.3	Can you tell me 4 pieces of information she/he t told you? **(wait for spontaneous response)**	1. 2. 3. 4.
2.4	Did the sister/ doctor give you any information about caring for your baby's cord?	Yes No Don't know
2.5	If yes, what did he/she tell you?	
2.6	Did the sister/ doctor give you any information about the risk of getting pregnant too early or about family planning?	Yes No Don't know
2.7	If yes, what did he/ she tell you?	
2.8	Did you get advice about breastfeeding?	Yes No Don't know
2.9	IF YES, What advice were you given about breastfeeding?	

SECTION C: Information on DANGER SIGNS

3.1	Did the nurse or doctor tell you about any physical signs/feelings you might experience which could mean that **you could be in danger** so you should go to the hospital immediately?	Yes No → go to 4.1 Don't know → go to 4.1
3.2	IF YES, Can you tell me what those signs were? Please tell me **4 danger signs** that you should immediately go to the hospital.	1. 2. 3. 4.
3.3	Were you told anything about severe headache with blurred vision?	Yes No Don't know
3.4	IF yes, can you tell me what you should do if you have severe headache with blurred vision	
3.5	Were you told anything about heavy bleeding?	Yes No Don't know
3.6	IF yes, can you tell me what you should do if you have heavy bleeding?	

4.1	Did the nurse or doctor tell you about any physical signs which could mean that **your baby could be in danger** so you should go to the hospital?	Yes No → go to 5.1 Don't know → go to 5.1
4.2	IF YES, Can you tell me what those signs were? Please tell me **4 signs of ill babies** that you should immediately take him/her to the hospital.	1. 2. 3. 4.
4.3	Were you told anything about cord infection?	Yes No Don’t know
4.4	IF YES, can you tell me how do you know that the baby’s cord is infected?	

Leaflet Questions:

5.1. Were you given a leaflet like this? (Show her the PNC leaflet) Y/N	
5.2. Has anyone in your family read it? Yes/No How many of the family member read it? (write the number) _____	NOT FOR HOSPITAL EXIT INTERVIEW
5.3. What other information would have been helpful to help you care for yourself and your baby at home?	

ANNEX 6 ADDITIONAL DATA TABLES

Table A6.1 Summary Table showing recall of KEY checks and information by site

		Control site	Banke	Bankatwa	Phattepur	Baijapur
Women's checks	Temperature check	45%	8%	13%	86%	78%
	BP check	96%	39%	89%	91%	94%
	"Private Parts"	87%	44%	87%	94%	90%
	Uterine consistency	91%	32%	83%	94%	92%
Baby check	Temperature	62%	6%	15%	86%	76%
	Cordcare	84%	17%	46%	89%	78%
	Breastfeeding	3%	21%	26%	5%	8%
Information	Cordcare	98%	32%	76%	91%	92%
	FP/pregnancy risk advice	38%	36%	78%	81%	63%
	Breastfeeding	91%	50%	85%	94%	95%
Danger signs	Heavy bleeding	85%	37%	87%	88%	90%
	Headache	17%	21%	63%	34%	22%
	Cordcare	50%	23%	50%	59%	44%

Charts A6.1 and A6.2 Differences between recall of women and reported checks, advice and information provided by health workers

Chart 1: Comparison of information provided as recorded on job aids and through interviews, by health facility

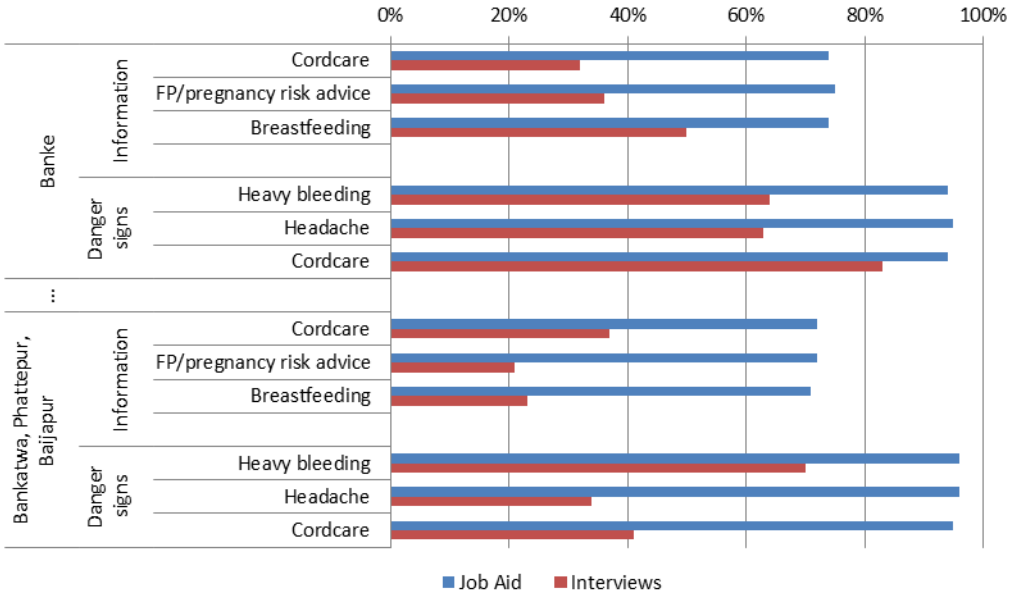
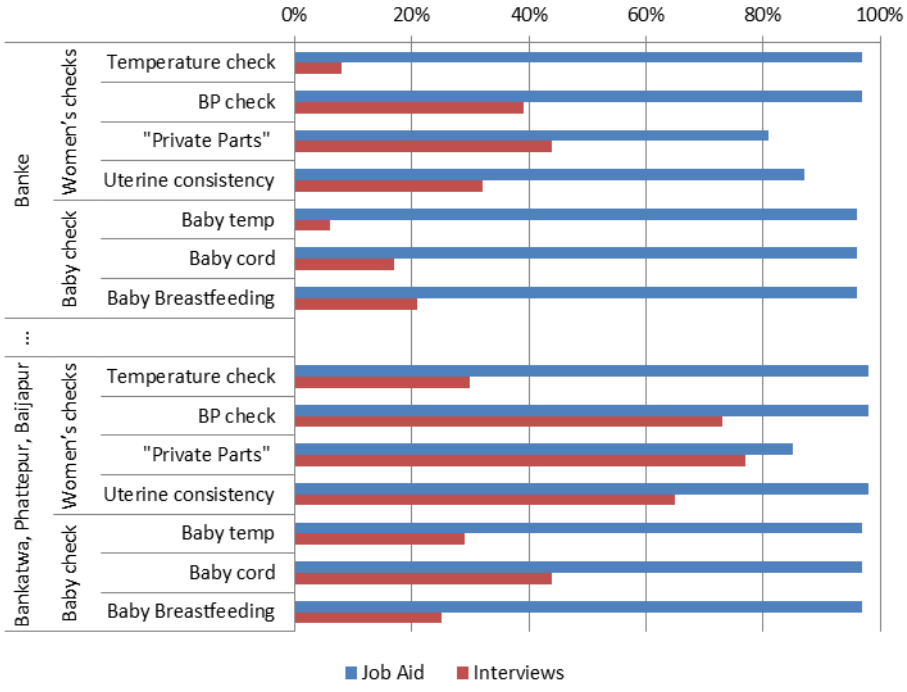


Chart 2: Comparison of checks by type as recorded on job aids and through interviews, by health facility



ANNEX A6.3: Table showing recall of all checks, advice and danger sign information by facility

	Banke zonal hospital	Bankatwa PHCC	Phattepur HP	Baijapur HP	All intervention sites	Control site
Total women interviewed	*300*	*46*	*64*	*63*	*473*	*98*
Checks - women						
BP	53%	37%	73%	71%	57%	52%
BP (prompted)	62%	89%	91%	94%	73%	96%
Uterus	29%	43%	84%	56%	41%	77%
Uterus (prompted)	93%	89%	94%	92%	65%	91%
Perineum	17%	28%	8%	13%	16%	17%
Perineum (prompted)	94%	98%	95%	97%	77%	87%
Temperature	10%	13%	86%	78%	30%	45%
Checks - baby						
Baby temperature	9%	15%	86%	76%	29%	62%
Baby cord	27%	46%	89%	78%	44%	84%
Baby breastfeeding	33%	26%	5%	8%	25%	3%
Advice - women						
Breastfeeding advice	54%	26%	27%	17%	43%	13%
Breastfeeding (prompted)	78%	85%	94%	95%	83%	91%
Perineum care	8%	4%	2%	2%	6%	0%
Nutrition	52%	28%	83%	75%	57%	91%
PNC	8%	11%	6%	0%	7%	2%
Hygiene	33%	20%	23%	25%	30%	29%
Family planning	14%	2%	0%	0%	9%	0%
Family planning (prompted)	57%	78%	81%	63%	63%	38%
Rest	7%	22%	17%	27%	12%	60%
Family support	0%	0%	0%	0%	0%	0%
Sex	10%	11%	0%	0%	7%	0%
Advice - baby						
Immunisations	45%	0%	6%	30%	33%	46%
Thermoregulation	18%	20%	8%	14%	16%	3%
Kangaroo care	3%	2%	2%	5%	3%	0%
Cordcare	18%	4%	0%	3%	12%	2%
Cordcare (prompted)	51%	76%	91%	92%	64%	98%
Eye care	8%	7%	0%	0%	0%	0%
Birth registration	1%	2%	0%	0%	1%	0%
Danger sign advice - woman						
General danger sign advice	60%	96%	91%	92%	72%	0%
Foul smell	8%	13%	39%	29%	16%	11%
Heavy bleeding	53%	74%	75%	76%	61%	79%
Heavy bleeding (prompted)	59%	87%	88%	90%	70%	85%
Perineum	18%	13%	8%	13%	15%	14%
Headache	17%	35%	9%	6%	16%	1%
Headache (prompted)	33%	63%	34%	22%	34%	17%
Post natal depression	0%	2%	0%	0%	0%	0%
Convulsions	6%	9%	16%	35%	12%	5%
DVT	2%	15%	8%	2%	4%	7%
Fever	33%	22%	75%	75%	43%	68%
Danger sign advice - baby						
General danger sign advice	55%	91%	92%	100%	70%	0%
Skin pustules	17%	24%	28%	44%	23%	32%
Poor feeding	23%	43%	58%	52%	33%	39%

Jaundice	6%	4%	0%	0%	4%	0%
Vomitting	5%	4%	2%	0%	4%	2%
Unresponsive	4%	20%	14%	24%	9%	11%
Fast breathing	26%	24%	44%	48%	31%	41%
Red eyes	3%	9%	0%	0%	3%	0%
Too warm or cold	36%	33%	77%	83%	47%	89%
Cord infection	28%	37%	5%	14%	24%	5%
Cord infection (prompted)	36%	50%	59%	44%	41%	50%
leaflet seen	73%	63%	69%	68%	71%	0%

Table A6.4: Comparison table – job aids (health worker reported results) and interviews (women reported results): Key Checks.

	Job aid		**Interview**			
	Banke	*Other*	*Banke – spont*	*Banke - prompt*	*Others – spont*	*Others – prompt*
Women's checks						
Temperature check	97%	98%	8%	-	30%	-
BP check	97%	98%	39%	39%	57%	73%
Bleeding check	74%	95%	-	-	-	-
Perineum "private parts or bleeding"	81%	85%	13%	44%	16%	77%
Uterine consistency	87%	98%	21%	32%	41%	65%
Baby check						
Baby temp	96%	97%	-	6%	-	29%
Baby cord	96%	97%	-	17%	-	44%
Baby Breastfeeding	96%	97%	-	21%	-	25%
Information						
Cordcare	74%	94%	11%	32%	12%	64%
FP/pregnancy risk advice	75%	95%	9%	36%	9%	63%
Breastfeeding	74%	94%	34%	50%	43%	83%
Danger signs						
Heavy bleeding	72%	96%	34%	37%	61%	70%
Headache	72%	96%	11%	21%	16%	34%
Cordcare	71%	95%	18%	23%	24%	41%

ANNEX 7: LEAFLET

बच्चा जन्माएका महिला (सुत्केरी) ले जान्नै पर्ने कुराहरु

नव शिशुको स्वास्थ्यसम्बन्धी जानकारी

१. स्तनपान सम्बन्धी

आमाको दुध शिशुलाई अमृत समान हुन्छ । ६ महिनासम्म नवजात शिशुलाई आमाको दुध नै पर्याप्त हुन्छ । शिशुलाई ६ महिनासम्म पूर्ण स्तनपान गराउनुपर्छ भने २ वर्षको हुँदासम्म आमाको दुध खुवाई रहनु पर्छ । यसले शिशुलाई उचित पोषण दिन्छ तथा रोगसँग लड्ने शक्ति बढ्छ । आमाको दुध बच्चाले सजिलै पचाउन सक्छन् ।

- शिशुलाई जन्मेको १ घण्टा भित्रै आमाको दुध चुसाउन शुरू गर्नुपर्छ । बिगौती दुध पनि शिशुलाई खुवाउनै पर्छ ।
- शिशुलाई ६ महिनाको उमेरसम्म नियमित स्तनपान गराएमा पानी, गाईवस्तुको दुध, ग्लुकोज पानीजस्ता अन्य कुराहरु खुवाउन आवश्यक छैन ।

२. नवजात शिशुलाई न्यानो राख्ने

- जन्मिने बित्तिकै शिशुलाई नरम, सफा र सुख्खा कपडाले पुछेर तुरुन्तै आमाको नाङ्गो छातीमा टाँसेर राख्नुपर्छ र अर्को सफा नरम कपडाले बेरी न्यानो पारेर राख्नुपर्छ ।
- शिशु जन्मेको कम्तिमा २४ घण्टासम्म नुहाइ दिनुहुँदैन । यसो गर्नाले शिशुलाई कब्याउग्रिन वा शिताङ्ग हुनबाट बचाउँछ ।

३. नवजात शिशुको नाभीको स्याहार

- शिशुको नाभीमा केही पनि नलगाई सुख्खा र सफा राख्नुपर्छ । यसले नाभीलाई पाक्नबाट बचाउँछ ।

४. नवजात शिशुको आँखाको स्याहार

- आँखामा केही पनि प्रयोग गर्नुहुँदैन र आँखा फोहोर भएमा उमालेको पानी चिसो पारेर सफा नरम कपडा अथवा कपासले सफा गर्नु पर्छ ।

५. शिशुको खोप तालिका

खोपको नाम	खोपको मात्रा	कुन उमेरमा दिने	कुन रोगबाट बचाँउछ
बि.सी.जी	१ (एक पटक)	जन्मिने बित्तिकै वा जन्मेको एक वर्षभित्र	क्षयरोग
डि.पी.टी	३ (तीन पटक)	डेढ महिनादेखि एक वर्षभित्र एक-एक महिनाको फरकमा जम्मा तीन पटक	भ्यागुते रोग, लहरे खोकी र धनुष्टङ्कार
पोलियो			पोलियोमाइलाइटिस
हेपाटाइटिस-बी			हेपटाइटिस-बी
दादुरा	१ (एक पटक)	९ महिनाको उमेर पूरा भएपछि	दादुरा
जे.इ	१ (एक पटक)	१३ महिना देखि २४ महिना भित्र	जापनिज इन्सेफलाइटिस

पाँच पल्टमा सबै खोपको मात्रा पुरा गरौं ।

शिशुलाई जन्मने बित्तिकै जति सक्दो छिटो बि.सि.जी. खोप लगाउनुपर्छ । शिशु जन्मेको ६ हप्ता पुगेपछि डि.पि.टी. र हेपाटाइटिसको खोप लगाउन नजिकैको स्वास्थ्य संस्था वा खोप केन्द्रमा लैजानुपर्छ ।

६. नवजात शिशुका खतराका चिन्हहरू

संक्रमणका कारणले शिशुमा विभिन्न किसिमका खतराका लक्षणहरु देखिन सक्छन् । यस्ता लक्षण देखिएमा नवजात शिशु सिकिस्त भएर मृत्यु समेत हुनसक्छ । त्यसकारण निम्न मध्ये कुनै पनि खतराका चिन्हहरु देखिएमा तुरून्त स्वास्थ्य संस्थामा लैजानु पर्छ :

१. आमाको दुध राम्ररी चुस्न नसकेमा
२. सुस्त वा बेहोस भएमा अथवा हात खुट्टा कम चलाएमा
३. छिटो छिटो सास फेरेमा
४. कडा कोखा हानेमा
५. ज्वरो आएमा
६. शिताङ्ग भएमा
७. नाइटो पाकेमा वा छालामा पिपका फोकाहरु आएमा

सुत्केरी आमाको स्वास्थ्यसम्बन्धी जानकारी

१. सुत्केरी जाँच कति पटक गर्ने

सुत्केरी अवस्थामा आमालाई कम्तिमा ३ पटक स्वास्थ्य कार्यकर्ताद्वारा जाँच गराउनुपर्छ ।

- पहिलो पटक बच्चा जन्मेको २४ घण्टा भित्र
- दोस्रो पटक बच्चा जन्मेको ३ दिनमा
- तेस्रो पटक बच्चा जन्मेको ७ दिनमा

सुत्केरी जाँचमा समावेश हुने सेवाहरू

- सुत्केरी जाँचमा विशेष गरेर सुत्केरी भएको पहिलो हप्तामा आमा र बच्चामा देखिन सकिने खतराको लक्षणहरु भए/नभएको जाँच गरिन्छ र यदि कुनै समस्या देखिएमा तुरून्त उपचार गरिन्छ ।
- बच्चाको स्याहार सुसारको बारेमा उचित परामर्श दिइन्छ ।
- स्तनपानमा सहयोग र जोड दिइन्छ ।
- आवश्यकता अनुसार मातृ पोषणसम्बन्धी उचित परामर्श दिइन्छ ।

- गर्भनिरोधक, स्वास्थ्य जन्मान्तर र परिवार नियोजनसम्बन्धी उचित परामर्शका साथसाथै आवश्यकता अनुसारको सेवा दिइन्छ ।
- बच्चालाई लगाइने खोपको बारे विस्तृत जानकारीहरु दिइन्छ ।

२. जाँच किन गराउने

सुत्केरी जाँच गराउँदा स्वास्थ्य कार्यकर्ताले आमाको शारिरिक जाँच गरि पाठेघर आफ्नो ठाउमा बसे/नबसेको, धेरै रगत बगे/नबगेको, आमालाई संक्रमण भए/नभएको वा अन्य कुनै खतराका लक्षणहरु भए पत्ता लगाउन र खतराका लक्षणहरु पाइएमा त्यसको उचित व्यवस्थापन गर्नमा सहयोग गर्न सक्छन् । साथै नवजात शिशुको जाँच गरेर आवश्यक वृद्धि र विकास, संक्रमण भए/नभएको र खोपको बारे जानकारी दिन सक्छन् ।

३. खाना र आरामसम्बन्धी

सुत्केरी महिलाले प्रशस्त मात्रामा पोषिलो खानेकुरा खानुपर्छ । हरेक पटकको खानामा (चामल, गहुँ, फापर कोदो र मकै मध्ये एक), दाल, अण्डा, माछामासुमा एक, दुध र दुधबाट बनेको परिकार दहि, पनिर र चीज मध्ये एक र, हरियो साग वा तरकारीमा एक संलग्न गर्नुपर्छ । गर्भवती वा सुत्केरी महिलाले साधारण अवस्थामा भन्दा यस्तो खाना एक पटक थप खानुपर्छ । यसको साथै प्रशस्त मात्रामा झोलिलो खाना खानुपर्छ । प्रत्येक पटक बच्चालाई दुध खुवाए पछि आमाले एक गिलास दुध, पानी अथवा गेडागुडीको झोल खानुपर्छ । यसले आमाको पोषण स्थितिमा सुधार ल्याउँछ साथै शिशुको वृद्धि, विकास र रोगसँग लड्न सक्ने क्षमता बढाउँछ ।

- प्रशस्त मात्रामा आराम गर्नाले आमाको स्वास्थ्य राम्रो हुन्छ ।
- सुत्केरी अवस्थामा (४२ दिनभित्र) महिलाले गह्रौं भारी/सामान उचाल्नु हुँदैन ।

४. सरसफाई बारे जानकारी

- सुत्केरी महिलाले संक्रमणबाट बच्न व्यक्तिगत सरसफाइमा उचित ध्यान दिनुपर्छ । हरेक पटक बच्चालाई दुध खुवाउँदा र सफा गर्दा हात धुनुपर्छ ।
- आमाले आफ्नो गुप्ताङ्ग सफा पानीले धोएर सुख्खा र सफा राखी रगतले भिजेको प्याड/कपडा दिनमा कम्तिमा तिन पटक फेर्नुपर्छ ।

५. सुत्केरी अवस्थामा देखा पर्न सक्ने खतराका लक्षणहरू

तल दिइएका मध्ये कुनै पनि खतराका लक्षणहरु देखापरेमा सुत्केरी आमालाई तुरुन्तै नजिकैको स्वास्थ्य संस्थामा लैजानुपर्छ :

१. ज्वरो आएमा
२. योनीबाट गन्हाउने पानी बगेमा वा तल्लो पेट (पाठघेर) दुखेमा
३. धेरै रगत बगेमा (आधा घण्टा भित्रै २ वटा भन्दा बढी टालो पुरै भिजेमा वा चोक्टा चोक्टा (हवाल हवाल) रगत बगेमा)
४. टाउको साह्रै दुखेमा
५. हात खुट्टा अररो भइ मूर्छा परेमा ।

६. यौन सर्म्पक बारे जानकारी

महिलाको स्वास्थ्य स्थिति हेरेर बच्चा जन्मिएको कम्तिमा ४ देखि ६ हप्ता पछि यौन सर्म्पक गर्न सकिन्छ तर रगत वा सेतो पानी धेरै बगेमा कन्डम प्रयोग गर्नु पर्छ ।

७. सुत्केरी पछि पुनः बच्चा रहन सक्ने जानकारी

- यदि बच्चा जन्मिएपछि कुनै कारणवस आमाको दुध नखुवाएमा बच्चा जन्माएको चौथो (४) हप्ताको सुरु देखि नै गर्भधारण हुनसक्छ ।
- बच्चालाई आमाको दुधको साथसाथै अन्य खाना खुवाइरहेको छ भने बच्चा जन्माएको छैठौं (६) हप्ताको सुरु देखि नै गर्भधारण हुनसक्छ ।

- बच्चालाई पूर्णरूपमा आमाको दुध मात्र खुवाइन्छ (प्रत्येक २ घण्टामा, दिनको कम्तिमा १२ पटक) र महिनावारी भएको छैन भने, बच्चा ६ महिना पुग्नासाथ गर्भधारण हुनसक्छ ।
- बच्चा जन्माइसके पछि महिनावारी नफर्कदै पनि गर्भधारण हुनसक्छ ।

त्यसैले एउटा बच्चा जन्मेपछि कम्तिमा २ वर्ष सम्म पुनः अर्को पटक गर्भधारण हुनबाट रोक्नको लागि स्वास्थ्यकर्मीलाई भेटेर स्तनपान गराई रहँदा पनि प्रयोग गर्न मिल्ने परिवार नियोजनका साधन प्रयोग गर्नु पर्छ ।

८. सुत्केरी पछि परिवार नियोजन सम्बन्धी जानकारी :

आमा र बच्चाको राम्रो स्वास्थ्यको लागि एउटा जिवित बच्चा जन्माएपछि अर्को गर्भको अन्तर कम्तिमा २ वर्ष हुनु पर्छ । यसको लागि श्रीमान् श्रीमती बीच छलफल गरी आफुलाई उपयुक्त हुने परिवार नियोजनका साधन प्रयोग गर्नु पर्छ । बच्चाको रहर पुगिसकेकाले अनिच्छित गर्भधारण रोकन र व्यवस्थित परिवार बनाउन स्थायी परिवार नियोजनको उपाय वा लामो अवधि सम्म रोक्ने परिवार नियोजनका साधनहरु (जस्तैः आइ.यु.सि.डि वा इम्प्लान्ट) प्रयोग गर्न सकिन्छ ।

स्तनपानलाई असर नगर्ने परिवार नियोजनको साधनहरू :

महिलाको लागि

- **डिपो प्रोभेरा सुई:** यो तीन महिने सुई प्रभावकारी छ र बच्चा जन्मेको ६ हप्ताबाट शुरू गर्न सकिन्छ ।
- **कपर टीः** यो बच्चा जन्मने बित्तिकै अथवा ६ हप्तामा दक्ष स्वास्थ्यकर्मीबाट पाठेघरमा राखिन्छ । यसले १२ वर्ष सम्म गर्भधारण हुनबाट बचाउँछ ।
- **इम्प्लान्ट (JADELLE):** यो महिलाको पाखुरामा दक्ष स्वास्थ्यकर्मीबाट राखिन्छ । यसले ५ वर्ष सम्म गर्भधारण हुनबाट बचाउँछ ।
- **स्थायी बन्ध्याकरणः** बच्चाको रहर पुगिसकेको जोडीले बच्चा जन्मेको २४ घण्टा भित्र महिलाले बन्ध्याकरण गराउन सकिछन । यसले स्थायी रूपमा गर्भधारण हुनबाट सधैको लागि बचाउँछ । साथै बच्चा जन्मिएको ४८ घण्टा भित्र वा ६ हप्तापछि पनि सुत्केरी महिलाले मिनिल्याप गराउन सकिछन । यो सानो शल्यक्रिया विधि हो ।

पुरूषको लागि

- **कण्डम** : यो कुनै पनि बेला प्रयोग गर्न सकिन्छ । यसले जोडीलाई परिवार नियोजनको साधनको रूपमा काम गर्नुका साथै एच आइ भी र अन्य यौन रोगको संक्रमणबाट बचाउँछ ।
- **स्थायी बन्ध्याकरण (भ्यासेक्टोमी)** : पुरुषले कुनै पनि बेला स्थायी बन्ध्याकरण गराउन सक्छन् । स्थायी बन्ध्याकरण गरेको ३ महिना जति पछिबाट मात्र यो प्रभावकारी हुन्छ । त्यसैले बन्ध्याकरण गरेको ३ महिनासम्म अथवा ३० पटकको यौन सम्पर्क सम्म कण्डम प्रयोग गर्नुपर्छ ।

स्तनपानलाई असर पुऱ्याउने परिवार नियोजनको साधन

स्तनपान गराइरहेको समयमा पिल्स चक्की सकेसम्म प्रयोग गर्नुहुदैन किनकी यसले आमाको दुधको मात्रा घटाउछ । बच्चा ६ महिना भएपछि बच्चालाई अन्य थप खानाहरु दिनुपर्छ त्यस पछि महिलाले गर्भ निरोधक पिल्स दैनिक रूपमा खान सकिछन ।

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
स्वास्थ्य सेवा विभाग
राष्ट्रिय स्वास्थ्य शिक्षा, सूचना तथा सञ्चार केन्द्र
टेकु, काठमाडौं

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
स्वास्थ्य सेवा विभाग
परिवार स्वास्थ्य महाशाखा
टेकु, काठमाडौं

ANNEX 8: DATA COLLECTION METHODS TABLE

Table A8.1: Data collection methods table

Data	Description	Limitations
Checklist data	The checklist doubled as a data collection sheet providing (i) demographic and delivery details for all women receiving PNC (ii) details of checks, advice and danger sign information provided at each counselling sessions (i.e. boxes ticked) Immediately post-counselling, forms were posted into a 'job aid box' – a ballot-box style box, which was kept locked due to the presence of patient sensitive information. The key was held by an NHSSP researcher who visited the health facilities at regular intervals to collect the forms.	Assumes checklists completed for all women who receive PNC. KIIs suggest checklists were not always filled in with the patient but completed at the end of the shift while filling out other records, cardex etc. So the data ticked on the sheet may not reflect information actually provided during counselling.
HMIS	HMIS data was used to identify the number of women delivering and profile for comparison with checklist data	Delivery data within the HMIS is generally strong
Client follow-up survey	A post-counselling questionnaire (Annex 4) was used with women who delivered at Bankatwa, Phattepur and Baijapur health facilities and at the 5 control facilities. A researcher visited all health facilities twice a month, obtaining names of all women who had given birth in the last 15 days and systematically selected a sample for interview by local interviewers. Interviewers from the health facility catchment areas were trained to administer the questionnaire to women in their homes, visiting the woman who gave birth earliest, first. The women were on average interviewed 15 days post-delivery.	Data collected from clients at HPs and SHPs 1-2 weeks post-delivery is not directly comparable with the data collected from Banke a few hours after counselling (it was hypothesised that women interviewed at Banke are more likely to recall information). Women may have received information from other sources prior to the survey.
Exit interviews	The same post-counselling questionnaire (Annex 4) was used with women who delivered at BZH. As a national referral unit, BZH accepts patients from across the country and women who deliver could not be traced to a defined catchment area. Therefore women were interviewed on exit from the facility. A researcher obtained permission to visit BZH maternity ward unannounced 1-2 times per week on different days (every two months, all days Mon-Sun were included). During the baseline exercise, interviews were outside of the ward, but it was difficult to find a private place and once they had left the ward women wanted to leave the health facility. For the evaluation, women were interviewed at their beds. There was no interference with health workers who were too busy to pay attention to the interviews. Women interviewed at Banke averaged 2 days post-delivery.	Exit interviews can be biased upwards particularly if they refer to treatment by staff or consultation quality. This survey requires women to recall the content of factual messages received during counselling, which reduces the potential for bias. Women were interviewed immediately after counselling so it was hypothesised that recall of advice/information provided and messages would be higher than at other facilities.
Key informant interviews	Structured interviews were undertaken with 8 purposively chosen health workers (4 from Banke and 4 from other facilities), the NHSSP project manager and the DHMT.	There can be a positive bias in qualitative interviews

ANNEX 9: DIFFERENCES IN HOW PNC IS ADMINISTERED, BY FACILITY

Table A9.1: Differences in how PNC is administered (source: checklists and key informant interviews)

	Bheri Zonal Hospital	Bankatwa, Phatterpur, Baijapur health facilities
Time of day PNC is provided	• The majority of discharges: 9am–noon which is the official discharge time. If there are deliveries then discharges may be delayed. Checklist completion concentrated on 10am–1pm period (nearly 70% of all checklists completed during that 3 hour window)	• Very early morning discharges (i.e. before 9am) were common at smaller facilities. Discharge was generally spread more evenly across the day. • Many women leave in the morning because, *"they want to have lunch in their own home as there is no provision of food"* (R8, Bankatwa).
Number of hours post-partum	• Nearly 30% of checklists were completed over 24 hours after giving birth. Less than 15% were completed within first 6 hours postpartum. • BZH rules are to discharge only after 24 hours; but women often discharged at 6 hours especially if they lived close to the facility. • Women wanted to go home due to better food, warmth, family responsibilities for women and carers, and no lodging for carers. The hospital is crowded. Women said they would go to a nearby facility if a complication arose.	• 95% of forms completed within 24 hours, two thirds within first 6 hours postpartum • *"If women want to leave earlier we counsel they should stay 6 hours and risks of postpartum haemorrhage" (R2)* • Women wanted to go home due to better food, warmth, family responsibilities, support for carers, and no lodging for carers.
Who completes the checklist	• Checklists were poorly coded. There was no difference in which member of staff carried out PNC according to type of delivery or time of day PNC took place (consistently around 60% were senior nurses, 20% ANM and 10% uncoded)	• Was poorly coded. Most facilities only had 1 ANM in post
Group vs. individual counselling	• BZH was the only facility to do Group Education sessions: 41% of women interviewed who reported method of counselling, 37% were counselled with their friends and family and 22% were counselled alone. BZH was the only place where women were routinely counselled without family and friends present. • KII findings suggested that women were more likely to get individual counselling if they experienced a complication • Has a rotation system identifying a health worker for PNC duty each day. The health worker decides on the counselling plan for individual women	• Over 90% of all counselling of the women took place with their family or friends present. During the June–January period only 8 women were counselled on their own at the other facilities. • There were fewer deliveries therefore unlikely to be more than one woman requiring counselling. • Type of counselling to provide and tools to use decided by individual health workers.

Discharge process	• Doctors made final decision and signed discharge slips, but nursing staff planned for discharge and undertook checks prior to ward rounds. • Nurses then gathered women for Group Education sessions and the person who did counselling completed the form (assuming time – time is a constraint). If heavy workload, forms may be completed the next day or at end of shift while completing patient record/cardex. Checklists were then put in a locked collection box. • If lacking time, students were mobilised to record vital signs and complete forms. • Women were referred to the office to receive their incentives and visitors sent to get medicine.	• How counselling is provided varied by facility – generally the person who did the delivery decided when to discharge, provide checks and advice and completed the form. Checklist completed as performed counselling. • Counselling taught to on the job training students (provided with close supervision at Bankatawa) • One facility, if discharged a women early, (i.e. <6 hours) phoned later to follow-up on status of the woman
Receipt of leaflet	• 100% received the leaflet • 0% had read the leaflet ('you or someone in your family')	• 50-60% had received the leaflet • 40-50% said they had read the leaflet, but no respondent was able to identify who had read the leaflet

ANNEX 10: MESSAGES RECALLED BY WOMEN WHO REPORTED RECEIVING ADVICE AND DANGER SIGN INFORMATION

Table A10.1: Summary of unprompted messages recalled by women who reported receiving advice and danger sign information, by theme *(note: % of women shown below are those who responded to the question and not the % of total women interviewed)*

Responses from women who reported receiving any advice

Family planning information:
All women who recalled being provided with family planning advice were asked to provide details of the type of advice they had been given.

Type of family planning message received	% of women
Advice on family planning methods	88%
Advice on how long to avoid sex	43%
Advice on specific family planning methods	19%
Advice on birth spacing	14%
Advice on risk of conceiving	5%
Advice on LAM	1%

Breastfeeding information:
Women reported a number of different types of breastfeeding messages from health workers – the main 10 are shown in the table to the right.

In addition, when asked all women were able to provide the very specific information on the checklist that newborns should be fed at least 8 to 10 times per day

Top 10 types of breastfeeding advice reported by women	% of women reporting advice
1. Frequent breastfeeding 'time to time'	41%
2. Specific number of times per day	28%
3. Breastfeed exclusively	17%
4. Breastfeed day and night	13%
5. Breastfeed for 6 months	11%
6. Technique and positioning information	9%
7. Alternate breasts	7%
8. Hygienic practices	7%
9. Breastfeed on demand	6%
10. "Take care at night "	3%

Cord care advice
98% of the women who responded were able to provide an accurate message about leaving the cord alone and not applying oil or substances to the cord suggesting that when the message was received it was remembered.

Responses from women who reported receiving danger sign information

Danger signs information — mothers:
Women who reported receiving danger sign information were asked to describe the subjects they received danger sign information about and these are shown in the table.

Mother danger sign	% of women
Heavy bleeding	61%
Fever	43%
Headache	16%
Foul smells	16%
Perineum pain	15%
Convulsions	12%
Deep vein thrombosis (DVT) symptoms	4%

Headache and blurred vision:
When asked what to do if they had the above symptoms (heavy bleeding etc.), all women who responded to this question reported that they should go to a health facility for a check-up. Some emphasised the urgency of the situation with 10% saying that they would go immediately and one third stating that they should attend the nearest health facility.

Bleeding:

All women who responded to the question knew to go to a health facility, with 16% saying to go immediately and a quarter emphasising to go to the nearest facility.

Baby danger signs:

Women who recalled being provided with baby danger signs, were asked to provide details of the type of advice they had been given. Which is shown in the table on the right

Baby danger sign	% of women
Thermoregulation ("Too warm or cold")	47%
Poor feeding	33%
Fast breathing	31%
Red cord	24%
Skin pustules	23%
Unresponsive or weak cry	10%
Jaundice	4%
Vomiting	4%
Red eyes	3%