



Change in maternal and newborn health care

**Interactions between families and frontline workers –
their frequency, quality, and equity – and coverage
of interventions for mothers and newborns**

Report from six-district surveys in Uttar Pradesh, India, 2012-2015

MAY 2016

Abbreviations and acronyms

95% CI	95% confidence interval
ANM	Auxiliary nurse midwife
ASHA	Accredited Social Health Activist
CHC	Community Health Centre
DHS	Demographic and Health Survey
IDEAS	Informed Decisions for Action in maternal and newborn health
MNH	Maternal and newborn health
PHC	Primary Health Centre
RGMVP	Rajiv Gandhi Mahila Vikas Pariyojana
UNICEF	United Nations Children's Fund

This report is one of three country-specific reports on change in maternal and newborn health care between 2012-2015, and is based on research findings from Uttar Pradesh, India.

Acknowledgements

This publication was written by Tanya Marchant and produced by the IDEAS project led by Professor Joanna Schellenberg at the London School of Hygiene & Tropical Medicine.

The IDEAS team wishes to acknowledge the work of Sambodhi Research and Communications Pvt. Ltd who implemented the surveys, and the cooperation of the grantees in Uttar Pradesh throughout the development and implementation process. We are grateful to the State officials in Lucknow who provided support to the survey implementation, and to all households, facilities and individuals surveyed.

ISBN number: 978-0-9576834-1-9

© London School of Hygiene & Tropical Medicine
Funded by the Bill & Melinda Gates Foundation
Coordination of publication:
Rhys Williams





The survey results suggest limited improvement in maternal and newborn health care in these six districts between 2012 and 2015. Although not yet achieving universal coverage, and sometimes lacking quality, the majority of women in Uttar Pradesh do receive care across the continuum.



Contents

Acknowledgements	02
Abbreviations and acronyms	02
Executive summary	03
Chapter 1: Introduction and background	05
Chapter 2: Methodology	09
Chapter 3: Characteristics of the health facilities surveyed	13
Chapter 4: Characteristics of frontline workers interviewed	14
Chapter 5: Characteristics of households and women interviewed ..	15
Chapter 6: Frontline worker contact with families	16
Chapter 7: Results on expected improvements	17
Chapter 8: Discussion	18
Annex 1: Long list of indicators for maternal and newborn health	19

Executive summary

Background and methods

The IDEAS study of interactions between families and frontline workers and coverage of critical interventions for mothers and newborns was conducted between November 2012 and November 2015 in the State of Uttar Pradesh, India. In the context of Uttar Pradesh, frontline workers include the public sector's community based Accredited Social Health Activists, Anganwadi workers, Auxiliary Nurse Midwives and nurses and doctors working in primary or community health centres, or sub-posts, as well as non-governmental "Swasthya Sakhis" (health friends) working with self-help groups.

The aim was to estimate changes in maternal and newborn health care in areas where Bill & Melinda Gates Foundation implementation projects were operating. In 2012 when the study methods were defined there were three active projects:

- 1) Manthan: a grant to Intrahealth International Inc. to provide technical assistance to the Department of Family Welfare in Uttar Pradesh to implement evidence-based maternal and newborn health interventions along the continuum of care, from 2010;
- 2) Better Birth: a grant to Harvard School of Public Health, USA, in collaboration with the World Health Organisation, Population Services International, India, and the Community Empowerment Lab@ Shivgarh to test the adoption of the World Health Organisation Safe Childbirth Checklist programme in birth facilities, starting in 2012;
- 3) Community Mobilisation Project: a grant to a five-partner consortium led by the Public Health Foundation of India) to develop and scale up a package of family health interventions using the behaviour change management approach through institutionalised self-help groups, starting in 2012.

The initial study design was to collect data that enabled a 'difference-in-differences' analysis of change. Six districts were identified where at least two projects planned for their activities to overlap: Hardoi, Jhansi, Sultanpur, Maharajganj, CSM Nagar (Amethi) and Raebareilly. A representative sample of households in these six districts was taken, and selected household clusters (villages) allocated according to whether projects planned to be active at the block level (intervention) or not (comparison). However, by the time of the 2015 survey implementation plans had evolved and at least one project was present throughout the entire study area, meaning that **the final analysis represents before-after change of coverage.**

Eighty clusters were sampled across the six districts and the same clusters were surveyed in both 2012 and 2015. Each year, a population-level cluster household survey (clusters defined as villages segmented into groups of approximately 75 households) asked women about live births in the 12 months preceding survey. These data were linked to interviews with the frontline workers and with staff at the primary or community health facilities providing maternal and newborn health services to those households. Across the 80 clusters, 5,258 households and 604 women with a birth in the preceding 12 months were surveyed in 2012, 6,466 households and 584 women in 2015. For the same clusters, 220 frontline workers and 60 health facilities were surveyed in 2012, 280 frontline workers and 121 health facilities in 2015.

Mapping evaluation of change to expected effects

The main body of the report focuses on change in indicators that were expected to improve as a result of the specific implementation activities in place in the study area. These largely represent demand side behaviours rather than supply side actions. An expanded list of indicators is included in the Annex for a more comprehensive picture of maternal and newborn health care in the study area.

Evidence of change

Some changes in coverage of interactions were observed. Coverage of at least one antenatal care visit with a skilled provider increased from approximately two thirds of women in 2012 to three quarters of women reporting this in 2015. No change was observed in coverage of at least four antenatal care visits however with only one quarter of women having the recommended four visits in 2015. Coverage of facility delivery was already high in the study area in 2012 with 76% of women reporting facility delivery, increasing to 81% by 2015. Further, there was weak evidence of increased coverage among women living in the poorest households, coverage rising from 68% in 2012 to 80% in 2015.

Postnatal care for the mother within two days of birth increased from half of women receiving a check, to two-thirds of women in 2015: this large change was driven by an increase in postnatal checks for women who delivered at home (among whom 18% had a postnatal check in 2012, 52% in 2015). But unlike other interactions, postnatal care for the newborn remained very low at just 15% in 2015. Indicators of interaction quality (defined here by timing of care and knowledge about danger signs) showed no evidence of change.

Changes in coverage of life saving interventions were more limited. Hand washing with soap and the use of gloves by birth attendants were reported to be almost universal even in 2012. Clean cord care for newborns, and initiation of breastfeeding within one hour of birth remained constant at approximately 50%. Immediate drying and wrapping



This study was not designed to reflect progress of individual projects, but to understand changes arising as a result of investments made by the Bill & Melinda Gates Foundation strategy for maternal and newborn health



of the newborn were not reported to be practised in 2012 but were detectable in 2015, although at very low levels of coverage (13% immediate drying, 3% immediate wrapping).

A longer list of maternal and newborn health indicators – beyond those targeted by projects in this study area – is included in the annex for reference.

Limitations

The original study design had included intervention and comparison areas to provide more robust estimates of change associated with specific innovations than a before-after analysis. However, in the absence of large changes being observed, the limitation introduced by switching to a before-after analysis had little impact on the overall interpretation of results. The implementation projects had planned to begin work in 2012 but (with the exception of Manthan which had already started) refinement of implementation strategies meant that

activity was delayed and the results reflect less implementation time than initially planned. However, all projects had been active for 12 months or more at the time of the 2015 survey.

Furthermore, implementation was not spread equally across the six districts. For example, Better Birth was only present in a small number of high-volume facilities in the study area and the Manthan project finished at the end of 2014. For this reason, the results presented in the main report have been restricted to those targeted by the Community Mobilisation Project which was in operation at the block level throughout the study area.

Finally, this study was not designed to reflect progress of individual projects (each having its own evaluation strategy), but to understand changes arising as a result of investments made by the Bill & Melinda Gates Foundation strategy for maternal and newborn health.

Overall

The survey results suggest limited improvement in maternal and newborn health care in these six districts between 2012 and 2015. Although not yet achieving universal coverage, and sometimes lacking quality, the majority of women in Uttar Pradesh do receive care across the continuum, and there was indication that some inequities in access had improved. The interaction making least progress was postnatal care for the newborn within two days of birth – a problem also experienced in geographies beyond Uttar Pradesh. And coverage of interventions that save newborn lives at birth remain too low and represent a problem in need of urgent attention.

Introduction and background

1.1: Maternal and newborn health profile in Uttar Pradesh

The 2011 census of India estimated the population of the State of Uttar Pradesh to be 200 million¹ 79% of whom live in rural areas and 31% live below the poverty line. Maternal and newborn mortality is very high across the State. In 2011, UNICEF estimated the maternal mortality ratio to be 440/100,000, with one in 42 women dying from maternal complications. Neonatal mortality is also very high, with an estimated 45 newborn deaths in the first 28 days of life for every 1,000 live births.²

1.2: The context of this investigation

The work fits into a broad portfolio of investigation by the IDEAS project (*Informed Decisions for Actions in maternal and newborn health*), based at the London School of Hygiene & Tropical Medicine and funded by the Bill & Melinda Gates Foundation. In 2010, the foundation developed a Theory of Change that shaped its investments to improve the survival outcomes of mothers and newborns. (Figure 1) This Theory of Change supposes that in order to reduce mortality, the coverage of interventions that are known to save lives (life saving interventions) must be increased, and to increase coverage of interventions the interactions between families and the frontline workers who can deliver interventions must be enhanced (in that

they occur more often, are better quality, and are equitably distributed). To realise these changes the foundation supports innovations that aim to enhance interactions between families and frontline workers in three high mortality geographies: North-Eastern Nigeria, Ethiopia, and Uttar Pradesh, India.

In areas where projects funded by the foundation were working to enhance interactions between families and frontline workers between the three year period 2012-2015, IDEAS investigated whether and how these projects enhanced interactions, and whether the coverage of life saving interventions increased as a result. In doing so, IDEAS carried out a baseline survey of households, health facilities and frontline workers in each of the geographies in 2012, repeated with a follow up survey in 2015.

This report describes the changes in maternal and newborn health care that occurred between 2012 and 2015 in six implementation districts of Uttar Pradesh, India.

1.3: Identification of the study area and project activity

After consultation with the foundation and partners in Uttar Pradesh, six districts where foundation-funded projects were active during the period 2012-2015 were identified. Only one

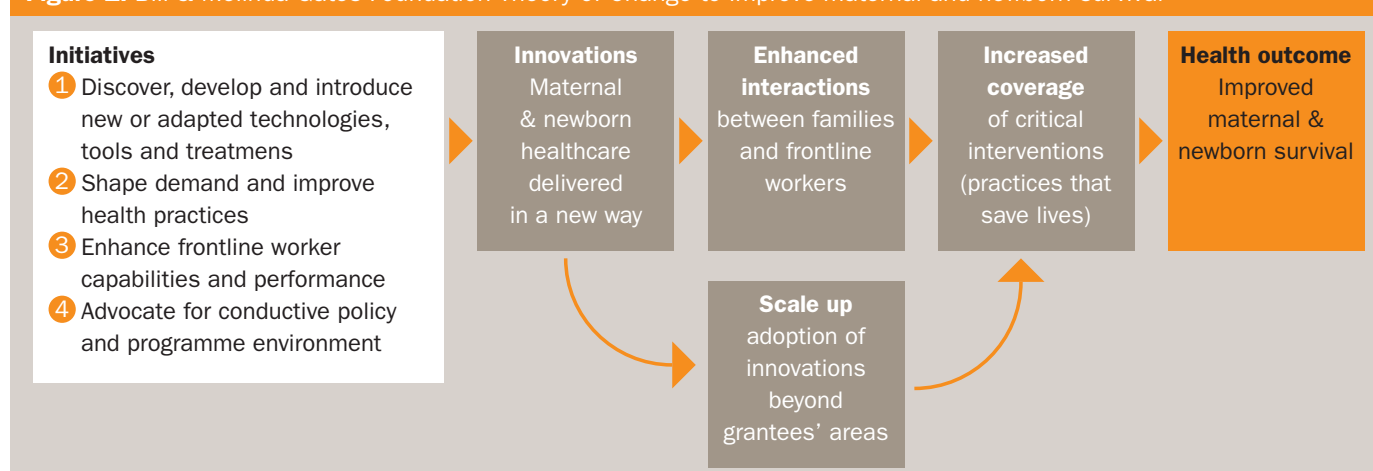
project, the Community Mobilisation Project,⁴ was active in all six districts throughout this period. It was an initiative embedded within the Rajiv Gandhi Mahila Vikas Pariyojana (RGMVP) platform,⁵ a rights-based organisation that works for poverty reduction, women's empowerment and rural development in Uttar Pradesh. It organises poor rural women into community institutions in the form of self-help groups – consisting of 10-20 women each – that act as social platforms to address issues of financial inclusion, healthcare, livelihoods, education and the environment. These self-help groups act as a platform for community mobilisation to expedite changes in family health care seeking behaviours and social norms, as well as establish strong links with the health care system at a local level to improve access to health care services.

The Community Mobilisation Project trained community health activists, or Swasthya Sakhis, to conduct regular meetings in villages, spread awareness and facilitate both community participation in regular antenatal check-ups, as well as access to healthcare services and entitlements.

Other projects present in the six districts during this period were:

- Manthan (Intrahealth International Inc.) who were active in two of the six districts between 2010-2014.

Figure 1: Bill & Melinda Gates Foundation Theory of Change to improve maternal and newborn survival



- Better Birth (Harvard School of Public Health, USA, in collaboration with World Health Organisation, Population Services International, India and Community Empowerment Lab@ Shivgarh) who were active in high-volume health facilities in two of the six districts since 2014.

A new project, the Technical Support Unit (JSI Research & Training Institute, Inc. partnering with the University of Manitoba) had also been active in one of the six districts at the time of the 2015 survey, but was not expected to have a detectable effect given the short interval between its launch and the 2015 survey. Further detail about the work of these projects can be found on the IDEAS website.

1.4: Characterising the innovations

Typical of complex interventions, each project implemented multiple innovations, and each innovation was expected to effect change on different outcomes along the pathway to improved maternal and newborn survival. In order to align measurement of change with the innovations in place, a characterisation process was undertaken by IDEAS in collaboration with the project leaders to identify the individual innovations, their mode of action and the expected improvements. A summary of the expected improvements is presented in Table 1. Because the Community Mobilisation Project was present throughout the study area, expected improvements have been restricted to those targeted by that project, also indicating where the same expected improvements overlapped with the aims of the other foundation funded projects.

The main body of this report focuses on results mapped to these expected improvements. Additional results on maternal and newborn health care are presented in the Annex for information.

Table 1: Expected improvements in interactions and coverage of life saving interventions arising from innovations implemented by the Community Mobilisation Project in Uttar Pradesh (showing overlap with other foundation-funded projects in the same area)

Expected improvement		Community Mobilisation Project	Better Birth Project	Manthan Project
Frequency of interactions				
Antenatal care		✓		✓
Institutional delivery		✓		✓
Postnatal care for the mother		✓		✓
Postnatal care for the newborn		✓		✓
Quality of interactions				
Timing	Antenatal care	✓	✓	✓
	Intrapartum care	✓	✓	✓
	Postnatal care for the mother	✓	✓	✓
	Postnatal care for the newborn	✓	✓	✓
Knowledge of danger signs		✓	✓	✓
Equity of interactions				
Antenatal care		✓		✓
Intrapartum care		✓		✓
Postnatal care for the mother		✓		✓
Postnatal care for the newborn		✓		✓
Life saving interventions				
Hand washing with soap by delivery attendant		✓	✓	✓
Use of gloves by delivery attendant		✓	✓	✓
Hygienic cord and skin care		✓	✓	✓
Initiation of early breastfeeding		✓	✓	✓
Immediate thermal care		✓	✓	✓
KMC for preterm and <2,000g babies		✓		

1. www.censusindia.net
2. www.unicef.org/sitan/files/SitAn_India_May_2011.pdf
3. <http://ideas.lshtm.ac.uk>
4. The Community Mobilisation Project was implemented by a consortium led by the Public Health Foundation of India, and includes RGMVP, Community Empowerment Lab at Shivgarh, the Population Council and Boston University's Centre for Global Health and Development
5. <http://www.rgmvp.org>





Methodology

2.1: Timeline

The surveys were implemented in November 2012 and November 2015. The same methods were applied in both surveys.

Household interviews with all women aged 13-49 refer to their contact with frontline workers during the six months prior to survey (May – October in both 2012 and 2015). Household interviews with ever married women aged 13-49 who had a live birth refer to births that occurred in the 12 months preceding survey (November 2011 – October 2012 in 2012, November 2014 – October 2015 in 2015). Facility assessments refer to the availability of equipment and supplies on the day of survey (November in both 2012 and 2015), and data extracted from facility registers for the six month period prior to survey (May – October in both 2012 and 2015). Frontline worker interviews refer to their career as a frontline worker and to the last birth that they attended.

2.2: Survey modules

The survey design used population level probability sampling to select household clusters, and then also surveyed the primary health centres (PHC) and community health centres (CHC), and the frontline workers assigned to provide maternal and newborn care services to those household clusters.

The **household survey** comprised of three modules. (1) A household module asked all household heads about characteristics of the household, ownership of commodities, and registered all normally resident people in the household. (2) A women's module asked all women aged 13-49 years and normally resident in the household about the health care available to them, their recent contact with frontline workers and their birth history in the two years preceding the survey. (3) A mother's module asked all ever married women who reported a birth in the last two years (identified in the women's module) a detailed set of questions about their contact with health services across

the continuum of care from pregnancy to postnatal care.

The **facility survey** comprised of four sections. (1) An inventory of equipment and supplies that were available and functioning on the day of survey. (2) An inventory of staff employed at the facility, their cadre, training and whether they were present on the day of survey. (3) An interview with the in-charge of the facility about the services available at that facility, and about recent supervision visits they had received. (4) Data extraction from facility registers recorded the number and outcomes of all births at the facility during the previous six months.

The **frontline worker** survey comprised of four sections. (1) The services provided by the frontline worker and the amount of time they typically spend on each service. (2) The training and supervision the frontline worker had received to provide those services. (3) The workload of the frontline worker during the month preceding survey, and their recall of activities that took place during the last delivery they attended. (4) An interview comprising unprompted questions about knowledge of appropriate care for mothers and newborns.

The content of each survey module or section was informed by existing large scale survey tools such as the Demographic and Health Surveys, the Service Provision Assessment, Averting Maternal Death and Disability, Safe Motherhood, and the Indian National Family Health Survey. All questionnaires were extensively pre-tested prior to survey implementation in both years.

2.3: Sample size and selection

A map of the State of Uttar Pradesh relative to the rest of India is shown in Figure 2, and a map of the sampled households, facilities and frontline workers in Figure 3. The sample frame for selection of survey clusters included all blocks in the six districts (Hardoi, Jhansi, Sultanpur, Maharajganj, CSM Nagar (Amethi), Raebareli), and a

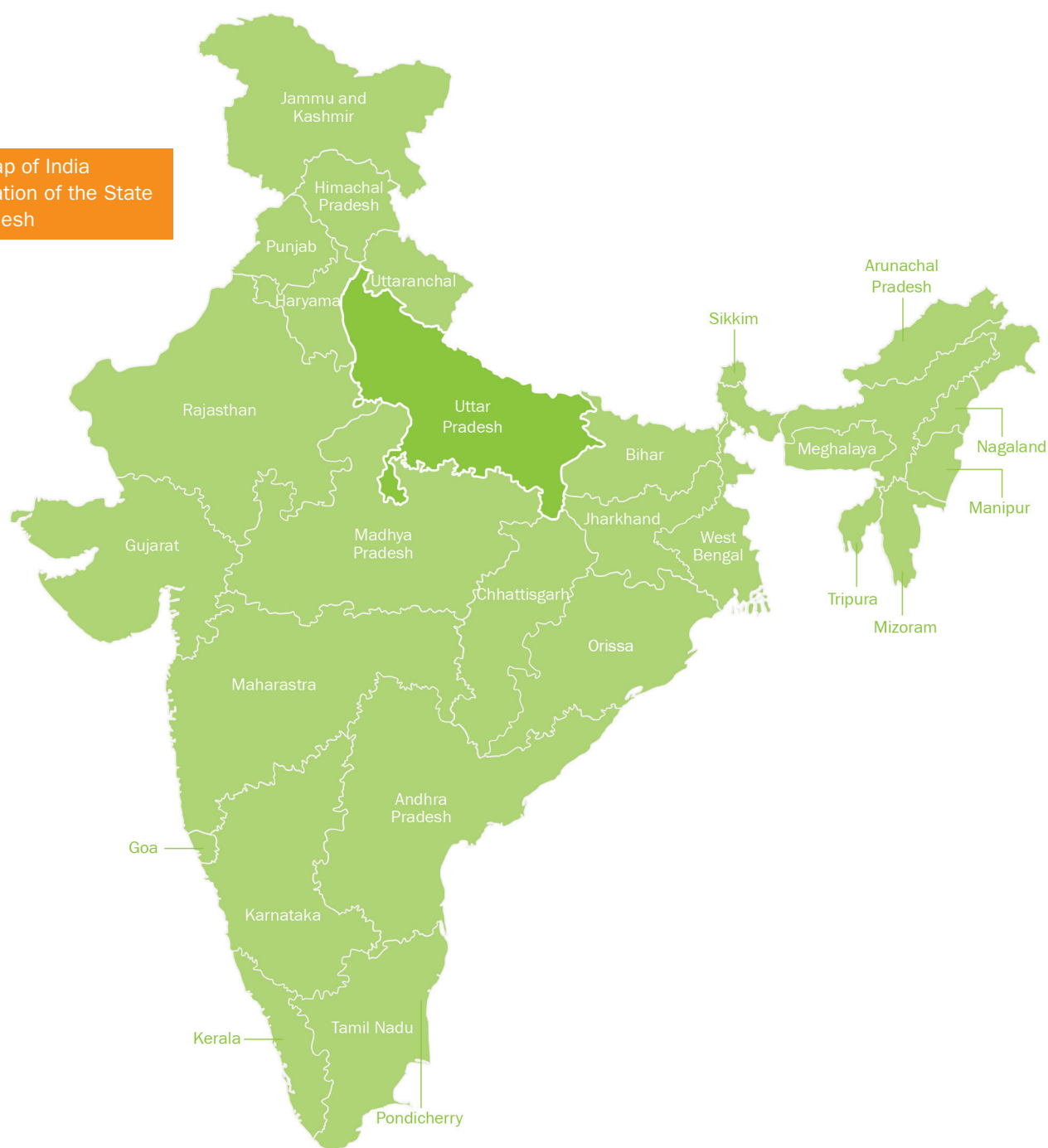
representative sample of households in these six districts was taken. Initially the household clusters (villages) were allocated according to whether projects planned to be active at the block level (intervention) or not (comparison) to enable a 'difference-in-differences' approach in analysis. However, project implementation plans changed between 2012 and 2015, so in January 2015 project leaders were asked to review the list of sampled blocks against their implementation activities at that time. This review revealed that at least one project was present in each of the sampled blocks by the time of the survey in 2015.

Consequently, the analysis presented here represents a before-after analysis of change.

We returned to the same survey clusters each year. Household clusters were selected using probability proportional to size of the cluster. A cluster was defined as a village and all households in each selected village were surveyed (or in a segment of 75 households from the selected village if the village had more than 75 households). In addition, the PHC or CHC assigned to provide primary level care to those households was visited, and any frontline workers providing maternal and newborn health services to the households were identified and interviewed.

The minimum target number of households per cluster was set at 75, meaning a minimum total number of 3,000 households for each survey. In this fertility setting (the National Family Health Survey in 2005-6 estimated the total fertility rate to be 3.8) this number of households would result in a minimum of 200 women with a live birth in the previous 12 months (i.e. one in every fifteen households surveyed). The size of this sample was sufficient to measure as statistically significant, and with 90% power, changes of 20 or fewer percentage points in a range of interaction and intervention coverage indicators across the continuum of care.

Figure 2: Map of India showing location of the State of Uttar Pradesh

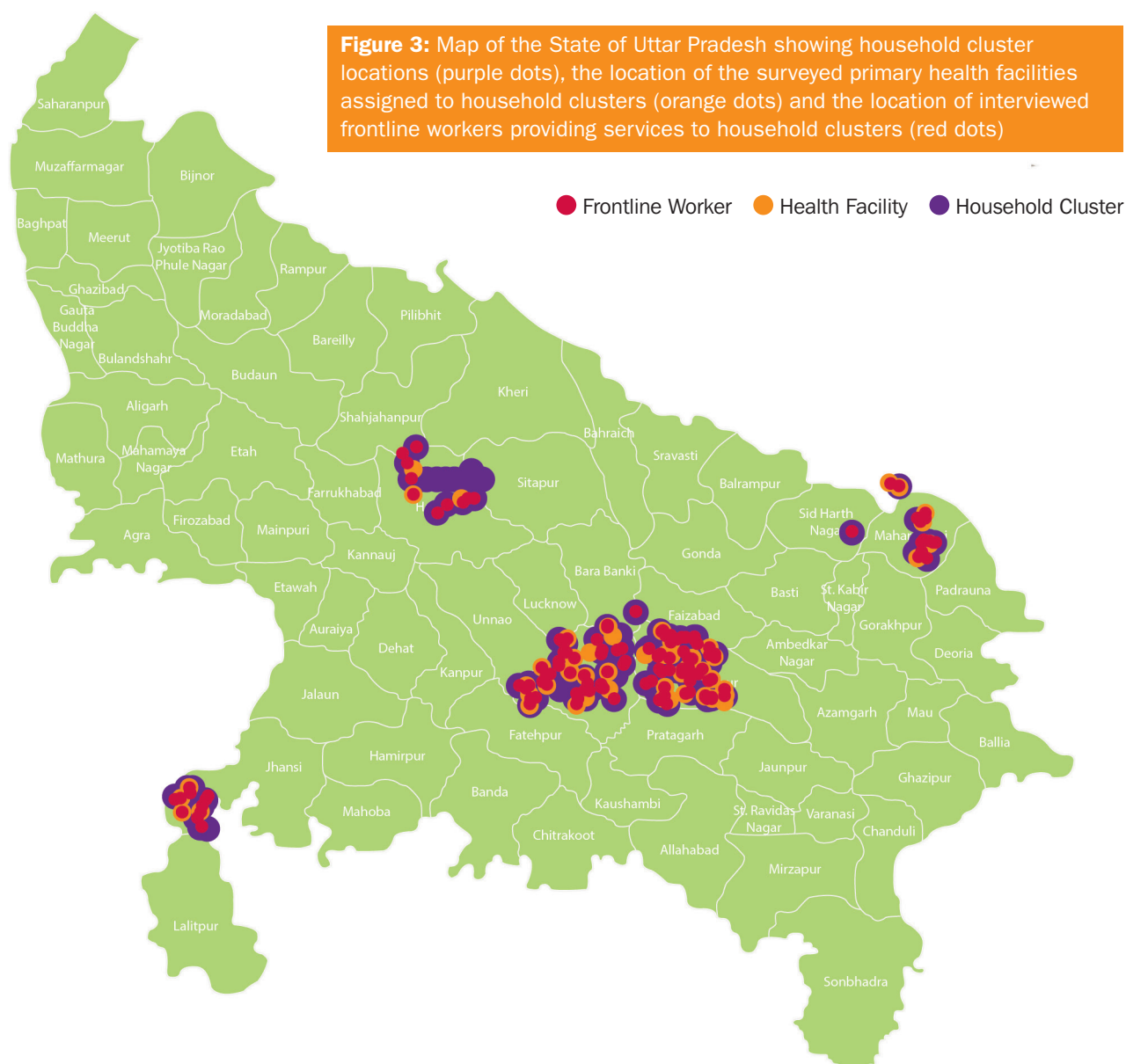


2.4: Survey implementation

Each survey was implemented by Sambodhi (www.sambodhi.co.in). Questionnaires were written to handheld digital devices using CSPro software. Interviewers from Uttar Pradesh were recruited and trained. There were eight survey teams, each comprised of one supervisor, five household interviewers, one medically trained facility and frontline worker interviewer, one mapper who listed households and segmented enumeration areas as necessary, and one data support person. Each team aimed to complete one cluster every two days.

Each year the survey teams were trained in-house for five days to familiarise themselves with the questionnaires and procedures, followed by a full pilot (including a review of data downloads) in two clusters (not included in the final analysis).

In addition to pre-testing the questionnaires, training interviewers and pilot testing all protocols, during field work supervisors carried out at least three re-interviews a day and observed each interviewer in his team each day of data collection. These



re-interviews and observations were used as a means of providing feedback to interviewers, ensuring consistency between interviewers and continuously improving the standard of work.

2.6: Data management and analysis

Every day, data were synchronised from the interviewer devices to the supervisor's laptop: these daily downloads were then copied to a labelled and securely stored compact disk. In addition, when the team had internet connectivity, data were uploaded from

the laptop to a secure, dedicated server which senior supervisors checked for completeness and consistency.

Data modules were linked using a set of automatically generated unique identifiers and data tables for the analysis constructed. Data were analysed using STATA 12. Clustering was adjusted for using svy commands when tabulating percentages or calculating means.

2.7: Research ethics

This work obtained ethical approval in India from SPECT-ERB, an independent

Ethical Review Board, and written permission from the National Rural Health Mission (now the National Health Mission) of Uttar Pradesh. The work was also approved by the Health Ministry Screening Committee's Indian Council for Medical Research. Ethical approval was obtained from the London School of Hygiene & Tropical Medicine (reference 6088).



Characteristics of the health facilities surveyed

3.1: Sample selection

The sample selection protocol was to identify and survey the government owned PHC or CHC allocated to provide routine maternal and newborn health (MNH) services to each household cluster. In reality, some household clusters shared a PHC or CHC so in 2012 only 60 facilities were identified and surveyed for the 80 household clusters (n=36 PHC and n=24 CHC). In 2015 the protocol was revised to require survey teams to identify and survey the nearest alternative government PHC facility

in the event that multiple household clusters shared a PHC, and to identify and survey every CHC in survey blocks. This resulted in a larger facility sample in 2015 (n=82 PHC and n=39 CHC).

3.2: Infrastructure of primary and community health facilities

Infrastructure indicators were not part of the expected effects arising from project activities but are described here to provide context about the health care available to women. In 2012, gaps in the basic infrastructure of PHCs had

been identified and some of these were still present in 2015. (Table 2) Most striking was that the majority of PHCs continued to lack motorised transport for referrals, a functional fridge, and a reliable light source that worked 24 hours a day. The situation in CHCs had improved in 2015, particularly apparent for availability of referral vehicles and a reliable light source.

3.3: Staff employed and at work in health facilities

In 2012 and 2015 all facilities employed at least one skilled birth attendant (clinician, registered nurse or auxiliary nurse midwife (ANM)).

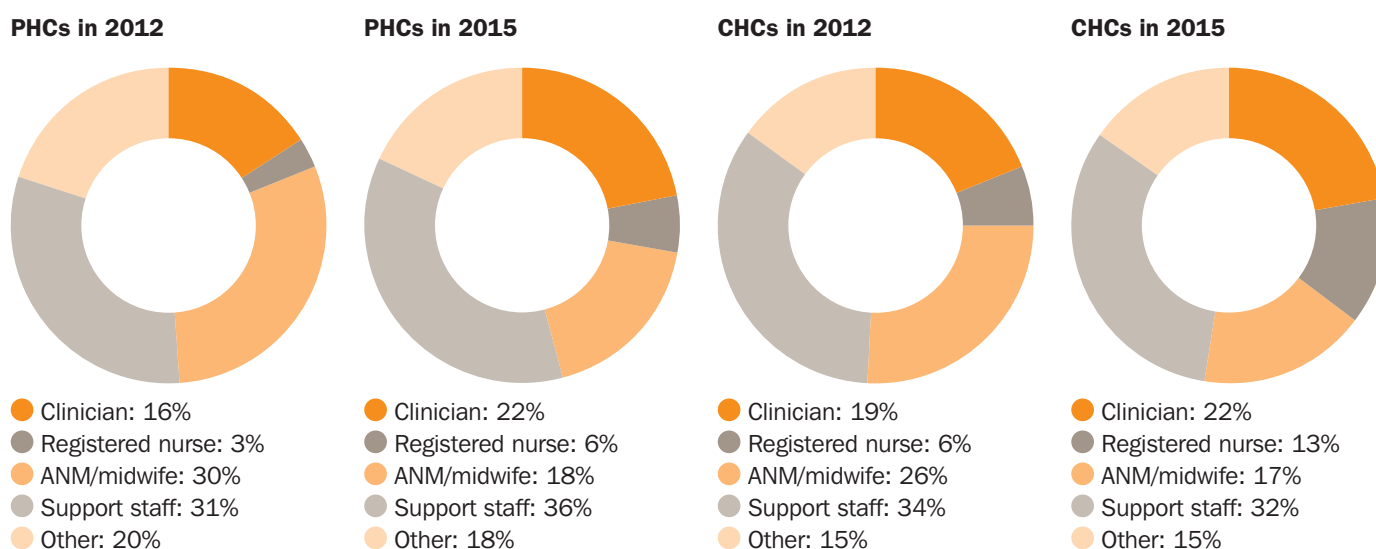
The proportional distribution of staff cadres employed by the health facilities is shown in Figure 4.

The pattern by level of facility and survey year is remarkably consistent. The largest group employed were support staff with no medical training. Notable changes between the survey years include a proportional increase in clinicians relative to ANMs in PHCs, and a proportional increase in registered nurses relative to ANMs in CHCs. In combination this suggests that, on average, staff at both PHCs and CHCs were more skilled in 2015 than in 2012.

Table 2: Infrastructure of primary and community care facilities, six-district survey of Uttar Pradesh 2012-2015

Infrastructure item	PHC 2012 (N=36)	PHC 2015 (N=82)	CHC 2012 (N=24)	CHC 2015 (N=39)
Toilet for facility users	94%	90%	100%	100%
Electricity supply (usual)	83%	80%	100%	100%
Functional steriliser or stove	81%	51%	96%	97%
Running water	72%	78%	96%	97%
Room providing physical privacy	56%	51%	100%	90%
Any means of telephone communication	61%	56%	50%	72%
Newborn care corner	58%	59%	88%	95%
Functional fridge	33%	16%	96%	97%
Motorised transport for referral	19%	15%	50%	82%
24 hour light source	28%	33%	54%	95%

Figure 4: Proportional distribution of staff cadres employed



Characteristics of frontline workers interviewed

4.1: Sample selection

In 2012 a total of 220 frontline workers were interviewed, 280 in 2015. (Table 3)

In both years, one Anganwadi worker was identified and interviewed for each household cluster, and almost one Accredited Social Health Activist (ASHA) was interviewed per cluster. Despite considerable effort by the survey teams, they were not able to identify one Swasthya Sakhis per cluster: in 2015, 28 were identified from 28 of the 80 sampled villages and all were successfully interviewed. In 2012, all ANMs interviewed were working in a PHC and all nurses and clinicians in a CHC. In 2015, all ANMs interviewed were working in a PHC and the nurses and clinicians were distributed equally between PHCs and CHCs.

In 2015, 25% of frontline workers said they were a member of a self-help group, including 93% (26/28) of the

Table 3: Number of frontline worker interviews by cadre and survey year

Cadre of interviewee	2012	2015
ASHA	75	79
Swasthya Sakhis	3	28
Anganwadi workers	80	80
ANM/midwives working in communities	9	0
ANM/midwives working in facilities	31	29
Nurses/clinicians in health facilities	22	64
Total	220	280

interviewed Swasthya Sakhis, 23% of the ASHA (18/79), and 20% of the Anganwadi workers (16/80). Each survey year over 85% of frontline workers reported having been supervised at least once in the previous six months, the majority by a senior government health facility employee.

4.2: Services provided by frontline workers

Services provided by frontline workers are described here to provide context about the health care available to women. Frontline workers were asked about the services that they provide to communities. In 2015, 96% reported that they provided counselling about personal hygiene (high across all cadres), 85% counselling about contraception (high across all cadres), 95% provided pregnancy care (high across all cadres), 58% delivery care (high amongst ASHA, ANMs and staff in health facilities, but not Anganwadi workers or Swasthya Sakhis), 95% postnatal care for mothers and for newborns (high across all cadres), 96% said they provided breastfeeding counselling (high across all cadres), 81% that they aimed to identify low birth weight babies needing extra care, and 77% aimed to mobilise communities to seek health care (high across all community-based cadres).



Characteristics of households and women interviewed

5.1: Sample selection

The sample selection for the household interviews is shown in Table 4. In 2012 94% of all resident women in households were individually interviewed about their recent fertility history, 90% in 2015. Of these, 604 women reported having had a live birth in the 12 months prior to survey in 2012, 584 in 2015.

5.2: Characteristics of women interviewed

The characteristics of women with a recent live birth are shown in Table 5. Characteristics were comparable between survey years. Women were predominantly married, Hindu, with a mean age of 26 years. Approximately 40% were from scheduled castes or scheduled tribes, and approximately 40% had no formal education. The relative measure of socio-economic status of households in which women lived is used for disaggregation of outcomes by equity, and is described in the next section.

5.3: Socio-economic status of households

The household module asked questions about household building materials (walls, roof, floor), utilities (water, sanitation, cooking fuel, electricity), and assets (radio, bicycle, fridge, television, mobile phone, bed, kerosene or pressure lamp, wrist watch, motorcycle, tractor, fan).

Each survey year, in order to examine the relationship between key coverage outcomes and socio-economic status, an index of socio-economic status was

constructed for each household using principal components analysis. The continuous index variable produced by the principal components analysis was divided into five equal sized groups

(quintiles) of households from quintile 1 (most poor) to quintile 5 (least poor).

The characteristics of households in the most poor and the least poor quintiles in 2012 are demonstrated in Figure 5.

Table 5: Characteristics of household survey respondents

		2012	2015
Characteristic		Resident women with a live birth in 12 months preceding survey N=604	Resident women with a live birth in 12 months preceding survey N=584
Caste	Schedule caste/tribes	37%	41%
	Other backward castes	43%	41%
	General classes	20%	17%
Religion	Hindu	93%	90%
	Muslim	7%	10%
Socio-economic status	Q1 (most poor)	21%	18%
	Q2	18%	22%
	Q3	16%	16%
	Q4	24%	21%
	Q5 (least poor)	21%	22%
Marital status	Married	100%	99%
Education level	None	40%	39%
	Primary	22%	17%
	Secondary	38%	44%
Mean age (years)		26 years	27 years

Figure 5: Characteristics of building materials and ownership of assets in the most poor (Q1) and the least poor (Q5) households surveyed

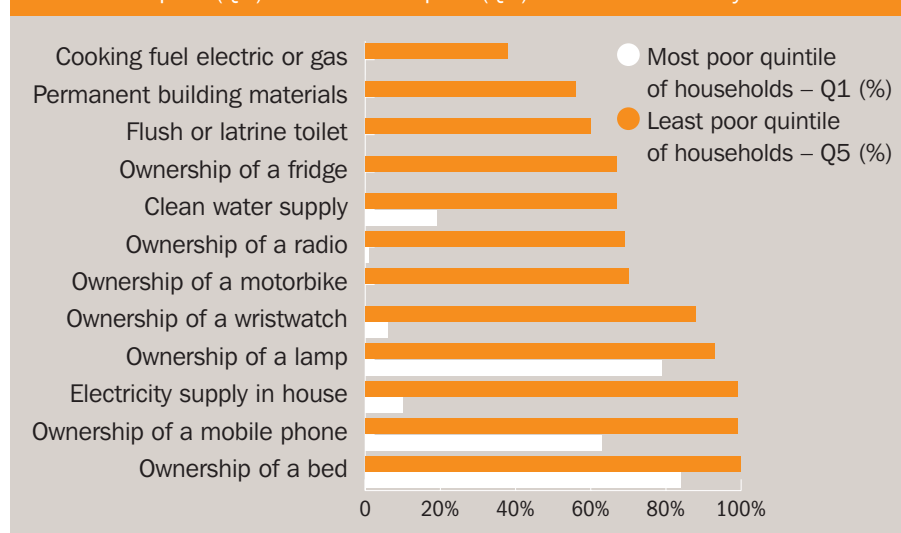


Table 4: Household survey sample in 2012 and 2015

	2012	2015
N of clusters	80	80
N of households	5,258	6,466
N resident women aged 13-49	8,641	9,446
N women interviewed	8,120	8,522
N women with birth in 12 months preceding survey	604	584

Frontline worker contact with families



The percentage of women who reported attending a community meeting to discuss health related issues increased between survey years, although coverage remained low at 5%



In the household survey, women with a live birth in the 12 months preceding survey were asked about the contact that they and their families had with frontline workers in their own home or at community meetings.

6.1 Contact with frontline workers in own home

The percentage of women who reported being visited at home by a community-based frontline health worker (ASHA, Anganwadi worker, ANM, Swasthya Sakhis) increased from 66% (95% CI 62-71) in 2012 to 76% (95% CI 71-80) in 2015. In both years Anganwadi workers made the most home visits (77% of all reported visits in 2012, 90% of all reported visits in 2015), followed by ASHA (16% in 2012 and 7% in 2015).

Swasthya Sakhis were identified by less than one percent of respondents each survey year.

6.2 Contact with frontline workers at community meetings

The percentage of women who reported attending a community meeting to discuss health related issues also increased between surveys, although coverage was much lower (1% of women with a recent birth in 2012, 5% in 2015). These community meetings were almost exclusively reported to have been convened by community-based frontline health workers (Anganwadi workers, ASHA and Swasthya Sakhis).

Respondents were asked to recall the topics of discussion at these contact points. Nineteen topics were recalled and subsequently ranked by frequency with which they were recalled. The most frequently cited topics are shown in Table 6. There was remarkably little difference in topic ranking between contact points. Discussion about immunisation was recalled by over 80% of respondents for each contact point. The remainder of the topics were all recalled by between 10-25% of respondents for each contact point with the exception of 'pregnancy and delivery care' which increased to being discussed at approximately 50% at both home visits and community meetings in 2015.

Table 6: Most commonly cited topics of discussion with community-based frontline workers during home visits or community meetings on health related issues (ranked by number of times mentioned by household respondents)

Topic	2012 rank		2015 rank	
	Home visits	Community meetings	Home visits	Community meetings
Immunisation	1	1	1	1
Child nutrition	2	3*	3	3*
Pregnancy and delivery care	3	2	2	2
Newborn care	4	3*	4	3*
Breastfeeding	5	3*	6	5
Hygiene	6	4	5	4

*topic frequency tied in the ranking exercise

Results on expected improvements

This chapter presents results on the expected improvements arising from the funded projects in the study area, including frequency of interactions, the quality of those interactions and the coverage of life saving interventions. Coverage is also broken down by socio-economic status of households.

7.1 Interaction coverage and equity

An increase in antenatal care coverage at least once with a skilled provider was observed, increasing from approximately two thirds of women in 2012 to three quarters of women in 2015. There was no change in coverage of at least four antenatal care visits, with approximately one quarter of women reporting at least four antenatal care visits during their last pregnancy in both survey years.

No evidence of an increase in coverage of institutional delivery was observed: coverage was already high at 76% in 2012, rising to 81% in 2015 in this study area. An increase was observed in coverage of postnatal care for the mother within 48 hours of birth, rising from 54% in 2012 to 63% in 2015. This rise was explained by improvements in providing postnatal care to women who delivered at home for whom coverage increased from 18% in 2012 to 52% in 2015.

Coverage of postnatal care provided to women who delivered in a health facility remained constant at 65% each survey year. Postnatal care provided to the newborn within 48 hours of birth was the interaction with lowest coverage across the continuum at just 15% in 2015, with no evidence of change between survey years for all newborns, or by place of birth.

In 2012 some inequity in coverage of interactions was observed, with the poorest women consistently having lowest coverage compared to other socio-economic groups. In 2015 however, weak evidence of improvement was observed for the most poor in coverage of institutional delivery (rising from 68% to 80%), and in coverage of postnatal

care for mothers within 48 hours (rising from 50% to 64%). (Figure 6)

7.2 Intervention coverage and equity

Little evidence of change in the coverage of life saving interventions was observed. (Table 7) In both survey years, almost all women reported that their birth attendant had washed their hands with soap and had worn gloves, so there was limited potential to increase coverage of these indicators.

In both survey years approximately half of mothers reported that their newborn was breastfed within an hour of birth, and had clean cord care; approximately two thirds reported that their newborn was not bathed in the first 24 hours of

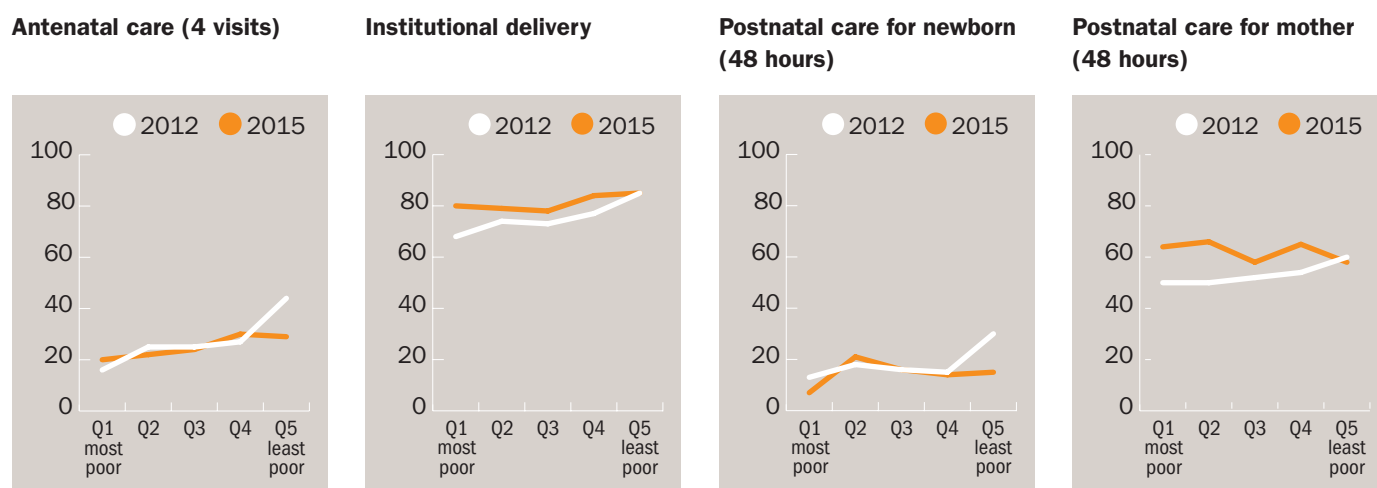
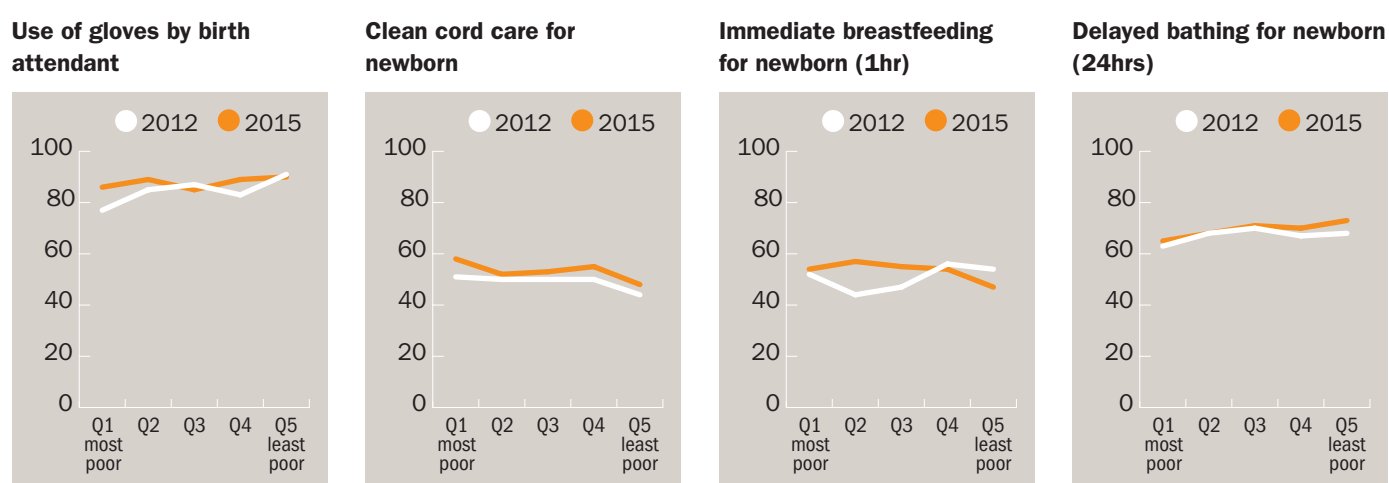
life. The immediate wrapping and drying of newborns did increase in 2015, although coverage of these two behaviours remained very low with just 13% being dried immediately and 3% being wrapped immediately after birth.

There was very little evidence of inequity in coverage of the life saving interventions targeted here in either survey year. (Figure 7) In 2012 there was a difference by socio-economic status in the reported use of gloves by birth attendants (77% of the most poor and 91% of the least poor), but this had disappeared by 2015 (being 86% and 90% respectively), likely as a result of the observed increase in facility delivery amongst the poorest.

Table 7: Coverage of interactions and coverage of life saving interventions in six districts of Uttar Pradesh in 2012 and 2015 (showing % and 95% confidence interval (CI))

Expected improvement		2012 % (95% CI)	2015 % (95% CI)	χ^2 p-value for difference
Number of observations		604	584	
Frequency of interactions	Antenatal care with a skilled provider (\geq one visit)	63% (57-68)	76% (73-79)	0.001
	Antenatal care (\geq four visits)	28% (24-33)	25% (21-30)	0.40
	Institutional delivery	76% (71-80)	81% (77-85)	0.10
	Postnatal care for the mother (\geq once within 48hrs of birth)	54% (48-59)	63% (58-67)	0.01
	Postnatal care for the newborn (\geq once within 48hrs of birth)	19% (15-23)	15% (11-20)	0.17
	Life saving interventions ¹			
	Hand washing with soap by delivery attendant	95% (91-96)	93% (90-95)	0.52
	Use of gloves by delivery attendant	85% (82-88)	88% (85-91)	0.18
	Hygienic cord and skin care	49% (44-53)	53% (48-57)	0.20
	Initiation of early breastfeeding	51% (46-56)	53% (49-58)	0.51
Immediate thermal care:	Drying within 5 minutes of birth	0%	13% (10-16)	<0.01
	Wrapping within 5 minutes of birth	0%	3% (2-6)	<0.01
	Delayed bathing beyond 24 hours after birth	67% (63-72)	70% (64-75)	0.55
KMC for preterm and <2,000g babies		N/A	N/A	

¹ 'Don't know' responses removed from denominator

Figure 6: Coverage of interactions across the continuum of care, disaggregated by socio-economic status of households**Figure 7:** Coverage of interventions across the continuum of care, disaggregated by socio-economic status of households

7.3 Indicators of interaction quality

Indicators of interaction quality targeted by the projects across the entire study area were predominantly demand side, reflecting timing of care and knowledge of the danger signs that require care. Results for these interaction quality indicators are shown in Table 8, where we observe no difference in the reports of women between survey years.

Table 8. Demand side indicators of interaction quality in six districts of Uttar Pradesh in 2012 and 2015

Expected improvement		2012	2015
Quality of interactions			
Timing	Antenatal care (median weeks gestation at first visit)	16 weeks	16 weeks
	Postnatal care for the mother (median days since birth at first visit)	0 days (<24hrs)	0 days (<24hrs)
	Postnatal care for the newborn (median days since birth at first visit)	0 days (<24 hrs)	1 day (24-48 hrs)
Knowledge of danger signs	Pregnancy ¹ (mean number of danger signs cited)	3	3
	Intrapartum ² (mean number of danger signs cited)	2	2

¹From a total of 10 coded danger signs ²From a total of 11 coded danger signs



Discussion

In summary, some but not all indicators that had been targeted by projects were observed to have increased between the surveys.

Improvements in coverage of some interactions were observed. Coverage of at least one antenatal care visit with a skilled provider increased so that three quarters of women reported this in 2015. But there was no change in coverage of at least four antenatal care visits with only one quarter of women having the recommended four visits in 2015. Coverage of facility delivery was already high in the study area in 2012 with approximately eight out of ten women reporting facility delivery, but there was some indication of increased coverage among women living in the poorest households.

Postnatal care for the mother within two days of birth increased from half of women receiving a check, to two-thirds of women in 2015. This large change was driven by an increase in the number of postnatal checks for women who delivered at home (18% had a postnatal check in 2012, 52% in 2015). Postnatal care for the newborn remained very low at just 15% in 2015. Indicators of interaction quality (restricted to demand side indicators on timing of care and knowledge about danger signs, as targeted by projects) showed no evidence of change.

Regarding life saving interventions, hand washing with soap and the use

of gloves by birth attendants were reported to be almost universal even in 2012 so there was almost no possibility to increase. Clean cord care for newborns, and initiation



Postnatal care for the mother within two days of birth increased from half of women receiving a check, to two-thirds of women in 2015. This large change was driven by an increase in the number of postnatal checks for women who delivered at home



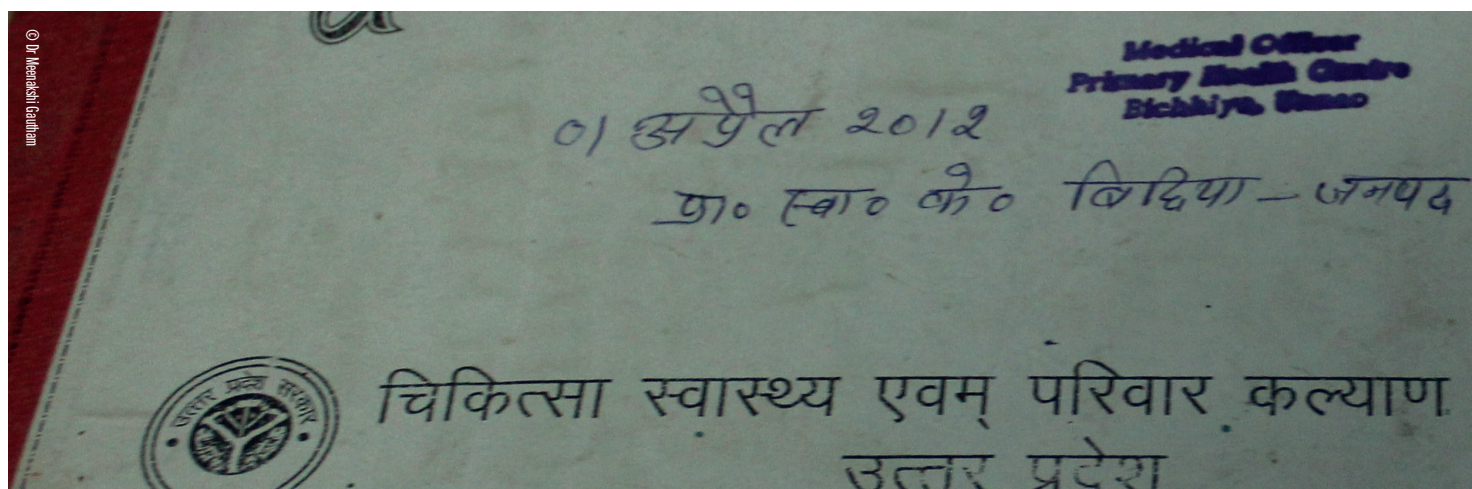
of breastfeeding within one hour of birth remained constant at approximately 50%. Immediate drying and wrapping of the newborn were not reported to be practised in 2012 but were detectable in 2015, although levels of coverage remained very low (13% immediate drying, 3% immediate wrapping).

The findings on home visit contacts between women and frontline workers revealed that 76% of women with a recent birth had been visited at home by a frontline worker in 2015. These home visits were conducted predominantly by Anganwadi workers and ASHAs.

Very few women (5% in 2015) reported that they had attended a community meeting to talk about any health issue. Related to this, the survey teams found that very few of the sampled villages had a Swasthya Sakhi operating there, despite considerable efforts to identify them, including holding village meetings, asking in public and private health facilities and asking other community frontline workers in villages.

This raises questions about the extent to which the Community Mobilisation Project aims were implemented as planned: it is possible that results reflect low levels of implementation and ongoing course-correction rather than a lack of impact from the innovations per se.

A number of limitations are present. First, survey data collection approaches to measure behaviours that occur during pregnancy, intrapartum and newborn periods may be susceptible both to recall and measurement bias. We tried to limit recall bias by only analysing data on births from the last 12 months in the household survey and the last birth attended by frontline workers.



Measurement bias is harder to control (for example, a woman may have difficulty in accurately reporting the timing of events). However, there is no reason to expect that this bias would have a systematic effect on analysis of change between two survey points given that the same methods were applied each time.

Second, the original study design had included intervention and comparison areas to provide more robust estimates of change than a before-after analysis. However, in the absence of large changes being observed, the limitation introduced by switching to a before-after analysis had little impact on the overall interpretation of results.

Third, the implementation projects had planned to begin work in 2012 but (with the exception of Manthan, which had already started) refinement of implementation strategies meant that activity was delayed and the results reflect less implementation time than initially planned. Nevertheless, all projects had been active for 12 months or more at the time of the 2015 survey.

Furthermore, implementation was not equally spread across the six districts, with Better Birth for example only being present in a small number of large facilities in the study area, and the Manthan project finishing at the end of 2014. For this reason, the results presented in the report have been

restricted to those targeted by the Community Mobilisation Project – which was in operation throughout the study area – although a more complete set of indicators is included in the Annex for information.

This longer list of demand and supply side indicators shows a mixed picture of change occurring beyond the expected effects of projects. Not only did coverage of at least one antenatal care visit with a skilled provider increase, but so too did coverage of all the individual components of focussed antenatal care as a measure of supply side quality, with the exception of counselling on danger signs (Table A1.1). But coverage of tetanus toxoid protection and of syphilis prevention both decreased (from 87% to 78% and from 7% to 2% respectively) (Table A1.1). Coverage of prophylactic uterotonics immediately after birth increased from

49% to 60% (Table A1.2), and the availability of uterotonics in both PHCs and CHCs also improved (Table A1.4 and A1.5). Coverage of the individual components of postnatal care for the woman as a measure of supply side quality decreased between 2012-2015, despite an increase in the frequency of this interaction (Table A1.3).

Finally, this study was not designed to reflect progress of individual grants (each having its own evaluation strategy), but to understand changes arising as a result of investments made by the Bill & Melinda Gates Foundation strategy for maternal and newborn health in a sub-set of districts. The direct context of this work means that the results presented in the main report focus predominantly on demand side indicators that map to expected effects arising from the three projects operating in the six districts.

In interpretation it is important to remember that some of the indicators targeted by projects already had very high coverage in this six-district study area, meaning that the opportunity to achieve change would be challenging. Yet, there was also an absence of change for two sets of targets that were already low in 2012: the frequency and quality of postnatal interactions and immediate newborn care. Partners working in the State urgently need to reflect on how to address these problems.



This longer list of demand and supply side indicators shows a mixed picture of change occurring beyond the expected effects of projects



Sl. No.	Name	6	6	5	4	2
20	उमेशा सिन्हा	2	2	4	1	1
21	रमेश्वरी चौधरी	2	2	4	1	1
22	गणेश मिश्रा	5	5	1	4	1
23	गिता मिश्रा	5	5	2	2	1
24	उमेशा पाण्डेय	1	1	1	1	1
25	एनमगा चौधरी	—	—	—	—	—
26	प्रेमा देवी	4	4	3	1	1
	उनीता पाण्डेय	1	1	1	1	1
	→ योग →	71	71	62	24	24



Long list of indicators for maternal and newborn health

Table A1.1: Household survey results on **pregnancy care** in six districts of Uttar Pradesh in 2012 and 2015 (showing % and 95% confidence interval (CI))

	2012 % (95% CI)	2015 % (95% CI)	χ^2 p-value for difference
Number of observations	604	584	
Frequency of interactions			
Antenatal care with a skilled provider (\geq one visit)	63% (57-68)	76% (73-79)	0.001
Antenatal care (\geq four visits)	28% (24-33)	25% (21-30)	0.40
Quality of interactions			
Coverage of good quality antenatal care ¹	7% (5-9)	5% (3-7)	0.2
Blood pressure testing at least once	34% (30-40)	43% (37-49)	0.04
Blood sample taken	24% (20-29)	44% (38-50)	0.0001
Urine sample taken	33% (28-38)	42% (36-48)	0.03
Counselled on birth preparedness	29% (25-35)	36% (31-41)	0.07
Counselled on danger signs	28% (24-33)	19% (15-23)	0.005
Coverage of any birth preparedness ²	55% (51-59)	51% (46-59)	0.2
Finances	53% (49-58)	47% (43-52)	0.05
Transport	30% (26-34)	31% (27-36)	0.6
Identification of health facility	21% (17-25)	21% (16-27)	0.9
Identification of birth attendant	15% (11-19)	15% (12-19)	0.9
Food	13% (11-17)	16% (13-20)	0.2
Life saving interventions¹			
Iron supplementation received	59% (54-64)	65% (59-69)	0.1
Tetanus toxoid protection	87% (83-90)	78% (74-82)	0.002
Syphilis prevention ³	7% (5-10)	2% (1-3)	0.002

1. Coverage of good quality ANC includes all of blood pressure testing, taking blood and urine samples, counselling on birth preparedness and danger signs

2. Coverage of any birth preparedness includes at least one preparation made of the following: preparing finances, transport, identification of health facility for delivery, identification of birth attendant, food

3. Syphilis test result received

Table A1.2: Household survey results on **intrapartum care** in six districts of Uttar Pradesh in 2012 and 2015 (showing % and 95% confidence interval (CI))

	2012 % (95% CI)	2015 % (95% CI)	χ^2 p-value for difference
Number of observations	604	584	
Frequency of interactions			
Institutional delivery (any facility)	76% (71-80)	81% (77-85)	0.10
Births attended by a skilled birth attendant	76% (71-80)	83% (78-86)	0.02
Births by caesarean section	9% (7-12)	8% (6-11)	0.6
Quality of interactions			
Mean number of intrapartum danger signs cited	2.4 (2.2-2.7)	1.5 (1.4-1.7)	0.02
Life saving interventions¹			
Hand washing with soap by delivery attendant	94% (91-96)	93% (90-95)	0.52
Use of gloves by delivery attendant	85% (82-88)	91% (85-91)	0.18
Prophylactic uterotonics ²	49% (36-62)	66% (51-78)	0.05

1. Don't know responses excluded from denominator

2. Calculated by linking reports from birth attendants about use of uterotonics at last birth attended to household survey reports on cadre of attendant at birth

Table A1.3: Household survey results on **postnatal care** in six districts of Uttar Pradesh in 2012 and 2015 (showing % and 95% confidence interval (CI))

	2012 % (95% CI)	2015 % (95% CI)	χ^2 p-value for difference
Number of observations	604	584	
Frequency of interactions			
Postnatal care for the mother (\geq once within 48hrs of birth)	54% (48-59)	63% (58-67)	0.01
Postnatal care for the newborn (\geq once within 48hrs of birth)	19% (15-23)	15% (11-20)	0.17
Quality of interactions			
Coverage of good quality postnatal care for mother ¹	1% (0-3)	1% (0-3)	0.8
Breasts checked	28% (24-33)	16% (12-20)	0.001
Bleeding checked	15% (11-19)	10% (8-13)	0.04
Counselled on nutrition	21% (18-26)	22% (18-27)	0.7
Counselled on family planning	17% (13-20)	9% (7-12)	0.001
Counselled on danger signs	21% (17-25)	10% (8-13)	0.001
Coverage of good quality postnatal care for newborn ²	0%	1% (0-3)	0.08
Newborn weighed	9% (6-14)	7% (4-12)	0.3
Newborn cord checked	11% (7-16)	11% (7-18)	0.9
Newborn checked for danger signs	3% (1-5)	2% (1-4)	0.5
Caregiver counselled on breastfeeding	11% (7-16)	12% (8-17)	0.7
Caregiver counselled on danger signs			
Life saving interventions³			
Hygienic cord and skin care	49% (44-53)	53% (48-57)	0.20
Initiation of early breastfeeding	51% (46-56)	53% (49-58)	0.51
Immediate thermal care:			
Drying within 5 minutes of birth	0%	13% (10-16)	<0.01
Wrapping within 5 minutes of birth	0%	3% (2-6)	<0.01
Delayed bathing beyond 24 hours after birth	67% (63-72)	70% (64-75)	0.55
KMC for preterm and <2000g babies	N/A	N/A	

1. Coverage of good quality postnatal care for mother includes all of breasts and bleeding checked; counselled on nutrition, family planning and danger signs

2. Coverage of good quality postnatal care for newborn includes all of weighed, cord checked, danger signs checked, caregiver counselled for breastfeeding and identifying danger signs

3. Don't know responses removed from denominator

Table A1.4: Essential equipment and supplies to provide basic maternal and newborn health care at **primary health centres**

Item	2012	2015	Item	2012	2015
	PHC with item N=36 % (95% CI)	PHC with item N=82 % (95% CI)		PHC with item N=36 % (95% CI)	PHC with item N=82 % (95% CI)
General items for basic MNH			Diagnostics for MNH		
Soap	97% (82-100)	88 (79-93)	Pregnancy test kit	67% (50-80)	70% (59-79)
Single use syringes/needles	97% (82-100)	83% (73-90)	Malaria rapid test kits	47% (32-63)	38% (28-49)
Blood pressure cuff	94% (80-99)	94% (86-97)	Haemoglobin test	42% (28-58)	32% (23-43)
Thermometer	97% (82-100)	87% (77-93)	Urine dipstick	28% (16-45)	28% (19-39)
Sterile scissors or blade	94% (80-99)	78% (68-86)	Partographs	11% (4-26)	13% (8-23)
Disinfectant	89% (74-96)	79% (69-87)	Syphilis rapid test kit	3% (1-31)	0
Stethoscope	94% (80-99)	95% (88-98)	HIV rapid test kit	0	9% (4-17)
IV fluids with infusion set	83% (67-92)	67% (56-77)			
Suture material with needle	83% (67-92)	67% (56-77)	Medications for MNH		
Infant weighing scale	81% (64-91)	83% (73-90)	IV gentamycin	83% (67-92)	71% (60-80)
Disposable gloves	83% (67-92)	67% (56-76)	Ferrous sulphate/FA	95% (89-99)	93% (84-97)
Needle holder	89% (74-96)	77% (66-85)	Oral antibiotics	84% (61-95)	84% (66-92)
Waste receptacle with lid	83% (67-92)	77% (66-85)	IV metronidazole	64% (47-78)	49% (38-60)
Watch/timing device	74% (58-87)	67% (56-76)	Cotrimoxizole	50% (34-66)	60% (49-70)
Speculum	72% (55-85)	35% (26-46)	Uterotonics	37% (20-58)	65% (54-74)
Bag and mask for resuscitation	58% (42-73)	70% (58-79)	Corticosteroids	37% (20-58)	17% (10-27)
Disposable clamp/umbilical tie	61% (44-76)	65% (54-74)	IV ampicillin	39% (25-56)	70% (58-79)
Oxygen	53% (32-72)	29% (20-40)	Local anaesthetics	32% (14-57)	32% (22-43)
Sharps container	61% (44-76)	74% (64-83)	Diazepam	32% (14-57)	33% (24-44)
Blanket for newborn	53% (32-72)	76% (65-84)	Vitamin K	21% (9-42)	7% (3-16)
Suction bulb for mucus extraction	53% (36-69)	59% (47-69)	Sulphadoxine pyrimethamine	17% (8-33)	13% (8-23)
Disposable paper towels	56% (39-71)	74% (64-83)			
Vacuum extractor	33% (20-50)	52% (41-63)	Tetracycline/eye ointment	25% (13-42)	10% (5-19)
Baby warmer	36% (22-53)	44% (34-55)	Vaccinations for MNH:		
Fetal stethoscope	36% (22-53)	33% (24-44)	Bacille Calmette-Guerin	53% (37-68)	71% (60-80)
Manual vacuum aspirator	25% (13-42)	12% (7-21)	Tetanus toxoid vaccines	58% (37-76)	94% (86-97)
			Oral Polio Vaccine (OPV)	53% (37-68)	73% (62-82)

Table A1.5: Essential equipment and supplies to provide basic maternal and newborn health care at community health centres

	2012	2015		2012	2015
	CHC with item N=24 % (95% CI)	CHC with item N=39 % (95% CI)		CHC with item N=24 % (95% CI)	CHC with item N=39 % (95% CI)
General items for basic MNH			Diagnostics for MNH		
Soap	96% (75-99)	97% (83-100)	Pregnancy test kit	92% (71-98)	100%
Single use syringes/needles	100%	100%	Malaria rapid test kits	88% (67-96)	92% (78-98)
Blood pressure cuff	100%	100%	Haemoglobin test	96% (75-99)	90% (75-96)
Thermometer	96% (75-99)	100%	Urine dipstick	50% (31-69)	92% (78-98)
Sterile scissors or blade	100%	97% (83-100)	Partographs	25% (11-46)	56% (40-71)
Disinfectant	100%	97% (83-100)	Syphilis test kit	29% (13-44)	0%
Stethoscope	100%	100%	HIV rapid test kit	13% (4-33)	74% (58-86)
IV fluids with infusion set	100%	95% (81-99)			
Suture material with needle	100%	95% (81-99)	Medications for MNH		
Infant weighing scale	100%	100%	IV gentamycin	88% (67-96)	90% (75-96)
Disposable gloves	96% (75-99)	100%	Ferrous sulphate/FA	88% (67-96)	92% (78-98)
Needle holder	100%	95% (81-99)	Oral antibiotics	92% (71-98)	96% (75-99)
Waste receptacle with lid	100%	85% (69-93)	IV metronidazole	88% (67-96)	85% (69-93)
Watch/timing device	96% (75-99)	95% (81-99)	Cotrimoxizole	54% (34-73)	72% (55-84)
Speculum	88% (67-96)	95% (81-99)	Uterotonics	63% (42-80)	85% (69-93)
Bag and mask for resuscitation	88% (67-96)	100%	Corticosteroids	58% (38-76)	54% (38-69)
Disposable clamp/umbilical tie	92% (71-98)	100%	IV ampicillin	75% (54-89)	82% (66-91)
Oxygen	92% (71-98)	95% (81-99)	Local anaesthetics	67% (46-83)	74% (58-86)
Sharps container	83% (62-94)	74% (58-86)	Diazepam	54% (34-73)	79% (64-90)
Blanket for newborn	88% (67-96)	92% (78-98)	Vitamin K	33% (17-54)	49% (33-64)
Suction bulb for mucus extraction	88% (67-96)	97% (83-100)	Sulphadoxine pyrimethamine	42% (24-62)	46% (31-62)
Disposable paper towels	67% (46-83)	79% (64-90)			
Vacuum extractor	54% (34-73)	51% (36-67)	Tetracycline/eye ointment	25% (11-46)	26% (14-42)
Baby warmer	71% (50-86)	87% (72-95)	Vaccinations for MNH:		
Fetal stethoscope	67% (46-83)	72% (55-84)	Bacille Calmette-Guerin	92% (71-98)	87% (72-95)
Manual vacuum aspirator	58% (34-76)	51% (36-67)	Tetanus toxoid vaccines	88% (67-96)	90% (75-96)
			Oral Polio Vaccine (OPV)	92% (71-98)	87% (72-95)

Equipment and supplies to provide basic maternal and newborn health care were checked for availability and functionality in the health facilities surveyed and are shown in table A1.4. The list of items recorded was synthesised from existing large-scale facility-based data collection tools including the Averting Maternal Disability and Death needs assessment,⁶ the Measure Demographic and Health Survey Service Provision Assessment,⁷ and the World Health Organisation Safe Motherhood Needs Assessment.⁸

6. AMDD. EmONC Needs Assessment. Available from:

<http://www.amddprogram.org/d/content/needs-assessments>

7. Measure-DHS. SPA overview. <http://www.measuredhs.com/aboutsurveys/spa/start.cfm>.

8. WHO. Safe Motherhood. Needs Assessment, 2001; Available from: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/rht_msm_96_18/en/index.html

ग्रामपंचायत-देवपुरी
गर्भावस्था के दौरान प्रसव के समय जन्म के बाद आवश्यकता पड़ने पर सम्पर्क करें:-

क्र.	आपातकालीन सम्पर्क	नाम	पता	मो.-
1.	डॉक्टर	श्री पी.के. श्रीवास्तव श्री नन्दलाल	सी.एच.सी. बहरावाँ स्वास्थ्य शिक्षा अधि. बहरावाँ	9794711940 9196105062
2.	ग्राम प्रधान	श्री अमरेन्द्र कुमार	बहादुरपुर (देवपुरी)	9935748038
3.	ए.एन.एम.	श्रीमती फूलदुलारी	बहरावाँ	7676690391
4.	वाहन मालिक	श्री अनिल कुमार (मारुति) » रामबहादुर (ताँगा)	बहादुरपुर गूजरपुर	9621780739 8400953166
5.	माँ और बच्चों से सम्बन्धित जानकारी के लिये सम्पर्क करें	मंशा देवी (आशा) शशिकान्ती (आशा) रामकुमारी (आ.बा.का.) माधुरी (» » ») दाई (विशुनादेई)	बहादुरपुर » देवपुरी गूजरपुर देवपुरी	9935016318 9956900764 9621642964 9628386772
6.	स्वास्थ्य एवं योजन दिवस	1. I बुधवार - उपकेन्द्र 2. II बुधवार - गूजरपुर 3. I शनिवार - बहादुरपुर	देवपुरी गूजरपुर बहादुरपुर	

ग्रामीण स्वास्थ्य एवं स्वच्छता समिति के सदस्यों के नाम/अध्यक्ष-अमरेन्द्र कुमार सचिव-श्रीमती फूलदुलारी

आमन्त्रित सदस्य-सुरेश कुमार - 9198592734

2. उमाशंकर (पंचायत मित्र) 9616349825

3. शिक्षा मित्र-रमेश, अमरलता, सुखराम, शोभा।

सौ. से :-

ग्रामीण स्वास्थ्य एवं स्वच्छता समिति

मुख्य सदस्य:-
 1. ऊषा देवी - बहादुरपुर
 2. चन्दावती - गूजरपुर
 3. प्रदीप कुमार - देवपुरी
 4. ताज मोहम्मद - »
 5. चन्द्रभाल - »
 6. चन्द्रशेखर - »

MP



SURE START



कहा दर

क्या आप प्रसव के दौरे के बीच का औसत समय

जटिलता

1. रक्त स्राव
रक्त बहना
प्रसव पूर्व / प्रसव पश्चात
2. झटके/दौरे आना
3. बच्चे/बच्ची का फटना/नहीं
4. बच्चे का फँस जाना
5. मरण [बिबेकदार सा]
6. व के पश्चात





IDEAS project

IDEAS (Informed Decisions for Action in Maternal and Newborn Health) aims to improve the health and survival of mothers and babies through generating evidence to inform policy and practice. Working in Ethiopia, North-Eastern Nigeria and the State of Uttar Pradesh in India, IDEAS uses measurement, learning and evaluation to find out what works, why, and how in maternal and newborn health programmes.

IDEAS is funded between 2010 and 2017 by a grant from the Bill & Melinda Gates Foundation to the London School of Hygiene and Tropical Medicine.

ideas.lshtm.ac.uk

London School of Hygiene & Tropical Medicine

The London School of Hygiene & Tropical Medicine is a world-leading centre for research and postgraduate education in public and global health, with 4000 students and more than 13000 staff working in over 100 countries. The school is one of the highest-rated research institutions in the UK, and was recently cited as one of the world's top universities for collaborative research.

www.lshtm.ac.uk

IDEAS project

London School of Hygiene & Tropical Medicine,
Keppel Street, London, WC1E 7HT, UK

t +44 (0)207 927 2871/2257

w ideas.lshtm.ac.uk

t @LSHTM_IDEAS